

ORAL ARGUMENT NOT YET SCHEDULED

No. 22-7063

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

AMERICAN SOCIETY FOR TESTING AND MATERIALS, et al.,
Appellants

v.

PUBLIC.RESOURCE.ORG, INC.,
Appellee

Appeal from the United States District Court
for the District of Columbia
Hon. Tanya S. Chutkan, No. 1:13-cv-1215-TSC

PUBLIC APPENDIX
VOLUME 4 (JA1678-JA2057)
MATERIAL UNDER SEAL IN SEPARATE SUPPLEMENT

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YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED 1995

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE August 24 1995 U.S.A.

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American Society for Testing & Materials 1916 Race Street Philadelphia, PA 19103-1187

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TX# 4-059-536 1994

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a. Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼

1994 Annual Book of ASTM Standards, Section 01, Volume 01.

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American Society for Testing and Materials Account Number ▼ DA 078328

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt/City/State/Zip ▼

Robert L. Meltzer, ASTM
1916 Race Street
Philadelphia, PA 19103-1187
Area Code & Telephone Number ▶ 215-299-5431

Be sure to give your daytime phone number.

CERTIFICATION* I, the undersigned, hereby certify that I am the

Check one ▶

- author
 - other copyright claimant
 - owner of exclusive right(s)
 - authorized agent of American Society for Testing and Materials
- Name of author or other copyright claimant, or owner of exclusive right(s) ▲

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer date August 24, 1995

Handwritten signature (X) ▼ Robert L. Meltzer

MAIL CERTIFICATE TO

Name ▼ Kathe Hooper, ASTM

Number/Street/Apartment Number ▼ 1916 Race Street

City/State/Zip ▼ Philadelphia, PA 19103-1187

Certificate will be mailed in window envelope

- Complete all necessary spaces
- Sign your application in space 10
- 1. Application form
- 2. Nonrefundable \$20 filing fee in check or money order payable to Register of Copyrights
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- Register of Copyrights
Library of Congress
Washington, D.C. 20559

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Marybeth Peters
REGISTER OF COPYRIGHTS
United States of America

REGISTRATION NUMBER

TX 4-143-803



#789864143803

EFFECTIVE DATE OF REGISTRATION

AUG 01 1995

Month Day Year

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1

TITLE OF THIS SERIAL

1995 Annual Book of ASTM Standards

General Methods and Instrumentation, General Test Methods, Nonmetallic Chromatography, Durability of Nonmetallic Materials, Corrosion Inhibitors, Laboratory Apparatus and Methods

Volume

Number

Date on Copies

Frequency of Publications

14

08

June 1995

Annual

PREVIOUS OR ALTERNATIVE TITLES

2

NAME OF AUTHOR

American Society for Testing and Materials

DATES OF BIRTH AND DEATH

Year Born

Year Died

Was this contribution to the work a "work made for hire"?

Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE

Name of Country

Citizen of

OR Domiciled in

United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

Anonymous?

Pseudonymous?

Yes No

Yes No

If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP

Briefly describe nature of the material created by this author in which copyright is claimed.

Collective Work

Other:

Entire Text

NAME OF AUTHOR

DATES OF BIRTH AND DEATH

Year Born

Year Died

Was this contribution to the work a "work made for hire"?

Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE

Name of Country

Citizen of

OR Domiciled in

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Collective Work

Other:

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YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED

1995

Year

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE

Month

Day

Year

Nation

1995

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1995

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1916 Race Street
Philadelphia, PA 19103-1187

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- b. This is the first application submitted by this author as copyright claimant
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If your answer is "Yes," give: Previous Registration Number ▼ Year of Registration ▼
TX# 3-890-1075 1994

DERIVATIVE WORK OR COMPILATION Complete both space 6a & 6b for a derivative work; complete only 6b for a compilation.

a. Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼
1994 Annual Book of ASTM Standards, Section 14, Volume 02.

6

b. Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼
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Name American Society of Testing and Materials Account Number #DA 0TR338

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name Address Apt City State Zip ▼

Robert L. Meltzer, ASTM

1916 Race Street

Philadelphia, PA 19103-1187

Area Code & Telephone Number ▶ 215-299-5431

Be sure to give your daytime phone number

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CERTIFICATION I, the undersigned, hereby certify that I am the

Check one ▶

- author
- other copyright claimant
- owner of exclusive right(s)

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

authorized agent of American Society for Testing and Materials
Name of author or other copyright claimant, or owner of exclusive right(s) ▲

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Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer

date July 26, 1995

Handwritten signature (X) ▼

[Handwritten Signature: Robert L. Meltzer]

MAIL CERTIFICATE TO

Certificate will be mailed in window envelope

Name ▼
Kathe Hooper, ASTM

Number Street Apartment Number ▼
1916 Race Street

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REGISTRATION NUMBER TX 4-179-992, EFFECTIVE DATE OF REGISTRATION 3 19 96

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TITLE OF THIS SERIAL 1996 Annual Book of ASTM Standards: Iron and Steel Products - Steel - Piping, Tubing, Fittings. Volume 01, Number 01, Date on Copies January '96, Frequency of Publication Annual.

2

NAME OF AUTHOR American Society for Testing and Materials. DATES OF BIRTH AND DEATH. AUTHOR'S NATIONALITY OR DOMICILE: United States.

NOTE Under the law, the "author" of a "work made for hire" is generally...

NAME OF AUTHOR. DATES OF BIRTH AND DEATH. AUTHOR'S NATIONALITY OR DOMICILE.

081424987



NAME OF AUTHOR. DATES OF BIRTH AND DEATH. AUTHOR'S NATIONALITY OR DOMICILE.

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YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED 1996. DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE: January 25, 1996, U.S.A.

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If your answer is "Yes," give: Previous Registration Number ▼ TX 4-083-251 Year of Re-registration ▼ 1995

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a. **Preexisting Material** Identify any preexisting work or works that this work is based on or incorporates. ▼ 1995 Annual Book of ASTM Standards, Section 01, Volume 01.

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Name American Society for Testing and Materials Account Number ▼ DA078328

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Robert L. Meltzer, ASTM
1916 Race Street
Philadelphia, PA 19103-1187
Area Code & Telephone Number ▶ 215-299-5431

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CERTIFICATION I, the undersigned, hereby certify that I am the

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- owner of exclusive right(s)

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

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Robert L. Meltzer date ▶ March 13, 1996

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Robert L. Meltzer

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Name ▼ Kathe Hooper, ASTM

Number Street Apartment Number ▼ 1916 Race Street

City State ZIP ▼ Philadelphia, PA 19103-1187

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Library of Congress
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TITLE OF THIS SERIAL

1996 Annual Book of ASTM Standards: Nonferrous Metal Products
Copper and Copper alloys

Volume

02

Number

01

Date on Copies

May '96

Frequency of Publication

Annual

PREVIOUS OR ALTERNATIVE TITLES

NAME OF AUTHOR

American Society for Testing and Materials

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR
Citizen of United States
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP

Briefly describe nature of the material created by this author in which copyright is claimed.

Collective Work Other: Entire Text

NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
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 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR
Citizen of
Domiciled in

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OR
Citizen of
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a. Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼ 1995 Annual Book of ASTM Standards, Section 02, Volume 01.

6

b. Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼ Compilation of previous published text plus additional text.

See instructions before completing this space

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DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.

Name American Society for Testing and Materials Account Number DA078328

9

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name:Address:Apt City:State:Zip ▼

Robert L. Meltzer, ASTM
1916 Race Street
Philadelphia, PA 19103-1187
Area Code & Telephone Number ▶ 215-299-5431

Be sure to give your daytime phone number

CERTIFICATION* I, the undersigned, hereby certify that I am the

- author
- other copyright claimant
- owner of exclusive right(s)

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

authorized agent of American Society for Testing and Materials
Name of author or other copyright claimant, or owner of exclusive right(s) ▼

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Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer date ▶ May 8, 1996

Handwritten signature (X) ▼

Robert L. Meltzer

MAIL CERTIFICATE TO

Name ▼
Kathe Hooper, ASTM

Number Street Apartment Number ▼
1916 Race Street

City State ZIP ▼
Philadelphia, PA 19103-1187

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Marybeth Peters REGISTER OF COPYRIGHTS United States of America

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TX 4-257-410

EFFECTIVE DATE OF REGISTRATION

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TITLE OF THIS SERIAL

1996 Annual Book of ASTM Standards: Water and Environmental Technology - Water (II)

Volume

Number

Date on Copies

Frequency of Publication

11

02

May '96

Annual

PREVIOUS OR ALTERNATIVE TITLES

2

NAME OF AUTHOR

American Society for Testing and Materials

DATES OF BIRTH AND DEATH

Was this contribution to the work a "work made for hire"? Yes No

AUTHOR'S NATIONALITY OR DOMICILE Name of Country OR Citizen of Domiciled in United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous? Pseudonymous?

NOTE Under the law, the "author" of a

NATURE OF AUTHORSHIP Collective Work Other: Entire Text

Briefly describe nature of the material created by this author in which copyright is claimed.

NAME OF AUTHOR

DATES OF BIRTH AND DEATH

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AUTHOR'S NATIONALITY OR DOMICILE Name of Country OR Citizen of Domiciled in

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NATURE OF AUTHORSHIP Collective Work Other:

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YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED 1996

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE Month April Day 26 Year 1996 Nation U.S.A.

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American Society for Testing & Materials 1916 Race Street Philadelphia, PA 19103-1187

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TWO DEPOSITS RECEIVED MAY 07 1996

REMITTANCE NUMBER AND DATE

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CHECKED BY

CORRESPONDENCE Yes

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a. Preexisting Material Identify any preexisting work or works that this work is based on or incorporates 1995 Annual Book of ASTM Standards, Section 11, Volume 02.

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b. Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. Compilation of previous published text plus additional text.

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Name American Society for Testing and Materials Account Number DAO 78328

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CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name, Address, Apt, City, State, Zip

Robert L. Meltzer, ASTM
1916 Race Street
Philadelphia, PA 19103-1187

Area Code & Telephone Number 215-299-5431

Be sure to give your daytime phone number

CERTIFICATION I, the undersigned, hereby certify that I am the

Check one

- author
other copyright claimant
owner of exclusive right(s)
authorized agent of

American Society for Testing and Materials

10

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Typed or printed name and date If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer

date

April 26, 1996

Handwritten signature (X)

Robert L. Meltzer

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Name: Kathe Hooper, ASTM
Number Street Apartment Number: 1916 Race Street
City State ZIP: Philadelphia, PA 19103-1187

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Marybeth Peters
REGISTER OF COPYRIGHTS
United States of America

REGISTRATION NUMBER



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5 7 96
Month Day Year

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TITLE OF THIS SERIAL

1996 Annual Book of ASTM Standards: *Water and Environmental Technology - Water (1)*

Volume *11* Number *01* Date on Copies *April 1996* Frequency of Publication *Annual*

PREVIOUS OR ALTERNATIVE TITLES

NAME OF AUTHOR

2 American Society for Testing and Materials

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country

OR Citizen of United States
Domiciled in United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

Collective Work Other: **Entire Text**

NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country

OR Citizen of
Domiciled in

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Pseudonymous? Yes No

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Collective Work Other:

NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

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 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country

OR Citizen of
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
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Pseudonymous? Yes No

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ASTM000059

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6a. Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. 1995 Annual Book of ASTM Standards, Section 11, Volume 01.

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6b. Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. Compilation of previous published text plus additional text.

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Name American Society for Testing and Materials Account Number DAO 78378

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Robert L. Meltzer, ASTM
1916 Race Street
Philadelphia, PA 19103-1187
Area Code & Telephone Number 215-299-5431

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CERTIFICATION I, the undersigned, hereby certify that I am the

- author
other copyright claimant
owner of exclusive right(s)
authorized agent of American Society for Testing and Materials

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Typed or printed name and date If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer date April 26, 1995

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Handwritten signature (X)

Handwritten signature of Robert L. Meltzer

MAIL CERTIFICATE TO

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Name: Kathe Hooper, ASTM
Number Street Apartment Number: 1916 Race Street
City State ZIP: Philadelphia, PA 19103-1187

Complete all necessary spaces
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Case 1:13-cv-01215-TSC Document 122-2 Filed 12/20/19 Page 24 of 369

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TX 4320-184



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TITLE OF THIS SERIAL

1996 Annual Book of ASTM Standards: Rubber, Natural and Synthetic - General Test Methods; Carbon Black

Volume

Number

Date on Copies

Frequency of Publication

09

01

July 1996

Annual

PREVIOUS OR FIVE TITLES

NAME OF AUTHOR

American Society for Testing and Materials

DATES OF BIRTH AND DEATH

Year Born Year Died

Was this contribution to the work a "work made for hire"? Yes No

AUTHOR'S NATIONALITY OR DOMICILE Name of Country Citizen of Domiciled in United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous? Pseudonymous?

NATURE OF AUTHORSHIP

Briefly describe nature of the material created by this author in which copyright is claimed. Collective Work Other: Entire Text

NAME OF AUTHOR

DATES OF BIRTH AND DEATH

Year Born Year Died

Was this contribution to the work a "work made for hire"? Yes No

AUTHOR'S NATIONALITY OR DOMICILE Name of Country Citizen of Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous? Pseudonymous?

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NAME OF AUTHOR

DATES OF BIRTH AND DEATH

Year Born Year Died

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AUTHOR'S NATIONALITY OR DOMICILE Name of Country Citizen of Domiciled in

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1996

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August 1996 U.S.A.

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American Society for Testing & Materials
1916 Race Street
Philadelphia, PA 19103-1187

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Name ▼ American Society for Testing and Materials Account Number ▼ DHO 78338

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address: Apt/Cty/State/Zip ▼

Robert L. Meltzer, ASTM
 1916 Race Street
 Philadelphia, PA 19103-1187
 Area Code & Telephone Number ▼ 215-299-5431

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Check one ▼

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 - owner of exclusive right(s)
 - authorized agent of American Society for Testing and Materials
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Robert L. Meltzer date ▼ August 1, 1996

Handwritten signature (X) ▼
 Robert L. Meltzer

MAIL CERTIFICATE TO

Name ▼
 Kathe Hooper, ASTM

Number Street Apartment Number ▼
 1916 Race Street

City State ZIP ▼
 Philadelphia, PA 19103-1187

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1996 Annual Book of ASTM Standards: Thermal Insulation; Environmental Acoustics

VOLUME

04

NUMBER

06

DATE ON COPIES

October 1996

FREQUENCY OF PUBLICATION

Annual

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NAME OF AUTHOR

American Society for Testing and Materials

DATES OF BIRTH AND DEATH

Year Born Year Died

Was this contribution to the work a "work made for hire"?

Yes No

AUTHOR'S NATIONALITY OR DOMICILE

Name of Country

Citizen of Domiciled in United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

Anonymous? Pseudonymous?

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NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

Collective Work Other: Entire Text

NAME OF AUTHOR

DATES OF BIRTH AND DEATH

Year Born Year Died

Was this contribution to the work a "work made for hire"?

Yes No

AUTHOR'S NATIONALITY OR DOMICILE

Name of Country

Citizen of Domiciled in

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Collective Work Other:

NAME OF AUTHOR

DATES OF BIRTH AND DEATH

Year Born Year Died

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Yes No

AUTHOR'S NATIONALITY OR DOMICILE

Name of Country

Citizen of Domiciled in

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1996 Annual Book of ASTM Standards, Section 04, Volume 6.

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Name ▼ American Society for Testing and Materials Account Number ▼ DA078328

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Robert L. Meltzer, ASTM
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Area Code & Telephone Number ▶ 610-832-9632

Be sure to give your daytime phone number

CERTIFICATION I, the undersigned, hereby certify that I am the

Check one ▶

- author
 - other copyright claimant
 - owner of exclusive right(s)
 - authorized agent of **American Society for Testing and Materials**
- Name of author or other copyright claimant, or owner of exclusive right(s) ▼

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of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

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Robert L. Meltzer

date ▶ *December 3, 1996*

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Name ▼	Judy Helm, ASTM
Number Street Apartment Number ▼	100 Barr Harbor Drive
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TX 4-394-571

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1996 Annual Book of ASTM Standards: Textiles: Textiles (II): D3333-latest

Volume 07 Number 02 Date on Copies November 1996 Frequency of Publication Annual

PREVIOUS OR ALTERNATIVE TITLES

NAME OF AUTHOR

American Society for Testing and Materials

DATES OF BIRTH AND DEATH

Was this contribution to the work a "work made for hire"? X Yes [] No

AUTHOR'S NATIONALITY OR DOMICILE Name of Country Citizen of OR Domiciled in United States

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NAME OF AUTHOR

DATES OF BIRTH AND DEATH

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NAME OF AUTHOR

DATES OF BIRTH AND DEATH

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TH# 4-223-732 1996

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a. Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼
1996 Annual Book of ASTM Standards, Section 07, Volume 09.

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Name ▼ American Society for Testing and Materials Account Number ▼ DA078328

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name, Address-Apt City, State/Zip ▼

Robert L. Meltzer, ASTM
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
Area Code & Telephone Number ▼ 610-832-9632

CERTIFICATION* I, the undersigned, hereby certify that I am the

- Check one ▶
- author
 - other copyright claimant
 - owner of exclusive right(s)
 - authorized agent of American Society for Testing and Materials

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer date December 3, 1996

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Robert L. Meltzer

MAIL CERTIFICATE TO

Certificate will be mailed in window envelope

Name ▼ Judy Helm, ASTM

Number Street Apartment Number ▼ 100 Barr Harbor Drive

City State ZIP ▼ West Conshohocken, PA 19428-2959

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CERTIFICATE OF REGISTRATION

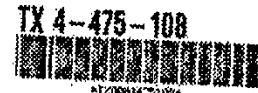
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REGISTER OF COPYRIGHTS United States of America



EFFECTIVE DATE OF REGISTRATION

09 11 1997 Month Day Year

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TITLE OF THIS SERIAL

1997 Annual Book of ASTM Standards: NON FERROUS METAL PRODUCTS; ALUMINUM AND MAGNESIUM

Volume 02-02 Number 02 Date on Copies SEPTEMBER Frequency of Publication Annual

PREVIOUS OR ALTERNATIVE TITLES

NAME OF AUTHOR

American Society for Testing and Materials

DATES OF BIRTH AND DEATH Year Born Year Died

Was this contribution to the work a "work made for hire"? Yes No

AUTHOR'S NATIONALITY OR DOMICILE Name of Country Citizen of United States Domiciled in United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous? Pseudonymous?

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed. Collective Work Other: Entire Text

NAME OF AUTHOR

DATES OF BIRTH AND DEATH Year Born Year Died

Was this contribution to the work a "work made for hire"? Yes No

AUTHOR'S NATIONALITY OR DOMICILE Name of Country Citizen of Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous? Pseudonymous?

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed. Collective Work Other:

NAME OF AUTHOR

DATES OF BIRTH AND DEATH Year Born Year Died

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AUTHOR'S NATIONALITY OR DOMICILE Name of Country Citizen of Domiciled in

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NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed. Collective Work Other:

YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED 1997

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE Month Day Year 1997 U.S.A.

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American Society for Testing & Materials 100 Barr Harbor Drive West Conshohocken, PA 19428-2959

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- b. This is the first application submitted by this author as copyright claimant.
- c. This is a changed version of this issue, as shown by space 6 on this application.

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TH# 1996

DERIVATIVE WORK OR COMPILATION Complete both space 6a & 6b for a derivative work; complete only 6b for a compilation.

a. **Preexisting Material** Identify any preexisting work or works that this work is based on or incorporates. ▼
1997 Annual Book of ASTM Standards, Section 02, Volume 02, 02

b. **Material Added to This Work** Give a brief, general statement of the material that has been added to this work and in which copyright is claimed ▼
Compilation of previous published text plus additional text.

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Name ▼ American Society for Testing and Materials Account Number ▼ DA078328

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name: Address: Apt: City: State: Zip ▼

Robert L. Meltzer, ASTM
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
Area Code & Telephone Number ▼ 610-832-9632

CERTIFICATION I, the undersigned, hereby certify that I am the

Check one ▶

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of

American Society for Testing and Materials

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Name of author or other copyright claimant, or owner of exclusive right(s)

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer date ▶ 8/28/97

Handwritten signature (X) ▼
Robert L. Meltzer

MAIL CERTIFICATE TO

Certificate will be mailed in window envelope

Name ▼
Kathe Hooper, ASTM

Number Street Apartment Number ▼
100 Barr Harbor Drive

City State Zip ▼
West Conshohocken, PA 19428-2959

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EFFECTIVE DATE OF REGISTRATION

JUN 24 1997

Month Day Year

OFFICIAL SEAL

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1

TITLE OF THIS SERIAL

1997 Annual Book of ASTM Standards:

*nonferrous Metal Products
Copper and Copper Alloys*

Volume

Number

Date on Copies

Frequency of Publication

02

01

May '97

Annual

PREVIOUS OR ALTERNATIVE TITLES

2

NAME OF AUTHOR

American Society for Testing and Materials

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?

Yes

No

AUTHOR'S NATIONALITY OR DOMICILE

Name of Country

Citizen of

Domiciled in *United States*

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

Anonymous?

Yes No

Pseudonymous?

Yes No

NATURE OF AUTHORSHIP

Briefly describe nature of the material created by this author in which copyright is claimed.

Collective Work

Other: *Entire Text*

NOTE

Under the law the "author" of a work made for hire is generally the employer not the employee (see instructions). For any part of this work that was made for hire, check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part and leave the space for dates of birth and death blank.

NAME OF AUTHOR

Was this contribution to the work a "work made for hire"?

Yes

No

AUTHOR'S NATIONALITY OR DOMICILE

Name of Country

Citizen of

Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

Anonymous?

Yes No

Pseudonymous?

Yes No

NATURE OF AUTHORSHIP

Briefly describe nature of the material created by this author in which copyright is claimed.

Collective Work

Other:

NAME OF AUTHOR

Was this contribution to the work a "work made for hire"?

Yes

No

AUTHOR'S NATIONALITY OR DOMICILE

Name of Country

Citizen of

Domiciled in

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Anonymous?

Yes No

Pseudonymous?

Yes No

NATURE OF AUTHORSHIP

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Collective Work

Other:

YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED

1997

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE

U.S.A.

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American Society for Testing & Materials
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West Conshohocken, PA 19428-2959

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JUN 24 1997

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JUN 24 1997

REMITTANCE NUMBER AND DATE

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- b. This is the first application submitted by this author as copyright claimant.
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If your answer is "Yes," give: Previous Registration Number ▼ TH# 4-243-005 Year of Registration ▼ 1996

DERIVATIVE WORK OR COMPILATION Complete both space 6a & 6b for a derivative work; complete only 6b for a compilation.

a. Preexisting Material. Identify any preexisting work or works that this work is based on or incorporates. ▼ 1997 Annual Book of ASTM Standards, Section 02, Volume 01.

b. Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼ Compilation of previous published text plus additional text.

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Name ▼ American Society for Testing and Materials Account Number ▼ # DA078328

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name, Address, Apt, City, State, Zip ▼

Robert L. Meltzer, ASTM
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
Area Code & Telephone Number ▶ 610-832-9632

CERTIFICATION* I, the undersigned, hereby certify that I am the

- Check one ▶
- author
 - other copyright claimant
 - owner of exclusive right(s)
 - authorized agent of American Society for Testing and Materials
- Name of author or other copyright claimant, or owner of exclusive right(s) ▲

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer date June 19, 1997

Handwritten signature (X) ▼ Robert L. Meltzer

MAIL CERTIFICATE TO

Certificate will be mailed in window envelope

Name ▼ Judy Helm, ASTM

Number Street Apartment Number ▼ 100 Barr Harbor Drive

City State Zip ▼ West Conshohocken, PA 19428-2959

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TX 4-571-119

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TITLE OF THIS SERIAL

1997 Annual Book of ASTM Standards: CONSTRUCTION: BUILDING SEALS AND SEALANTS; FIRE STANDARDS; DIMENSIONAL STONE

Volume: PH 07 Number: 04 Date on Copies: NOVEMBER 1997 Frequency of Publication: Annual

PREVIOUS OR ALTERNATIVE TITLES

NAME OF AUTHOR

American Society for Testing and Materials

DATES OF BIRTH AND DEATH Year Born Year Died

Was this contribution to the work a "work made for hire"? Yes No

AUTHOR'S NATIONALITY OR DOMICILE Name of Country

Citizen of OR Domiciled in United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

Anonymous? Pseudonymous? Yes No Yes No

If the answer to either of these questions is "Yes" see detailed instructions

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

Collective Work Other: Entire Text

NAME OF AUTHOR

DATES OF BIRTH AND DEATH Year Born Year Died

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AUTHOR'S NATIONALITY OR DOMICILE Name of Country

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Citizen of OR Domiciled in

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If the answer to either of these questions is "Yes" see detailed instructions

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

Collective Work Other:

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DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE

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1996

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1997 Annual Book of ASTM Standards, Section , Volume

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Name ▼ American Society for Testing and Materials

Account Number ▼ DA078328

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name Address Apt City State Zip ▼

Robert L. Meltzer, ASTM
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Area Code & Telephone Number ▼ 610-832-9632

CERTIFICATION I, the undersigned, hereby certify that I am the

Check one ▶

- author
- other copyright claimant
- owner of exclusive right(s)

authorized agent of American Society for Testing and Materials

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

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Robert L. Meltzer

date ▶ 11/1/97

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Name ▼ **Kathe Hooper, ASTM**

Number Street Apartment Number ▼ **100 Barr Harbor Drive**

City State ZIP ▼ **West Conshohocken, PA 19428-2959**

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TITLE OF THIS SERIAL

1997 Annual Book of ASTM Standards: CONSTRUCTION: THERMAL INSULATION; ENVIRONMENTAL ASPECTS

Volume 04.06 Number 04 Date on Copies NOVEMBER 1997 Frequency of Publication Annual

PREVIOUS OR ALTERNATIVE TITLES

2 NAME OF AUTHOR

American Society for Testing and Materials

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country OR Citizen of Domiciled in United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Pseudonymous?

NOTE

Under the law the "author" of a work made for hire is the employer or other person or organization for whom the work was prepared, if the facts and circumstances indicate that the individual was, at the time the work was created, an employee, agent, independent contractor, or other person or organization.

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

Collective Work Other: Entire Text

NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

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AUTHOR'S NATIONALITY OR DOMICILE
Name of Country OR Citizen of Domiciled in

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Collective Work Other:

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DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE

Month OCT Day 15 Year 1997 U.S.A. Nation

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NOV 12 1997

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If your answer is "Yes," give: Previous Registration Number ▼ Year of Registration ▼

TH# 1996

DERIVATIVE WORK OR COMPILATION Complete both space 6a & 6b for a derivative work; complete only 6b for a compilation.

a. Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼

1997 Annual Book of ASTM Standards, Section 04, Volume 04.06

6

b. Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼

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DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.

Name ▼ American Society for Testing and Materials Account Number ▼ # DA078328

9

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address-Apt./City/State/Zip ▼

Robert L. Meltzer, ASTM
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
Area Code & Telephone Number ▶ 610-832-9632

Be sure to give your daytime phone number

CERTIFICATION* I, the undersigned, hereby certify that I am the

- Check one ▶ author
 other copyright claimant
 owner of exclusive right(s) American Society for Testing and Materials
 authorized agent of

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of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge. Name of author or other copyright claimant, or owner of exclusive right(s) ▼

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer date ▶ 10/23/97

Handwritten signature (X) ▼
[Signature]

MAIL CERTIFICATE TO

Name ▼ Kathie Hooper, ASTM

Number Street Apartment Number ▼ 100 Barr Harbor Drive

City State ZIP ▼ West Conshohocken, PA 19428-2959

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CERTIFICATE OF REGISTRATION

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Margareth Peters

REGISTER OF COPYRIGHTS United States of America



EFFECTIVE DATE OF REGISTRATION

FEB 20 1998

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TITLE OF THIS SERIAL 1998 Annual Book of ASTM Standards PETROLEUM PRODUCTS, LUBRICANTS, AND Fossil Fuels: PETROLEUM PRODUCTS AND LUBRICANTS (11): D4597 - D4629

Volume 05.02 Number 05 Date on Copies MARCH 1998 Frequency of Publication Annual

PREVIOUS OR ALTERNATIVE TITLES

1 NAME OF AUTHOR American Society for Testing and Materials

2 DATES OF BIRTH AND DEATH

NOTE Under the law the author of a work made for hire is generally the employer not the employee (see instructions) For

3 Was this contribution to the work a "work made for hire"? 3f Yes No AUTHOR'S NATIONALITY OR DOMICILE Name of Country Citizen of United States Domiciled in United States

4 WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous? Pseudonymous?

5 NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed. Collective Work Other: Entire Text

6 NAME OF AUTHOR

7 DATES OF BIRTH AND DEATH

8 Was this contribution to the work a "work made for hire"? 8f Yes No

9 AUTHOR'S NATIONALITY OR DOMICILE Name of Country Citizen of Domiciled in

10 WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous? Pseudonymous?

11 NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed. Collective Work Other:

12 NAME OF AUTHOR

13 DATES OF BIRTH AND DEATH

14 Was this contribution to the work a "work made for hire"? 14f Yes No

15 AUTHOR'S NATIONALITY OR DOMICILE Name of Country Citizen of Domiciled in

16 WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous? Pseudonymous?

17 NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed. Collective Work Other:

18 YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED 1998

19 DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE Month Feb Day 7 Year 1998 U.S.A.

20 COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2.

American Society for Testing & Materials 100 Barr Harbor Drive West Conshohocken, PA 19428-2959

21 TRANSFER If the claimant(s) named here in space 4 are different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.

22 APPLICATION RECEIVED FEB 20 1998 ONE DEPOSIT RECEIVED TWO DEPOSITS RECEIVED FEB 20 1998 REMITTANCE NUMBER AND DATE

23 MORE ON BACK Complete all applicable spaces (numbers 5-11) on the reverse side of this page See detailed instructions Sign the form at line 10

24 DO NOT WRITE HERE Page 1 of 2 pages

ASTM000075

* Amended by C.O. authority telephone call of 3-16-98 with Ms. Hooper

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 CHECKED BY _____
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- c. This is a changed version of this issue, as shown by space 6 on this application.

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Year of Registration ▼

1997

DERIVATIVE WORK OR COMPILATION Complete both space 6a & 6b for a derivative work; complete only 6b for a compilation.

a. Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼
 1997 Annual Book of ASTM Standards, Section 05, Volume 05.02

b. Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼
 Compilation of previous published text plus additional text.

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Name ▼ American Society for Testing and Materials
 Account Number ▼ # DA078328

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt./City/State/Zip ▼

Robert L. Meltzer, ASTM
 100 Barr Harbor Drive
 West Conshohocken, PA 19428-2959

Area Code & Telephone Number ▼ 610-832-9632

CERTIFICATION I, the undersigned, hereby certify that I am the

Check one ▶

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of

American Society for Testing and Materials

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Name of author or other copyright claimant, or owner of exclusive right(s) ▼

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer

Date ▼ 2/12/98

Handwritten Signature (X) *Robert L. Meltzer*

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Name ▼
Kathe Hooper, ASTM

Number Street Apartment Number ▼
100 Barr Harbor Drive

City State ZIP ▼
West Conshohocken, PA 19428-2959

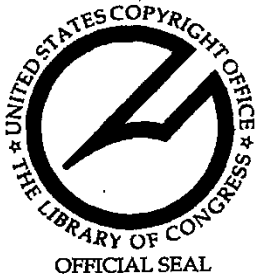
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 Washington, D.C. 20540

Copyright text may be added at 8-year intervals, based on increase or decrease in the Consumer Price Index. The next adjustment is due in 1994. Contact the Copyright Office in January 1993 for the next fee schedule.

* 17 U.S.C. § 506(e) Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500

CERTIFICATE OF REGISTRATION



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Marybeth Peters

REGISTER OF COPYRIGHTS
United States of America

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UNITED STATES COPYRIGHT OFFICE

TX 4-623-459



EFFECTIVE DATE OF REGISTRATION

FEB 20 1998

Month Day Year

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TITLE OF THIS SERIAL

1998 Annual Book of ASTM Standards *PETROLEUM PRODUCTS, LUBRICANTS, AND FOSSIL FUELS; PETROLEUM PRODUCTS AND LUBRICANTS (1): D56-D2596*

Volume

05.01

Number

05

Date on Copies

FEBRUARY 1998

Frequency of Publication

Annual

PREVIOUS OR ALTERNATIVE TITLES

2 NAME OF AUTHOR

American Society for Testing and Materials

DATES OF BIRTH AND DEATH

Was this contribution to the work a "work made for hire?"

Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE

OR Citizen of _____
Domiciled in United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

Anonymous? Yes No
Pseudonymous? Yes No

NATURE OF AUTHORSHIP

Collective Work Other: Entire Text

Briefly describe nature of the material created by this author in which copyright is claimed.

DATES OF BIRTH AND DEATH

Was this contribution to the work a "work made for hire?"

Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE

OR Citizen of _____
Domiciled in _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

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Pseudonymous? Yes No

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OR Citizen of _____
Domiciled in _____

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Anonymous? Yes No
Pseudonymous? Yes No

NATURE OF AUTHORSHIP

Collective Work Other:

Briefly describe nature of the material created by this author in which copyright is claimed.

DATES OF BIRTH AND DEATH

YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED

1998

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DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE

Month FEBRUARY Day 12 Year 1998

ONLY if this work has been published. U.S.A.

Nation

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American Society for Testing & Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

APPLICATION RECEIVED
FEB 20 1998

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FEB 20 1998

REMITTANCE NUMBER AND DATE

TRANSFER If the claimant(s) named here in space 4 are different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.

MORE ON BACK

- Complete all applicable spaces (numbers 5-11) on the reverse side of this page
- See detailed instructions
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Page 1 of 2 pages

ASTM000077

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CHECKED BY de

CORRESPONDENCE
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- Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box) ▼
- a. This is the first published version of an issue previously registered in unpublished form.
 - b. This is the first application submitted by this author as copyright claimant.
 - c. This is a changed version of this issue, as shown by space 6 on this application.
- If your answer is "Yes," give: Previous Registration Number ▼ Year of Registration ▼

5

DERIVATIVE WORK OR COMPILATION Complete both space 6a & 6b for a derivative work; complete only 6b for a compilation.

a. **Preexisting Material** Identify any preexisting work or works that this work is based on or incorporates. ▼
1997 Annual Book of ASTM Standards, Section 05, Volume 05.01

6

b. **Material Added to This Work** Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼
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See instructions

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DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.

Name ▼ American Society for Testing and Materials Account Number ▼ DA078328

9

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name Address Apt City State Zip ▼

Robert L. Meltzer, ASTM
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Area Code & Telephone Number ▶ 610-832-9632

Be sure to give your daytime phone number

CERTIFICATION I, the undersigned, hereby certify that I am the

- Check one ▶
- author
 - other copyright claimant
 - owner of exclusive right(s) American Society for Testing and Materials
 - authorized agent of American Society for Testing and Materials

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer date ▶ 2/13/98

10

Handwritten signature (X) Robert L. Meltzer

MAIL CERTIFICATE TO

Certificate will be mailed in window envelope

Name ▼ Kathe Hooper, ASTM

Number Street Apartment Number ▼ 100 Barr Harbor Drive

City State ZIP ▼ West Conshohocken, PA 19428-2959

- Complete all necessary spaces
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1. Application form
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Washington, D.C. 20559

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TX 4-654-921
#7888454921#

EFFECTIVE DATE OF REGISTRATION
Month 3 Day 20 Year 98

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1

TITLE OF THIS SERIAL

1998 Annual Book of ASTM Standards, Iron and Steel Products: Steel-Structural, Reinforcing, Pressure, Railway

Table with 4 columns: Volume (01.04), Number (01), Date as Copies (January 1998), Frequency of Publication (Annual). Includes PREVIOUS OR ALTERNATIVE TITLES.

2

NAME OF AUTHOR

a American Society for Testing and Materials

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
[X] Yes
[] No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
Citizen of
Domiciled in United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Pseudonymous?
If the answer to either of these questions is "Yes," see detailed "Yes" and detailed "No" instructions.

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

[] Collective Work Other: Entire Text

NOTE

Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). For any part of this work that was "made for hire" check "Yes" in the space provided, give the employer or other person for whom the work was prepared as "Author" of that part, and leave the space for dates of birth and death blank.

b

NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
[] Yes
[] No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
Citizen of
Domiciled in

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[] Collective Work Other:

c

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Citizen of
Domiciled in

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February 25 1998

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MAR 20 1998

REMITTANCE NUMBER AND DATE

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 CORRESPONDENCE
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100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Area Code & Telephone Number ▶ (610) 832-9834

Be sure to give your daytime phone number.

CERTIFICATION I, the undersigned, hereby certify that I am the

- Check only one ▶ author
 other copyright claimant
 owner of exclusive right(s)
 authorized agent of American Society for Testing & Materials
Name of author or other copyright claimant, or owner of exclusive right(s)

10

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer

date ▶ 3-5-98

Handwritten signature of Robert L. Meltzer

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Name ▼ Kathe Hooper, ASTM
 Number/Street/Apartment Number 100 Barr Harbor Drive
 City/State/ZIP ▼ West Conshohocken, PA 19428-2959

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TX 4-737-834
Barcode

EFFECTIVE DATE OF REGISTRATION
JUN 19 1998
Month Day Year

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1

TITLE OF THIS SERIAL

1998 Annual Book of ASTM Standards, Copper and Copper Alloys

Table with 4 columns: Volume, Number, Date on Copies, Frequency of Publication. Row 1: 02.01, 02, May 1998, Annual.

PREVIOUS OR ALTERNATIVE TITLES

2

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DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"? [X] Yes [] No
AUTHOR'S NATIONALITY OR DOMICILE: Name of Country: United States
WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymouse? [] Yes [] No Pseudonymous? [] Yes [] No

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

[] Collective Work Other: Entire Text

NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

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AUTHOR'S NATIONALITY OR DOMICILE: Name of Country:
WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymouse? [] Yes [] No Pseudonymous? [] Yes [] No

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DATES OF BIRTH AND DEATH
Year Born Year Died

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AUTHOR'S NATIONALITY OR DOMICILE: Name of Country:
WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymouse? [] Yes [] No Pseudonymous? [] Yes [] No

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

[] Collective Work Other:

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DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE

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TWO DEPOSITS RECEIVED
JUN 19 1998
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CORRESPONDENCE
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Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box)

5

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a. Preexisting Material Identify any preexisting work or works that this work is based on or incorporates.

6

1997 Annual Book of ASTM Standards, Section 02, Volume 02.01

b. Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed.
Compilation of previous published text plus additional text.

See instructions before completing this space.

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Name Account Number

9

American Society for Testing and Materials

DA076326

CORRESPONDENCE Give name and address to which correspondence about this application should be sent.

Name/Address/Apt/City/State/ZIP

Kathe Hooper, American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2059

Be sure to give your daytime phone number.

Area Code & Telephone Number (610) 832-0634

CERTIFICATION* I, the undersigned, hereby certify that I am the

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of American Society for Testing & Materials

10

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Name of author or other copyright claimant, or owner of exclusive right(s)

Typed or printed name and date If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Metzger

date 5-20-98

Handwritten signature (X)
Robert L. Metzger

MAIL CERTIFICATE TO

Name Kathe Hooper, ASTM

Number/Street/Apartment Number 100 Barr Harbor Drive

City/State/ZIP West Conshohocken, PA 19428-2059

Certificate will be mailed in window envelope

- Complete all necessary spaces
- Sign your application in space 10

11

1. Application form
2. Non-refundable \$20 filing fee in check or money order payable to Registrar of Copyrights
3. Deposit material

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Registrar of Copyrights
Library of Congress
Washington, D.C. 20540

*17 U.S.C. § 308(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 408, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

CERTIFICATE OF REGISTRATION

FORM SE

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Marybeth Peters REGISTER OF COPYRIGHTS United States of America

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1

TITLE OF THIS SERIAL

1998 Annual Book of ASTM Standards, General Test Methods, Monmetal, Chromatography, Durability of Nonmetallic Materials, Forensic Sciences, Lab... VOLUME 14.02 NUMBER 14 DATE ON COPIES July FREQUENCY OF PUBLICATION Annual

2

a NAME OF AUTHOR American Society for Testing and Materials DATES OF BIRTH AND DEATH

Was this contribution to the work a "work made for hire"? AUTHOR'S NATIONALITY OR DOMICILE WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

NOTE

Under the law, the "author" of a work made for hire is generally the employer, of the employee (see instructions) For any part of the work that was made for hire, check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" in that part, and have the signature or dates of birth and death blank.

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

NAME OF AUTHOR DATES OF BIRTH AND DEATH

Was this contribution to the work a "work made for hire"? AUTHOR'S NATIONALITY OR DOMICILE WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

NAME OF AUTHOR DATES OF BIRTH AND DEATH

c Was this contribution to the work a "work made for hire"? AUTHOR'S NATIONALITY OR DOMICILE WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

NAME OF AUTHOR DATES OF BIRTH AND DEATH

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YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED 1998 DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE June 22 1998 United States

4

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a. Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼
1997 Annual Book of ASTM Standards, Section 14, Volume 14.02.

6

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American Society for Testing and Materials

DA078328

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CORRESPONDENCE Give name and address to which correspondence about this application should be sent.

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Kathe Hooper, American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Area Code & Telephone Number ▶ (610) 832-9834

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CERTIFICATION* I, the undersigned, hereby certify that I am the

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- author
 - other copyright claimant
 - owner of exclusive right(s)
 - authorized agent of American Society for Testing & Materials

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

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Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meitzer

date ▶ 6-22-98

10

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Number/Street/Apartment Number ▼ 100 Barr Harbor Drive

City/State/ZIP West Conshohocken, PA 19428-2959

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CERTIFICATE OF REGISTRATION



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Margbeth Peters

REGISTER OF COPYRIGHTS
United States of America

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1

TITLE OF THIS SERIAL

1998 Annual Book of ASTM Standards, Gaseous Fuels; Coal and Coke

Volume	Number	Date on Copies	Frequency of Publication
05.05	05	September 1998	Annual

PREVIOUS OR ALTERNATIVE TITLES

2

NAME OF AUTHOR

a American Society for Testing and Materials

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"? Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country: United States
OR Citizen of: United States
Domiciled in: United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

Collective Work Other: Entire Text

NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

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OR Citizen of:
Domiciled in:

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Collective Work Other:

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YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED

1998

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE

September 1 1998

United States

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REMITTANCE NUMBER AND DATE

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1997 Annual Book of ASTM Standards, Section 05, Volume 05.05

6

- b. Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼
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DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.

Name ▼ American Society for Testing and Materials Account Number ▼ DA078328

9

CORRESPONDENCE Give name and address to which correspondence about this application should be sent.

Name/Address/Apt/City/State/ZIP ▼
Kathe Hooper, American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Area Code & Telephone Number ▶ (610) 832-9634

Be sure to give your daytime phone number.

CERTIFICATION I, the undersigned, hereby certify that I am the

- Check only one ▶ author
 other copyright claimant
 owner of exclusive right(s)
 authorized agent of American Society for Testing & Materials

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.
Name of author or other copyright claimant, or owner of exclusive right(s) ▲

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer date ▶ 9-1-98

10

Handwritten signature (X)
Robert L. Meltzer

MAIL CERTIFICATE TO

Name ▼ Kathe Hooper, ASTM

Number/Street/Apartment Number ▼ 100 Barr Harbor Drive

City/State/ZIP ▼ West Conshohocken, PA 19428-2959

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TITLE OF THIS SERIAL

1

1998 Annual Book of ASTM Standards, Biological Effects and Environmental Fate; Biotechnology; Pesticides

Table with 4 columns: Volume, Number, Date on Copies, Frequency of Publication. Row 1: 11.05, 11, August 1998, Annual

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2

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a American Society for Testing and Materials

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
[X] Yes [] No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
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OR Domiciled in United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
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Yes No Yes No

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

[] Collective Work Other: Entire Text

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1997 Annual Book of ASTM Standards, Section 11, Volume 11.05

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100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Area Code & Telephone Number ▶ (610) 832-9634

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- author
 - other copyright claimant
 - owner of exclusive right(s)
 - authorized agent of American Society for Testing & Materials

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer date ▶ 10-1-88

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Robert L. Meltzer

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TITLE OF THIS SERIAL

1

1998 Annual Book of ASTM Standards, Cement; Lime; Gypsum

Table with columns: Volume, Number, Date on Copies, Frequency of Publication. Values: 04.01, 04, September 1998, Annual

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2

a NAME OF AUTHOR
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Year Born Year Died

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WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

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OCT. 14, 1998
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Page 1 of 2 pages

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ASTM000089

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 CHECKED BY _____
 CORRESPONDENCE
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6

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DA078328

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Kathe Hooper, American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Area Code & Telephone Number ▶ (610) 832-9634

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Robert L. Meitzer

date ▶ 10-1-98

10

Handwritten signature (S) Robert L. Meitzer

MAIL CERTIFICATE TO

Name ▼ Kathe Hooper, ASTM
 Number/Street/Apartment Number ▼ 100 Barr Harbor Drive
 City/State/ZIP ▼ West Conshohocken, PA 19428-2959

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Library of Congress
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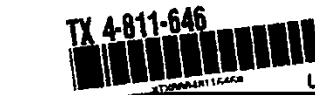
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Marybeth Peters
REGISTER OF COPYRIGHTS
United States of America

FORM SE
For a Serial
UNITED STATES COPYRIGHT OFFICE
REGISTRATION NUMBER



EFFECTIVE DATE OF REGISTRATION
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1

TITLE OF THIS SERIAL

1998 Annual Book of ASTM Standards: Thermal Insulation; Environmental Acoustics

Table with 4 columns: Volume, Number, Date on Copies, Frequency of Publication. Values: 04.06, 04, November 1998, Annual.

PREVIOUS OR ALTERNATIVE TITLES

2

NAME OF AUTHOR

a American Society for Testing and Materials

DATES OF BIRTH AND DEATH

Year Born Year Died

Was this contribution to the work a "work made for hire"? Yes [X] No []
AUTHOR'S NATIONALITY OR DOMICILE: Citizen of United States
WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Pseudonymous?

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

Collective Work Other: Entire Text

NAME OF AUTHOR

DATES OF BIRTH AND DEATH

Year Born Year Died

Was this contribution to the work a "work made for hire"? Yes [] No []
AUTHOR'S NATIONALITY OR DOMICILE: Citizen of
WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Pseudonymous?

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

Collective Work Other:

NAME OF AUTHOR

DATES OF BIRTH AND DEATH

Year Born Year Died

Was this contribution to the work a "work made for hire"? Yes [] No []
AUTHOR'S NATIONALITY OR DOMICILE: Citizen of
WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Pseudonymous?

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

Collective Work Other:

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ASTM000091

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DERIVATIVE WORK OR COMPILATION Complete both space 6a & 6b for a derivative work; complete only 6b for a compilation.

- a. Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼
 1997 Annual Book of ASTM Standards, Section 04, Volume 04.06

6

- b. Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼
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American Society for Testing and Materials

DA078328

9

CORRESPONDENCE Give name and address to which correspondence about this application should be sent.

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Kathe Hooper, American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Area Code & Telephone Number ▶ (610) 832-9634

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10

CERTIFICATION* I, the undersigned, hereby certify that I am the

Check only one ▶

- author
 other copyright claimant
 owner of exclusive right(s)
 authorized agent of American Society for Testing & Materials

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Name of author or other copyright claimant, or owner of exclusive right(s) ▼

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer

date ▶ 11-25-98

MAIL CERTIFICATE TO

Name ▼
 Kathe Hooper, ASTM

Number/Street/Apartment Number
 100 Barr Harbor Drive

City/State/ZIP ▼
 West Conshohocken, PA 19428-2959

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 2. Nonrefundable \$20 filing fee in check or money order payable to Register of Copyrights
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*17 U.S.C. § 508(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 408, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

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EFFECTIVE DATE OF REGISTRATION

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Month Day Year

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TITLE OF THIS SERIAL

1999 Annual Book of ASTM Standards - SHIPS AND MARINE TECHNOLOGY

Volume 01.07, Number 01, Date on Copies JANUARY 1999, Frequency of Publication Annual

NAME OF AUTHOR

American Society for Testing and Materials

Was this contribution to the work a "work made for hire"? AUTHOR'S NATIONALITY OR DOMICILE WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

NOTE

Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions) For any part of this work that was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates of birth and death blank

NAME OF AUTHOR

Was this contribution to the work a "work made for hire"? AUTHOR'S NATIONALITY OR DOMICILE WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

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- If your answer is "Yes," give: Previous Registration Number ▼ Year of Registration ▼

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DERIVATIVE WORK OR COMPILATION Complete both space 6a & 6b for a derivative work, complete only 6b for a compilation.

- a. **Preexisting Material** Identify any preexisting work or works that this work is based on or incorporates. ▼

1998 Annual Book of ASTM Standards, Section 01, Volume 01.07

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- b. **Material Added to This Work** Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼
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Name ▼ American Society for Testing and Materials Account Number ▼ # DA078328

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Robert L. Meltzer, ASTM
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
Area Code & Telephone Number ▶ 610-832-9632

Be sure to give your daytime phone number.

CERTIFICATION* I, the undersigned, hereby certify that I am the

- Check one ▶
- author
 - other copyright claimant
 - owner of exclusive right(s)
 - authorized agent of **American Society for Testing and Materials**
- Name of author or other copyright claimant, or owner of exclusive right(s) ▶

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer date ▶ 2/26/99

10

Handwritten signature (X) ▼
Robert L. Meltzer

MAIL CERTIFICATE TO

Certificate will be mailed in window envelope

Name ▼ **Kathe Hooper, ASTM**

Number, Street, Apartment Number ▼
100 Barr Harbor Drive

City, State, ZIP ▼
West Conshohocken, PA 19428-2959

1. Application form
2. Nonrefundable \$20 filing fee in check or money order payable to Register of Copyrights
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REGISTRATION NUMBER

TX 4-862-934



EFFECTIVE DATE OF REGISTRATION MAR 10 1999

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TITLE OF THIS SERIAL

1999 Annual Book of ASTM Standards - PETROLEUM PRODUCTS AND LUBRICANTS (I): D56 - D2596

Volume 15.01 Number 05 Date on Copies FEBRUARY 1999 Frequency of Publication Annual

PREVIOUS OR ALTERNATIVE TITLES

NAME OF AUTHOR

American Society for Testing and Materials

Was this contribution to the work a "work made for hire"? Yes No

AUTHOR'S NATIONALITY OR DOMICILE Name of Country Citizen of United States Domiciled in United States

DATES OF BIRTH AND DEATH

Year Born Year Died

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK? Anonymous? Pseudonymous?

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed. Collective Work Other: Entire Text

NAME OF AUTHOR

Was this contribution to the work a "work made for hire"? Yes No

AUTHOR'S NATIONALITY OR DOMICILE Name of Country Citizen of Domiciled in

DATES OF BIRTH AND DEATH

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Year Born Year Died

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Table with columns: Volume (01.0-1), Number (01), Date on Copies (JANUARY), Frequency of Publication (Annual), and PREVIOUS OR ALTERNATIVE TITLES.

NAME OF AUTHOR

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DATES OF BIRTH AND DEATH

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AUTHOR'S NATIONALITY OR DOMICILE: Citizen of United States, Domiciled in United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Pseudonymous? Yes/No

NATURE OF AUTHORSHIP: Entire Text

NAME OF AUTHOR

Was this contribution to the work a "work made for hire"? Yes/No

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WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Pseudonymous? Yes/No

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AUTHOR'S NATIONALITY OR DOMICILE: Citizen of, Domiciled in

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a. Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼

1998 Annual Book of ASTM Standards, Section 01, Volume 01, 00

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Name ▼ American Society for Testing and Materials Account Number ▼ # DA078328

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt/City/State/Zip ▼

Robert L. Meltzer, ASTM
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
Area Code & Telephone Number ▶ 610-832-9632

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- Check one ▶
- author
 - other copyright claimant
 - owner of exclusive right(s)
 - authorized agent of American Society for Testing and Materials

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Name of author or other copyright claimant, or owner of exclusive right(s) ▲

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer date ▶ 2/26/99

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Handwritten signature (X) ▼
Robert L. Meltzer

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Certificate will be mailed in window envelope

Name ▼ Kathie Hooper, ASTM
 Number/Street Apartment Number ▼ 100 Barr Harbor Drive
 City/State/ZIP ▼ West Conshohocken, PA 19428-2959

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 • Complete all necessary spaces
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United States of America

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TITLE OF THIS SERIAL

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Table with 4 columns: Volume, Number, Date on Copies, Frequency of Publication. Values: 05.02, 05, March 1999, Annual.

PREVIOUS OR ALTERNATIVE TITLES

2

NAME OF AUTHOR

a American Society for Testing and Materials

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
AUTHOR'S NATIONALITY OR DOMICILE
WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

NOTE

Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). For any part of this work that was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author of that part, and leave the space for dates of birth and death blank.

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

Other: Entire Text

NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

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Other:

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AUTHOR'S NATIONALITY OR DOMICILE
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a. Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼
1998 Annual Book of ASTM Standards, Section 05, Volume 05.02

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b. Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed.

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American Society for Testing and Materials DA078328

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CORRESPONDENCE Give name and address to which correspondence about this application should be sent.

Name/Address/Apt/Chy/State/ZIP ▼

Kathe Hooper, American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Area Code & Telephone Number ▶ (610) 832-9634

Be sure to give your daytime phone number.

CERTIFICATION* I, the undersigned, hereby certify that I am the

Check only one ▶

- author
 - other copyright claimant
 - owner of exclusive right(s)
 - authorized agent of American Society for Testing & Materials
- Name of author or other copyright claimant, or owner of exclusive right(s) ▶

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Typed or related name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer date ▶ 3-29-99

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Handwritten signature (X) Robert L. Meltzer

MAIL CERTIFICATE TO

Name	Kathe Hooper, ASTM
Number/Street/Apartment Number ▼	100 Barr Harbor Drive
City/State/ZIP ▼	West Conshohocken, PA 19428-2959

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 - * Sign your application in space 10
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3. Deposit material
- Register of Copyrights
Library of Congress
Washington, D.C. 20559

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*17 U.S.C. § 508(e). Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 408, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

CERTIFICATE OF REGISTRATION



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters
REGISTER OF COPYRIGHTS
United States of America

FORM SE
For a Serial
UNITED STATES COPYRIGHT OFFICE
REGISTRATION NUMBER

TX 4-898-491
Barcode with number TX0004898491*

EFFECTIVE DATE OF REGISTRATION
4 20 99
Month Day Year

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

1

TITLE OF THIS SERIAL

1999 Annual Book of ASTM Standards, Paint-Tests for Chemical, Physical, and Optical Properties, Appearance

Table with 4 columns: Volume, Number, Date on Copies, Frequency of Publication. Row 1: 06.01, 06, February 1999, Annual.

PREVIOUS OR ALTERNATIVE TITLES

2

a NAME OF AUTHOR
American Society for Testing and Materials

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country OR Citizen of OR Domiciled in United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Pseudonymous? Yes No Yes No

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.
Collective Work Other: Entire Text

NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country OR Citizen of OR Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Pseudonymous? Yes No Yes No

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.
Collective Work Other:

NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country OR Citizen of OR Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Pseudonymous? Yes No Yes No

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.
Collective Work Other:

3

a YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED
1999 Year

b DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE
Month: March Day: 22 Year: 1999
United States Nation

4

COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2.

American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

TRANSFER If the claimant(s) named here in space 4 are different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.

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APPLICATION RECEIVED APR 20 1999
ONE DEPOSIT RECEIVED
TWO DEPOSITS RECEIVED APR 20 1999
REMITTANCE NUMBER AND DATE

MORE ON BACK Complete all applicable spaces (numbers 5-11) on the reverse side of this page. See detailed instructions. Sign the form at line 10.

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ASTM000101

EXAMINED BY _____
 CHECKED BY _____
 CORRESPONDENCE
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PREVIOUS REGISTRATION Has registration for this issue, or for an earlier version of this particular issue, already been made in the Copyright Office?

- Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box)
- a. This is the first published version of an issue previously registered in unpublished form.
 b. This is the first application submitted by this author as copyright claimant.
 c. This is a changed version of this issue, as shown by space 6 on this application.
- If your answer is "Yes," give: Previous Registration Number ▼ Year of Registration ▼

5

DERIVATIVE WORK OR COMPILATION Complete both space 6a & 6b for a derivative work; complete only 6b for a compilation.

a. Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼
 1998 Annual Book of ASTM Standards, Section 06, Volume 06.01

6

b. Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼
 Compilation of previous published text plus additional text.

See instructions before completing this space.

---space deleted---

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See instructions.

8

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.
 Name ▼ Account Number

American Society for Testing and Materials

DA078328

9

CORRESPONDENCE Give name and address to which correspondence about this application should be sent.

Name/Address/Apt/City/State/ZIP ▼

Kathe Hooper, American Society for Testing and Materials
 100 Barr Harbor Drive
 West Conshohocken, PA 19428-2959

Area Code & Telephone Number ▶ (610) 832-9634

Be sure to give your daytime phone number.

CERTIFICATION* I, the undersigned, hereby certify that I am the

Check only one ▶

- author
 other copyright claimant
 owner of exclusive right(s)
 authorized agent of American Society for Testing & Materials

10

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Name of author or other copyright claimant, or owner of exclusive right(s) ▲

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meitzer

date ▶ 3-29-99

Handwritten signature (S) ▼
 Robert L. Meitzer

MAIL CERTIFICATE TO

Name
 Kathe Hooper, ASTM

Number/Street/Apartment Number ▼
 100 Barr Harbor Drive

City/State/ZIP ▼
 West Conshohocken, PA 19428-2959

11

- Complete all necessary spaces
- Sign your application in space 10

- Application form
 - Nonrefundable \$20 filing fee in check or money order payable to Register of Copyrights
 - Deposit material
- Register of Copyrights
 Library of Congress
 Washington, D.C. 20559

The Copyright Office has the authority to adjust fees at 5-year intervals, based on changes in the Consumer Price Index. The next adjustment is due in 1998. Please contact the Copyright Office after July 1995 to determine the actual fee schedule.

*17 U.S.C. § 506(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

CERTIFICATE OF REGISTRATION



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters
REGISTER OF COPYRIGHTS
United States of America

FORM SE

For a Serial
UNITED STATES COPYRIGHT OFFICE
REGISTRATION NUMBER

TX 4-951-524

EFFECTIVE DATE OF REGISTRATION
AUG - 9 1999
Month Day Year

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1

TITLE OF THIS SERIAL

1999 Annual Book of ASTM Standards - Gaseous Fuels; Coal and Coke

Table with columns: Volume, Number, Date on Copies, Frequency of Publication. Values: 05.05, 05, September 1999, Annual.

PREVIOUS OR ALTERNATIVE TITLES

2

NAME OF AUTHOR

a American Society for Testing and Materials

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
AUTHOR'S NATIONALITY OR DOMICILE
WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

NOTE

Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). For any part of this work that was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and save the space for dates of birth and death blank.

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
AUTHOR'S NATIONALITY OR DOMICILE
WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
AUTHOR'S NATIONALITY OR DOMICILE
WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

3

YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED

1999 Year

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE

Complete this information ONLY if this work has been published.
Month August Day 3 Year 1999
United States Nation

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100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

TRANSFER If the claimant(s) named here in space 4 are different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.

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AUG 09 1999
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TWO DEPOSITS RECEIVED
AUG 09 1999
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Page 1 of pages

ASTM000103

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 CHECKED BY _____
 CORRESPONDENCE
 Yes

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PREVIOUS REGISTRATION Has registration for this issue, or for an earlier version of this particular issue, already been made in the Copyright Office?

- Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box)
- a. This is the first published version of an issue previously registered in unpublished form.
 b. This is the first application submitted by this author as copyright claimant.
 c. This is a changed version of this issue, as shown by space 6 on this application.

5

If your answer is "Yes," give: Previous Registration Number Year of Registration

DERIVATIVE WORK OR COMPILATION Complete both space 6a & 6b for a derivative work; complete only 6b for a compilation.

- a. Preexisting Material Identify any preexisting work or works that this work is based on or incorporates.
 1998 Annual Book of ASTM Standards, Section 05, Volume 05.05

6

- b. Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed.
 Compilation of previous published text plus additional text.

See instructions before completing this space.

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See instructions.

8

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.

Name American Society for Testing and Materials Account Number DA078328

9

CORRESPONDENCE Give name and address to which correspondence about this application should be sent.

Name/Address/Apt/City/State/ZIP
Kathe Hooper, American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Area Code & Telephone Number (610) 832-9634

Be sure to give your daytime phone number.

CERTIFICATION* I, the undersigned, hereby certify that I am the

- Check only one
- author
 - other copyright claimant
 - owner of exclusive right(s)
 - authorized agent of American Society for Testing & Materials

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

10

Typed or printed name and date If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer date 8-3-99

Handwritten signature of Robert L. Meltzer

MAIL CERTIFICATE TO

Name
 Kathe Hooper, ASTM

Number/Street/Apartment Number
 100 Barr Harbor Drive

City/State/ZIP
 West Conshohocken, PA 19428-2959

Certificate will be mailed in window envelope

- 11
1. Application form
 2. Nonrefundable \$20 filing fee in check or money order payable to Register of Copyrights
 3. Deposit material
- Register of Copyrights
 Library of Congress
 Washington, D.C. 20559

The Copyright Office has the authority to adjust fees at 5-year intervals, based on changes in the Consumer Price Index. The next adjustment is due in 1998. Please contact the Copyright Office after July 1998 to determine the actual fee schedule.

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CERTIFICATE OF REGISTRATION

FORM SE For a Serial UNITED STATES COPYRIGHT OFFICE REGISTRATION NUMBER



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters REGISTER OF COPYRIGHTS United States of America

TX 4-952-491

EFFECTIVE DATE OF REGISTRATION Month 8 Day 9 Year 99

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1

TITLE OF THIS SERIAL

1999 Annual Book of ASTM Standards, Laboratory Apparatus, Degradation of Materials, Filtration, SI, Oxygen Fire Safety

Table with columns: Volume (14.04), Number (14), Date on Copies (July 1999), Frequency of Publication (Annual)

PREVIOUS OR ALTERNATIVE TITLES

2

a NAME OF AUTHOR American Society for Testing and Materials

DATES OF BIRTH AND DEATH Year Born Year Died

Was this contribution to the work a "work made for hire"? Yes No

AUTHOR'S NATIONALITY OR DOMICILE Name of Country Citizen of Domiciled in United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymously? Pseudonymously? Yes No Yes No

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

Collective Work Other: Entire Text

NAME OF AUTHOR

DATES OF BIRTH AND DEATH Year Born Year Died

Was this contribution to the work a "work made for hire"? Yes No

AUTHOR'S NATIONALITY OR DOMICILE Name of Country Citizen of Domiciled in

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NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

Collective Work Other:

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a YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED 1999 Year

b DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE July 9 1999 United States Nation

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American Society for Testing and Materials 100 Barr Harbor Drive West Conshohocken, PA 19428-2959

TRANSFER If the claimant(s) named here in space 4 are different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.

APPLICATION RECEIVED AUG 09 1999 ONE DEPOSIT RECEIVED TWO DEPOSITS RECEIVED AUG 09 1999 REMITTANCE NUMBER AND DATE

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ASTM000105

EXAMINED BY _____ FORM SE

CHECKED BY *dwd*

CORRESPONDENCE
Yes

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PREVIOUS REGISTRATION Has registration for this issue, or for an earlier version of this particular issue, already been made in the Copyright Office?

- Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box) ▼
- a. This is the first published version of an issue previously registered in unpublished form.
- b. This is the first application submitted by this author as copyright claimant.
- c. This is a changed version of this issue, as shown by space 6 on this application.
- If your answer is "Yes," give: Previous Registration Number ▼ Year of Registration ▼

5

DERIVATIVE WORK OR COMPILATION Complete both space 6a & 6b for a derivative work; complete only 6b for a compilation.

a. Preexisting Material Identify any preexisting work or works that this work is based on or incorporates.
1998 Annual Book of ASTM Standards, Section 14, Volume 14.04

6

b. Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼
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See instructions.

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.
Name ▼ Account Number ▼

American Society for Testing and Materials

DA078328

9

CORRESPONDENCE Give name and address to which correspondence about this application should be sent.

Name/Address/Apt/City/State/ZIP ▼

Kathe Hooper, American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Area Code & Telephone Number ▶ (610) 832-8634

Be sure to give your daytime phone number.

CERTIFICATION* I, the undersigned, hereby certify that I am the

Check only one ▶

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of American Society for Testing & Materials
Name of author or other copyright claimant, or owner of exclusive right(s) ▼

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Metzger

date ▶ 8-3-99

10

Handwritten signature of Robert L. Metzger

MAIL CERTIFICATE TO

Name ▼ Kathe Hooper, ASTM

Number/Street/Apartment Number ▼ 100 Barr Harbor Drive

City/State/ZIP ▼ West Conshohocken, PA 19428-2959

Certificate will be mailed in window envelope

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 - Sign your application in space 10
1. Application form
2. Nonrefundable \$20 filing fee in check or money order payable to Register of Copyrights
3. Deposit material
- Register of Copyrights
Library of Congress
Washington, D.C. 20559

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*17 U.S.C. § 506(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 408, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

CERTIFICATE OF COPYRIG. REGISTRATION

FORM TX

UNITED STATES COPYRIGHT OFFICE

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Barbara Ringer
Register of Copyrights
United States of America

REGISTRATION NUMBER TX 434-207 TXU
EFFECTIVE DATE OF REGISTRATION 3 17 80
Month Day Year

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE CONTINUATION SHEET

1 TITLE OF THIS WORK: 1980 ANNUAL BOOK OF ASTM STANDARDS, Part 1: Steel-Piping, Tubing, Fittings
PREVIOUS OR ALTERNATIVE TITLES:
If a periodical or serial give: Vol. No. Issue Date
PUBLICATION AS A CONTRIBUTION: (If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared.)
Title of Collective Work Vol. No. Date Pages

2 IMPORTANT: Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). If any part of this work was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates blank.
NAME OF AUTHOR: American Society for Testing and Materials
DATES OF BIRTH AND DEATH: Born Died
Was this author's contribution to the work a "work made for hire"? Yes X No
AUTHOR'S NATIONALITY OR DOMICILE: Citizen of U.S.A. or Domiciled in U.S.A.
WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Pseudonymous?
AUTHOR OF: (Briefly describe nature of this author's contribution)

3 YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED: Year 1980
DATE AND NATION OF FIRST PUBLICATION: Date January 15 1980
Nation United States
(This information must be given in all cases.) (Complete this block ONLY if this work has been published.)

4 NAME(S) AND ADDRESS(ES) OF COPYRIGHT CLAIMANT(S):
American Society for Testing and Materials
1916 Race Street
Philadelphia, PA. 19103
TRANSFER: (If the copyright claimant(s) named here in space 4 are different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.)

- Complete all applicable spaces (numbers 5-11) on the reverse side of this page
• Follow detailed instructions attached
• Sign the form at line 10

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Page 1 of 2 pages

ASTM000107

TX 434-207	EXAMINED BY: <i>[Signature]</i>	APPLICATION RECEIVED: 17 MAR 1980	FOR COPYRIGHT OFFICE USE ONLY
	CHECKED BY: <i>[Signature]</i>	25 FEB 1980	
	CORRESPONDENCE: <input type="checkbox"/> Yes	DEPOSIT RECEIVED: 17 MAR 1980 17 MAR 1980	
DEPOSIT ACCOUNT FUNDS USED: <input type="checkbox"/>	REMITTANCE NUMBER AND DATE 180750 MAR 17 80		

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED ADDITIONAL SPACE, USE CONTINUATION SHEET (FORM TX/CON)

PREVIOUS REGISTRATION: <ul style="list-style-type: none"> Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If your answer is "Yes," why is another registration being sought? (Check appropriate box) <ul style="list-style-type: none"> <input type="checkbox"/> This is the first published edition of a work previously registered in unpublished form. <input type="checkbox"/> This is the first application submitted by this author as copyright claimant. <input type="checkbox"/> This is a changed version of the work, as shown by line 6 of this application. If your answer is "Yes," give: Previous Registration Number TX...226-040..... Year of Registration 1979..... 	5 Previous Registration
--	--------------------------------------

COMPILATION OR DERIVATIVE WORK: (See instructions) PREEXISTING MATERIAL: (Identify any preexisting work or works that this work is based on or incorporates.) { 1979 Annual Book of ASTM Standards, Part 1 MATERIAL ADDED TO THIS WORK: (Give a brief, general statement of the material that has been added to this work and in which copyright is claimed.) { Compilation of previously published text plus additional text.	6 Compilation or Derivative Work
---	---

MANUFACTURERS AND LOCATIONS: (If this is a published work consisting preponderantly of nondramatic literary material in English, the law may require that the copies be manufactured in the United States or Canada for full protection. If so, the names of the manufacturers who performed certain processes, and the places where these processes were performed must be given. See instructions for details.) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"> NAMES OF MANUFACTURERS Waverly Press, Inc. </td> <td style="width: 50%;"> PLACES OF MANUFACTURE Easton, MD. </td> </tr> </table>	NAMES OF MANUFACTURERS Waverly Press, Inc.	PLACES OF MANUFACTURE Easton, MD.	7 Manufacturing
NAMES OF MANUFACTURERS Waverly Press, Inc.	PLACES OF MANUFACTURE Easton, MD.		

REPRODUCTION FOR USE OF BLIND OR PHYSICALLY-HANDICAPPED PERSONS: (See instructions) Signature of this form at space 10, and a check in one of the boxes here in space 8, constitutes a non-exclusive grant of permission to the Library of Congress to reproduce and distribute solely for the blind and physically handicapped and under the conditions and limitations prescribed by the regulations of the Copyright Office: (1) copies of the work identified in space 1 of this application in Braille (or similar tactile symbols); or (2) phonorecords embodying a fixation of a reading of that work; or (3) both. <input checked="" type="checkbox"/> Copies and phonorecords <input type="checkbox"/> Copies Only <input type="checkbox"/> Phonorecords Only	8 License For Handicapped
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DEPOSIT ACCOUNT: (If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.) Name: Account Number:	CORRESPONDENCE: (Give name and address to which correspondence about this application should be sent.) Name: .. Robert L. Meltzer .. Address: .. 1916 Race Street .. Philadelphia PA 19103 (City) (State) (ZIP)	9 Fee and Correspondence
---	--	---------------------------------------

CERTIFICATION: * I, the undersigned, hereby certify that I am the: (Check one) <input type="checkbox"/> author <input type="checkbox"/> other copyright claimant <input type="checkbox"/> owner of exclusive right(s) <input checked="" type="checkbox"/> authorized agent of: .. American Society for Testing and Materials .. of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge. Handwritten signature: (X) <i>Robert L. Meltzer</i> Typed or printed name: .. Robert L. Meltzer .. Date: 1/31/80	10 Certification (Application must be signed)
--	--

<div style="border: 1px solid black; border-radius: 15px; padding: 10px; width: fit-content;"> American Society for Testing and Materials. (Name) 1916 Race Street (Number, Street and Apartment Number) Philadelphia PA 19103 (City) (State) (ZIP code) </div>	MAIL CERTIFICATE TO 13 APR 1980 (Certificate will be mailed in window envelope)	11 Address For Return of Certificate
--	--	---

* 17 U.S.C. § 506(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

CERTIFICATE OF COPYRIGHT REGISTRATION

FORM TX

UNITED STATES COPYRIGHT OFFICE

This certificate, issued under the seal of the Copyright Office in accordance with the provisions of section 410(a) of title 17, United States Code, attests that copyright registration has been made for the work identified below. The information in this certificate has been made a part of the Copyright Office records.

Barbara Ringer

REGISTER OF COPYRIGHTS
United States of America

REGISTRATION NUMBER	
TX	464-573
TXU	TXU
EFFECTIVE DATE OF REGISTRATION	
4	21
Month	Day
	80
	Year

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE CONTINUATION SHEET

1 Title	TITLE OF THIS WORK: 1980 Annual Book of ASTM Standards, Part 4, Steel-Structural, Reinforcing, Pressure Vessel, Railway; Fasteners	PREVIOUS OR ALTERNATIVE TITLES:
	If a periodical or serial give: Vol. No. Issue Date.	
PUBLICATION AS A CONTRIBUTION: (If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared.)		
Title of Collective Work: Vol. No. Date Pages.		

2 Author(s)	IMPORTANT: Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). If any part of this work was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates blank.		
	1	NAME OF AUTHOR: American Society for Testing and Materials Was this author's contribution to the work a "work made for hire"? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	DATES OF BIRTH AND DEATH: Born Died
		AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in U.S.A. (Name of Country) (Name of Country)	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No
		AUTHOR OF: (Briefly describe nature of this author's contribution)	If the answer to either of these questions is "Yes, see detailed instructions attached.
	2	NAME OF AUTHOR: Was this author's contribution to the work a "work made for hire"? Yes No	DATES OF BIRTH AND DEATH: Born Died
		AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country)	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No
		AUTHOR OF: (Briefly describe nature of this author's contribution)	If the answer to either of these questions is "Yes, see detailed instructions attached.
	3	NAME OF AUTHOR: Was this author's contribution to the work a "work made for hire"? Yes No	DATES OF BIRTH AND DEATH: Born Died
		AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country)	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No
AUTHOR OF: (Briefly describe nature of this author's contribution)		If the answer to either of these questions is "Yes, see detailed instructions attached.	

3 Creation and Publication	YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED: Year: 1980 (This information must be given in all cases.)	DATE AND NATION OF FIRST PUBLICATION: Date: February 29 1980 (Month) (Day) (Year) Nation: United States (Name of Country) (Complete this block ONLY if this work has been published.)
-------------------------------	---	---

4 Claimant(s)	NAME(S) AND ADDRESS(ES) OF COPYRIGHT CLAIMANT(S): American Society for Testing and Materials 1916 Race Street Philadelphia, PA. 19103
	TRANSFER: (If the copyright claimant(s) named here in space 4 are different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.)

• Complete all applicable spaces (numbers 5-11) on the reverse side of this page
• Follow detailed instructions attached
• Sign the form at line 10

TX 464-573	EXAMINED BY: <i>[Signature]</i> APPLICANT RECEIVED: APR 21 1980	FOR COPYRIGHT OFFICE USE ONLY
	CHECKED BY: <i>[Signature]</i>	
	CORRESPONDENCE: <input type="checkbox"/> Yes DEPOSIT RECEIVED: APR 21 1980 APR 21 1980	
DEPOSIT ACCOUNT FUNDS USED: <input type="checkbox"/>	REMITTANCE NUMBER AND DATE: 217631 APR 21 80	

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED ADDITIONAL SPACE, USE CONTINUATION SHEET (FORM TX/CON)

PREVIOUS REGISTRATION: <ul style="list-style-type: none"> Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If your answer is "Yes," why is another registration being sought? (Check appropriate box) <ul style="list-style-type: none"> <input type="checkbox"/> This is the first published edition of a work previously registered in unpublished form. <input type="checkbox"/> This is the first application submitted by this author as copyright claimant. <input type="checkbox"/> This is a changed version of the work, as shown by line 6 of this application. If your answer is "Yes," give: Previous Registration Number TX 243-321 Year of Registration 1979 	5 Previous Registration
--	--------------------------------------

COMPILATION OR DERIVATIVE WORK: (See instructions) PREEXISTING MATERIAL: (Identify any preexisting work or works that this work is based on or incorporates.) 1979 Annual Book of ASTM Standards, Part 4 MATERIAL ADDED TO THIS WORK: (Give a brief, general statement of the material that has been added to this work and in which copyright is claimed.) Compilation of previously published text plus additional text	6 Compilation or Derivative Work
--	---

MANUFACTURERS AND LOCATIONS: (If this is a published work consisting preponderantly of nondramatic literary material in English, the law may require that the copies be manufactured in the United States or Canada for full protection. If so, the names of the manufacturers who performed certain processes, and the places where these processes were performed must be given. See instructions for details.) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">NAMES OF MANUFACTURERS Waverly Press, Inc.</td> <td style="width: 50%;">PLACES OF MANUFACTURE Easton, MD</td> </tr> </table>	NAMES OF MANUFACTURERS Waverly Press, Inc.	PLACES OF MANUFACTURE Easton, MD	7 Manufacturing
NAMES OF MANUFACTURERS Waverly Press, Inc.	PLACES OF MANUFACTURE Easton, MD		

REPRODUCTION FOR USE OF BLIND OR PHYSICALLY-HANDICAPPED PERSONS: (See instructions) <ul style="list-style-type: none"> Signature of this form at space 10, and a check in one of the boxes here in space 8, constitutes a non-exclusive grant of permission to the Library of Congress to reproduce and distribute solely for the blind and physically handicapped and under the conditions and limitations prescribed by the regulations of the Copyright Office: (1) copies of the work identified in space 1 of this application in Braille (or similar tactile symbols); or (2) phonorecords embodying a fixation of a reading of that work; or (3) both. <input checked="" type="checkbox"/> Copies and phonorecords <input type="checkbox"/> Copies Only <input type="checkbox"/> Phonorecords Only	8 License For Handicapped
--	---

DEPOSIT ACCOUNT: (If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.) Name: _____ Account Number: _____	CORRESPONDENCE: (Give name and address to which correspondence about this application should be sent) Name: Robert L. Meltzer, ASTM Address: 1916 Race Street Philadelphia, PA 19103 (City) (State) (ZIP)	9 Fee and Correspondence
---	--	---------------------------------------

CERTIFICATION: * I, the undersigned, hereby certify that I am the: (Check one) American Society for Testing and Materials <input type="checkbox"/> author <input type="checkbox"/> other copyright claimant <input type="checkbox"/> owner of exclusive right(s) <input checked="" type="checkbox"/> authorized agent of: Materials (Name of author or other copyright claimant, or owner of exclusive right(s)) of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge. Handwritten signature: (X) <i>Robert L. Meltzer</i> Typed or printed name: Robert L. Meltzer Date: 3/25/80	10 Certification (Application must be signed)
---	--

..... American Society for Testing and Materials (Name) 1916 Race Street (Number, Street and Apartment Number) Philadelphia, PA 19103 (City) (State) (ZIP code)	11 Address For Return of Certificate
--	---

MAIL CERTIFICATE
TO
MAY 30 1980
(Certificate will be mailed in window envelope)

* 17 U.S.C. § 506(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

CERTIFICATE OF COPYRIGHT REGISTRATION

FORM TX

UNITED STATES COPYRIGHT OFFICE

This certificate, issued under the seal of the Copyright Office in accordance with the provisions of section 410(a) of title 17, United States Code, attests that copyright registration has been made for the work identified below. The information in this certificate has been made a part of the Copyright Office records.

Barbara Ringer

REGISTER OF COPYRIGHTS United States of America

REGISTRATION NUMBER TX 464-574 TXU
EFFECTIVE DATE OF REGISTRATION 4 21 80
Month Day Year

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE CONTINUATION SHEET

1 Title
TITLE OF THIS WORK: 1980 Annual Book of ASTM Standards, Part 3; Steel-Plates, Sheet, Strip, Wire; Metallic Coated Products; Fences
PREVIOUS OR ALTERNATIVE TITLES:
PUBLICATION AS A CONTRIBUTION: (If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared.)

2 Author(s)
IMPORTANT: Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). If any part of this work was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates blank.
1 NAME OF AUTHOR: American Society for Testing and Materials
2 NAME OF AUTHOR:
3 NAME OF AUTHOR:

3 Creation and Publication
YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED: Year... 1980...
DATE AND NATION OF FIRST PUBLICATION: Date... March... 15... 1980... Nation... United States...

4 Claimant(s)
NAME(S) AND ADDRESS(ES) OF COPYRIGHT CLAIMANT(S): American Society for Testing and Materials 1916 Race Street Philadelphia, PA. 19103
TRANSFER: (If the copyright claimant(s) named here in space 4 are different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.)

- Complete all applicable spaces (numbers 5-11) on the reverse side of this page
Follow detailed instructions attached
Sign the form at line 10

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Page 1 of 2 pages

ASTM000111

TX 464-574	EXAMINED BY: <i>[Signature]</i> CHECKED BY: <i>[Signature]</i>	APPLICATION RECEIVED: APR 21 1980	FOR COPYRIGHT OFFICE USE ONLY
	CORRESPONDENCE: <input type="checkbox"/> Yes	DEPOSIT RECEIVED: APR 21 1980 APR 21 1980	
	DEPOSIT ACCOUNT FUNDS USED: <input type="checkbox"/>	REMITTANCE NUMBER AND DATE 217631 APR 21 80	

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED ADDITIONAL SPACE, USE CONTINUATION SHEET (FORM TX/CON)

PREVIOUS REGISTRATION: <ul style="list-style-type: none"> Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If your answer is "Yes," why is another registration being sought? (Check appropriate box) <ul style="list-style-type: none"> <input type="checkbox"/> This is the first published edition of a work previously registered in unpublished form. <input type="checkbox"/> This is the first application submitted by this author as copyright claimant. <input type="checkbox"/> This is a changed version of the work, as shown by line 6 of this application. If your answer is "Yes," give: Previous Registration Number TX 278-720 Year of Registration 1979 	5 Previous Registration
---	--------------------------------------

COMPILATION OR DERIVATIVE WORK: (See instructions) PREEXISTING MATERIAL: (Identify any preexisting work or works that this work is based on or incorporates.) 1979 Annual Book of ASTM Standards, Part 3 MATERIAL ADDED TO THIS WORK: (Give a brief, general statement of the material that has been added to this work and in which copyright is claimed.) Compilation of previously published text plus additional text	6 Compilation or Derivative Work
--	---

MANUFACTURERS AND LOCATIONS: (If this is a published work consisting preponderantly of nondramatic literary material in English, the law may require that the copies be manufactured in the United States or Canada for full protection. If so, the names of the manufacturers who performed certain processes, and the places where these processes were performed must be given. See instructions for details.) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">NAMES OF MANUFACTURERS Waverly Press, Inc.</td> <td style="width: 50%;">PLACES OF MANUFACTURE Easton, MD</td> </tr> </table>	NAMES OF MANUFACTURERS Waverly Press, Inc.	PLACES OF MANUFACTURE Easton, MD	7 Manufacturing
NAMES OF MANUFACTURERS Waverly Press, Inc.	PLACES OF MANUFACTURE Easton, MD		

REPRODUCTION FOR USE OF BLIND OR PHYSICALLY-HANDICAPPED PERSONS: (See instructions) <ul style="list-style-type: none"> Signature of this form at space 10, and a check in one of the boxes here in space 8, constitutes a non-exclusive grant of permission to the Library of Congress to reproduce and distribute solely for the blind and physically handicapped and under the conditions and limitations prescribed by the regulations of the Copyright Office: (1) copies of the work identified in space 1 of this application in Braille (or similar tactile symbols); or (2) phonorecords embodying a fixation of a reading of that work; or (3) both. a <input checked="" type="checkbox"/> Copies and phonorecords b <input type="checkbox"/> Copies Only c <input type="checkbox"/> Phonorecords Only	8 License For Handicapped
--	---

DEPOSIT ACCOUNT: (If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.) Name: _____ Account Number: _____	CORRESPONDENCE: (Give name and address to which correspondence about this application should be sent.) Name: Robert L. Meltzer, ASTM Address: 1916 Race Street Philadelphia, PA 19103 (City) (State) (ZIP)	9 Fee and Correspondence
---	---	---------------------------------------

CERTIFICATION: * I, the undersigned, hereby certify that I am the: (Check one) American Society for Testing and <input type="checkbox"/> author <input type="checkbox"/> other copyright claimant <input type="checkbox"/> owner of exclusive right(s) <input checked="" type="checkbox"/> authorized agent of: Materials of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge. Handwritten signature: (X) <i>Robert L. Meltzer</i> Typed or printed name: Robert L. Meltzer Date: 3/25/80	10 Certification (Application must be signed)
---	--

..... American Society for Testing and Materials 1916 Race Street Philadelphia, PA, 19103 (City) (State) (ZIP code)	MAIL CERTIFICATE TO MAY 30 1980 (Certificate will be mailed in window envelope)	11 Address For Return of Certificate
--	--	---

* 17 U.S.C. § 506(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

CERTIFICATE OF REGISTRATION



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters
REGISTER OF COPYRIGHTS
United States of America

FORM SE
For a Serial
UNITED STATES COPYRIGHT OFFICE
REGISTRATION NUMBER

TX 5-008-019
[Barcode]

EFFECTIVE DATE OF REGISTRATION

Month 11 Day 15 Year 99

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

TITLE OF THIS SERIAL

1

1999 Annual Book of ASTM Standards, Concrete and Aggregates

Table with 4 columns: Volume, Number, Date on Copies, Frequency of Publication. Values: 04.02, 04, October 1999, Annual.

PREVIOUS OR ALTERNATIVE TITLES

2

NAME OF AUTHOR
a American Society for Testing and Materials

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a 'work made for hire'?
Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
Citizen of United States
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Pseudonymous?
Yes No Yes No

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

Collective Work Other: Entire Text

NOTE

Under the law, the 'author' of a 'work made for hire' is generally the employer, not the employee... See instructions before completing this space.

NAME OF AUTHOR
a

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a 'work made for hire'?
Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
Citizen of
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Pseudonymous?
Yes No Yes No

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

Collective Work Other:

NAME OF AUTHOR
c

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a 'work made for hire'?
Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
Citizen of
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Pseudonymous?
Yes No Yes No

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

Collective Work Other:

3

YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED
a 1999

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE
b Month October Day 15 Year 1999
United States

4

COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2.

American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

TRANSFER If the claimant(s) named here in space 4 are different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.

APPLICATION RECEIVED
NOV 15 1999
ONE DEPOSIT RECEIVED
TWO DEPOSITS RECEIVED
NOV 15 1999
REMITTANCE NUMBER AND DATE

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Page 1 of 2 pages

ASTM000113

EXAMINED BY AUD/PEAR FORM 88

CHECKED BY _____

CORRESPONDENCE
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PREVIOUS REGISTRATION Has registration for this issue, or for an earlier version of this particular issue, already been made in the Copyright Office?

- Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box)
- a. This is the first published version of an issue previously registered in unpublished form.
 - b. This is the first application submitted by this author as copyright claimant.
 - c. This is a changed version of this issue, as shown by space 6 on this application.
- If your answer is "Yes," give: Previous Registration Number ▼ Year of Registration ▼

5

DERIVATIVE WORK OR COMPILATION Complete both space 6a & 6b for a derivative work; complete only 6b for a compilation.

a. Presenting Material Identify any preexisting work or works that this work is based on or incorporates. ▼
1998 Annual Book of ASTM Standards, Section 04, Volume 04.02

6

b. Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed.
Compilation of previous published text plus additional text.

See instructions before completing this space.

---space deleted---

7

REPRODUCTION FOR USE OF BLIND OR PHYSICALLY HANDICAPPED INDIVIDUALS A signature on this form at space 10, and a check in one of the boxes here in space 8, constitutes a non-exclusive grant of permission to the Library of Congress to reproduce and distribute solely for the blind and physically handicapped and under the conditions and limitations prescribed by the regulations of the Copyright Office: (1) copies of the work identified in space 1 of this application in Braille (or similar tactile symbols); or (2) phonorecords embodying a fixation of that work; or (3) both.

- a. Copies and Phonorecords
- b. Copies Only
- c. Phonorecords Only

See instructions

8

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.
Name ▼ Account Number ▼

American Society for Testing and Materials

DA078328

9

CORRESPONDENCE Give name and address to which correspondence about this application should be sent.

Name/Address/Apt/City/State/ZIP ▼

Kathe Hooper, American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Area Code & Telephone Number ▶ (610) 832-9634

Be sure to give your daytime phone number

CERTIFICATION* I, the undersigned, hereby certify that I am the

Check only one ▶

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of American Society for Testing & Materials

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.
Name of author or other copyright claimant, or owner of exclusive right(s) ▼

Typed or printed name and date If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer

date ▶ 10-27-99

10

Handwritten signature (S) ▼
Robert L. Meltzer

MAIL CERTIFICATE TO

Certificate will be mailed in window envelope

Name ▼ Kathe Hooper, ASTM

Number/Street/Apartment Number ▼ 100 Barr Harbor Drive

City/State/ZIP ▼ West Conshohocken, PA 19428-2959

- MAIL CERTIFICATE TO
- 1. Application form
 - 2. Nonrefundable \$20 filing fee in check or money order payable to Register of Copyrights
 - 3. Deposit material
- MAIL TO
Register of Copyrights
Library of Congress
Washington, D.C. 20559

The Copyright Office has the authority to adjust fees at 5-year intervals based on changes in the Consumer Price Index. The next adjustment is due in 1998. Please contact the Copyright Office after July 1999 to determine the actual fee schedule.

11

*17 U.S.C. § 506(a) Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 408, or in any written statement filed in connection with the application, shall be fined not more than \$2,500

CERTIFICATE OF REGISTRATION

FORM SE For a Serial UNITED STATES COPYRIGHT OFFICE REGISTRATION NUMBER



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.



Marybeth Peters 3 29 00 (Month, Day, Year)

REGISTER OF COPYRIGHTS United States of America

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1

TITLE OF THIS SERIAL

2000 Annual Book of ASTM Standards: Petroleum products and Lubricants(I): D 56- D 2596

Table with columns: Volume (05.01), Number (05), Date on Copies (February 2000), Frequency of Publication (Annual)

PREVIOUS OR ALTERNATIVE TITLES

2

NAME OF AUTHOR

a American Society for Testing and Materials

DATES OF BIRTH AND DEATH

Was this contribution to the work a "work made for hire"? (Yes/No), AUTHOR'S NATIONALITY OR DOMICILE (Citizen of/Domiciled in), WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK (Anonymous/Pseudonymous)

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

NAME OF AUTHOR

DATES OF BIRTH AND DEATH

Was this contribution to the work a "work made for hire"? (Yes/No), AUTHOR'S NATIONALITY OR DOMICILE (Citizen of/Domiciled in), WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK (Anonymous/Pseudonymous)

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NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

3

YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED

2000 Year

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE

Month February Day 2 Year 2000 United States Nation

4

COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2.

American Society for Testing and Materials 100 Barr Harbor Drive West Conshohocken, PA 19428-2959

TRANSFER If the claimant(s) named here in space 4 are different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.

APPLICATION RECEIVED MAR 29, 2000 ONE DEPOSIT RECEIVED TWO DEPOSITS RECEIVED MAR 29, 2000 REMITTANCE NUMBER AND DATE

MORE ON BACK Complete all applicable spaces (numbers 5-11) on the reverse side of this page. See detailed instructions. Sign the form at line 10.

DO NOT WRITE HERE Page 1 of 2 pages

EXAMINED BY *[Signature]* FORM SE

CHECKED BY *[Signature]*

CORRESPONDENCE
Yes

FOR COPYRIGHT OFFICE USE ONLY

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

PREVIOUS REGISTRATION Has registration for this issue, or for an earlier version of this particular issue, already been made in the Copyright Office?

- Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box) ▼
- a. This is the first published version of an issue previously registered in unpublished form.
- b. This is the first application submitted by this author as copyright claimant.
- c. This is a changed version of this issue, as shown by space 6 on this application.
- If your answer is "Yes," give: Previous Registration Number ▼ Year of Registration

5

DERIVATIVE WORK OR COMPILATION Complete both space 6a & 6b for a derivative work; complete only 6b for a compilation.

- a. Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼
- 1999 Annual Book of ASTM Standards, Section 05.01

6

- b. Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼
- Compilation of previous published text plus additional text.

See instructions before completing this space

---space deleted---

7

REPRODUCTION FOR USE OF BLIND OR PHYSICALLY HANDICAPPED INDIVIDUALS A signature on this form at space 10, and a check in one of the boxes here in space 8, constitutes a non-exclusive grant of permission to the Library of Congress to reproduce and distribute solely for the blind and physically handicapped and under the conditions and limitations prescribed by the regulations of the Copyright Office: (1) copies of the work identified in space 1 of this application in Braille (or similar tactile symbols), or (2) phonorecords embodying a fixation of a reading of that work; or (3) both.

- a. Copies and Phonorecords b. Copies Only c. Phonorecords Only

See instructions

8

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.

Name ▼ American Society for Testing and Materials Account Number ▼ DA078328

9

CORRESPONDENCE Give name and address to which correspondence about this application should be sent.

Name/Address/Apt/City/State/ZIP
Kathe Hooper, American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Area Code & Telephone Number ▶ (610) 832-9634

Be sure to give your daytime phone number

CERTIFICATION* I, the undersigned, hereby certify that I am the

Check only one ▶

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of American Society for Testing & Materials

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.
Robert L. Meltzer date ▶ *[Signature]*

10

Handwritten signature (X) ▼ *[Signature]*

MAIL CERTIFICATE TO

Name ▼ Kathe Hooper, ASTM

Number/Street/Apartment Number ▼ 100 Barr Harbor Drive

City/State/ZIP West Conshohocken, PA 19428-2959

Certificate will be mailed in window envelope

FOR FIRST

- Complete all necessary spaces
- Sign your application in space 10

SEND ALL ELEMENTS IN THE SAME PACKAGE

1. Application form
2. Nonrefundable \$20 filing fee in check or money order payable to Register of Copyrights
3. Deposit material

MAIL TO

Register of Copyrights
Library of Congress
Washington, D.C. 20559

The Copyright Office has the authority to adjust fees at 5-year intervals based on changes in the Consumer Price Index. The next adjustment is due in 1995. Please contact the Copyright Office after July 1995 to determine the actual fee schedule.

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Marybeth Peters
REGISTER OF COPYRIGHTS
United States of America

FORM SE
For a Serial
UNITED STATES COPYRIGHT OFFICE
REGISTRATION NUMBER

TX 5-135-299

EFFECTIVE DATE OF REGISTRATION
6 28 2000
Month Day Year

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TITLE OF THIS SERIAL

2000 ANNUAL BOOK OF ASTM STANDARDS, GENERAL TEST METHODS; CHEMOTOGRAPHY; FORENSIC SCIENCES; TERMINOLOGY; CONFORMITY ASSESSMENT; STATISTICAL METHODS

Volume 14.02 Number 14 Date on Copies July Frequency of Publication Annual

PREVIOUS OR ALTERNATIVE TITLES

NAME OF AUTHOR

American Society for Testing and Materials

DATES OF BIRTH AND DEATH

Year Born Year Died

Was this contribution to the work a "work made for hire"?
Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
Citizen of
Domiciled in United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Pseudonymous?
Yes No Yes No

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

Collective Work Other: Entire Text

NAME OF AUTHOR

DATES OF BIRTH AND DEATH

Year Born Year Died

Was this contribution to the work a "work made for hire"?
Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
Citizen of
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
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Name of Country
Citizen of
Domiciled in

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Yes No Yes No

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

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DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE
Month Day Year
June 19 2000
United States Nation

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2000 Annual Book of ASTM Standards, Electrical Insulating Liquids and Gases; Electrical Protective Equipment

Table with columns: Volume, Number, Date on Copies, Frequency of Publication. Row 1: 10.03, 10, May 2000, Annual.

NAME OF AUTHOR American Society for Testing and Materials DATES OF BIRTH AND DEATH Year Born Year Died

Was this contribution to the work a 'work made for hire'? Yes No AUTHOR'S NATIONALITY OR DOMICILE Name of Country Citizen of Domiciled in United States WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous? Pseudonymous?

NOTE

Under the law, the 'author' of a 'work made for hire' is generally the employer, not the employee (see instructions). For any part of this work that was 'made for hire' check 'Yes' in the space provided, give the employer (or other person for whom the work was prepared) as 'Author' of that part, and leave the space for dates of birth and death blank.

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NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed. Collective Work Other:

YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED 2000 DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE Month Day Year May 4 2000 United States

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DERIVATIVE WORK OR COMPILATION Complete both space 6a & 6b for a derivative work; complete only 6b for a compilation.

- a. Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼
1999 Annual Book of ASTM Standards, Volume 10.03, Section 10

6

- b. Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼
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Name ▼ American Society for Testing and Materials Account Number ▼ DA078328

9

CORRESPONDENCE Give name and address to which correspondence about this application should be sent.

Name/Address/Apt/City/State/ZIP ▼
Kathe Hooper, American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Area Code & Telephone Number ▶ (610) 832-9634

Be sure to give your daytime phone number.

CERTIFICATION* I, the undersigned, hereby certify that I am the

- Check only one ▶ author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of American Society for Testing & Materials

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer date ▶

10

Handwritten signature (X) ▼
Robert L. Meltzer

MAIL CERTIFICATE TO

Name ▼	Kathe Hooper, ASTM
Number/Street/Apartment Number ▼	100 Barr Harbor Drive
City/State/ZIP ▼	West Conshohocken, PA 19428-2959

Certificate will be mailed in window envelope

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• Sign your application in space 10

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2. Nonrefundable \$20 filing fee in check or money order payable to Register of Copyrights
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2000 ANNUAL BOOK OF ASTM STANDARDS, ANALYTICAL CHEMISTRY FOR METALS, DEES, AND RELATED MATERIALS (II): E356 latest; MOLECULAR SPECTROSCOPY; SURFACE ANALYSIS

Volume Number Date on Copies Frequency of Publication

03.06 03 OCTOBER 2000 ANNUAL

PREVIOUS OR ALTERNATIVE TITLES

2

a NAME OF AUTHOR
American Society for Testing and Materials

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR Citizen of Domiciled in United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Pseudonymous? Yes No Yes No

NOTE

Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). For any part of this work that was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates of birth and death blank.

b NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR Citizen of Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Pseudonymous? Yes No Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed.
Collective Work Other: Entire Text

c NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

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Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR Citizen of Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Pseudonymous? Yes No Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed.
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Month 10 Day 6 Year 2000
United States

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- c. This is a changed version of the work, as shown by space 6 on this application.

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Existing Material Identify any preexisting work or works that this work is based on or incorporates.

1999 Annual Book of ASTM Standards, Volume 12.02, Section 12

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American Society for Testing and Materials DA078328

a 7

CORRESPONDENCE Give name and address to which correspondence about this application should be sent.

Kathe Hooper, American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

b

Area code and daytime telephone number 610-832-9634 Fax number 610-832-9635

E-mail khooper@astm.org

CERTIFICATION I, the undersigned, hereby certify that I am the

Check only one

- author
- other copyright claimant
- owner of exclusive right(s)

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

(Authorized agent of American Society for Testing and Materials

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8

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Robert L. Meltzer

Date 10/24/02

Handwritten signature (X) Robert L. Meltzer

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Number/Street/Apt 100 Barr Harbor Drive
City/State/ZIP West Conshohocken, PA 19428-2959

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- Sign your application in space 8

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2. Nonrefundable filing fee in check or money order payable to Register of Copyrights
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Washington, D.C. 20559-6000
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*17 U.S.C. § 506(a): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 408, or in any written statement filed in connection with the application, shall be fined not more than \$2,500. June 1998—50,000 WEB REV: June 1999 U.S. GOVERNMENT PRINTING OFFICE: 1989-454-879/80

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1 TITLE OF THIS SERIAL 2000 ANNUAL BOOK OF ASTM STANDARDS, BUILDING CONSTRUCTIONS

Volume Number Date on Copies Frequency of Publication 04/11 04 NOVEMBER 2000 ANNUAL

PREVIOUS OR ALTERNATIVE TITLES

2 a NAME OF AUTHOR American Society for Testing and Materials DATES OF BIRTH AND DEATH Year Born Year Died WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous? Pseudonymous? WAS THIS CONTRIBUTION TO THE WORK "work made for hire"? AUTHOR'S NATIONALITY OR DOMICILE Citizen of Domiciled in United States

NOTE

Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). For any part of this work that was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates of birth and death blank.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. Collective Work Other: Entire Text

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Volume 11.03 Number 11 Date on Copies October 2000 Frequency of Publication Annually

2 a NAME OF AUTHOR American Society for Testing and Materials
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b NAME OF AUTHOR
AUTHOR'S NATIONALITY OR DOMICILE
WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK?

c NAME OF AUTHOR
AUTHOR'S NATIONALITY OR DOMICILE
WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK?

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Volume 11.01 Number 11 Date on Copies APRIL 2001 Frequency of Publication ANNUAL

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2

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DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
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Name of Country
OR Citizen of United States
Domiciled in

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Pseudonymously? Yes No

NATURE OF AUTHORSHIP: Briefly describe nature of material created by this author in which copyright is claimed.
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b

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AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
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Year Born Year Died
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CHECKED BY *[Signature]*

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b. This is the first application submitted by this author as copyright claimant.

c. This is a changed version of the work, as shown by space 6 on this application.

If your answer is "Yes," give: Previous Registration Number Year of Registration

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2000 Annual Book of ASTM Standards, Section II Volume 11.01

a

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American Society for Testing and Materials DA078328

a

7

CORRESPONDENCE Give name and address to which correspondence about this application should be sent.

Kathe Hooper, American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

b

Area code and daytime telephone number 610-832-9634

Fax number 610-832-9635

Email khooper@astm.org

CERTIFICATION I, the undersigned, hereby certify that I am the

Check only one

- author
- other copyright claimant
- owner of exclusive right(s)

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

authorized agent of American Society for Testing and Materials
Name of author or other copyright claimant, or owner of exclusive right(s)

8

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Robert L. Meltzer

Date 5/10/01

Handwritten signature (X)

X *Robert L. Meltzer*

Certificate will be mailed in window envelope to this address:

Name
Kathe Hooper, ASTM

Number/Street/Apt
100 Barr Harbor Drive

City/State/ZIP
West Conshohocken, PA 19428-2959

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9

1. Application form
2. Nonrefundable filing fee in check or money order As of July 1, 1999, payable to Register of Copyrights
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*17 U.S.C. § 506(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.
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Volume

Number

Date on Copies

Frequency of Publication

04-03

04

JUNE 2001

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2 a

NAME OF AUTHOR American Society for Testing and Materials

DATES OF BIRTH AND DEATH Year Born Year Died

Was this contribution to the work a "work made for hire"? Yes No

AUTHOR'S NATIONALITY OR DOMICILE Name of Country OR Citizen of Domiciled in United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous? Pseudonymous? Yes No Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. Collective Work Other: Entire Test

NOTE

Under the law, an "author" or "work made for hire" is generally the employer, not the employee... For any work that was made for hire, check "Yes" in the space provided, give to employer or other agent for them the work (or prepared) in full part, and save the space for dates of birth and death blank.

NAME OF AUTHOR

DATES OF BIRTH AND DEATH Year Born Year Died

Was this contribution to the work a "work made for hire"? Yes No

AUTHOR'S NATIONALITY OR DOMICILE Name of Country OR Citizen of Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous? Pseudonymous? Yes No Yes No

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DATES OF BIRTH AND DEATH Year Born Year Died

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AUTHOR'S NATIONALITY OR DOMICILE Name of Country OR Citizen of Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous? Pseudonymous? Yes No Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. Collective Work Other:

3 a

YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED 2001

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE Month Year 2001 United States

4

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ASTM000129

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is: No If your answer is "Yes," why is another registration being sought? (Check appropriate box.)

This is the first published edition of a work previously registered in unpublished form.

This is the first application submitted by this author as copyright claimant.

This is a changed version of the work, as shown by space 6 on this application.

or answer is "Yes," give: Previous Registration Number Year of Registration

5

DERIVATIVE WORK OR COMPILATION Complete both space 6a and 6b for a derivative work; complete only 6b for a compilation.

Identify any preexisting work or works that this work is based on or incorporates.

100 Annual Book of ASTM Standards, Section 01 Volume 04.03

Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed.

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DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.

American Society for Testing and Materials DA078328

CORRESPONDENCE Give name and address to which correspondence about this application should be sent.

Kathe Hooper, American Society for Testing and Materials
10 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Local telephone number 610-832-9634 Fax number 610-832-9635

Electronic mail khopper@astm.org

CERTIFICATION I, the undersigned, hereby certify that I am the

Check only one

- author
 - other copyright claimant
 - owner of exclusive right(s)
 - authorized agent of American Society for Testing and Materials
- Name of author or other copyright claimant, or owner of exclusive right(s)

owner of the work identified in this application and that the statements made in this application are correct to the best of my knowledge.

Typed or printed name and date If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer

Date 6/2/01

Handwritten signature (X) Robert Meltzer

8

Certificate All to be sealed in envelope and addressed to this address:

Name Kathe Hooper, ASTM

Number/Street/Apt 100 Barr Harbor Drive

City/State/ZIP West Conshohocken, PA 19428-2959

9

- Complete all necessary spaces
- Sign your application in space 8

1. Application form
2. Non-refundable filing fee in check or money order As of July 1, 1997, payable to Register of Copyrights
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17 U.S.C. § 506(c): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 408, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

U.S. GOVERNMENT PRINTING OFFICE: 1989-454-878/90

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1 TITLE OF THIS SERIAL *2001 ANNUAL BOOK OF ASTM STANDARDS: WATER (1)*

Volume	Number	Date on Copies	Frequency of Publication
<i>1.02</i>	<i>11</i>	<i>MAY 2001</i>	<i>ANNUAL</i>

PREVIOUS OR ALTERNATIVE TITLES

2 a NAME OF AUTHOR *American Society for Testing and Materials*

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
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AUTHOR'S NATIONALITY OR DOMICILE
Name of Country OR Citizen of *United States*
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymus? Yes No
Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed.
 Collective Work Other: *Entire Test*

NOTE
Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). For any part of this work that was made for hire, check "Yes" in the space provided, give the employer or other person for whom the work was prepared as "author" of that part, and save the space for dates of birth and death blank.

b NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

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Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed.
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3 a YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED *2001*

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United States

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*American Society for Testing and Materials
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This is the first published edition of a work previously registered in unpublished form.

This is the first application submitted by this author as copyright claimant.

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1000 Annual Book of ASTM Standards, Section 11 Volume 11.02

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Kathe Hooper, American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

telex code and daytime telephone number: 610-832-9634 Fax number: 610-832-9635

email: khooper@astm.org

a 7

b

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 - authorized agent of American Society for Testing and Materials
- Name of author or other copyright claimant, or owner of exclusive right(s)

if the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

typed or printed name and date If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer Date: 6/20/01

Handwritten signature (X) *[Signature]*

8

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Name: Kathe Hooper, ASTM

Number/Street/Apt: 100 Barr Harbor Drive

City/State/ZIP: West Conshohocken, PA 19428-2959

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101 Independence Avenue, S.E.
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17 U.S.C. § 605(c): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 408, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.



Case 1:13-cv-01215-TSC Document 122-2 Filed 12/22/15 Page 146 of 369

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PREVIOUS OR ALTERNATIVE TITLES ▼

2 a
NAME OF AUTHOR ▼ American Society for Testing and Materials
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NAME OF AUTHOR ▼
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AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country OR Citizen of ▼
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 Pseudonymous? Yes No
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3 a **YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED** 2001
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- a. This is the first published edition of a work previously registered in unpublished form.
- b. This is the first application submitted by this author as copyright claimant.
- c. This is a changed version of the work, as shown by space 6 on this application.

If your answer is "Yes," give: Previous Registration Number Year of Registration

DERIVATIVE WORK OR COMPILATION Complete both space 6a and 6b for a derivative work; complete only 6b for a compilation. Preexisting Material Identify any preexisting work or works that this work is based on or incorporates.

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2000 Annual Book of ASTM Standards, Section 07 Volume 01

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American Society for Testing and Materials DA078328

a 7

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt./City/State/ZIP

Kathe Hooper, American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Area code and daytime telephone number 610-832-9634 Fax number 610-832-9635

Email khooper@astm.org

b

CERTIFICATION I, the undersigned, hereby certify that I am the

Check only one

- Author
- Other copyright claimant
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of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

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Robert L. Meltzer

Date: 11/9/07

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X *Robert L. Meltzer*

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June 1999—50,000
WEB REV: June 1999
U.S. GOVERNMENT PRINTING OFFICE: 1999-454-879

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Volume ▼ Number ▼ Date on Copies ▼ Frequency of Publication ▼
08 02 JUNE 2002 Annual

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WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous? Yes No Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼ Collective Work Other: *Entire Text*

NOTE
Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). For any part of this work that was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates of birth and death blank.

b NAME OF AUTHOR ▼ DATES OF BIRTH AND DEATH Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"? Yes No

AUTHOR'S NATIONALITY OR DOMICILE Name of Country: OR Citizen of: Domiciled in:

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous? Yes No Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼ Collective Work Other:

c NAME OF AUTHOR ▼ DATES OF BIRTH AND DEATH Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"? Yes No

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 This is the first published edition of a work previously registered in unpublished form.
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DERIVATIVE WORK OR COMPILATION Complete both space 6a and 6b for a derivative work; complete only 6b for a compilation.
 Basis of Material Identify any preexisting work or works that this work is based on or incorporates.
 2007 Annual Book of ASTM Standards, Section 08, Volume 02

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 Name Account Number
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7

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt/City/State/ZIP
 Kathie Hooper, American Society for Testing and Materials
 100 Barr Harbor Drive
 West Conshohocken, PA 19428-2959
 Area code and daytime telephone number 610-832-9634 Fax number 610-832-9635
 E-mail khooper@astm.org

b

CERTIFICATION I, the undersigned, hereby certify that I am the
 Check only one author
 other copyright claimant
 owner of exclusive right(s)
 authorized agent of American Society for Testing and Materials
 of the work identified in this application and that the statements made
 herein in this application are correct to the best of my knowledge.
 Name of author or other copyright claimant, or owner of exclusive right(s)

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 Robert L. Meltzer Date 7-22-07

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 X [Signature]

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 Number/Street/Apt 100 Barr Harbor Drive
 City/State/ZIP West Conshohocken, PA 19428-2959

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Complete all necessary spaces
 Sign your application in space 8
 1. Application form
 2. Nonrefundable filing fee in check or money order As of July 1, 1997, the filing fee for Form SE is \$38.
 Library of Congress Copyright Office
 101 Independence Avenue, S.E.
 Washington, D.C. 20559-6000

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 Form 1998-60,000
 WEB REV: June 1999
 U.S. GOVERNMENT PRINTING OFFICE: 1999-454-879/60

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Volume ▼ **Number** ▼ **Date on Copies** ▼ **Frequency of Publication** ▼
1607 *15* *NOVEMBER* Annual

PREVIOUS OR ALTERNATIVE TITLES ▼

2 a **NAME OF AUTHOR** ▼
American Society for Testing and Materials

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

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AUTHOR'S NATIONALITY OR DOMICILE
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OR { Citizen of ▼ *United States*
Domiciled in ▼

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
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Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼
 Collective Work Other: Entire Text

NOTE
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DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

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Name of Country
OR { Citizen of ▼
Domiciled in ▼

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Name of Country
OR { Citizen of ▼
Domiciled in ▼

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Pseudonymous? Yes No

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PREVIOUS REGISTRATION Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office?

- Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box.) ▼
- a. This is the first published edition of a work previously registered in unpublished form.
- b. This is the first application submitted by this author as copyright claimant.
- c. This is a changed version of the work, as shown by space 6 on this application.
- If your answer is "Yes," give: Previous Registration Number ▼ Year of Registration ▼

5

DERIVATIVE WORK OR COMPILATION Complete both space 6a and 6b for a derivative work; complete only 6b for a compilation.

Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼
2001 Annual Book of ASTM Standards, Section 15, Volume 15, 07

a 6

Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼

Compilation of previous published text plus additional text.

b

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account. Name ▼ Account Number ▼

American Society for Testing and Materials DA078328

a 7

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt/City/State/ZIP ▼

Kathe Hooper, American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

b

Area code and daytime telephone number ▶ 610-832-9634 Fax number ▶ 610-832-9635

Email ▶ khooper@astm.org

CERTIFICATION I, the undersigned, hereby certify that I am the

Check only one ▶

- author
- other copyright claimant
- owner of exclusive right(s)

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

authorized agent of American Society for Testing and Materials
Name of author or other copyright claimant, or owner of exclusive right(s) ▲

8

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer

Date ▶ 11/5/02

Handwritten signature (X) Robert L. Meltzer

Certificate will be mailed in window envelope to this address:

Name ▼
Kathe Hooper, ASTM International

Number/Street/Apt ▼
100 Barr Harbor Drive

City/State/ZIP ▼
West Conshohocken, PA 19428-2959

- Complete all necessary spaces
- Sign your application in space 9

9

1. Application form
2. Nonrefundable filing fee in check or money order payable to Register of Copyrights
3. Deposit material

As of July 1, 1999, the filing fee for Form SE is \$30.

Library of Congress
Copyright Office
101 Independence Avenue, S.E.
Washington, D.C. 20540-6000

*17 U.S.C. § 506(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.
June 1999—50,000
WEB REV: June 1999



CERTIFICATE OF REGISTRATION

FORM SE
For a Serial



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

TX 5-641-809
730005/41001

ICE _____

Marybeth Peters

EFFECTIVE DATE OF REGISTRATION
NOV - 7 2002
Month Day Year

REGISTER OF COPYRIGHTS
United States of America

OFFICIAL SEAL

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE AN APPROPRIATE CONTINUATION SHEET.

1 TITLE OF THIS SERIAL ▼
2002 Annual Book of ASTM Standards; *BUILDING CONSTRUCTION (I): E72 - E1670*

Volume ▼	Number ▼	Date on Copies ▼	Frequency of Publication ▼
<i>04.11</i>	<i>04</i>	<i>NOVEMBER</i>	Annual

PREVIOUS OR ALTERNATIVE TITLES ▼

2 a NAME OF AUTHOR ▼
American Society for Testing and Materials

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country: _____
OR Citizen of: United States
Domiciled in: _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

NOTE
Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). For any part of this work that was "made for hire," check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates of birth and death blank.

b NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼
 Collective Work Other: Entire Text

c NAME OF AUTHOR ▼

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country: _____
OR Citizen of: _____
Domiciled in: _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

c NAME OF AUTHOR ▼

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country: _____
OR Citizen of: _____
Domiciled in: _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

3 a YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED
2002 Year

b DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE
Month: Nov. Day: 7 Year: 2002
United States Nation

4 COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2. ▼
American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright. ▼

APPLICATION RECEIVED
NOV 8 7 2002

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TWO DEPOSITS RECEIVED
NOV 0 7 2002

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ASTM000139

EXAMINED BY [Signature] FORM SE

CHECKED BY [Signature]

CORRESPONDENCE FOR COPYRIGHT OFFICE USE ONLY
Yes

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PREVIOUS REGISTRATION Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office?
 Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box.) ▼

a. This is the first published edition of a work previously registered in unpublished form.

b. This is the first application submitted by this author as copyright claimant.

c. This is a changed version of the work, as shown by space 6 on this application.

If your answer is "Yes," give: Previous Registration Number ▼ Year of Registration ▼

5

DERIVATIVE WORK OR COMPILATION Complete both space 6a and 6b for a derivative work; complete only 6b for a compilation.
Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼

2001 Annual Book of ASTM Standards, Section 04, Volume 04.11

a 6

Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼

Compilation of previous published text plus additional text

b See instructions before completing this space.

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.
 Name ▼ Account Number ▼

American Society for Testing and Materials DA078328

a 7

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt./City/State/ZIP ▼

Kathe Hooper, American Society for Testing and Materials
 100 Barr Harbor Drive
 West Conshohocken, PA 19428-2959

Area code and daytime telephone number ▶ 610-832-9634 Fax number ▶ 610-832-9635

Email ▶ khooper@astm.org

b

CERTIFICATION I, the undersigned, hereby certify that I am the

Check only one ▶ author
 other copyright claimant
 owner of exclusive right(s)
 authorized agent of American Society for Testing and Materials

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.
 Name of author or other copyright claimant, or owner of exclusive right(s) ▲

8

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert L. Meltzer Date ▶ 11/5/02

Handwritten signature (X) ▼

X [Signature]

Certificate will be mailed in window envelope to this address:

Name ▼ Kathe Hooper, ASTM International

Number/Street/Apt. ▼ 100 Barr Harbor Drive

City/State/ZIP ▼ West Conshohocken, PA 19428-2959

1. Application form
 2. Nonrefundable filing fee in check or money order As of July 1, 1995,
 payable to Register of Copyrights
 3. Deposit material the filing fee for Form SE is \$30.

Library of Congress Copyright Office
 101 Independence Avenue, S.E.
 Washington, D.C. 20540-6000

9

*17 U.S.C. § 605(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 405, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

June 1989—60,000 WEB REV: June 1999


U.S. GOVERNMENT PRINTING OFFICE: 1999-454-879/00

CERTIFICATE OF REGISTRATION



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters
 REGISTER OF COPYRIGHTS
 United States of America

FORM SE
 For a Serial
 LINE _____
 RE TX 5-785-473

 EFFECTIVE DATE OF REGISTRATION
 Month 5 Day 21 Year 03

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1 TITLE OF THIS SERIAL ▼
 2003 Annual Book of ASTM Standards *WATER (I)*

Volume ▼	Number ▼	Date on Cover ▼	Frequency of Publication ▼
<i>1101</i>	<i>11</i>	<i>APRIL 2003</i>	Annual

PREVIOUS OR ALTERNATIVE TITLES ▼

2 a NAME OF AUTHOR ▼ American Society for Testing and Materials DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes No

AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country
 OR { Citizen of United States
 Domiciled in United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymous? Yes No
 Pseudonymous? Yes No

NOTE

Under the law the author of a "work made for hire" is generally the employer not the employee (see instructions). For any part of this work that was "made for hire" check "Yes" in the space provided give the employer (or other person for whom the work was prepared) as "Author" of that part and leave the space for dates of birth and death blank.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼
 Collective Work Other: Entire Text

b NAME OF AUTHOR ▼ DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes No

AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country
 OR { Citizen of _____
 Domiciled in _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymous? Yes No
 Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼
 Collective Work Other

c NAME OF AUTHOR ▼ DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes No

AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country
 OR { Citizen of _____
 Domiciled in _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymous? Yes No
 Pseudonymous? Yes No

3 a YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED 2003
This information must be given in all cases.

b DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE
 Complete this information ONLY if this work has been published. Month 4 Day 15 Year 2003
 United States

4 COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2. ▼
 American Society for Testing and Materials
 100 Barr Harbor Drive PO Box C 700
 West Conshohocken, PA 19428-2959

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright. ▼

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 TWO DEPOSITS RECEIVED
 MAY 21 2003
 FUNDS RECEIVED 2003

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ASTM000141

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 CHECKED BY *[Signature]*
 CORRESPONDENCE
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PREVIOUS REGISTRATION Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office?
 Yes No If your answer is "Yes" why is another registration being sought? (Check appropriate box) **5**
 a. This is the first published edition of a work previously registered in unpublished form.
 b. This is the first application submitted by this author as copyright claimant.
 c. This is a changed version of the work, as shown by space 6 on this application.
 If your answer is "Yes" give Previous Registration Number 785 831 951 Year of Registration 2002

DERIVATIVE WORK OR COMPILATION Complete both space 6a and 6b for a derivative work, complete only 6b for a compilation.
 Presenting Material Identify any presenting work or works that this work is based on or incorporates **6**
2002 Annual Book of ASTM Standards, Section 11 Volume 11.01
 Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed **b**
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DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.
 Name **a** **7**
American Society for Testing and Materials DA078328

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt/City/State/ZIP **b**
Kathe Hooper, American Society for Testing and Materials
100 Barr Harbor Drive, PO Box C700
West Conshohocken, PA 19428-2959
 Area code and daytime telephone number 610-832-9634 Fax number 610-832-9635
 Email khooper@astm.org

CERTIFICATION* I, the undersigned, hereby certify that I am the **8**
 Check only one author
 other copyright claimant
 owner of exclusive right(s)
 authorized agent of American Society for Testing and Materials
 of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge
 Name of author or other copyright claimant, or owner of exclusive right(s) **A**

Typed or printed name and date **v** If this application gives a date of publication in space 3 do not sign and submit it before that date
John Pace Date 5-14-03
 Handwritten Signature **CC**
 X *[Signature]*

Certificate will be mailed in window envelope to this address **9**
 Name Kathe Hooper ASTM
 Number/Street/Apt 100 Barr Harbor Drive, PO Box C700
 City/State/ZIP West Conshohocken, PA 19428-2959
 Complete all necessary spaces Sign your application in space 6
 1. Application form
 2. Nonrefundable filing fee in check or money order payable to Registrar of Copyrights As of July 1 1999 the filing fee for Form 5E is \$30
 3. Deposit material
 Library of Congress Copyright Office 101 Independence Avenue, S E Washington, D.C. 20540-8000

*17 U.S.C. § 805(c): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 408 or in any written statement filed in connection with the application shall be fined not more than \$2,000
 June 1999 - 80 000
 WEB REV. June 1999
 U.S. GOVERNMENT PRINTING OFFICE: 1999-464-878/00

Certificate of Registration



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Marybeth Peters

Register of Copyrights, United States of America

FORM SE

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TX 5-929-682



EFFECTIVE DATE OF REGISTRATION

03 30 04
Month Day Year

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1

TITLE OF THIS SERIAL

2004 Annual Book of ASTM Standards: *Soil and Rock (I): D430-D5611*

Volume	Number	Date on Copies	Frequency of Publication
<i>04.08</i>	<i>04</i>	<i>MARCH 2004</i>	Annual

PREVIOUS OR ALTERNATIVE TITLES

2

a NAME OF AUTHOR

ASTM International

DATES OF BIRTH AND DEATH

Year Born Year Died

Was this contribution to the work a "work made for hire"?

Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE

OR
Name of Country: United States
Citizen of: _____
Domiciled in: _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

Anonymous? Yes No
Pseudonymous? Yes No

NOTE

Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see Instructions). For any part of this work that was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates of birth and death blank.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed.

Collective Work Other: Entire Text

b NAME OF AUTHOR

Was this contribution to the work a "work made for hire"?

Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE

OR
Name of Country: _____
Citizen of: _____
Domiciled in: _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

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Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed.

Collective Work Other: _____

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 No

AUTHOR'S NATIONALITY OR DOMICILE

OR
Name of Country: _____
Citizen of: _____
Domiciled in: _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

Anonymous? Yes No
Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed.

Collective Work Other: _____

3

a YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED
2004

This information must be given in all cases.

b DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE

Month: MAR Day: 26 Year: 2004
United States

4

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ASTM International
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West Conshohocken, PA 19428-2959

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.

APPLICATION RECEIVED

MAR 30 2004

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MAR 30 2004

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MORE ON BACK Complete all applicable spaces (numbers 6-8) on the reverse side of this page. See detailed instructions. Sign the form at line 8.

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ASTM000143

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters

Register of Copyrights, United States of America

FORM SE

For a Serial
UNITED STATES COPYRIGHT OFFICE



EFFECTIVE DATE
6 29 04
Month Day Year

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE USE A SEPARATE CONTINUATION SHEET

1 TITLE OF THIS SERIAL ▼
2004 Annual Book of ASTM Standards *PLASTICS (III). D4329-19TEST*

Volume ▼	Number ▼	Date on Copies ▼	Frequency of Publication ▼
0803	08	July 2004	Annual

PREVIOUS OR ALTERNATIVE TITLES ▼

2 a NAME OF AUTHOR ▼
ASTM International

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

Was this contribution to the work a work made for hire?
 Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR { Citizen of ▶ United States
Domiciled in ▶ _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

NOTE

Under the law the author of a work made for hire is generally the employer not the employee (see instructions) For any part of this work that was made for hire check Yes in the space provided give the employer (or other person for whom the work was prepared) as Author of that part and leave the space for dates of birth and death blank

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed ▼
 Collective Work Other Entire Text

b NAME OF AUTHOR ▼

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

Was this contribution to the work a work made for hire?
 Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR { Citizen of ▶ _____
Domiciled in ▶ _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed ▼
 Collective Work Other _____

c NAME OF AUTHOR ▼

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

Was this contribution to the work a work made for hire?
 Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR { Citizen of ▶ _____
Domiciled in ▶ _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed ▼
 Collective Work Other _____

3 a YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED
2004

b DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE
Month ▶ JUNE Day ▶ 25 Year ▶ 2004
United States

4 COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2 ▼
ASTM International
100 Barr Harbor Drive, PO Box C 700
West Conshohocken, PA 19428 2959

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright ▼

APPLICATION RECEIVED
JUN 29 2004

ONE DEPOSIT RECEIVED

TWO DEPOSITS RECEIVED
JUN 29 2004

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Page 1 of 2 pages

ASTM000145

EXAMINED BY <i>[Signature]</i>	FORM SE
CHECKED BY <i>[Signature]</i>	
<input type="checkbox"/> CORRESPONDENCE	FOR COPYRIGHT OFFICE USE ONLY
Yes	

DO NOT WRITE ABOVE THIS LINE IF YOU NEED MORE SPACE USE A SEPARATE CONTINUATION SHEET

PREVIOUS REGISTRATION Has registration for this work or for an earlier version of this work already been made in the Copyright Office?
 Yes No If your answer is Yes why is another registration being sought? (Check appropriate box) 5

a This is the first published edition of a work previously registered in unpublished form
b This is the first application submitted by this author as copyright claimant
c This is a changed version of the work as shown by space 6 on this application

If your answer is Yes give Previous Registration Number TX 5 794 777 Year of Registration 2003

DERIVATIVE WORK OR COMPILATION Complete both space 6a and 6b for a derivative work complete only 6b for a compilation
Preexisting Material Identify any preexisting work or works that this work is based on or incorporates 6

a 2003 Annual Book of ASTM Standards Section 08 Volume 08-03

b **Material Added to This Work** Give a brief general statement of the material that has been added to this work and in which copyright is claimed See instructions before completing this space

Compilation of previous published text plus additional text

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office give name and number of Account 7

Name American Society for Testing and Materials Account Number DA078328

CORRESPONDENCE Give name and address to which correspondence about this application should be sent 8

Name/Address/Apt/City/State/ZIP Kathe Hooper ASTM International
100 Barr Harbor Drive PO Box C700
West Conshohocken PA 19428 2959

Area code and daytime telephone number 610 832 9634 Fax number 610-832 9635
Email khooper@astm.org

CERTIFICATION I the undersigned hereby certify that I am the 8

Check only one author
 other copyright claimant
 owner of exclusive right(s)
 authorized agent of ASTM International
Name of author or other copyright claimant, or owner of exclusive right(s) ASTM International

Typed or printed name and date John Pace Date 6/25/04

Handwritten signature (X) [Signature]

Certificate will be mailed in window envelope to this address	Name <u>Kathe Hooper ASTM International</u>	9 Complete all necessary spaces Sign your application in space 8 1 Application form 2 Nonrefundable filing fee in check or money order payable to Register of Copyrights 3 Deposit material Library of Congress Copyright Office 101 Independence Avenue S E Washington D C 20540-8000 As of July 1 1999 the filing fee for Form SE is \$38
	Number/Street/Apt <u>100 Barr Harbor Drive PO Box C700</u>	
	City/State/ZIP <u>West Conshohocken, PA 19428 2959</u>	

17 U.S.C. § 506(e) Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409 or in any written statement filed in connection with the application shall be fined not more than \$2,500
June 1999—50 000 WEB REV June 1999
U.S. GOVERNMENT PRINTING OFFICE 1999-454-879/60

ASTM000146

JA01777

CERTIFICATE OF COPYRIGHT REGISTRATION

FORM TX

UNITED STATES COPYRIGHT OFFICE

This certificate, issued under the seal of the Copyright Office in accordance with the provisions of section 410(a) of title 17, United States Code, attests that copyright registration has been made for the work identified below. The information in this certificate has been made a part of the Copyright Office records.

David L. Ladd

REGISTER OF COPYRIGHTS
United States of America

REGISTRATION NUMBER	
TX	534-158
TX	TXU
EFFECTIVE DATE OF REGISTRATION:	
Aug	18, 1980
Month	Day Year

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE CONTINUATION SHEET (FORM TX/CON)

1 Title	TITLE OF THIS WORK: 1980 Annual Book of ASTM Standards, Part 31: Water	PREVIOUS OR ALTERNATIVE TITLES:
	If a periodical or serial give: Vol. No. Issue Date	
PUBLICATION AS A CONTRIBUTION: (If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared.)		
Title of Collective Work: Vol. No. Date Pages		

2 Author(s)	IMPORTANT: Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). If any part of this work was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates blank.		
	1	NAME OF AUTHOR: American Society for Testing and Materials	DATES OF BIRTH AND DEATH: Born Died
		Was this author's contribution to the work a "work made for hire"? Yes <input checked="" type="checkbox"/> No	(Year) (Year)
		AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in U.S.A. (Name of Country) (Name of Country)	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No
		AUTHOR OF: (Briefly describe nature of this author's contribution) Entire Text	If the answer to either of these questions is "Yes," see detailed instructions attached.
	2	NAME OF AUTHOR:	DATES OF BIRTH AND DEATH: Born Died
		Was this author's contribution to the work a "work made for hire"? Yes No	(Year) (Year)
		AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country)	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No
		AUTHOR OF: (Briefly describe nature of this author's contribution)	If the answer to either of these questions is "Yes," see detailed instructions attached.
3	NAME OF AUTHOR:	DATES OF BIRTH AND DEATH: Born Died	
	Was this author's contribution to the work a "work made for hire"? Yes No	(Year) (Year)	
	AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country)	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No	
	AUTHOR OF: (Briefly describe nature of this author's contribution)	If the answer to either of these questions is "Yes," see detailed instructions attached.	

3 Creation and Publication	YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED: Year: 1980	DATE AND NATION OF FIRST PUBLICATION: Date: June 15 1980 (Month) (Day) (Year) Nation: United States (Name of Country)
	(This information must be given in all cases.)	(Complete this block ONLY if this work has been published.)

4 Claimant(s)	NAME(S) AND ADDRESS(ES) OF COPYRIGHT CLAIMANT(S): American Society for Testing and Materials 1916 Race Street Philadelphia, PA. 19103
	TRANSFER: (If the copyright claimant(s) named here in space 4 are different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.)

• Complete all applicable spaces (numbers 5-11) on the reverse side of this page
• Follow detailed instructions attached • Sign the form at line 10

DO NOT WRITE HERE
Page 1 of 1

ASTM000147

TX 1 - 534-158	EXAMINED BY: <i>MS</i> RECEIVED: 18 AUG 1980	FOR COPYRIGHT OFFICE USE ONLY
	CHECKED BY: <i>MS</i>	
	CORRESPONDENCE: <input type="checkbox"/> Yes DEPOSIT RECEIVED: 18 AUG 1980 18 AUG 1980	
DEPOSIT ACCOUNT FUNDS USED: <input type="checkbox"/>	REMITTANCE NUMBER AND DATE: 346019 AUG 1980	

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED ADDITIONAL SPACE, USE CONTINUATION SHEET (FORM TX/CON)

PREVIOUS REGISTRATION: • Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> • If your answer is "Yes," why is another registration being sought? (Check appropriate box) <input type="checkbox"/> This is the first published edition of a work previously registered in unpublished form. <input type="checkbox"/> This is the first application submitted by this author as copyright claimant. <input type="checkbox"/> This is a changed version of the work, as shown by line 6 of this application. • If your answer is "Yes," give: Previous Registration Number <u>TX 278-711</u> Year of Registration <u>1979</u>	5 Previous Registration
---	--------------------------------------

COMPILATION OR DERIVATIVE WORK: (See instructions) PREEXISTING MATERIAL: (Identify any preexisting work or works that this work is based on or incorporates.) <u>1979 Annual Book of ASTM Standards, Part 31</u> MATERIAL ADDED TO THIS WORK: (Give a brief, general statement of the material that has been added to this work and in which copyright is claimed.) <u>Compilation of previously published text plus additional text</u>	6 Compilation or Derivative Work
---	---

MANUFACTURERS AND LOCATIONS: (If this is a published work consisting preponderantly of nondramatic literary material in English, the law may require that the copies be manufactured in the United States or Canada for full protection. If so, the names of the manufacturers who performed certain processes, and the places where these processes were performed <i>must</i> be given. See instructions for details.)		7 Manufacturing
NAMES OF MANUFACTURERS <u>Waverly Press, Inc.</u>	PLACES OF MANUFACTURE <u>Easton, MD.</u>	

REPRODUCTION FOR USE OF BLIND OR PHYSICALLY-HANDICAPPED PERSONS: (See instructions) • Signature of this form at space 10, and a check in one of the boxes here in space 8, constitutes a non-exclusive grant of permission to the Library of Congress to reproduce and distribute solely for the blind and physically handicapped and under the conditions and limitations prescribed by the regulations of the Copyright Office: (1) copies of the work identified in space 1 of this application in Braille (or similar tactile symbols); or (2) phonorecords embodying a fixation of a reading of that work; or (3) both. a <input checked="" type="checkbox"/> Copies and phonorecords b <input type="checkbox"/> Copies Only c <input type="checkbox"/> Phonorecords Only	8 License For Handicapped
---	---

DEPOSIT ACCOUNT: (If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.) Name: _____ Account Number: _____	CORRESPONDENCE: (Give name and address to which correspondence about this application should be sent.) Name: <u>Robert L. Meltzer, ASTM</u> Address: <u>1916 Race Street</u> <u>Philadelphia, PA 19103</u> <small>(City) (State) (ZIP)</small>	9 Fee and Correspondence
---	---	---------------------------------------

CERTIFICATION: * I, the undersigned, hereby certify that I am the: (Check one) <input type="checkbox"/> author <input type="checkbox"/> other copyright claimant <input type="checkbox"/> owner of exclusive right(s) <input checked="" type="checkbox"/> authorized agent of: <u>American Society for Testing and Materials</u> <small>(Name of author or other copyright claimant, or owner of exclusive right(s))</small> of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge. Handwritten signature: (X) <u>Robert L. Meltzer</u> Typed or printed name: <u>Robert L. Meltzer</u> Date: <u>7/31/80</u>	10 Certification (Application must be signed)
---	--

American Society for Testing and Materials <small>(Name)</small> 1916 Race Street <small>(Number, Street and Apartment Number)</small> Philadelphia PA 19103 <small>(City) (State) (ZIP code)</small>	MAIL CERTIFICATE TO 17 OCT 1980 (Certificate will be mailed in window envelope)	11 Address For Return of Certificate
--	---	---

* 17 U.S.C. § 506(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

CERTIFICATE OF COPYRIGHT REGISTRATION

FORM TX

UNITED STATES COPYRIGHT OFFICE

This certificate, issued under the seal of the Copyright Office in accordance with the provisions of section 410(a) of title 17, United States Code, attests that copyright registration has been made for the work identified below. The information in this certificate has been made a part of the Copyright Office records.

David L. Ladd

REGISTER OF COPYRIGHTS
United States of America

REGISTRATION NUMBER	
TX 1	534-160
TX	TXU
EFFECTIVE DATE OF REGISTRATION	
Aug	13 1980
Month	Day Year

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE CONTINUATION SHEET (FORM TXCON)

1 Title	TITLE OF THIS WORK: 1980 Annual Book of ASTM Standards, Part 9: Electrodeposited Coatings; Metal Powders, Sintered P/M Structural Parts If a periodical or serial give: Vol. No. Issue Date	PREVIOUS OR ALTERNATIVE TITLES:
	PUBLICATION AS A CONTRIBUTION: (If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared.) Title of Collective Work: Vol. No. Date Pages.....	

2 Author(s)	IMPORTANT: Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). If any part of this work was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates blank.	
	1	NAME OF AUTHOR: American Society for Testing and Materials Was this author's contribution to the work a "work made for hire"? Yes. <input checked="" type="checkbox"/> No. AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in U.S.A. (Name of Country) (Name of Country) AUTHOR OF: (Briefly describe nature of this author's contribution) Entire Text
		DATES OF BIRTH AND DEATH: Born Died (Year) (Year)
	2	NAME OF AUTHOR: Was this author's contribution to the work a "work made for hire"? Yes. No. AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country) AUTHOR OF: (Briefly describe nature of this author's contribution)
		DATES OF BIRTH AND DEATH: Born Died (Year) (Year)
	3	NAME OF AUTHOR: Was this author's contribution to the work a "work made for hire"? Yes. No. AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country) AUTHOR OF: (Briefly describe nature of this author's contribution)
		DATES OF BIRTH AND DEATH: Born Died (Year) (Year)
		WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No If the answer to either of these questions is "Yes," see detailed instructions attached.

3 Creation and Publication	YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED: Year. 1980 (This information must be given in all cases.)	DATE AND NATION OF FIRST PUBLICATION: Date. July 30 1980 (Month) (Day) (Year) Nation. United States (Name of Country) (Complete this block ONLY if this work has been published.)
-------------------------------	--	--

4 Claimant(s)	NAME(S) AND ADDRESS(ES) OF COPYRIGHT CLAIMANT(S): American Society for Testing and Materials 1916 Race Street Philadelphia, PA 19103
	TRANSFER: (If the copyright claimant(s) named here in space 4 are different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.)

• Complete all applicable spaces (numbers 5-11) on the reverse side of this page
• Follow detailed instructions attached • Sign the form at line 10

DO NOT WRITE HERE

ASTM000149

TX 1 - 534-160	EXAMINED BY: <i>[Signature]</i>	APPLICATION RECEIVED:	FOR COPYRIGHT OFFICE USE ONLY
	CHECKED BY: <i>[Signature]</i>	18 AUG 1980	
	CORRESPONDENCE: <input type="checkbox"/> Yes	DEPOSIT RECEIVED: 18 AUG 1980 18 AUG 1980	
DEPOSIT ACCOUNT FUNDS USED: <input type="checkbox"/>	REMITTANCE NUMBER AND DATE: 346019 18 AUG 1980		

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED ADDITIONAL SPACE, USE CONTINUATION SHEET (FORM TX/CON)

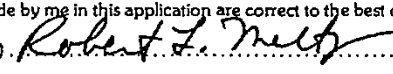
<p>PREVIOUS REGISTRATION:</p> <ul style="list-style-type: none"> Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If your answer is "Yes," why is another registration being sought? (Check appropriate box) <ul style="list-style-type: none"> <input type="checkbox"/> This is the first published edition of a work previously registered in unpublished form. <input type="checkbox"/> This is the first application submitted by this author as copyright claimant. <input type="checkbox"/> This is a changed version of the work, as shown by line 6 of this application. If your answer is "Yes," give: Previous Registration Number TX 323-382 Year of Registration 1979 	<p>5</p> <p>Previous Registration</p>
---	--

<p>COMPILATION OR DERIVATIVE WORK: (See instructions)</p> <p>PREEXISTING MATERIAL: (Identify any preexisting work or works that this work is based on or incorporates.)</p> <p>1979 Annual Book of ASTM Standards, Part 9</p> <p>MATERIAL ADDED TO THIS WORK: (Give a brief, general statement of the material that has been added to this work and in which copyright is claimed.)</p> <p>Compilation of previously published text plus additional text</p>	<p>6</p> <p>Compilation or Derivative Work</p>
---	---

<p>MANUFACTURERS AND LOCATIONS: (If this is a published work consisting preponderantly of nondramatic literary material in English, the law may require that the copies be manufactured in the United States or Canada for full protection. If so, the names of the manufacturers who performed certain processes, and the places where these processes were performed must be given. See instructions for details.)</p> <table border="0"> <tr> <td style="text-align: center;">NAMES OF MANUFACTURERS</td> <td style="text-align: center;">PLACES OF MANUFACTURE</td> </tr> <tr> <td>Waverly Press, Inc.</td> <td>Easton, MD</td> </tr> </table>	NAMES OF MANUFACTURERS	PLACES OF MANUFACTURE	Waverly Press, Inc.	Easton, MD	<p>7</p> <p>Manufacturing</p>
NAMES OF MANUFACTURERS	PLACES OF MANUFACTURE				
Waverly Press, Inc.	Easton, MD				

<p>REPRODUCTION FOR USE OF BLIND OR PHYSICALLY-HANDICAPPED PERSONS: (See instructions)</p> <ul style="list-style-type: none"> Signature of this form at space 10, and a check in one of the boxes here in space 8, constitutes a non-exclusive grant of permission to the Library of Congress to reproduce and distribute solely for the blind and physically handicapped and under the conditions and limitations prescribed by the regulations of the Copyright Office: (1) copies of the work identified in space 1 of this application in Braille (or similar tactile symbols); or (2) phonorecords embodying a fixation of a reading of that work; or (3) both. <p><input checked="" type="checkbox"/> Copies and phonorecords <input type="checkbox"/> Copies Only <input type="checkbox"/> Phonorecords Only</p>	<p>8</p> <p>License For Handicapped</p>
---	--

<p>DEPOSIT ACCOUNT: (If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.)</p> <p>Name: _____</p> <p>Account Number: _____</p>	<p>CORRESPONDENCE: (Give name and address to which correspondence about this application should be sent.)</p> <p>Name: Robert L. Meltzer, ASTM</p> <p>Address: 1916 Race Street</p> <p>Philadelphia PA 19103</p> <p>(City) (State) (ZIP)</p>	<p>9</p> <p>Fee and Correspondence</p>
--	---	---

<p>CERTIFICATION: * I, the undersigned, hereby certify that I am the: (Check one) American Society for Testing and Materials</p> <p><input type="checkbox"/> author <input type="checkbox"/> other copyright claimant <input type="checkbox"/> owner of exclusive right(s) <input checked="" type="checkbox"/> authorized agent of: _____</p> <p>(Name of author or other copyright claimant, or owner of exclusive right(s))</p> <p>of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.</p> <p> Handwritten signature: (X) _____</p> <p>Typed or printed name: Robert L. Meltzer Date: 7/31/80</p>	<p>10</p> <p>Certification (Application must be signed)</p>
---	--

<p>..... American Society for Testing and Materials (Name)</p> <p>1916 Race Street (Number, Street and Apartment Number)</p> <p>Philadelphia, PA 19103 (City) (State) (ZIP code)</p>	<p>11</p> <p>Address For Return of Certificate</p>
<p>MAIL CERTIFICATE TO</p> <p>17 OCT 1980 (Certificate will be mailed in window envelope)</p>	

* 17 U.S.C. § 506(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

CERTIFICATE OF COPYRIGHT REGISTRATION

FORM TX

UNITED STATES COPYRIGHT OFFICE

This certificate, issued under the seal of the Copyright Office in accordance with the provisions of section 410(a) of title 17, United States Code, attests that copyright registration has been made for the work identified below. The information in this certificate has been made a part of the Copyright Office records.

David L. Ladd

REGISTER OF COPYRIGHTS
United States of America

REGISTRATION NUMBER	
TX	565-130
TX	TXU
EFFECTIVE DATE OF REGISTRATION	
14	OCT 1980
Month	Day Year

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE CONTINUATION SHEET (FORM TX/CON)

1 Title	TITLE OF THIS WORK: 1980 Annual Book of ASTM Standards, Part 30: Soap, Collants; Polishes; Halogenated Organic Solvents If a periodical or serial give: Vol. No. Issue Date	PREVIOUS OR ALTERNATIVE TITLES:
	PUBLICATION AS A CONTRIBUTION: (If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared.) Title of Collective Work: Vol. No. Date Pages	

2 Author(s)	IMPORTANT: Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). If any part of this work was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates blank.		
	1	NAME OF AUTHOR: American Society for Testing & Materials Was this author's contribution to the work a "work made for hire"? Yes. <input checked="" type="checkbox"/> No.	DATES OF BIRTH AND DEATH: Born Died
		AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in USA (Name of Country) (Name of Country)	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No
		AUTHOR OF: (Briefly describe nature of this author's contribution) Entire Text	If the answer to either of these questions is "Yes," see detailed instructions attached.
	2	NAME OF AUTHOR: Was this author's contribution to the work a "work made for hire"? Yes. No.	DATES OF BIRTH AND DEATH: Born Died
		AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country)	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No
		AUTHOR OF: (Briefly describe nature of this author's contribution)	If the answer to either of these questions is "Yes," see detailed instructions attached.
	3	NAME OF AUTHOR: Was this author's contribution to the work a "work made for hire"? Yes. No.	DATES OF BIRTH AND DEATH: Born Died
		AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country)	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No
AUTHOR OF: (Briefly describe nature of this author's contribution)		If the answer to either of these questions is "Yes," see detailed instructions attached.	

3 Creation and Publication	YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED: Year... 1980 ... (This information must be given in all cases.)	DATE AND NATION OF FIRST PUBLICATION: Date August 25 1980 (Month) (Day) (Year) Nation United States (Name of Country) (Complete this block ONLY if this work has been published.)
-------------------------------	--	--

4 Claimant(s)	NAME(S) AND ADDRESS(ES) OF COPYRIGHT CLAIMANT(S): American Society for Testing and Materials 1916 Race Street Philadelphia, Pa. 19103
	TRANSFER: (If the copyright claimant(s) named here in space 4 are different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.)

• Complete all applicable spaces (numbers 5-11) on the reverse side of this page
• Follow detailed instructions attached • Sign the form at line 10

DO NOT WRITE HERE

ASTM000151

EXAMINED BY: <i>[Signature]</i>	APPLICATION RECEIVED: <i>[Date]</i>	FOR COPYRIGHT OFFICE USE ONLY
CHECKED BY: <i>[Signature]</i>	DEPOSIT RECEIVED: <i>[Date]</i>	
CORRESPONDENCE: <input type="checkbox"/> Yes	DEPOSIT ACCOUNT FUNDS USED: <input type="checkbox"/>	
REMITTANCE NUMBER AND DATE: 12461 OCT 14 80		

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED ADDITIONAL SPACE, USE CONTINUATION SHEET (FORM TX/CON)

PREVIOUS REGISTRATION:

- Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office? Yes... No.....
- If your answer is "Yes," why is another registration being sought? (Check appropriate box)
 - This is the first published edition of a work previously registered in unpublished form.
 - This is the first application submitted by this author as copyright claimant.
 - This is a changed version of the work, as shown by line 6 of this application.
- If your answer is "Yes," give: Previous Registration Number ... TX 339-440 ... Year of Registration ... 1979

5
Previous Registration

COMPILATION OR DERIVATIVE WORK: (See instructions)

PREEXISTING MATERIAL: (Identify any preexisting work or works that this work is based on or incorporates.)

1979 Annual Book of ASTM Standards, Part 30

MATERIAL ADDED TO THIS WORK: (Give a brief, general statement of the material that has been added to this work and in which copyright is claimed.)

Compilation of previously published text plus additional text

6
Compilation or Derivative Work

MANUFACTURERS AND LOCATIONS: (If this is a published work consisting preponderantly of nondramatic literary material in English, the law may require that the copies be manufactured in the United States or Canada for full protection. If so, the names of the manufacturers who performed certain processes, and the places where these processes were performed must be given. See instructions for details.)

NAMES OF MANUFACTURERS Waverly Press, Inc.	PLACES OF MANUFACTURE Easton, Maryland
---	---

7
Manufacturing

REPRODUCTION FOR USE OF BLIND OR PHYSICALLY-HANDICAPPED PERSONS: (See instructions)

- Signature of this form at space 10, and a check in one of the boxes here in space 8, constitutes a non-exclusive grant of permission to the Library of Congress to reproduce and distribute solely for the blind and physically handicapped and under the conditions and limitations prescribed by the regulations of the Copyright Office: (1) copies of the work identified in space 1 of this application in Braille (or similar tactile symbols); or (2) phonorecords embodying a fixation of a reading of that work; or (3) both.

a Copies and phonorecords b Copies Only c Phonorecords Only

8
License For Handicapped

DEPOSIT ACCOUNT: (If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.)

Name: _____ Account Number: _____

CORRESPONDENCE: (Give name and address to which correspondence about this application should be sent.)

Name: Robert L. Meltzer
Address: 1916 Race Street
Philadelphia, Pa. 19103
(City) (State) (ZIP)

9
Fee and Correspondence

CERTIFICATION: * I, the undersigned, hereby certify that I am the: (Check one) American Society for Testing and Materials

author other copyright claimant owner of exclusive right(s) authorized agent of: _____
(Name of author or other copyright claimant, or owner of exclusive right(s))

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Handwritten signature: (X) *[Signature]*
Typed or printed name: Robert L. Meltzer Date: 9/22/80

10
Certification (Application must be signed)

MAIL CERTIFICATE TO

American Society for Testing and Materials
(Name)
1916 Race Street
(Number, Street and Apartment Number)
Philadelphia, Pa. 19103
(City) (State) (ZIP code)

(Certificate will be mailed in window envelope)

11
Address For Return of Certificate

* 17 U.S.C. § 506(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

CERTIFICATE OF COPYRIGHT REGISTRATION **FORM TX**

UNITED STATES COPYRIGHT OFFICE

This certificate, issued under the seal of the Copyright Office in accordance with the provisions of section 410(a) of title 17, United States Code, attests that copyright registration has been made for the work identified below. The information in this certificate has been made a part of the Copyright Office records.

Daniel L. Ladd

REGISTER OF COPYRIGHTS
United States of America

REGISTRATION NUMBER	
TX	626-132
TX	TXU
EFFECTIVE DATE OF REGISTRATION	
02	11
(Month)	(Day)
	81
	(Year)

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE CONTINUATION SHEET (FORM TX/CON)

1 Title	TITLE OF THIS WORK: 1980 Annual Book of ASTM Standards, Part 32:Textiles - Yarns, Fabrics, General Test Methods	PREVIOUS OR ALTERNATIVE TITLES:
	If a periodical or serial give: Vol. No. Issue Date	
PUBLICATION AS A CONTRIBUTION: (If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared.)		
Title of Collective Work: Vol. No. Date Pages		

2 Author(s)	IMPORTANT: Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). If any part of this work was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates blank.									
	1	<table border="1"> <tr> <td>NAME OF AUTHOR: American Society for Testing and Materials</td> <td>DATES OF BIRTH AND DEATH: Born Died</td> </tr> <tr> <td>Was this author's contribution to the work a "work made for hire"? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></td> <td>(Year) (Year)</td> </tr> <tr> <td>AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country)</td> <td>WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No</td> </tr> <tr> <td>AUTHOR OF: (Briefly describe nature of this author's contribution) Entire Text</td> <td>If the answer to either of these questions is "Yes," see detailed instructions attached.</td> </tr> </table>	NAME OF AUTHOR: American Society for Testing and Materials	DATES OF BIRTH AND DEATH: Born Died	Was this author's contribution to the work a "work made for hire"? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	(Year) (Year)	AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country)	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No	AUTHOR OF: (Briefly describe nature of this author's contribution) Entire Text	If the answer to either of these questions is "Yes," see detailed instructions attached.
	NAME OF AUTHOR: American Society for Testing and Materials	DATES OF BIRTH AND DEATH: Born Died								
Was this author's contribution to the work a "work made for hire"? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	(Year) (Year)									
AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country)	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No									
AUTHOR OF: (Briefly describe nature of this author's contribution) Entire Text	If the answer to either of these questions is "Yes," see detailed instructions attached.									
2	<table border="1"> <tr> <td>NAME OF AUTHOR:</td> <td>DATES OF BIRTH AND DEATH: Born Died</td> </tr> <tr> <td>Was this author's contribution to the work a "work made for hire"? Yes No</td> <td>(Year) (Year)</td> </tr> <tr> <td>AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country)</td> <td>WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No</td> </tr> <tr> <td>AUTHOR OF: (Briefly describe nature of this author's contribution)</td> <td>If the answer to either of these questions is "Yes," see detailed instructions attached.</td> </tr> </table>	NAME OF AUTHOR:	DATES OF BIRTH AND DEATH: Born Died	Was this author's contribution to the work a "work made for hire"? Yes No	(Year) (Year)	AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country)	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No	AUTHOR OF: (Briefly describe nature of this author's contribution)	If the answer to either of these questions is "Yes," see detailed instructions attached.	
NAME OF AUTHOR:	DATES OF BIRTH AND DEATH: Born Died									
Was this author's contribution to the work a "work made for hire"? Yes No	(Year) (Year)									
AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country)	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No									
AUTHOR OF: (Briefly describe nature of this author's contribution)	If the answer to either of these questions is "Yes," see detailed instructions attached.									
3	<table border="1"> <tr> <td>NAME OF AUTHOR:</td> <td>DATES OF BIRTH AND DEATH: Born Died</td> </tr> <tr> <td>Was this author's contribution to the work a "work made for hire"? Yes No</td> <td>(Year) (Year)</td> </tr> <tr> <td>AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country)</td> <td>WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No</td> </tr> <tr> <td>AUTHOR OF: (Briefly describe nature of this author's contribution)</td> <td>If the answer to either of these questions is "Yes," see detailed instructions attached.</td> </tr> </table>	NAME OF AUTHOR:	DATES OF BIRTH AND DEATH: Born Died	Was this author's contribution to the work a "work made for hire"? Yes No	(Year) (Year)	AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country)	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No	AUTHOR OF: (Briefly describe nature of this author's contribution)	If the answer to either of these questions is "Yes," see detailed instructions attached.	
NAME OF AUTHOR:	DATES OF BIRTH AND DEATH: Born Died									
Was this author's contribution to the work a "work made for hire"? Yes No	(Year) (Year)									
AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country)	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No									
AUTHOR OF: (Briefly describe nature of this author's contribution)	If the answer to either of these questions is "Yes," see detailed instructions attached.									

3 Creation and Publication	YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED: Year 1980	DATE AND NATION OF FIRST PUBLICATION: Date: November 10 1980 (Month) (Day) (Year) Nation: United States (Name of Country)
	(This information must be given in all cases.)	(Complete this block ONLY if this work has been published.)

4 Claimant(s)	NAME(S) AND ADDRESS(ES) OF COPYRIGHT CLAIMANT(S): American Society for Testing and Materials 1916 Race Street Philadelphia, PA 19103
	TRANSFER: (If the copyright claimant(s) named here in space 4 are different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.)

• Complete all applicable spaces (numbers 5-11) on the reverse side of this page
• Follow detailed instructions attached • Sign the form at line 10

DO NOT WRITE HERE
Page 1 of ... 2 ... pages

ASTM000153

Case 1:13-cv-01215-TSC Document 122-2 Filed 11/22/15 Page 217 of 369

TX: 626-132	EXAMINED BY: <i>[Signature]</i> CHECKED BY: <i>[Signature]</i>	APPLICATION RECEIVED: FEB 11 1981	FOR COPYRIGHT OFFICE USE ONLY
	CORRESPONDENCE: <input type="checkbox"/> Yes	DEPOSIT RECEIVED: FEB 11 1981 FEB 11 1981	
	DEPOSIT ACCOUNT FUNDS USED: <input type="checkbox"/>	REMITTANCE NUMBER AND DATE: 142731 FEB 11 81	

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED ADDITIONAL SPACE, USE CONTINUATION SHEET (FORM TX/CON)

<p>PREVIOUS REGISTRATION:</p> <ul style="list-style-type: none"> Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If your answer is "Yes," why is another registration being sought? (Check appropriate box) <ul style="list-style-type: none"> <input type="checkbox"/> This is the first published edition of a work previously registered in unpublished form. <input type="checkbox"/> This is the first application submitted by this author as copyright claimant. <input type="checkbox"/> This is a changed version of the work, as shown by line 6 of this application. If your answer is "Yes," give: Previous Registration Number TX 500-153 Year of Registration 1979 	<p>5</p> <p>Previous Registration</p>
---	--

<p>COMPILATION OR DERIVATIVE WORK: (See instructions)</p> <p>PREEXISTING MATERIAL: (Identify any preexisting work or works that this work is based on or incorporates.)</p> <p>1979 Annual Book of ASTM Standards, Part 32</p> <p>MATERIAL ADDED TO THIS WORK: (Give a brief, general statement of the material that has been added to this work and in which copyright is claimed.)</p> <p>Compilation of previously published text plus additional text</p>	<p>6</p> <p>Compilation or Derivative Work</p>
--	---

<p>MANUFACTURERS AND LOCATIONS: (If this is a published work consisting preponderantly of nondramatic literary material in English, the law may require that the copies be manufactured in the United States or Canada for full protection. If so, the names of the manufacturers who performed certain processes, and the places where these processes were performed must be given. See instructions for details.)</p> <table border="1"> <tr> <th>NAMES OF MANUFACTURERS</th> <th>PLACES OF MANUFACTURE</th> </tr> <tr> <td>Waverly Press, Inc.</td> <td>Easton, Maryland</td> </tr> </table>	NAMES OF MANUFACTURERS	PLACES OF MANUFACTURE	Waverly Press, Inc.	Easton, Maryland	<p>7</p> <p>Manufacturing</p>
NAMES OF MANUFACTURERS	PLACES OF MANUFACTURE				
Waverly Press, Inc.	Easton, Maryland				

<p>REPRODUCTION FOR USE OF BLIND OR PHYSICALLY-HANDICAPPED PERSONS: (See instructions)</p> <p>Signature of this form at space 10, and a check in one of the boxes here in space 8, constitutes a non-exclusive grant of permission to the Library of Congress to reproduce and distribute solely for the blind and physically handicapped and under the conditions and limitations prescribed by the regulations of the Copyright Office: (1) copies of the work identified in space 1 of this application in Braille (or similar tactile symbols); or (2) phonorecords embodying a fixation of a reading of that work; or (3) both.</p> <p><input checked="" type="checkbox"/> a Copies and phonorecords <input type="checkbox"/> b Copies Only <input type="checkbox"/> c Phonorecords Only</p>	<p>8</p> <p>License For Handicapped</p>
--	--

<p>DEPOSIT ACCOUNT: (If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.)</p> <p>Name: _____</p> <p>Account Number: _____</p>	<p>CORRESPONDENCE: (Give name and address to which correspondence about this application should be sent.)</p> <p>Name: Robert L. Meltzer, ASTM</p> <p>Address: 1916 Race Street</p> <p>Philadelphia, PA 19103 (APJ)</p> <p>(City) (State) (ZIP)</p>	<p>9</p> <p>Fee and Correspondence</p>
--	--	---

<p>CERTIFICATION: * I, the undersigned, hereby certify that I am the: (Check one) American Society for Testing and Materials</p> <p><input type="checkbox"/> author <input type="checkbox"/> other copyright claimant <input type="checkbox"/> owner of exclusive right(s) <input checked="" type="checkbox"/> authorized agent of: _____</p> <p>(Name of author or other copyright claimant, or owner of exclusive right(s))</p> <p>of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.</p> <p>Handwritten signature: (X) <i>Robert L. Meltzer</i></p> <p>Typed or printed name: Robert L. Meltzer Date: 1/12/81</p>	<p>10</p> <p>Certification (Applicant must sign)</p>
---	---

<p style="text-align: center;">American Society for Testing and Materials (Name)</p> <p style="text-align: center;">1916 Race Street (Number, Street and Apartment Number)</p> <p style="text-align: center;">Philadelphia, PA 19103 (City) (State) (ZIP code)</p>	<p>MAIL CERTIFICATE TO</p> <p>(Certificate will be mailed in window envelope)</p>	<p>11</p> <p>Address For Return of Certificate</p>
--	--	---

* 17 U.S.C. § 506(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

U.S. GOVERNMENT PRINTING OFFICE: 1980-311-425/9 May 1980-100

CERTIFICATE OF COPYRIGHT REGISTRATION

FORM TX

UNITED STATES COPYRIGHT OFFICE

This certificate, issued under the seal of the Copyright Office in accordance with the provisions of section 410(a) of title 17, United States Code, attests that copyright registration has been made for the work identified below. The information in this certificate has been made a part of the Copyright Office records.

MAY 15 1980
ASTM
 PUBLICATION DIVISION

David L. Ladd

REGISTER OF COPYRIGHTS
 United States of America

REGISTRATION NUMBER	
TX <i>(circled)</i>	648-346
TX	TXU
EFFECTIVE DATE OF REGISTRATION	
Mar	11 1981
Month	Day Year

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE CONTINUATION SHEET

1 Title	TITLE OF THIS WORK: 1980 Annual Book of ASTM Standards Part 21: Cellulose; Leather; Flexible Barrier Materials <small>If a periodical or serial give: Vol. No. Issue Date.</small>	PREVIOUS OR ALTERNATIVE TITLES:
	PUBLICATION AS A CONTRIBUTION: (If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared.) <small>Title of Collective Work: Vol. No. Date Pages</small>	

2 Author(s)	IMPORTANT: Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). If any part of this work was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates blank.		
	1	NAME OF AUTHOR: American Society for Testing & Material <small>Was this author's contribution to the work a "work made for hire"? Yes <input checked="" type="checkbox"/> No</small>	DATES OF BIRTH AND DEATH: Born Died
		AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in <small>(Name of Country) (Name of Country)</small>	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No
		AUTHOR OF: (Briefly describe nature of this author's contribution) Collective Work	If the answer to either of these questions is "Yes, see detailed instructions attached.
	2	NAME OF AUTHOR: <small>Was this author's contribution to the work a "work made for hire"? Yes No</small>	DATES OF BIRTH AND DEATH: Born Died
		AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in <small>(Name of Country) (Name of Country)</small>	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No
		AUTHOR OF: (Briefly describe nature of this author's contribution)	If the answer to either of these questions is "Yes, see detailed instructions attached.
	3	NAME OF AUTHOR: <small>Was this author's contribution to the work a "work made for hire"? Yes No</small>	DATES OF BIRTH AND DEATH: Born Died
		AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in <small>(Name of Country) (Name of Country)</small>	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No
AUTHOR OF: (Briefly describe nature of this author's contribution)		If the answer to either of these questions is "Yes, see detailed instructions attached.	

3 Creation and Publication	YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED: Year 1980 <small>(This information must be given in all cases.)</small>	DATE AND NATION OF FIRST PUBLICATION: Date June 25 1980 <small>(Month) (Day) (Year)</small> Nation United States <small>(Name of Country)</small> <small>(Complete this block ONLY if this work has been published.)</small>
--------------------------------------	---	--

4 Claimant(s)	NAME(S) AND ADDRESS(ES) OF COPYRIGHT CLAIMANT(S): American Society for Testing and Materials 1916 Race Street Philadelphia, PA 19103
	TRANSFER: (If the copyright claimant(s) named here in space 4 are different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.)

• Complete all applicable spaces (numbers 5-11) on the reverse side of this page
 • Follow detailed instructions attached

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TX 648-346	EXAMINED BY: <i>[Signature]</i> CHECKED BY: <i>[Signature]</i>	APPLICATION RECEIVED: MAR 17 1981	FOR COPYRIGHT OFFICE USE ONLY
	CORRESPONDENCE: <input type="checkbox"/> Yes	DEPOSIT RECEIVED: MAR 11 1981 MAR 11 1981	
	DEPOSIT ACCOUNT FUNDS USED: <input type="checkbox"/>	REMITTANCE NUMBER AND DATE: 172721 MAR 11 81	

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PREVIOUS REGISTRATION: <ul style="list-style-type: none"> Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office? Yes...X... No..... If your answer is "Yes," why is another registration being sought? (Check appropriate box) <ul style="list-style-type: none"> <input type="checkbox"/> This is the first published edition of a work previously registered in unpublished form. <input type="checkbox"/> This is the first application submitted by this author as copyright claimant. <input type="checkbox"/> This is a changed version of the work, as shown by line 6 of this application. If your answer is "Yes," give: Previous Registration Number... TX 278-710... Year of Registration... 1979...	5 Previous Registration
---	--------------------------------------

COMPILATION OR DERIVATIVE WORK: (See instructions) PREEXISTING MATERIAL: (Identify any preexisting work or works that this work is based on or incorporates.) 1979 Annual Book of ASTM Standards Part 21 MATERIAL ADDED TO THIS WORK: (Give a brief, general statement of the material that has been added to this work and in which copyright is claimed.) Compilation of previously published text plus additional text	6 Compilation or Derivative Work
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MANUFACTURERS AND LOCATIONS: (If this is a published work consisting preponderantly of nondramatic literary material in English, the law may require that the copies be manufactured in the United States or Canada for full protection. If so, the names of the manufacturers who performed certain processes, and the places where these processes were performed must be given. See instructions for details.) NAMES OF MANUFACTURERS: Waverly Press, Inc. PLACES OF MANUFACTURE: Easton, MD	7 Manufactur- ing
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REPRODUCTION FOR USE OF BLIND OR PHYSICALLY-HANDICAPPED PERSONS: (See instructions) Signature of this form at space 10, and a check in one of the boxes here in space 8, constitutes a non-exclusive grant of permission to the Library of Congress to reproduce and distribute solely for the blind and physically handicapped and under the conditions and limitations prescribed by the regulations of the Copyright Office: (1) copies of the work identified in space 1 of this application in Braille (or similar tactile symbols); or (2) phonorecords embodying a fixation of a reading of that work; or (3) both. <input checked="" type="checkbox"/> Copies and phonorecords <input type="checkbox"/> Copies Only <input type="checkbox"/> Phonorecords Only	8 License For Handicapped
---	---

DEPOSIT ACCOUNT: (If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.) Name: _____ Account Number: _____	CORRESPONDENCE: (Give name and address to which correspondence about this application should be sent.) Name: Robert L. Meltzer, ASTM Address: 1916 Race Street Philadelphia, PA 19103 (City) (State) (ZIP)	9 Fee and Correspond- ence
---	---	--

CERTIFICATION: * I, the undersigned, hereby certify that I am the: (Check one) American Society for Testing & Materials <input type="checkbox"/> author <input type="checkbox"/> other copyright claimant <input type="checkbox"/> owner of exclusive right(s) <input checked="" type="checkbox"/> authorized agent of: <i>Materials</i> of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge. Handwritten signature: (X) <i>Robert L. Meltzer</i> Typed or printed name: Robert L. Meltzer Date: 2/24/81	10 Certificate (Applican must be signed)
---	---

...American Society for Testing and Materials... (Name) ...1916 Race Street... (Number, Street and Apartment Number) ...Philadelphia, PA 19103... (City) (State) (ZIP code)	MAIL CERTIFICATE TO (Certificate will be mailed in window envelope)	11 Address For Retu- of Certificate
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* 17 U.S.C. § 506(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in

CERTIFICATE OF COPYRIGHT REGISTRATION

FORM TX

UNITED STATES COPYRIGHT OFFICE

This certificate, issued under the seal of the Copyright Office in accordance with the provisions of section 410(a) of title 17, United States Code, attests that copyright registration has been made for the work identified below. The information in this certificate has been made a part of the Copyright Office records.

JUN 25 1981
ASTM
PUBLICATION DIVISION

Wanda L. Ladd

REGISTER OF COPYRIGHTS
United States of America

REGISTRATION NUMBER	
TX	696-452
TXU	
EFFECTIVE DATE OF REGISTRATION	
MAY 21 1981	
Month	Day Year

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE CONTINUATION SHEET

1 Title	TITLE OF THIS WORK: 1981 Annual Book of ASTM Standards Part 16: Chemical-Resistant Materials; Vitriified Clay, Concrete, Asbestos-Cement Products; Mortars, . If a periodical or serial, give: Vol. No. Issue Date	PREVIOUS OR ALTERNATIVE TITLES:
	PUBLICATION AS A CONTRIBUTION: (If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared.) Title of Collective Work: Vol. No. Date Pages	

2 Author(s)	IMPORTANT: Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). If any part of this work was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates blank.							
	1	<table border="1"> <tr> <td>NAME OF AUTHOR: American Society for Testing and Materials Was this author's contribution to the work a "work made for hire"? Yes. <input checked="" type="checkbox"/> No.</td> <td>DATES OF BIRTH AND DEATH: Born Died</td> </tr> <tr> <td>AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in U.S.A. (Name of Country) (Name of Country)</td> <td>WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No</td> </tr> <tr> <td>AUTHOR OF: (Briefly describe nature of this author's contribution) Entire Text</td> <td>If the answer to either of these questions is "Yes, see detailed instructions attached."</td> </tr> </table>	NAME OF AUTHOR: American Society for Testing and Materials Was this author's contribution to the work a "work made for hire"? Yes. <input checked="" type="checkbox"/> No.	DATES OF BIRTH AND DEATH: Born Died	AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in U.S.A. (Name of Country) (Name of Country)	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No	AUTHOR OF: (Briefly describe nature of this author's contribution) Entire Text	If the answer to either of these questions is "Yes, see detailed instructions attached."
	NAME OF AUTHOR: American Society for Testing and Materials Was this author's contribution to the work a "work made for hire"? Yes. <input checked="" type="checkbox"/> No.	DATES OF BIRTH AND DEATH: Born Died						
AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in U.S.A. (Name of Country) (Name of Country)	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No							
AUTHOR OF: (Briefly describe nature of this author's contribution) Entire Text	If the answer to either of these questions is "Yes, see detailed instructions attached."							
2	<table border="1"> <tr> <td>NAME OF AUTHOR: Was this author's contribution to the work a "work made for hire"? Yes. No.</td> <td>DATES OF BIRTH AND DEATH: Born Died</td> </tr> <tr> <td>AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country)</td> <td>WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No</td> </tr> <tr> <td>AUTHOR OF: (Briefly describe nature of this author's contribution)</td> <td>If the answer to either of these questions is "Yes, see detailed instructions attached."</td> </tr> </table>	NAME OF AUTHOR: Was this author's contribution to the work a "work made for hire"? Yes. No.	DATES OF BIRTH AND DEATH: Born Died	AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country)	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No	AUTHOR OF: (Briefly describe nature of this author's contribution)	If the answer to either of these questions is "Yes, see detailed instructions attached."	
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AUTHOR OF: (Briefly describe nature of this author's contribution)	If the answer to either of these questions is "Yes, see detailed instructions attached."							
3	<table border="1"> <tr> <td>NAME OF AUTHOR: Was this author's contribution to the work a "work made for hire"? Yes. No.</td> <td>DATES OF BIRTH AND DEATH: Born Died</td> </tr> <tr> <td>AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country)</td> <td>WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No</td> </tr> <tr> <td>AUTHOR OF: (Briefly describe nature of this author's contribution)</td> <td>If the answer to either of these questions is "Yes, see detailed instructions attached."</td> </tr> </table>	NAME OF AUTHOR: Was this author's contribution to the work a "work made for hire"? Yes. No.	DATES OF BIRTH AND DEATH: Born Died	AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country)	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No	AUTHOR OF: (Briefly describe nature of this author's contribution)	If the answer to either of these questions is "Yes, see detailed instructions attached."	
NAME OF AUTHOR: Was this author's contribution to the work a "work made for hire"? Yes. No.	DATES OF BIRTH AND DEATH: Born Died							
AUTHOR'S NATIONALITY OR DOMICILE: Citizen of } or { Domiciled in (Name of Country) (Name of Country)	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK: Anonymous? Yes No Pseudonymous? Yes No							
AUTHOR OF: (Briefly describe nature of this author's contribution)	If the answer to either of these questions is "Yes, see detailed instructions attached."							

3 Creation and Publication	YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED: Year. 1981 (This information must be given in all cases.)	DATE AND NATION OF FIRST PUBLICATION: Date. April 15 1981 (Month) (Day) (Year) Nation. United States (Name of Country) (Complete this block ONLY if this work has been published.)
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4 Claimant(s)	NAME(S) AND ADDRESS(ES) OF COPYRIGHT CLAIMANT(S): American Society for Testing and Materials 1916 Race Street Philadelphia, PA 19103
	TRANSFER: (If the copyright claimant(s) named here in space 4 are different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.)

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• Follow detailed instructions attached

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TX 696-452	EXAMINED BY: <i>[Signature]</i> CHECKED BY: <i>[Signature]</i>	APPLICANT RECEIVED: MAY 21 1981	FOR COPYRIGHT OFFICE USE ONLY
	CORRESPONDENCE: <input type="checkbox"/> Yes	DEPOSIT RECEIVED: MAY 21 1981 MAY 21 1981	
	DEPOSIT ACCOUNT FUNDS USED: <input type="checkbox"/>	REMITTANCE NUMBER AND DATE: 249511 MAY 21 81	

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PREVIOUS REGISTRATION: <ul style="list-style-type: none"> Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If your answer is "Yes," why is another registration being sought? (Check appropriate box) <ul style="list-style-type: none"> <input type="checkbox"/> This is the first published edition of a work previously registered in unpublished form. <input type="checkbox"/> This is the first application submitted by this author as copyright claimant. <input type="checkbox"/> This is a changed version of the work, as shown by line 6 of this application. If your answer is "Yes," give: Previous Registration Number ... TX 482-384 ... Year of Registration ... 1980 	5 Previous Registration
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COMPILATION OR DERIVATIVE WORK: (See Instructions) PREEXISTING MATERIAL: (Identify any preexisting work or works that this work is based on or incorporates.) { 1980 Annual Book of ASTM Standards Part 16 } MATERIAL ADDED TO THIS WORK: (Give a brief, general statement of the material that has been added to this work and in which copyright is claimed.) { Completion of previously published text plus additional text }	6 Compilation or Derivative Work
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MANUFACTURERS AND LOCATIONS: (If this is a published work consisting preponderantly of nondramatic literary material in English, the law may require that the copies be manufactured in the United States or Canada for full protection. If so, the names of the manufacturers who performed certain processes, and the places where these processes were performed must be given. See instructions for details.) NAMES OF MANUFACTURERS Waverly Press, Inc. PLACES OF MANUFACTURE Easton, MD	7 Manufactur- ing
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REPRODUCTION FOR USE OF BLIND OR PHYSICALLY-HANDICAPPED PERSONS: (See Instructions) <ul style="list-style-type: none"> Signature of this form at space 10, and a check in one of the boxes here in space 8, constitutes a non-exclusive grant of permission to the Library of Congress to reproduce and distribute solely for the blind and physically handicapped and under the conditions and limitations prescribed by the regulations of the Copyright Office: (1) copies of the work identified in space 1 of this application in Braille (or similar tactile symbols); or (2) phonorecords embodying a fixation of a reading of that work; or (3) both. a <input checked="" type="checkbox"/> Copies and phonorecords b <input type="checkbox"/> Copies Only c <input type="checkbox"/> Phonorecords Only	8 License For Handicapped
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DEPOSIT ACCOUNT: (If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.) Name: _____ Account Number: _____	CORRESPONDENCE: (Give name and address to which correspondence about this application should be sent.) Name: Robert L. Meltzer, ASTM Address: 1916 Race Street Philadelphia, PA 19103 <small>(City) (State) (ZIP)</small>	9 Fee and Correspond- ence
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CERTIFICATION: * I, the undersigned, hereby certify that I am the: (Check one) American Society for Testing and Materials <input type="checkbox"/> author <input type="checkbox"/> other copyright claimant <input type="checkbox"/> owner of exclusive right(s) <input checked="" type="checkbox"/> authorized agent of: _____ of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge. Handwritten signature: (X) <i>Robert L. Meltzer</i> Typed or printed name: Robert L. Meltzer Date: 5/7/81	10 Certification (Application must be signed)
--	--

American Society for Testing and Materials <small>(Name)</small> 1916 Race Street <small>(Number, Street and Apartment Number)</small> Philadelphia, PA 19103 <small>(City) (State) (ZIP code)</small>	MAIL CERTIFICATE TO (Certificate will be mailed in window envelope)	11 Address For Return of Certificate
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* 17 U.S.C. § 506(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in

ASTM000158

JA01789

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, *United States Code*, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Maria A. Pallante

Register of Copyrights, United States of America

Registration Number
TX 7-685-915

Effective date of registration:
March 5, 2013

Title _____

Title of Work: ASTM D975-07 Standards Specificaiton for Diesel Fuel Oils

Completion/Publication _____

Year of Completion: 2007

Date of 1st Publication: April 1, 2007

Nation of 1st Publication: United States

Author _____

▪ **Author:** ASTM International

Author Created: Entire Text

Work made for hire: Yes

Domiciled in: United States

Copyright claimant _____

Copyright Claimant: ASTM International

100 Barr Harbor Drive, West Conshohocken, PA, 19428, United States

Limitation of copyright claim _____

Material excluded from this claim: text

Previous registration and year: TX 6-563-072 2007

TX 6-342-584 2006

New material included in claim: text, editing

Rights and Permissions _____

Organization Name: ASTM International

Name: Kathleen Hooper

Email: khooper@astm.org

Telephone: 610-832-9634

Address: 100 Barr Harbor Drive

West Conshohocken, PA 19428 United States

Certification _____

Name: Kathleen Hooper

Date: March 1, 2013



Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, *United States Code*, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Maria A. Pallante

Register of Copyrights, United States of America

Registration Number
TX 7-685-927

Effective date of registration:
March 5, 2013

Title _____

Title of Work: ASTM C150-99a Standard Specification for Portland Cement

Completion/Publication _____

Year of Completion: 1999

Date of 1st Publication: December 1, 1999

Nation of 1st Publication: United States

Author _____

Author: ASTM International

Author Created: Entire Text

Work made for hire: Yes

Domiciled in: United States

Copyright claimant _____

Copyright Claimant: ASTM International

100 Barr Harbor Drive, West Conshohocken, PA, 19428, United States

Limitation of copyright claim _____

Material excluded from this claim: text

Previous registration and year: 1999

TX 4-787-636 1998

New material included in claim: text, editing

Rights and Permissions _____

Organization Name: ASTM International

Name: Kathleen Hooper

Email: khooper@astm.org

Telephone: 610-832-9634

Address: 100 Barr Harbor Drive

West Conshohocken, PA 19428 United States

Certification _____

Name: Kathleen Hooper

Date: March 1, 2013



Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, *United States Code*, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Maria A. Pallante

Register of Copyrights, United States of America

Registration Number
TX 7-685-938

Effective date of
registration:

March 5, 2013

Title

Title of Work: ASTM A106/A106M-04b Standard Specification for Seamless Carbon Steel Pipe for High Temperature Service

Completion/Publication

Year of Completion: 2004

Date of 1st Publication: December 1, 2004

Nation of 1st Publication: United States

Author

▪ **Author:** ASTM International

Author Created: Entire Text

Work made for hire: Yes

Domiciled in: United States

Copyright claimant

Copyright Claimant: ASTM International

100 Barr Harbor Drive, West Conshohocken, PA, 19428, United States

Limitation of copyright claim

Material excluded from this claim: text

Previous registration and year: TX 5-914-334 2004

TX 5-665-928 2003

New material included in claim: text, editing

Rights and Permissions

Organization Name: ASTM International

Name: Kathleen Hooper

Email: khooper@astm.org

Telephone: 610-832-9634

Address: 100 Barr Harbor Drive

West Conshohocken, PA 19428 United States

Certification

Name: Kathleen Hooper

Date: March 1, 2013



Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Maria A. Pallante

Register of Copyrights, United States of America

Registration Number
TX 7-685-941

Effective date of registration:
March 5, 2013

Title _____

Title of Work: ASTM D86-07 Standards Test Methods for Distillation of Petroleum Products at Atmospheric Pressure

Completion/Publication _____

Year of Completion: 2007

Date of 1st Publication: March 1, 2007

Nation of 1st Publication: United States

Author _____

Author: ASTM International

Author Created: Entire Text

Work made for hire: Yes

Domiciled in: United States

Copyright claimant _____

Copyright Claimant: ASTM International

100 Barr Harbor Drive, West Conshohocken, PA, 19428, United States

Limitation of copyright claim _____

Material excluded from this claim: text

Previous registration and year: TX 6-563-072 2007

TX 6-342-584 2006

New material included in claim: text, editing

Rights and Permissions _____

Organization Name: ASTM International

Name: Kathleen Hooper

Email: khooper@astm.org

Telephone: 610-832-9634

Address: 100 Barr Harbor Drive

West Conshohocken, PA 19428 United States

Certification _____

Name: Kathleen Hooper

Date: March 1, 2013



Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, *United States Code*, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Maria A. Pallante

Register of Copyrights, United States of America

Registration Number
TX 7-763-690

Effective date of
registration:
April 10, 2013

Title

Title of Work: F1193 - 06 Standard Practice for Quality, Manufacture, and Construction of Amusement Rides and Devices

Completion/Publication

Year of Completion: 2006
Date of 1st Publication: March 3, 2006 **Nation of 1st Publication:** United States

Author

* **Author:** ASTM International
Author Created: Entire Text
Work made for hire: Yes
Domiciled in: United States

Copyright claimant

Copyright Claimant: ASTM International
100 Barr Harbor Drive, West Conshohocken, PA, 19428, United States

Limitation of copyright claim

Material excluded from this claim: text
Previous registration and year: TX 6-270-668 2005
TX 6-076-444 2004
New material included in claim: text, editing

Rights and Permissions

Organization Name: ASTM International
Name: Kathleen Hooper
Email: khooper@astm.org **Telephone:** 610-832-9634
Address: 100 Barr Harbor Drive
West Conshohocken, PA 19428 United States

Certification

Name: Kathleen Hooper

Date: April 10, 2013



Case 1:13-cv-01215-TSC Document 122-2 Filed 12/22/15 Page 232 of 369

EXHIBIT 15

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters

Register of Copyrights, United States of America

Form TX
For a Non-dramatic Literary Work
UNITED STATES COPYRIGHT OFFICE

TX 5-970-602



EFFECTIVE DATE OF REGISTRATION

JAN 30 2004
Month Day Year

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET

1 TITLE OF THIS WORK ▼
NFPA 1 Uniform Fire Code 2003 edition

PREVIOUS OR ALTERNATIVE TITLES ▼
Fire Prevention Code

PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared Title of Collective Work ▼

If published in a periodical or serial give: Volume ▼ Number ▼ Issue Date ▼ On Pages ▼

2 a NAME OF AUTHOR ▼ National Fire Protection Association

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country: USA
OR Citizen of: USA
Domiciled in:

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼

NOTE

Under the law the "author" of a "work made for hire" is generally the employer not the employee (see instructions). For any part of this work that was made for hire check "Yes" in the space provided give the employer for other person for whom the work was prepared) as "Author" of that part and leave the space for dates of birth and death blank.

b NAME OF AUTHOR ▼

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country: _____
OR Citizen of: _____
Domiciled in: _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼

c NAME OF AUTHOR ▼

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country: _____
OR Citizen of: _____
Domiciled in: _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼

3 a YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED
2003

b DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK
Month: 2 Day: 6 Year: 2003
NATION: USA

4 COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2. ▼
National Fire Protection Association
1 Batterymarch Park
Quincy MA 02269

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright. ▼

APPLICATION RECEIVED
APR 26 2014
ONE DEPOSIT RECEIVED
JAN 30 2004
TWO DEPOSITS RECEIVED
FUNDS RECEIVED

DO NOT WRITE HERE
OFFICE USE ONLY

See instructions before completing this space.

EXAMINED BY	<i>Kv</i>	FORM TX
CHECKED BY		
<input checked="" type="checkbox"/> CORRESPONDENCE	Yes	FOR COPYRIGHT OFFICE USE ONLY

DO NOT WRITE ABOVE THIS LINE IF YOU NEED MORE SPACE USE A SEPARATE CONTINUATION SHEET

PREVIOUS REGISTRATION Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office?

Yes No If your answer is "Yes" why is another registration being sought? (Check appropriate box) ▼

- a This is the first published edition of a work previously registered in unpublished form
- b This is the first application submitted by this author as copyright claimant
- c This is a changed version of the work, as shown by space 6 on this application

If your answer is Yes give Previous Registration Number ▶ TX 5 515-497

Year of Registration ▶ 2/11/2000

5

DERIVATIVE WORK OR COMPILATION

Preexisting Material Identify any preexisting work or works that this work is based on or incorporates ▼

Previously published standards and codes

Material Added to This Work Give a brief general statement of the material that has been added to this work and in which copyright is claimed ▼

Some new and revised text

a 6

See instructions before completing this space

b

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office give name and number of Account Name ▼ Account Number ▼

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt/City/State/ZIP ▼

Nanci Kelly
National Fire Protection Association
1 Batterymarch Park
Ph 617 848 0222

Area code and daytime telephone number ▶ 617 984-2737

Fax number ▶ 617 984 7222

Email ▶

a 7

b

CERTIFICATION I the undersigned hereby certify that I am the

Check only one ▶

- author
 - other copyright claimant
 - owner of exclusive right(s)
 - authorized agent of National Fire Protection Association
- Name of author or other copyright claimant, or owner of exclusive right(s) ▲

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge

Typed or printed name and date ▼ If this application gives a date of publication in space 3 do not sign and submit it before that date

Nanci Kelly

Date ▶ 1/28/2004

Handwritten signature (X) ▼

X *Nanci Kelly*

8

Certificate will be mailed in window envelope to this address

Name ▼	Nanci Kelly National Fire Protection Association
Number/Street/Apt ▼	1 Batterymarch Park
City/State/ZIP ▼	Quincy MA 02269

Complete all necessary spaces
Sign your application in space 8

1. Application form
2. Nonrefundable filing fee in check or money order payable to Register of Copyrights
3. Deposit material

Library of Congress
Copyright Office TX
101 Independence Avenue S.E.
Washington, D.C. 20550-8222

9

17 U.S.C. § 508(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 408 or in any written statement filed in connection with the application shall be fined not more than \$2,500

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters

Register of Copyrights, United States of America

Form TX
For a Nondramatic Literary Work
UNITED STATES COPYRIGHT OFFICE

REG TX 6-261-668
#174006261668

EFFECTIVE DATE OF REGISTRATION
NOV 04 2005
Month Day Year

... IATE CONTINUATION SHEET.

1

TITLE OF THIS WORK ▼
NFPA I Uniform Fire Code, 2006 Edition

PREVIOUS OR ALTERNATIVE TITLES ▼
Same as above

PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared **Title of Collective Work** ▼

If published in a periodical or serial give **Volume** ▼ **Number** ▼ **Issue Date** ▼ **On Pages** ▼

2

a **NAME OF AUTHOR** ▼ National Fire Protection Association **DATES OF BIRTH AND DEATH**
Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"? Yes No
AUTHOR'S NATIONALITY OR DOMICILE
Name of Country: USA
OR Citizen of: USA
Domiciled in: _____
WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed ▼

NOTE

Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). For any part of this work that was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates of birth and death blank.

b **NAME OF AUTHOR** ▼ **DATES OF BIRTH AND DEATH**
Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"? Yes No
AUTHOR'S NATIONALITY OR DOMICILE
Name of Country: _____
OR Citizen of: _____
Domiciled in: _____
WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed ▼

c **NAME OF AUTHOR** ▼ **DATES OF BIRTH AND DEATH**
Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"? Yes No
AUTHOR'S NATIONALITY OR DOMICILE
Name of Country: _____
OR Citizen of: _____
Domiciled in: _____
WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed ▼

3

a **YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED** This information must be given in all cases. 2005 **b** **DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK** Complete this information ONLY if this work has been published. Month: 8 Day: 18 Year: 2005

4

COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2. ▼

National Fire Protection Association
One Batterymarch Park
Quincy, MA 02169

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright ▼

APPLICATION RECEIVED
NOV 04 2005

ONE DEPOSIT RECEIVED
NOV 04 2005

TWO DEPOSITS RECEIVED

FUNDS RECEIVED

DO NOT WRITE HERE OFFICE USE ONLY

See instructions before completing this space.

MORE ON BACK ▶ • Complete all applicable spaces (numbers 5-9) on the reverse side of this page
• See detailed instructions. • Sign the form at line 8

DO NOT WRITE HERE
Page 1 of 2 pages

*Amended by C.O. from phone call to Nancy Zagrodny on January 4, 2006.

EXAMINED BY <i>AD</i>	FORM TX
CHECKED BY	
<input type="checkbox"/> CORRESPONDENCE	FOR
Yes	COPYRIGHT
	OFFICE
	USE
	ONLY

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

PREVIOUS REGISTRATION Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office?

Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box.) ▼

- a. This is the first published edition of a work previously registered in unpublished form.
- b. This is the first application submitted by this author as copyright claimant.
- c. This is a changed version of the work, as shown by space 6 on this application

If your answer is "Yes," give: Previous Registration Number ▶ TX 5-970-602

Year of Registration ▶ 2003

5

DERIVATIVE WORK OR COMPILATION

Preexisting Material Identify any preexisting work or works that this work is based on or incorporates ▼

Previously published codes and standards

Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed ▼

Some new and revised text

a 6

See instructions before completing this space.

b

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account Name ▼ Account Number ▼

a 7

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name / Address / Apt / City / State / ZIP ▼

Nancy Zagrodny - National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169

b

Area code and daytime telephone number ▶ 617-984-7550

Fax number ▶ 617-984-7004

Email ▶ nzagrodny@nfpa.org

CERTIFICATION* I, the undersigned, hereby certify that I am the

Check only one ▶

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of National Fire Protection Association

or the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge

Name of author or other copyright claimant, or owner of exclusive right(s) ▲

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Nancy Zagrodny

Date ▶ 10/31/2005

Handwritten signature (X) ▼

X *Nancy Zagrodny*

8

Certificate will be mailed in window envelope to this address:

Name ▼	National Fire Protection Association - ATTN: NANCY ZAGRODNY
Number/Street/Apt ▼	1 Batterymarch Park
City/State/ZIP ▼	Quincy, MA 02169

YOU MUST:

- Complete all necessary spaces
- Sign your application in space 8

SEND ALL 3 ELEMENTS IN THE SAME PACKAGE:

1. Application form
2. Nonrefundable filing fee in check or money order payable to Register of Copyrights
3. Deposit material

MAIL TO:
Library of Congress
Copyright Office - TX
101 Independence Avenue, S.E.
Washington, D.C. 20559-6222

Fees are subject to change. For current fees, check the Copyright Office website at www.copyright.gov. For the Copyright Office, or call (202) 707-5000

9

*17 U.S.C. § 506(e). Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

CERTIFICATE OF REGISTRATION



OFFICIAL SEAL

This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters

REGISTER OF COPYRIGHTS
United States of America

FORM TX

For a Nondramatic Literary Work
UNITED STATES COPYRIGHT OFFICE

REG

TX 5-752-623



EFFECTIVE DATE OF REGISTRATION

12 30 02
Month Day Year

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

1

TITLE OF THIS WORK ▼

National Fire Codes Vol. 1-12 and Master Index 2002 Edition

PREVIOUS OR ALTERNATIVE TITLES ▼

PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared. Title of Collective Work ▼

Volume 1-12 and master index

If published in a periodical or serial give: Volume ▼ Number ▼ Issue Date ▼ On Pages ▼

2

a NAME OF AUTHOR ▼

National Fire Protection Association

DATES OF BIRTH AND DEATH

Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?

Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE

Name of Country

OR { Citizen of USA
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

Anonymous? Yes No
Pseudonymous? Yes No

If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼

NOTE

Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). For any part of this work that was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates of birth and death blank.

b NAME OF AUTHOR ▼

Was this contribution to the work a "work made for hire"?

Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE

Name of Country

OR { Citizen of
Domiciled in

DATES OF BIRTH AND DEATH

Year Born ▼ Year Died ▼

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

Anonymous? Yes No
Pseudonymous? Yes No

If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼

c NAME OF AUTHOR ▼

Was this contribution to the work a "work made for hire"?

Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE

Name of Country

OR { Citizen of
Domiciled in

DATES OF BIRTH AND DEATH

Year Born ▼ Year Died ▼

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

Anonymous? Yes No
Pseudonymous? Yes No

If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼

3

a YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED This information must be given in all cases. 2002

b DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK Complete this information ONLY if this work has been published. Month: January Day: 10 Year: 2002

4

COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2. ▼

National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02269-9101

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright. ▼

APPLICATION RECEIVED
MAR 12 2003 12-30-02
ONE DEPOSIT RECEIVED
TWO DEPOSITS RECEIVED
12-30-02
FUNDS RECEIVED

MORE ON BACK ▶ • Complete all applicable spaces (numbers 5-9) on the reverse side of this page.
• See detailed Instructions. • Sign the form at line 8.

DO NOT WRITE HERE
Page 1 of 2 pages

EXAMINED BY <i>[Signature]</i>	FORM TX
CHECKED BY	
<input checked="" type="checkbox"/> CORRESPONDENCE	FOR COPYRIGH ^T OFFICE USE ONLY

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

PREVIOUS REGISTRATION Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office?

Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box.) ▼

- a. This is the first published edition of a work previously registered in unpublished form.
- b. This is the first application submitted by this author as copyright claimant.
- c. This is a changed version of the work, as shown by space 6 on this application.

If your answer is "Yes," give: Previous Registration Number *TX 5401-755-(644)* Year of Registration *2001*

5

DERIVATIVE WORK OR COMPILATION

Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼

Changes made to the new edition

Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼

Additions and changes made throughout

a 6
See instructions before completing this space.
b

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.
Name ▼ Account Number ▼

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt/City/State/ZIP ▼

Nanci Kelly - National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02269

Area code and daytime telephone number ▶ 617-984-7237

Fax number ▶ 617-984-7222

Email ▶

CERTIFICATION* I, the undersigned, hereby certify that I am the:

Check only one ▶

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of _____

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Name of author or other copyright claimant, or owner of exclusive right(s) ▲

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Nanci Kelly

Date ▶ 2/28/03

Handwritten signature (X) ▼

x *Nanci Kelly*

8

Certificate will be mailed in window envelope to this address:

Name ▼	Nanci Kelly-National Fire Protection Association
Number/Street/Apt ▼	1 Batterymarch Park
City/State/ZIP ▼	Quincy, MA 02269-9101

YOU MUST

- Complete all necessary spaces
- Sign your application in space 8

SMALLER FEES WITH THE SAME PACKAGE

1. Application form
2. Nonrefundable filing fee in check or money order payable to Register of Copyrights
3. Deposit material

MAR 10
Library of Congress
Copyright Office
101 Independence Avenue, S.E.
Washington, D.C. 20559-6000

9
Fees are subject to change. For current fees, check the Copyright Office website at www.copyright.gov or the Copyright Office, or call (800) 771-3399.

*17 U.S.C. § 506(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters
 Register of Copyrights, United States of America

Form TX
 For a Non-dramatic Literary Work
 UNITED STATES COPYRIGHT OFFICE

TX 6-160-768

EFFECTIVE DATE OF REGISTRATION

APR 25 2005

Month Day Year

LATE CONTINUATION SHEET

1

TITLE OF THIS WORK ▼
 NFPA 11 Standard for Low Medium and High Expansion Foam 2005 Edition

PREVIOUS OR ALTERNATIVE TITLES ▼
 NFPA 11 Same as above 1995 edition

PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial or collection give information about the collective work in which the contribution appeared Title of Collective Work ▼

If published in a periodical or serial give Volume ▼ Number ▼ Issue Date ▼ On Pages ▼

2

a **NAME OF AUTHOR** ▼
 National Fire Protection Association

DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country
 OR Citizen of USA
 Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymous? Yes No
 Pseudonymous? Yes No
If the answer to either of these questions is "Yes" see detailed instructions

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed: Entirety

NOTE

Under the law the author of a "work made for hire" is generally the employer, not the employee (see instructions). For any part of this work that was made for hire check "Yes" in the space provided give the employer (or other person for whom the work was prepared) as "Author of that part" and leave the space for dates of birth and death blank.

b **NAME OF AUTHOR** ▼

DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country
 OR Citizen of
 Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymous? Yes No
 Pseudonymous? Yes No
If the answer to either of these questions is "Yes" see detailed instructions

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed:

c **NAME OF AUTHOR** ▼

DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country
 OR Citizen of
 Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymous? Yes No
 Pseudonymous? Yes No
If the answer to either of these questions is "Yes" see detailed instructions

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed:

3

a **YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED** This information must be given in all cases
 2005

b **DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK** Complete this information ONLY if this work has been published.
 Month 2 Day 7 Year 2005

4

COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2 ▼

National Fire Protection Association
 1 Batterymarch Park
 Quincy MA 02169

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2 give a brief statement of how the claimant(s) obtained ownership of the copyright ▼

APR 25 2005
 DEPOSIT RECEIVED
 APR 25 2005
 TWO DEPOSITS RECEIVED
 FUNDS RECEIVED

MORE ON BACK Complete all applicable spaces (numbers 5-8) on the reverse side of this page. See detailed instructions. Sign the form at line 8.

DO NOT WRITE HERE
 Page 1 of 1 pages

EXAMINED BY _____ FORM TX
 CHECKED BY _____
 CORRESPONDENCE FOR COPYRIGHT OFFICE USE ONLY
 Yes

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE USE A SEPARATE CONTINUATION SHEET

PREVIOUS REGISTRATION Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office?

Yes No. If your answer is Yes, why is another registration being sought? (Check appropriate box.)

- a This is the first published edition of a work previously registered in unpublished form
- b This is the first application submitted by this author as copyright claimant
- c This is a changed version of the work as shown by space 5 on this application

If your answer is Yes, give Previous Registration Number ▶ TX 4-068-536

Year of Registration ▶ 1995

5

DERIVATIVE WORK OR COMPILATION

Preexisting Material Identify any preexisting work or works that this work is based on or incorporates.

Previously Published

Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed.

Some new and revised text

See instructions before completing this space

6

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account Name. Account Number.

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt./City/State/ZIP.

Nancy Zagrodny National Fire Protection Association
1-Batterymarch Park
Quincy, MA 02169

Area code and daytime telephone number ▶ 617-984-7550

Fax number ▶ 617 984 7004

Email ▶ nzagrodny@nfpa.org

CERTIFICATION* I, the undersigned, hereby certify that I am the

Check only one ▶

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge

Name of author or other copyright claimant or owner of exclusive right(s) ▶ National Fire Protection Association

Typed or printed name and date. If this application gives a date of publication in space 3, do not sign and submit it before that date.

Nancy Zagrodny

Date ▶ 4/11/2005

Handwritten signature (X) ▶

X Nancy Zagrodny

Certificate will be mailed in window envelope to this address

Name	National Fire Protection Association
Number/Street/Apt	1 Batterymarch Park
City/State/ZIP	Quincy MA 02169

Complete all necessary spaces. Sign your application in space 9.

- 1. Application form
- 2. Nonrefundable filing fee in check or money order payable to Register of Copyrights
- 3. Deposit material

Library of Congress Copyright Office - TX
101 Independence Avenue, S.E.
Washington, D.C. 20540-8222

See instructions before completing this space

9

17 U.S.C. § 506(a). Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 408, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters
 Register of Copyrights, United States of America

Form TX
 For a Nondramatic Literary Work
 UNITED STATES COPYRIGHT OFFICE

TX 6-232-876



EFFECTIVE DATE OF REGISTRATION
 Jun 20, 2005
 Month Day Year

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET

1

TITLE OF THIS WORK ▼
 NFPA 12 Standard on Carbon Dioxide Extinguishing Systems 2005 Edition

PREVIOUS OR ALTERNATIVE TITLES ▼
 NFPA 12 Same as above 1998 Edition

PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial or collection give information about the collection work in which the contribution appeared Title of Collective Work ▼

If published in a periodical or serial give Volume ▼ Number ▼ Issue Date ▼ On Pages ▼

2

a **NAME OF AUTHOR** ▼ National Fire Protection Association

DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

Was this contribution to the work a work made for hire? Yes No

AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country: USA
 OR Citizen of USA
 Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymous? Yes No
 Pseudonymous? Yes No

NOTE

Under the law the author of a work made for hire is generally the employer not the employee (see instructions) For any part of this work that was made for hire check Yes in the space provided give the employer (or other person for whom the work was prepared) as Author of that part and leave the space for dates of birth and death blank

b **NATURE OF AUTHORSHIP** Briefly describe nature of material created by this author in which copyright is claimed ▼
 Entirety

c **NAME OF AUTHOR** ▼

DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

Was this contribution to the work a work made for hire? Yes No

AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country
 OR Citizen of
 Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymous? Yes No
 Pseudonymous? Yes No

c **NAME OF AUTHOR** ▼

DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

Was this contribution to the work a work made for hire? Yes No

AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country
 OR Citizen of
 Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymous? Yes No
 Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed ▼

3

a **YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED** This information must be given in all cases. 2005

b **DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK** Complete this information ONLY if this work has been published. Month: 2 Day: 7 Year: 2005

4

COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2 ▼
 National Fire Protection Association
 1 Batterymarch Park
 Quincy MA 02169

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright ▼

APPLICATION RECEIVED JUN 20 2005
 ONE DEPOSIT RECEIVED JUN 20 2005
 TWO DEPOSITS RECEIVED
 FUNDS RECEIVED

MORE ON BACK ► Complete all applicable spaces (numbers 5-8) on the reverse side of this page

DO NOT WRITE HERE

EXAMINED BY RM FORM TX

CHECKED BY _____

CORRESPONDENCE
Yes

FOR
COPYRIGHT
OFFICE
USE
ONLY

DO NOT WRITE ABOVE THIS LINE IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET

PREVIOUS REGISTRATION Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office?

Yes No If your answer is "Yes" why is another registration being sought? (Check appropriate box.)

- a This is the first published edition of a work previously registered in unpublished form
- b This is the first application submitted by this author as copyright claimant
- c This is a changed version of the work, as shown by space 6 on this application.

If your answer is "Yes" give Previous Registration Number ▶ TX 4 838 538

Year of Registration ▶ 1998

5

DERIVATIVE WORK OR COMPILATION

Presenting Material Identify any preexisting work or works that this work is based on or incorporates.

Material Added to This Work Give a brief general statement of the material that has been added to this work and in which copyright is claimed.

a 6

See instructions before completing this space

b

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account Name Account Number

a 7

CORRESPONDENCE Give name and address to which correspondence about this application should be sent Name/Address/Apt./City/State/ZIP

Nancy Zagrodny - National Fire Protection Association
1 Batterymarch Park
Quincy MA 02169

Area code and daytime telephone number ▶ 617-984 7550

Fax number ▶ 617-984-7004

Email ▶ nzagrodny@nfpas.org

b

CERTIFICATION I, the undersigned, hereby certify that I am the

Check only one ▶

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of National Fire Protection Association

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge

Name of author or other copyright claimant, or owner of exclusive right(s) ▶

8

Typed or printed name and date If this application gives a date of publication in space 3, do not sign and submit it before that date

Nancy Zagrodny

Date ▶ 4/11/2005

Handwritten signature (X)

X Nancy Zagrodny

Certificate will be mailed in window envelope to this address

Name	National Fire Protection Association
Number/Street/Apt. #	1 Batterymarch Park
City/State/ZIP	Quincy MA 02169

Complete all necessary spaces on your application in space 9

1. Application form
2. Non-refundable filing fee in check or money order payable to Register of Copyrights
3. Deposit material

Library of Congress
Copyright Office - TX
101 Independence Avenue, S.E.
Washington, D.C. 20540-6225

9

For an online filing, for more information, visit the Copyright Office website at www.copyright.gov

17 U.S.C. § 508(a) Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters

Register of Copyrights, United States of America

FORM TX
For a Nondramatic Literary Work
UNITED STATES COPYRIGHT OFFICE

TX 5-905-038



EFFECTIVE DATE OF REGISTRATION

JAN 30 2004

Month Day Year

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

1

TITLE OF THIS WORK
NFPA 30 Flammable and Combustible Liquids Code 2003 Edition

PREVIOUS OR ALTERNATIVE TITLES
NFPA 30 Flammable and Combustible Liquids Code 2000 edition

PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared. Title of Collective Work

If published in a periodical or serial give: Volume Number Issue Date On Pages

2

a **NAME OF AUTHOR**
National Fire Protection Association

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR
Citizen of USA
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed.

NOTE

Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). For any part of this work that was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates of birth and death blank.

b **NAME OF AUTHOR**

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR
Citizen of
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed.

c **NAME OF AUTHOR**

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR
Citizen of
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed.

3

a **YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED**
2003

b **DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK**
Complete this information ONLY if this work has been published.
Month 3 Day 7 Year 2003

4

4 **COPYRIGHT CLAIMANT(S)** Name and address must be given even if the claimant is the same as the author given in space 2.
National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.

APPLICATION RECEIVED
JAN 30 2004
ONE DEPOSIT RECEIVED
JAN 30 2004
TWO DEPOSITS RECEIVED
FUNDS RECEIVED

MORE ON BACK Complete all applicable spaces (numbers 5-9) on the reverse side of this page. See detailed instructions. Sign the form at line 6.

DO NOT WRITE HERE
Page 1 of 2 pages

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters

Register of Copyrights, United States of America

Form TX
For a Nondramatic Literary Work
UNITED STATES COPYRIGHT OFFICE

REGIS

TX 6-261-666



EFFECTIVE DATE OF REGISTRATION

11 4 05
Month Day Year

ATE CONTINUATION SHEET.

1 TITLE OF THIS WORK ▼
NFPA 54 National Fuel Gas Code, 2006 Edition

PREVIOUS OR ALTERNATIVE TITLES ▼
Same as above

PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared Title of Collective Work ▼

If published in a periodical or serial give: Volume ▼ Number ▼ Issue Date ▼ On Pages ▼

2 a NAME OF AUTHOR ▼ National Fire Protection Association

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country: USA
OR Citizen of: USA
Domiciled in: _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼

NOTE

Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). For any part of this work that was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates of birth and death blank.

b NAME OF AUTHOR ▼

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country: _____
OR Citizen of: _____
Domiciled in: _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼

c NAME OF AUTHOR ▼

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country: _____
OR Citizen of: _____
Domiciled in: _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼

3 a YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED This information must be given in all cases. 2005

b DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK Complete this information ONLY if this work has been published. Month 8 Day 18 Year 2005

4 COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2 ▼

National Fire Protection Association
One Batterymarch Park
Quincy, MA 02169

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright ▼

APPLICATION RECEIVED
NOV 8 4 2005

ONE DEPOSIT RECEIVED
NOV 8 4 2005

TWO DEPOSITS RECEIVED

FUNDS RECEIVED

DO NOT WRITE HERE OFFICE USE ONLY

MORE ON BACK • Complete all applicable spaces (numbers 5-9) on the reverse side of this page.
• See detailed Instructions • Sign the form at line 8

DO NOT WRITE HERE
Page 1 of 2 pages

*Amended by C.O. from phone call to Nancy Zagrodny on January 4, 2006.

EXAMINED BY <i>AD</i>	FORM TX
CHECKED BY	
<input type="checkbox"/> CORRESPONDENCE	FOR
<input type="checkbox"/> Yes	COPYRIGHT
	OFFICE
	USE
	ONLY

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

PREVIOUS REGISTRATION Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office?

Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box) ▼

5

- a. This is the first published edition of a work previously registered in unpublished form
- b. This is the first application submitted by this author as copyright claimant
- c. This is a changed version of the work, as shown by space 6 on this application

If your answer is "Yes," give: Previous Registration Number ▶ TX 4-737-770

Year of Registration ▶ 1998

DERIVATIVE WORK OR COMPILATION

Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼

a 6

Previously published codes and standards

See instructions before completing this space

Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed ▼

Some new and revised text

b

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account Name ▼ Account Number ▼

a 7

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name / Address / Apt / City / State / ZIP ▼

Nancy Zagrodny - National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169

b

Area code and daytime telephone number ▶ 617-984-7550

Fax number ▶ 617-984-7004

Email ▶ nzagrodny@nfpa.org

CERTIFICATION* I, the undersigned, hereby certify that I am the

Check only one ▶

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of National Fire Protection Association

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge

Name of author or other copyright claimant, or owner of exclusive right(s) ▲

8

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Nancy Zagrodny

Date ▶ 10/31/2005

Handwritten signature (X) ▼

X *Nancy Zagrodny*

Certificate will be mailed in window envelope to this address:

Name ▼	National Fire Protection Association - ATTN: NANCY ZAGRODNY
Number/Street/Apt ▼	1 Batterymarch Park
City/State/ZIP ▼	Quincy, MA 02169

YOU MUST:

- Complete all necessary spaces
- Sign your application in space 8

SEND ALL 6 ELEMENTS IN THE SAME PACKAGE:

1. Application form
2. Nonrefundable filing fee in check or money order payable to Registrar of Copyrights
3. Deposit material

MAIL TO:

Library of Congress
Copyright Office - TX
101 Independence Avenue, S.E.
Washington, D.C. 20559-6222

For more details on change fee current fees, check the Copyright Office website at www.copyright.gov, write the Copyright Office, or call (202) 707-5902

9

*17 U.S.C. § 506(a) Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Margbeth Peters

REGISTER OF COPYRIGHTS
132397610
U.S. DEPT. OF JUSTICE

FORM TX
For a Nondramatic Literary Work
UNITED STATES COPYRIGHT OFFICE



EFFECTIVE DATE OF REGISTRATION

8 24 2001
Month Day Year

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

1

TITLE OF THIS WORK

National Fire Codes Vol 3 2001 Edition

PREVIOUS OR ALTERNATIVE TITLES

PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared. Title of Collective Work

Volume 3

If published in a periodical or serial give: Volume Number Issue Date On Pages

2

a NAME OF AUTHOR

National Fire Protection Association

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR Citizen of USA
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

NOTE

NATURE OF AUTHORSHIP ENTIRETY Briefly describe nature of material created by this author in which copyright is claimed.

Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). For any part of this work that was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates of birth and death blank.

b NAME OF AUTHOR

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR Citizen of USA
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed.

c NAME OF AUTHOR

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR Citizen of USA
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed.

3

a YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED
2001

This information must be given in all cases.

b DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK
Month: January Day: 10 Year: 2001

4

4 COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2.
National Fire Protection Association
1 Batterymarch Park, PO Box 9101
Quincy, MA 02269-9101

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.

APPLICATION RECEIVED
AUG 24, 2001
ONE DEPOSIT RECEIVED
TWO DEPOSITS RECEIVED
AUG 24, 2001
FUNDS RECEIVED

MORE ON BACK Complete all applicable spaces (numbers 5-9) on the reverse side of this page. See detailed instructions. Sign the form at line B.

DO NOT WRITE HERE Page 1 of 2 pages

EXAMINED BY FORM TX

CHECKED BY

CORRESPONDENCE

Yes

FOR COPYRIGHT OFFICE USE ONLY

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

PREVIOUS REGISTRATION Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office?

Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box.) ▼

- a. This is the first published edition of a work previously registered in unpublished form.
- b. This is the first application submitted by this author as copyright claimant.
- c. This is a changed version of the work, as shown by space 6 on this application.

If your answer is "Yes," give: Previous Registration Number ▶

Year of Registration ▶

2000

5

DERIVATIVE WORK OR COMPILATION

Repeating Material Identify any preceding work or works that this work is based on or incorporates. ▼

Changes made to new edition

Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼

Additions and correction made throughout

a 6

See instructions before completing this space.

b

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.

Name ▼

Account Number ▼

a 7

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt/City/State/ZIP ▼

Nanci A. Kelly
 National Fire Protection Association
 1 Batterymarch Park, PO Box 9101
 Quincy, MA 02269

Area code and daytime telephone number ▶

Fax number ▶

Email ▶

617-984-7237

617-984-7222

b

CERTIFICATION I, the undersigned, hereby certify that I am the

Check only one ▶

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

National Fire Protection Assoc.

Name of author or other copyright claimant, or owner of exclusive right(s) ▲

8

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Nanci A. Kelly

Date ▶

8/16/01

Handwritten signature (X) ▼

X Nanci A. Kelly

Certificate will be mailed in window envelope to this address:

Name ▼ Nanci A. Kelly

Number/Street/Apt ▼ National Fire Protection
1 Batterymarch Park

City/State/ZIP ▼ Quincy, MA 02269

YOU MUST:

- Complete all necessary spaces
- Sign your application in space 8

SEND ALL ELEMENTS IN THE SAME PACKAGE:

1. Application form
2. Nonrefundable filing fee in check or money order payable to Register of Copyrights
3. Deposit material

MAIL TO:

Library of Congress
 Copyright Office
 101 Independence Avenue, S.E.
 Washington, D.C. 20559-6000

9

As of July 1, 1999, the filing fee for Form TX is \$30.

*17 U.S.C. § 506(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

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U.S. GOVERNMENT PRINTING OFFICE: 1999-454-879/49

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters
 Register of Copyrights, United States of America

Form TX
 For a Nondramatic Literary Work
 UNITED STATES COPYRIGHT OFFICE

TX 5-956-112



EFFECTIVE DATE OF REGISTRATION

Month 4 Day 26 Year 04

DO NOT WRITE ABOVE THIS LINE IF YOU NEED MORE SPACE USE A SEPARATE CONTINUATION SHEET

1

TITLE OF THIS WORK ▼
 NFPA 58 Liquefied Petroleum Gas Code 2004 edition

PREVIOUS OR ALTERNATIVE TITLES ▼
 NFPA 58 Liquefied Petroleum Gas Code

PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared. Title of Collective Work ▼

If published in a periodical or serial, give Volume ▼ Number ▼ Issue Date ▼ On Pages ▼

2

a **NAME OF AUTHOR** ▼
 National Fire Protection Association

DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

Was this contribution to the work a work made for hire?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country
 OR { Citizen of USA
 Domiciled in _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymously? Yes No
 Pseudonymously? Yes No
If the answer to either of these questions is Yes, see detailed instructions.

NOTE

Under the law, the author of a work made for hire is generally the employer, not the employee (see instructions). For any part of the work that was made for hire, check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as Author of that part, and leave the space for dates of birth and death blank.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed ▼

b **NAME OF AUTHOR** ▼

DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

Was this contribution to the work a work made for hire?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country
 OR { Citizen of _____
 Domiciled in _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymously? Yes No
 Pseudonymously? Yes No
If the answer to either of these questions is Yes, see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed ▼

c **NAME OF AUTHOR** ▼

DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

Was this contribution to the work a work made for hire?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country
 OR { Citizen of _____
 Domiciled in _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymously? Yes No
 Pseudonymously? Yes No
If the answer to either of these questions is Yes, see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed ▼

3

a **YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED** This information must be given in all cases.
 2004

b **DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK** Complete this information ONLY if this work has been published.
 Month 2 Day 12 Year 2004
 USA

4

COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2 ▼

National Fire Protection Association
 1 Batterymarch Park
 Quincy MA 02169

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright ▼

APPLICATION RECEIVED
APR 26 2004
 ONE DEPOSIT RECEIVED
APR 26 2004
 TWO DEPOSITS RECEIVED
 FUNDS RECEIVED

MORE ON BACK Complete all applicable spaces (numbers 5-9) on the reverse side of this page. See detailed instructions. Sign the form at line 8.

DO NOT WRITE HERE
 Page 1 of 2 pages

EXAMINED BY FORM TX
 CHECKED BY
 CORRESPONDENCE
 Yes

FOR
COPYRIGHT
OFFICE
USE
ONLY

DO NOT WRITE ABOVE THIS LINE IF YOU NEED MORE SPACE USE A SEPARATE CONTINUATION SHEET

PREVIOUS REGISTRATION Has registration for this work or for an earlier version of this work already been made in the Copyright Office?

Yes No. If your answer is Yes why is another registration being sought? (Check appropriate box) ▼

a This is the first published edition of a work previously registered in unpublished form

b This is the first application submitted by this author as copyright claimant

c This is a changed version of the work as shown by space 6 on this application

If your answer is Yes give Previous Registration Number ▶ TX 4 06 1948

Year of Registration ▶ 6/9/95

5

DERIVATIVE WORK OR COMPILATION

Preexisting Material Identify any preexisting work or works that this work is based on or incorporates ▼

Previously published standards and codes

Material Added to This Work Give a brief general statement of the material that has been added to this work and in which copyright is claimed ▼

Some new and revised text

a 6

See instructions before completing this space.

b

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office give name and number of Account Name ▼ Account Number ▼

a 7

CORRESPONDENCE Give name and address to which correspondence about this application should be sent Name/Address/Apt./City/State/ZIP ▼

Nanci Kelly National Fire Protection Association
1 Batterymarch Park
Quincy MA 02169

b

Area code and daytime telephone number ▶ 617 984 7237

Fax number ▶ 617-984 7222

Email ▶

NKelly@nfpfa.org

CERTIFICATION* I the undersigned hereby certify that I am the

Check only one ▶

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of National Fire Protection Association

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge

Name of author or other copyright claimant or owner of exclusive right(s) ▲

8

Typed or printed name and date ▼ If this application gives a date of publication in space 3 do not sign and submit it before that date

Nanci Kelly

Date ▶ 4/02/04

Handwritten signature (X) ▼

x *Nanci Kelly*

Certificate will be mailed in window envelope to this address

Name ▼	National Fire Protection Association
Number/Street/Apt ▼	1 Batterymarch Park
City/State/ZIP ▼	Quincy MA 02169

Instructions

- Complete all necessary spaces on your application in space 8
- Application form
- Non-refundable filing fee in check or money order payable to Register of Copyrights
- Deposit material

Legal Department
Library of Congress
Copyright Office, TX
101 Independence Avenue, S.E.
Washington, D.C. 20540-0222

9

File an online application. For online filing, you must be a U.S. citizen or resident and have a U.S. mailing address. For more information, visit the Copyright Office website at www.copyright.gov (202) 707-5949

17 U.S.C. § 506(a): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409 or in any written statement filed in connection with the application shall be fined not more than \$2,500.

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Margbeth Peters

Register of Copyrights, United States of America

Form TX
For a Nondramatic Literary Work
UNITED STATES COPYRIGHT OFFICE

TX 5-953-205
120065953205

EFFECTIVE DATE OF REGISTRATION
4 26 04
Month Day Year

DO NOT WRITE ABOVE THIS LINE IF YOU NEED MORE SPACE USE A SEPARATE CONTINUATION SHEET

1

TITLE OF THIS WORK ▼
NFFA 59 Utility LP Gas Plant Code 2004 Edition

PREVIOUS OR ALTERNATIVE TITLES ▼
NFFA 59 Utility LP Gas Plant Code

PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared. Title of Collective Work ▼

Volume ▼	Number ▼	Issue Date ▼	On Pages ▼

2

a **NAME OF AUTHOR** ▼ National Fire Protection Association

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

Was this contribution to the work a 'work made for hire'?
 Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country: USA
OR Citizen of: USA
Domiciled in: _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed ▼

NOTE

Under the law the author of a work made for hire is generally the employer, not the employee (see instructions). For any part of this work that was made for hire, check 'Yes' in the space provided, give the employer (or other person for whom the work was prepared) as Author of that part and leave the space for dates of birth and death blank.

b **NAME OF AUTHOR** ▼

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

Was this contribution to the work a 'work made for hire'?
 Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country: _____
OR Citizen of: _____
Domiciled in: _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed ▼

c **NAME OF AUTHOR** ▼

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

Was this contribution to the work a 'work made for hire'?
 Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country: _____
OR Citizen of: _____
Domiciled in: _____

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed ▼

3

a **YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED** This information must be given in all cases. 2004

b **DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK** Complete this information ONLY if this work has been published. Month: 2 Day: 12 Year: 2004. USA

4

4 **COPYRIGHT CLAIMANT(S)** Name and address must be given even if the claimant is the same as the author given in space 2 ▼
National Fire Protection Association
1 Batterymarch Park
Quincy MA 02169

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright ▼

APPLICATION RECEIVED
APR 26 2004
ONE DEPOSIT RECEIVED
APR 26 2004
TWO DEPOSITS RECEIVED
FUNDS RECEIVED

DO NOT WRITE HERE OFFICE USE ONLY

MORE ON BACK ▶ Complete all applicable spaces (numbers 6-9) on the reverse side of this page. See detailed instructions. Sign the form at line 6.

DO NOT WRITE HERE
Page 1 of 2 pages

EXAMINED BY WBO FORM TX
 CHECKED BY _____
 CORRESPONDENCE FOR COPYRIGHT OFFICE USE ONLY
 Yes

DO NOT WRITE ABOVE THIS LINE IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET

PREVIOUS REGISTRATION Has registration for this work or for an earlier version of this work already been made in the Copyright Office?

Yes No If your answer is Yes why is another registration being sought? (Check appropriate box) ▼

- a This is the first published edition of a work previously registered in unpublished form
- b This is the first application submitted by this author as copyright claimant
- c This is a changed version of the work as shown by space 6 on this application

If your answer is Yes give Previous Registration Number ▶ TX 4 838544

Year of Registration ▶ 8/14/98

5

DERIVATIVE WORK OR COMPILATION

Preexisting Material Identify any preexisting work or works that this work is based on or incorporates ▼

Previously published standards and codes

Material Added to This Work Give a brief general statement of the material that has been added to this work and in which copyright is claimed ▼

Some new and revised text

a 6

See instructions before completing this space

b

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office give name and number of Account Name ▼ Account Number ▼

a 7

CORRESPONDENCE Give name and address to which correspondence about this application should be sent Name/Address/Apt/City/State/ZIP ▼

Nanci Kelly National Fire Protection Association
1 Batterymarch Park
Quincy MA 02169

b

Area code and daytime telephone number ▶ 617 984-7237

Fax number ▶ 617 984 7222

Email ▶ NKelly@nfpa.org

CERTIFICATION* I the undersigned hereby certify that I am the

Check only one ▶

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of National Fire Protection Association

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge

Name of author or other copyright claimant or owner of exclusive right(s) ▲

8

Typed or printed name and date ▼ If this application gives a date of publication in space 3 do not sign and submit it before that date

Nanci Kelly

Date ▶ 3/19/04

Handwritten signature (X) ▼

x Nanci Kelly

Certificate will be mailed in window envelope to this address

Name ▼
National Fire Protection Association

Number/Street/Apt ▼
1 Batterymarch Park

City/State/ZIP ▼
Quincy MA 02169

9

1 Application form
 2 Nonrefundable filing fee in check or money order payable to Register of Copyrights
 3 Deposit material

Library of Congress
 Copyright Office TX
 101 Independence Avenue S E
 Washington D C 20559-6222

Fees are subject to change. For current fees about the Copyright Office go to www.copyright.gov or the Copyright Office at (202) 707-9000

17 U.S.C. § 506(e) Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409 or in any written statement filed in connection with the application shall be fined not more than \$2,500

CERTIFICATE OF REGISTRATION

Case 1:13-cv-01215-TSC Document 122-2 Filed 12/22/15 Page 253 of 369

FORM TX

UNITED STATES COPYRIGHT OFFICE

REGISTRATION NUMBER

TX 4-092-419



EFFECTIVE DATE OF REGISTRATION

NOV 04 1998

Month Day Year



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters
REGISTER OF COPYRIGHTS
United States of America

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

TITLE OF THIS WORK

1999 National Electrical Code

PREVIOUS OR ALTERNATIVE TITLES

Same 1996 Edition

PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared. Title of Collective Work

If published in a periodical or serial give: Volume Number Issue Date On Pages

2 NAME OF AUTHOR

NATIONAL FIRE PROTECTION ASSOCIATION

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR Citizen of U.S.A.
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP ENTIRETY Briefly describe nature of the material created by this author in which copyright is claimed.

b NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR Citizen of U.S.A.
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

c NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR Citizen of
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed.

3 YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED
1998
This information must be given in all cases.

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK
Complete this information ONLY if this work has been published.
Month March Day 15 Year 1998
U.S.A. Nation

4 COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2.

National Fire Protection Association
One Batterymarch Park, P.O. Box 9101
Quincy, MA 02269-9101

APPLICATION RECEIVED

NOV 04 1998

ONE DEPOSIT RECEIVED

TWO DEPOSITS RECEIVED

NOV 04 1998

REMITTANCE NUMBER AND DATE

TRANSFER If the claimant(s) named here in space 4 are different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.

MORE ON BACK Complete all applicable spaces (numbers 5-11) on the reverse side of this page. See detailed instructions. Sign the form at line 10.

DO NOT WRITE HERE

EXAMINED BY MS FORM TX

CHECKED BY _____

CORRESPONDENCE Yes

DEPOSIT ACCOUNT FUNDS USED

FOR COPYRIGHT OFFICE USE ONLY

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

PREVIOUS REGISTRATION Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office?

- Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box) ▼
- This is the first published edition of a work previously registered in unpublished form.
 - This is the first application submitted by this author as copyright claimant.
 - This is a changed version of the work, as shown by space 6 on this application.

If your answer is "Yes," give: Previous Registration Number ▼ Year of Registration ▼

TX 4 222-411 1996

5

DERIVATIVE WORK OR COMPILATION Complete both space 6a & 6b for a derivative work; complete only 6b for a compilation.

a. Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼

Changes made to prior edition

b. Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼

See instructions before completing this space.

Corrections and additions made throughout.

6

—space deleted—

7

REPRODUCTION FOR USE OF BLIND OR PHYSICALLY HANDICAPPED INDIVIDUALS A signature on this form at space 10, and a check in one of the boxes here in space 8, constitutes a non-exclusive grant of permission to the Library of Congress to reproduce and distribute solely for the blind and physically handicapped and under the conditions and limitations prescribed by the regulations of the Copyright Office: (1) copies of the work identified in space 8 of this application in Braille (or similar tactile symbols); or (2) phonorecords embodying a fixation of a reading of that work; or (3) both.

- a Copies and Phonorecords
- b Copies Only
- c Phonorecords Only

See instructions

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account. Name ▼ Account Number ▼

8

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt/City/State/Zip ▼

Denise McNamara-Tiller

National Fire Protection Association

One Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101

617-984-7237

Be sure to give your daytime phone number.

9

CERTIFICATION* I, the undersigned, hereby certify that I am the

Check one ▶ author

other copyright claimant

owner of exclusive right(s)

If the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge. authorized agent of National Fire Protection Association

Typed or printed name and date ▼ If this is a published work, this date must be the same as or later than the date of publication. Denise McNamara-Tiller date ▶ 10/30/98

10

Handwritten signature (X) Denise McNamara-Tiller

MAIL CERTIFICATE TO

Handwritten certificate will be mailed in window envelope

Name ▼	<u>Denise McNamara-Tiller</u>
Number/Street/Apartment Number ▼	<u>National Fire Protection Association</u>
City/State/ZIP ▼	<u>One Batterymarch Park, P.O. Box 9101</u>
	<u>Quincy, MA 02269-9101</u>

YOU MUST

- Complete all necessary spaces
- Sign your application in space 10

SEND ALL 3 ELEMENTS IN THE SAME PACKAGE

1. Application form
2. Non-refundable \$40 filing fee in check or money order payable to Register of Copyrights
3. Deposit material

MAIL TO

Register of Copyrights
Library of Congress
Washington, D.C. 20559

11

17 U.S.C. § 506(e). Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters

Register of Copyrights, United States of America

Form TX
For a Non-dramatic Literary Work
UNITED STATES COPYRIGHT OFFICE

TX 6-108-410

EFFECTIVE DATE OF REGISTRATION
2 5 2005
Month Day Year

STATE CONTINUATION SHEET

1 TITLE OF THIS WORK ▼
National Electrical Code 2005

PREVIOUS OR ALTERNATIVE TITLES ▼
2002

PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared Title of Collective Work ▼

If published in a periodical or serial give Volume ▼ Number ▼ Issue Date ▼ On Pages ▼

2 a NAME OF AUTHOR ▼ National Fire Protection Association

Was this contribution to the work a work made for hire? Yes No

AUTHOR'S NATIONALITY OR DOMICILE Name of Country OR Citizen of USA Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous? Yes No Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed ▼

NOTE
Under the law, the author of a work made for hire is generally the employer not the employee (see instructions) For any part of this work that was made for hire check Yes in the space provided give the employer (or other person for whom the work was prepared) as Author of that part and leave the space for dates of birth and death blank

b NAME OF AUTHOR ▼

Was this contribution to the work a work made for hire? Yes No

AUTHOR'S NATIONALITY OR DOMICILE Name of Country OR Citizen of Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous? Yes No Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed ▼

c NAME OF AUTHOR ▼

Was this contribution to the work a work made for hire? Yes No

AUTHOR'S NATIONALITY OR DOMICILE Name of Country OR Citizen of Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous? Yes No Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed ▼

3 a YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED This information must be given in all cases 2004

b DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK Complete this information ONLY if this work has been published. Month 10 Day 8 Year 2004

4 COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2 ▼

National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169

DO NOT WRITE HERE OFFICE USE ONLY

DEPOSIT RECEIVED
FEB 03 2005
FEB 05 2005
TWO DEPOSITS RECEIVED

FUNDS RECEIVED

FORM TX

CHECKED BY *JM*

CORRESPONDENCE
Yes

FOR
COPYRIGHT
OFFICE
USE
ONLY

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET

PREVIOUS REGISTRATION Has registration for this work or for an earlier version of this work, already been made in the Copyright Office?

Yes No If your answer is Yes why is another registration being sought? (Check appropriate box.)

a This is the first published edition of a work previously registered in unpublished form

b This is the first application submitted by this author as copyright claimant

c This is a changed version of the work, as shown by space 6 on this application.

If your answer is Yes give Previous Registration Number ▶ TX 5 457 611

Year of Registration ▶ 2002

5

DERIVATIVE WORK OR COMPILATION

Preexisting Material Identify any preexisting work or works that this work is based on or incorporates

Previously published

Material Added to This Work Give a brief general statement of the material that has been added to this work and in which copyright is claimed

Some new and revised text

a

6

See instructions before completing this space

b

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office give name and number of Account

Name

Account Number

a

7

CORRESPONDENCE Give name and address to which correspondence about this application should be sent Name/Address/Apt./City/State/ZIP

Nancy Zagrodny - National Fire Protection Association
1 Batterymarch Park
Quincy MA 02169

Area code and daytime telephone number ▶ 617-984 7550

Fax number ▶ 617-984 7004

Email ▶ nzagrodny@nfpfa.org

b

CERTIFICATION I the undersigned hereby certify that I am the

Check only one ▶

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Name of author or other copyright claimant or owner of exclusive right(s) ▶ National Fire Protection Association

Name of author or other copyright claimant or owner of exclusive right(s) ▶

Typed or printed name and date If this application gives a date of publication in space 3 do not sign and submit it before that date

Nancy Zagrodny

Date ▶ 2/4/05

Handwritten signature (X) ▶

X *Nancy Zagrodny*

8

Certificate will be mailed in window envelope to this address

Name ▶ National Fire Protection Association

Number/Street/Apt. ▶ 1 Batterymarch Park

City/State/ZIP ▶ Quincy MA 02169

9

1. Payment of registration fee in check or money order payable to Register of Copyrights

2. Nonreturnable filing fee in check or money order payable to Register of Copyrights

3. Identification of work to be registered

4. Copyright Office - TX
101 Independence Avenue, S.E.
Washington, D.C. 20540-4071

Fee not added to check or money order unless you specify otherwise

17 U.S.C. § 505(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 405 or in any written statement filed in connection with the application shall be fined not more than \$2,500

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, *United States Code*, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Maria A. Pallante
Acting Register of Copyrights, United States of America

Registration Number
TX 7-297-325

Effective date of registration:
December 13, 2010

Title

Title of Work: National Electrical Code, 2011 Edition

Completion/Publication

Year of Completion: 2010

Date of 1st Publication: August 25, 2010

Nation of 1st Publication: United States

Author

▪ **Author:** NFPA

Author Created: text, photographs, compilation, editing, artwork

Work made for hire: Yes

Citizen of: United States

Domiciled in: United States

Copyright claimant

Copyright Claimant: NFPA

One Batterymarch Park, Quincy, MA, 02169, United States

Previous registration and year: 6-966-113 2008

Rights and Permissions

Organization Name: NFPA

Address: One Batterymarch Park

Quincy, MA 02169 United States

Certification

Name: Nancy M. Zagrodny

Date: December 8, 2010

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters

Register of Copyrights, United States of America

FORM TX

For a Nondramatic Literary Work
UNITED STATES COPYRIGHT OFFICE

REG#

TX 5-841-133



EFFECTIVE DATE OF REGISTRATION

OCT 10 2003

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

1

TITLE OF THIS WORK

National Fire Alarm Code 2002 Edition

PREVIOUS OR ALTERNATIVE TITLES

PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared. Title of Collective Work

If published in a periodical or serial give: Volume Number Issue Date On Pages

2

NAME OF AUTHOR

a NFPA

DATES OF BIRTH AND DEATH

Year Born Year Died

Was this contribution to the work a "work made for hire?"

* Yes
* No

AUTHOR'S NATIONALITY OR DOMICILE

Name of Country

OR Citizen of USA
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

Anonymous? Yes No
Pseudonymous? Yes No

If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed.

NOTE

Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). For any part of this work that was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates of birth and death blank.

b

NAME OF AUTHOR

Was this contribution to the work a "work made for hire?"

Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE

OR Citizen of
Domiciled in

DATES OF BIRTH AND DEATH

Year Born Year Died

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

Anonymous? Yes No
Pseudonymous? Yes No

If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed.

c

NAME OF AUTHOR

Was this contribution to the work a "work made for hire?"

Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE

OR Citizen of
Domiciled in

DATES OF BIRTH AND DEATH

Year Born Year Died

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

Anonymous? Yes No
Pseudonymous? Yes No

If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed.

3

YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED

2002

This information must be given in all cases.

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK

Complete this information ONLY if this work has been published. Month 10 Day 6 Year 2002

ONLY if this work has been published.

4

COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2.

*National Fire Protection Association
Battley Mound Park
Quincy, MA 02169*

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.

APPLICATION RECEIVED

OCT 10 2003

ONE DEPOSIT RECEIVED

TWO DEPOSITS RECEIVED

OCT 10 2003

FUNDS RECEIVED

MORE ON BACK Complete all applicable spaces (numbers 5-8) on the reverse side of this page. See detailed instructions. Sign the form at line 8.

DO NOT WRITE HERE Page 1 of 2 pages

*Amended by C.O. from phone call to Nanci Kelly on Nov 13, 2003.

EXAMINED BY [Signature] FORM TX
CHECKED BY

CORRESPONDENCE
 Yes FOR COPYRIGHT OFFICE USE ONLY

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

PREVIOUS REGISTRATION Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office?

Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box.)

- a. This is the first published edition of a work previously registered in unpublished form.
- b. This is the first application submitted by this author as copyright claimant.
- c. This is a changed version of the work, as shown by space 6 on this application.

If your answer is "Yes," give: Previous Registration Number ▶ TX 5-121-992

Year of Registration ▶ 12/23/99

5

DERIVATIVE WORK OR COMPILATION

Preexisting Material Identify any preexisting work or works that this work is based on or incorporates.

*Changes and additions to existing material *Previous edition; Errata issued 1-30-03

Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed.

*Changes and additions to existing material

a 6

See instructions before completing this space.

b

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.
Name ▶ Account Number ▶

a 7

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name / Address / Apt / City / State / ZIP ▶

Nanci Kelly - National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169

b

Area code and daytime telephone number ▶ 617-984-7237

Fax number ▶ 617-984-7222

Email ▶

CERTIFICATION I, the undersigned, hereby certify that I am the

Check only one ▶

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Name of author or other copyright claimant, or owner of exclusive right(s) ▶

8

Typed or printed name and date. If this application gives a date of publication in space 3, do not sign and submit it before that date.

Nanci Kelly

Date ▶ 9/26/03

Handwritten signature (X) ▶

X *Nanci Kelly*

Certificate will be mailed in window envelope to this address:

Name ▶	Nanci Kelly - National Fire Protection Association
Number/Street/Apt ▶	1 Batterymarch Park
City/State/ZIP ▶	Quincy, MA 02169

9

1. Application form
2. Nonrefundable filing fee in check or money order payable to Register of Copyrights
3. Deposit material

U.S. Copyright Office
101 Independence Avenue, S.E.
Washington, D.C. 20540-4071

*17 U.S.C. § 505(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 406, or in any written statement filed in connection with the application, shall be fined not more than \$2,200.

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters
 Register of Copyrights, United States of America

Form TX
 For a Nondramatic Literary Work
 UNITED STATES COPYRIGHT OFFICE

RE: **TX 6-153-939**

EFFECTIVE DATE OF REGISTRATION
 3 28 2005
 Month Day Year

DO NOT WRITE ABOVE THIS LINE. YOU MUST WRITE BELOW. SEE INSTRUCTIONS. DATE CONTINUATION SHEET.

1

TITLE OF THIS WORK ▼
 NFPA 99 Health Care Facilities Code 2005 Edition

PREVIOUS OR ALTERNATIVE TITLES ▼
 2002

PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared. **Title of Collective Work** ▼

If published in a periodical or serial give: **Volume** ▼ **Number** ▼ **Issue Date** ▼ **On Pages** ▼

2

a **NAME OF AUTHOR** ▼
 National Fire Protection Association

DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country
 OR { Citizen of USA
 Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymous? Yes No
 Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼

NOTE

Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). For any part of this work that was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for data of birth and death blank.

b **NAME OF AUTHOR** ▼

DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country
 OR { Citizen of
 Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymous? Yes No
 Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼

c **NAME OF AUTHOR** ▼

DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country
 OR { Citizen of
 Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymous? Yes No
 Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼

3

a **YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED**
 2005
This information must be given in all cases.

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK
 Complete this information ONLY if this work has been published.
 Month 3 Day 11 Year 2005
Complete this information ONLY if this work has been published.

4

COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2. ▼

National Fire Protection Association
 1 Batterymarch Park
 Quincy, MA 02169

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright. ▼

APPLICATION RECEIVED
MAR 28 2005
 ONE DEPOSIT RECEIVED
MAR 28 2005
 TWO DEPOSITS RECEIVED
 FUNDS RECEIVED

See instructions before completing this space.

MORE ON BACK ▶

• Complete all applicable spaces (numbers 5-9) on the reverse side of this page.
 • See detailed instructions. • Sign the form at line 8.

DO NOT WRITE HERE

Page 1 of 5 pages

EXAMINED BY slm FORM TX
 CHECKED BY _____
 CORRESPONDENCE FOR COPYRIGHT OFFICE USE ONLY
 Yes

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

PREVIOUS REGISTRATION Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office?

Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box.) ▼

- a. This is the first published edition of a work previously registered in unpublished form.
- b. This is the first application submitted by this author as copyright claimant.
- c. This is a changed version of the work, as shown by space 6 on this application.

If your answer is "Yes," give: Previous Registration Number ▶ TX 5-584-948

Year of Registration ▶ 2002

5

DERIVATIVE WORK OR COMPILATION

Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼

Previously published

Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼

Some new and revised text

a 6

See instructions before completing this space.

b

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.

Name ▼

Account Number ▼

a 7

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt/City/State/ZIP ▼

Nancy Zagrodney - National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169

b

Area code and daytime telephone number ▶ 617-984-7550

Fax number ▶ 617-984-7004

Email ▶ nzagrodney@nfpa.org

CERTIFICATION* I, the undersigned, hereby certify that I am the

Check only one ▶

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of National Fire Protection Association

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge

Name of author or other copyright claimant, or owner of exclusive right(s) ▲

8

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Nancy Zagrodney

Date ▶ 3/22/05

Handwritten signature (X) ▼

X Nancy Zagrodney

Certificate will be mailed in window envelope to this address:

Name ▼
National Fire Protection Association

Number/Street/Apt ▼
1 Batterymarch Park

City/State/ZIP ▼
Quincy, MA 02169

YOU MUST

- Complete all necessary spaces
- Sign your application in space 8

SEND ALL ITEMS FIRST IN THE SAME PACKAGE

1. Application form
2. Nonrefundable filing fee in check or money order payable to Register of Copyrights
3. Deposit material

MAIL TO

Library of Congress
Copyright Office - TX
101 Independence Avenue, S.E.
Washington, D.C. 20559-6222

Fees are subject to change. For current fees, check the Copyright Office website at www.copyright.gov or call (202) 755-5049.

9

*17 U.S.C. § 506(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500

CERTIFICATE OF REGISTRATION



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters

REGISTER OF COPYRIGHTS
United States of America

FORM TX
For a Nondramatic Literary Work
UNITED STATES COPYRIGHT OFFICE



EFFECTIVE DATE OF REGISTRATION
13 APR 2001

Month Day Year

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

1

TITLE OF THIS WORK
NFPA 101 Life Safety Code

PREVIOUS OR ALTERNATIVE TITLES

PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared. **Title of Collective Work**

If published in a periodical or serial give: **Volume** **Number** **Issue Date** **On Pages**

2

a **NAME OF AUTHOR**
National Fire Protection Association

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country: USA
OR Citizen of:
Domiciled in:

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

NOTE

Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). For any part of this work that was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates of birth and death blank.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. **ENTIRELY**

b

NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR Citizen of
Domiciled in:

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed.

c

NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR Citizen of
Domiciled in:

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed.

3

a **YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED**
2000

b **DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK**
Month: 3 Day: 20 Year: 2000

4

COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2.
National Fire Protection Association
One Batterymarch Park
Quincy, MA 02269-9101

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.

APPLICATION RECEIVED

APR 13 2001

ONE DEPOSIT RECEIVED

TWO DEPOSITS RECEIVED

APR 13 2001

FUNDS RECEIVED

MORE ON BACK

• Complete all applicable spaces (numbers 5-9) on the reverse side of this page.
• See detailed instructions.
• Sign the form at line 8.

DO NOT WRITE HERE
Page 1 of _____ pages

EXAMINED BY FORM TX
 CHECKED BY
 CORRESPONDENCE
 Yes

FOR COPYRIGHT OFFICE USE ONLY

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

PREVIOUS REGISTRATION Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office?
 Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box.) **5**

a. This is the first published edition of a work previously registered in unpublished form.
 b. This is the first application submitted by this author as copyright claimant.
 c. This is a changed version of the work, as shown by space 6 on this application.
 If your answer is "Yes," give: Previous Registration Number TX4 737 773 Year of Registration 3/11/98

DERIVATIVE WORK OR COMPILATION
 Preexisting Material: Identify any preexisting work or works that this work is based on or incorporates. **a 6**

Changes made to prior edition:
 Material Added to This Work: Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. **b**
Corrections and additions made throughout.
 See instructions before completing this space.

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account. **a 7**
 Name Account Number

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. **b**
 Name/Address/Apt./City/State/ZIP
Nanci Kelly
NFPA
One Batterymarch Park
Quincy, MA 02269-9101 617-984-7237 Fax number 617-984-7222
 Area code and daytime telephone number
 Email

CERTIFICATION I, the undersigned, hereby certify that I am the **8**
 Check only one author
 other copyright claimant
 owner of exclusive right(s)
 authorized agent of National Fire Protection Assoc.
 Name of author or other copyright claimant, or owner of exclusive right(s)

Typed or printed name and date **Y** If this application gives a date of publication in space 3, do not sign and submit it before that date.
Nanci Kelly Date 4/4/01
 Handwritten signature Nanci Kelly

Certificate will be mailed in window envelope to this address:

Name <u>Y</u>	<u>Nanci Kelly</u> <u>National Fire Protection Association</u>
Number/Street/Apt. <u>Y</u>	<u>One Batterymarch Park</u>
City/State/ZIP <u>Y</u>	<u>Quincy, MA 02269-9101</u>

NOTES:
 1. Complete all necessary spaces.
 2. Sign your application in space 8.
 3. Deposit material.
 4. Application form.
 5. Non-refundable filing fee in check or money order. As of July 1, 1999, the filing fee for Form TX is \$30.
 MAIL TO:
 Library of Congress
 Copyright Office
 101 Independence Avenue, S.E.
 Washington, D.C. 20540-6000

9

*17 U.S.C. § 405(b). Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 405, or in any written statement used in connection with the application, shall be fined not more than \$2,500.
 JUNE 1999 - 2001/00
 WEB REV. JUNE 1999
 U.S. GOVERNMENT PRINTING OFFICE: 1999-451-879/99

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Margbeth Peters

Register of Copyrights, United States of America

FORM TX

For a Nondramatic Literary Work
UNITED STATES COPYRIGHT OFFICE

REGISTRATION TX 5-841-134



EFFECTIVE DATE OF REGISTRATION

OCT 10 2003

Month Day Year

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

1

TITLE OF THIS WORK
Life Safety Code 2003 Edition NFPA 101

PREVIOUS OR ALTERNATIVE TITLES

PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared. Title of Collective Work

If published in a periodical or serial give: Volume Number Issue Date On Pages

2

a NAME OF AUTHOR
Nation Fire Protection Association

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR { Citizen of USA
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NOTE

Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). For any part of this work that was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates of birth and death blank.

NATURE OF AUTHORSHIP ENTIRETY Briefly describe nature of material created by this author in which copyright is claimed.

b NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR { Citizen of
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed.

c NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR { Citizen of
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed.

3

a YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED
2003

b DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK
Complete this information ONLY if this work has been published.
Month 1 Day 2 Year 2003

4

COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2.

National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright.

APPLICATION RECEIVED
OCT 10 2003

ONE DEPOSIT RECEIVED

TWO DEPOSITS RECEIVED

OCT 10 2003

FUNDS RECEIVED

MORE ON BACK • Complete all applicable spaces (numbers 5-9) on the reverse side of this page.
• See detailed instructions. • Sign the form at line 5.

DO NOT WRITE HERE
Page 1 of 2 Pages

*Amended by C.O. from phone call to Nanci Kelly on Nov 13, 2003.

EXAMINED BY	<i>[Signature]</i>	FORM TX
CHECKED BY		
<input type="checkbox"/> CORRESPONDENCE		FOR COPY- RIGHT OFFICE USE ONLY
Yes		

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

PREVIOUS REGISTRATION Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office?

Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box.)

a. This is the first published edition of a work previously registered in unpublished form.

b. This is the first application submitted by this author as copyright claimant.

c. This is a changed version of the work, as shown by space 6 on this application.

If your answer is "Yes," give: Previous Registration Number ▶ TXS-371-918

Year of Registration ▶

2000

5

DERIVATIVE WORK OR COMPILATION

Preexisting Material Identify any preexisting work or works that this work is based on or incorporates.

* -Changed and additions to existing material: *Previous edition

Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed.

Corrections and additions made throughout

a 6

See instructions before completing this space.

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.

Name

Account Number

a 7

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt/City/State/ZIP

Nanci Kelly -National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169

Area code and daytime telephone number ▶ 617-984-7237

Fax number ▶ 617-984-7222

Email ▶ nkelly@nfpa.org

b

CERTIFICATION I, the undersigned, hereby certify that I am the

Check only one ▶

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

National Fire Protection Assoc.

Name of author or other copyright claimant, or owner of exclusive right(s)

8

Typed or printed name and date If this application gives a date of publication in space 3, do not sign and submit it before that date.

Nanci Kelly

Date ▶ 9/24/03

Handwritten signature (X)

Nanci Kelly

Certificate will be mailed in window envelope to this address:

Name

Nanci Kelly

Number/Street/Apt

1 Batterymarch Park

City/State/ZIP

Quincy, MA 02169

YOU MUST:

- Complete all necessary spaces
- Sign your application in space 3

BIND ALL 3 TOGETHER IN THE SAME PACKAGE

1. Application form
2. Nonrefundable filing fee in check or money order payable to Register of Copyrights
3. Deposit material

LIBRARY
Library of Congress
Copyright Office
101 Independence Avenue, S.E.
Washington, D.C. 20540-9000

How we protect it
Example: For example
don't check the
Copyright Office
website at
www.copyright.gov
until the Copyright
Office, or call
(202) 707-6000.

9

17 U.S.C. § 506(e): Any person who knowingly makes a false representation of a material fact in this application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

Rev. June 2002—20,000 Web Rev. June 2002 © Printed on recycled paper

U.S. Government Printing Office: 2000-461-113/20,021

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters
 Register of Copyrights, United States of America

Form TX
 For a Nondramatic Literary Work
 UNITED STATES COPYRIGHT OFFICE

REGISTRATION NUMBER

TX 6-294-334



NOV 04 2005

Month Day Year

DATE CONTINUATION SHEET.

1

TITLE OF THIS WORK ▼
 NFPA 101 Life Safety Code, 2006 Edition

PREVIOUS OR ALTERNATIVE TITLES ▼
 Same as above

PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared. Title of Collective Work ▼

If published in a periodical or serial give: Volume ▼ Number ▼ Issue Date ▼ On Pages ▼

2

NAME OF AUTHOR ▼
 a National Fire Protection Association

DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country
 OR { Citizen of USA
 Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymous? Yes No
 Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼

NOTE

Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). For any part of this work that was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates of birth and death blank.

b

NAME OF AUTHOR ▼

DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country
 OR { Citizen of
 Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymous? Yes No
 Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼

c

NAME OF AUTHOR ▼

DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country
 OR { Citizen of
 Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymous? Yes No
 Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼

3

YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED ▼
 2005
This information must be given ONLY if this work has been published.

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK
 Month ▶ 8 Day ▶ 18 Year ▶ 2005
Complete this information ONLY if this work has been published.

4

COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2. ▼
 National Fire Protection Association
 One Batterymarch Park
 Quincy, MA 02169

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright. ▼

APPLICATION RECEIVED
 NOV 04 2005
 ONE DEPOSIT RECEIVED
 NOV 04 2005 1,20.06
 TWO DEPOSITS RECEIVED
 FUNDS RECEIVED

DO NOT WRITE HERE OFFICE USE ONLY

MORE ON BACK ▶ • Complete all applicable spaces (numbers 5-9) on the reverse side of this page.
 • See detailed instructions. • Sign the form at line 8.

DO NOT WRITE HERE
 Page 1 of 2 Pages

*Amended by C.O. from phone call to Nancy Zagrodny on January 4, 2006.

EXAMINED BY <i>[Signature]</i>	FORM TX
CHECKED BY	
<input checked="" type="checkbox"/> CORRESPONDENCE	FOR COPYRIGHT OFFICE USE ONLY
<input type="checkbox"/> Yes	

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

PREVIOUS REGISTRATION Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office?

Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box.) ▼

- a. This is the first published edition of a work previously registered in unpublished form.
- b. This is the first application submitted by this author as copyright claimant.
- c. This is a changed version of the work, as shown by space 6 on this application.

If your answer is "Yes," give: Previous Registration Number ▶ TX 5-841-134

Year of Registration ▶ 2003

5

DERIVATIVE WORK OR COMPILATION

Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼

Previously published codes and standards

Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼

Some new and revised text

a 6

See instructions before completing this space.

b

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account. Name ▼ Account Number ▼

a

7

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt/City/State/ZIP ▼

Nancy Zagrodny - National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169

b

Area code and daytime telephone number ▶ 617-984-7550

Fax number ▶ 617-984-7004

Email ▶ nzagrodny@nfpa.org

CERTIFICATION* I, the undersigned, hereby certify that I am the

Check only one ▶

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of National Fire Protection Association

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Name of author or other copyright claimant, or owner of exclusive right(s) ▲

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Nancy Zagrodny

Date ▶ 10/31/2005

Handwritten signature (X) ▼

x *Nancy Zagrodny*

8

Certificate will be mailed in window envelope to this address:

Name ▼	National Fire Protection Association - ATTN: NANCY ZAGRODNY
Number/Street/Apt ▼	1 Batterymarch Park
City/State/ZIP ▼	Quincy, MA 02169

9

• Complete all necessary spaces
• Sign your application in space 8

1. Application form
2. Non-refundable filing fee in check or money order payable to Register of Copyrights
3. Deposit material

Library of Congress
Copyright Office - TX
101 Independence Avenue, S.E.
Washington, D.C. 20559-8222

Fees are subject to change. For current fees, check the Copyright Office website at www.copyright.gov, write the Copyright Office, or call (202) 755-3000.

*17 U.S.C. § 508(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters

Register of Copyrights, United States of America

Form TX
For a Nondramatic Literary Work
UNITED STATES COPYRIGHT OFFICE

TX 6-445-855



TXU
EFFECTIVE DATE OF REGISTRATION
10 18 06
Month Day Year

DO NOT WRITE ABOVE THIS LINE. YOU NEED MORE SPACE? SEE REVERSE SIDE. COMPLETE CONTINUATION SHEET.

1

TITLE OF THIS WORK ▼
NFPA 704 Standard System for the Identification of the Hazards of Materials for Emergency Response, 2007 Edition

PREVIOUS OR ALTERNATIVE TITLES ▼
Identification of the Fire Hazards of Materials

PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared. **Title of Collective Work** ▼

If published in a periodical or serial give: **Volume** ▼ **Number** ▼ **Issue Date** ▼ **On Pages** ▼

2

a **NAME OF AUTHOR** ▼
National Fire Protection Association

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR { Citizen of ► USA
Domiciled in ►

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼
Entirety

NOTE

Under the law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions). For any part of this work that was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates of birth and death blank.

b **NAME OF AUTHOR** ▼

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR { Citizen of ►
Domiciled in ►

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼

c **NAME OF AUTHOR** ▼

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country
OR { Citizen of ►
Domiciled in ►

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No
Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼

3

a **YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED**
2006
This information must be given in all cases.

b **DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK**
Month ► 8 Day ► 17 Year ► 2006
Complete this information ONLY if this work has been published.

4

4 **COPYRIGHT CLAIMANT(S)** Name and address must be given even if the claimant is the same as the author given in space 2. ▼

National Fire Protection Assn.
One Batterymarch Park
Quincy, MA 02169

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright. ▼

APPLICATION RECEIVED
OCT 18 2006
ONE DEPOSIT RECEIVED
OCT 18 2006
TWO DEPOSITS RECEIVED
FUNDS RECEIVED

See instructions before completing this space.

MORE ON BACK ► • Complete all applicable spaces (numbers 5-8) on the reverse side of this page.
• See detailed instructions. • Sign the form at line 8.

DO NOT WRITE HERE
Page 1 of 2 pages

EXAMINED BY MW FORM TX

CHECKED BY _____

CORRESPONDENCE
Yes

FOR
COPYRIGHT
OFFICE
USE
ONLY

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

PREVIOUS REGISTRATION Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office?

Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box.) ▼

- a. This is the first published edition of a work previously registered in unpublished form.
- b. This is the first application submitted by this author as copyright claimant.
- c. This is a changed version of the work, as shown by space 6 on this application.

If your answer is "Yes," give: Previous Registration Number ▶ TX 2-889-7802

Year of Registration ▶ 1990

5

DERIVATIVE WORK OR COMPILATION

Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼

Previously Published

Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼

Some new and revised text

a 6

See instructions before completing this space.

b

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.

Name ▼

Account Number ▼

a 7

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt/City/State/ZIP ▼

Nancy Zagrodny - National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169

b

Area code and daytime telephone number ▶ 617-984-7550

Fax number ▶ 617-984-7004

Email ▶ nzagrodny@nfpa.org

CERTIFICATION* I, the undersigned, hereby certify that I am the

Check only one ▶

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of National Fire Protection Association

on the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Name of author or other copyright claimant, or owner of exclusive right(s) ▲

8

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Nancy Zagrodny

Date ▶ 10/13/06

Handwritten signature (X) ▼

X Nancy Zagrodny

9

Certificate will be mailed in window envelope to this address:

Name ▼
National Fire Protection Association - ATTN: NANCY ZAGRODNY

Number/Street/Apt ▼
1 Batterymarch Park

City/State/ZIP ▼
Quincy, MA 02169

YOU MUST

- Complete all necessary spaces
- Sign your application in space 8

SEND ALL MATERIALS IN THE MAIL PACKAGE

1. Application form
2. Nonrefundable filing fee in check or money order payable to Register of Copyrights
3. Deposit material

MAIL TO

Library of Congress
Copyright Office - TX
101 Independence Avenue, S.E.
Washington, D.C. 20559-6222

Fee schedule in change. For current fees, check the Copyright Office website at www.copyright.gov, write the Copyright Office, or call (202) 707-9000.

*17 U.S.C. § 506(a): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, *United States Code*, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters

Register of Copyrights, United States of America

Registration Number:
TX 6-966-113

Effective date of registration:
December 3, 2007

Title _____

Title of Work: NFPA 70 National Electrical Code, 2008 Edition

Previous or Alternative Title: NFPA 70 National Electrical Code

Completion/ Publication _____

Year of Completion: 2007

Date of 1st Publication: August 15, 2007

Author _____

■ **Author:** National Fire Protection Association

Author Created: Entirety

Work made for hire: Yes

Citizen of: United States

Anonymous: No

Pseudonymous: No

Copyright claimant _____

Copyright Claimant: National Fire Protection Assn.

One Batterymarch Park, Quincy, MA, 02169

Limitation of copyright claim _____

Material excluded from this claim: Previously Published

Previously registered: Yes

Previous registration and year: TX 6-108-410 2005

New material included in claim: Some new and revised text

Certification _____

Name: Nancy Zagrodny

Date: November 29, 2007

Registration #: TX0006966113

Service Request #: 1-33580303

National Fire Protection Assn
Nancy Zagrodny
One Batterymarch Park
Quincy, MA 02169

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Maria A. Pallante

Register of Copyrights, United States of America

Registration Number
TX 7-935-064

Effective date of
registration:
July 25, 2014

Title _____

Title of Work: National Electrical Code, 2014 Edition

Completion/Publication _____

Year of Completion: 2013

Date of 1st Publication: November 1, 2013

Nation of 1st Publication: United States

Author _____

▪ Author: NFPA

Author Created: text, photographs, compilation, editing, artwork

Work made for hire: Yes

Citizen of: United States

Copyright claimant _____

Copyright Claimant: NFPA

One Batterymarch Park, Quincy, MA, 02169, United States

Limitation of copyright claim _____

Previous registration and year: 7-297-325 2011

Certification _____

Name: Nancy M. Zagrodny

Date: July 14, 2014

Case 1:13-cv-01215-TSC Document 122-2 Filed 12/22/15 Page 273 of 369

EXHIBIT 16

CERTIFICATE OF REGISTRATION



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.



Marybeth Peters
 REGISTER OF COPYRIGHTS
 United States of America

FORM TX
 For a Literary Work

TX 3-832-628



EFFECTIVE DATE OF REGISTRATION

June 16 94
 Month Day Year

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

1

TITLE OF THIS WORK ▼

1993 ASHRAE Handbook--Fundamentals Inch-Pound Edition

PREVIOUS OR ALTERNATIVE TITLES ▼

PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared. Title of Collective Work ▼

If published in a periodical or serial give: Volume ▼ Number ▼ Issue Date ▼ On Pages ▼

2

a NAME OF AUTHOR ▼
 American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country
 OR { Citizen of ▶ USA
 Domiciled in ▶

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymous? Yes No
 Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼

Collective work

NOTE
 Under the law, the "author" of 1,

NAME OF AUTHOR ▼

DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country
 OR { Citizen of ▶
 Domiciled in ▶

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymous? Yes No
 Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼

NAME OF AUTHOR ▼

DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

Was this contribution to the work a "work made for hire"?
 Yes
 No

AUTHOR'S NATIONALITY OR DOMICILE
 Name of Country
 OR { Citizen of ▶
 Domiciled in ▶

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymous? Yes No
 Pseudonymous? Yes No
If the answer to either of these questions is "Yes," see detailed instructions.

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼

death blank.

3

a YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED
 1993
This information must be given in all cases.

b DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK
 Month ▶ May Day ▶ 15 Year ▶ 1993
 USA
Complete this information ONLY if this work has been published.

4

COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2. ▼
 American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.
 1791 Tullie Circle NE, Atlanta, GA 30329

APPLICATION RECEIVED

ONE DEPOSIT RECEIVED

TWO DEPOSITS RECEIVED

FUNDS RECEIVED

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright. ▼

DO NOT WRITE HERE OFFICE USE ONLY

MORE ON BACK ▶
 • Complete all applicable spaces (numbers 5-11) on the reverse side of this page.
 • See detailed instructions.

DO NOT WRITE HERE
 Page 1 of 2 pages

ASHRAE0001590

EXAMINED BY	<u>John</u>	FORM TX
CHECKED BY		
<input type="checkbox"/> CORRESPONDENCE		FOR COPYRIGHT OFFICE USE ONLY
Yes		

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

PREVIOUS REGISTRATION Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office?

Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box) ▼

a. This is the first published edition of a work previously registered in unpublished form.

b. This is the first application submitted by this author as copyright claimant.

This is a changed version of the work, as shown by space 6 on this application.

If your answer is "Yes," give: Previous Registration Number ▼ Year of Registration ▼

TX 2 621 082 1989

5

DERIVATIVE WORK OR COMPILATION Complete both space 6a and 6b for a derivative work; complete only 6b for a compilation.

a. Preexisting Material Identify any preexisting work or works that this work is based on or incorporates. ▼

b. Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed. ▼
Information added and updated to reflect current industry practice

See instructions before completing this space.

6

—space deleted—

7

REPRODUCTION FOR USE OF BLIND OR PHYSICALLY HANDICAPPED INDIVIDUALS A signature on this form at space 10 and a check in one of the boxes here in space 8 constitutes a non-exclusive grant of permission to the Library of Congress to reproduce and distribute solely for the blind and physically handicapped and under the conditions and limitations prescribed by the regulations of the Copyright Office: (1) copies of the work identified in space 1 of this application in Braille (or similar tactile symbols); or (2) phonorecords embodying a fixation of a reading of that work; or (3) both.

a Copies and Phonorecords

b Copies Only

c Phonorecords Only

See instructions.

8

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account.

Name ▼ Account Number ▼

American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. DA019739

9

CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt./City/State/ZIP ▼

Robert A. Parsons, ASHRAE 1791 Tullie Circle NE, Atlanta, GA 30329

Area Code and Telephone Number ▶ (404) 636-8400

Be sure to give your daytime phone number

CERTIFICATION* I, the undersigned, hereby certify that I am the

Check only one ▶

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of

ASHRAE, Inc.

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

Name of author or other copyright claimant, or owner of exclusive right(s) ▲

Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date.

Robert A. Parsons date ▶ 5/17/94

Handwritten signature (X) ▼

Robert A. Parsons

10

MAIL CERTIFICATE TO

Certificate will be mailed in window envelope

Name ▼	Robert A. Parsons, c/o ASHRAE
Number/Street/Apartment Number ▼	1791 Tullie Circle NE
City/State/ZIP ▼	Atlanta, GA 30329

YOU MUST:
• Complete all necessary spaces
• Sign your application in space 10

SEND ALL 3 ELEMENTS IN THE SAME PACKAGE:

1. Application form
2. Nonrefundable \$20 filing fee in check or money order payable to Register of Copyrights
3. Deposit material

MAIL TO:
Register of Copyrights
Library of Congress
Washington, D.C. 20559-6000

The Copyright Office has the authority to adjust fees at 5-year intervals, based on changes in the Consumer Price Index. The next adjustment is due in 1996. Please contact the Copyright Office after July 1995 to determine the actual fee schedule.

11

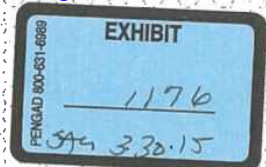
*17 U.S.C. § 506(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Maria A Pallante
Acting Register of Copyrights, United States of America



Registration Number
TX 7-299-602

Effective date of registration:
December 13, 2010

RECEIVED
MAR 07 2011
SPECIAL PUBS

Title

Title of Work: ANSI/ASHRAE/IES Standard 90.1-2010, Energy Standard for Buildings Except Low-Rise Residential Buildings (IP)

Completion/Publication

Year of Completion: 2010
Date of 1st Publication: November 23, 2010 Nation of 1st Publication: United States
International Standard Number: ISSN 1041-2336

Author

Author: American Society of Heating Refrigerating and Air-Conditioning Engineers Inc., dba ASHRAE
Author Created: text, editing, illustrations
Work made for hire: Yes
Citizen of: United States Domiciled in: United States

Copyright claimant

Copyright Claimant: American Society of Heating Refrigerating and Air-Conditioning Engineers Inc., dba ASHRAE
1791 Tullie Circle, NE, Atlanta, GA, 30329-2305

Limitation of copyright claim

Material excluded from this claim: text, illustrations
Previous registration and year: TX 6-842-936 2008
TX 6-091449 2004
New material included in claim: text, editing

Rights and Permissions

Organization Name: American Society of Heating Refrigerating and Air-Conditioning Engineers Inc.
Name: Steve Comstock
Email: scomstock@ashrae.org Telephone: 678-539-1102
Address: 1791 Tullie Circle, NE
Atlanta, GA 30329-2305

Certification

Name: Michshell Phillips

Date: December 9, 2010

Applicant's Tracking Number: 0201796533357958



Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters
Register of Copyrights, United States of America

Registration Number:

TX 6-842-936

RECEIVED

JUN 18 2008

SPECIAL PUBS

Effective date of registration:

February 29, 2008

Title

Title of Work: ANSI/ASHRAE/IESNA Standard 90.1-2007, Energy Standard for Buildings Except Low-Rise Residential Buildings (I-P)

Previous or Alternative Title: ANSI/ASHRAE/IESNA Standard 90.1-2004, Energy Standard for Buildings Except Low-Rise Residential Buildings (I-P)

Completion/ Publication

Year of Completion: 2008

Date of 1st Publication: January 9, 2008

Nation of 1st Publication: United States

Author

Author: American Society of Heating, Refrigerating & Air-Conditioning Engrs

Author Created: Text and illustrations.

Work made for hire: Yes

Domiciled in: United States

Copyright claimant

Copyright Claimant: American Society of Heating, Refrigerating & Air-Conditioning Engrs
1791 Tullie Circle, NE, Atlanta, GA, 30329-2305

Limitation of copyright claim

Material excluded from this claim: Derivative work, previously published material.

Previously registered: Yes

Previous registration and year: TX 6-091-449 / 2004

Basis of current registration: This is a changed version of the work.

New material included in claim: Editorial revisions and additional material.

Certification

Name: Christina Helms
Date: February 19, 2008

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Marybeth Peters

Register of Copyrights, United States of America

Form TX
For a Nondramatic Literary Work
UNITED STATES COPYRIGHT OFFICE

TX 6-091-449

EFFECTIVE DATE OF REGISTRATION
Dec. 30 2004

Month Day Year

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

1 **TITLE OF THIS WORK** ▼
ANSI/ASHRAE/IESNA Standard 90 1-2004, Energy Standard for Buildings Except Low-Rise Residential Buildings (I-P Edition)

PREVIOUS OR ALTERNATIVE TITLES ▼
ANSI/ASHRAE/IESNA Standard 90 1-2001, Energy Standard for Buildings Except Low-Rise Residential Buildings (I-P Edition)

PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared Title of Collective Work ▼

If published in a periodical or serial give Volume ▼ Number ▼ Issue Date ▼ On Pages ▼

2 a **NAME OF AUTHOR** ▼
American Society of Heating, Refrigerating & Air-Conditioning Engrs

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

Was this contribution to the work a work made for hire? Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country OR Citizen of ▼ U.S.A. Domiciled in ▼ U.S.A.

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed ▼
Provide minimum requirements for energy-efficient design of bldgs except low-rise residential bldgs

NOTE

Under the law the "author" of a work made for hire" is generally the employer, not the employee (see instructions) For any part of this work that was "made for hire" check "Yes" in the space provided, give the employer (or other person for whom the work was prepared) as "Author" of that part, and leave the space for dates of birth and death blank

b **NAME OF AUTHOR** ▼

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

Was this contribution to the work a work made for hire? Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country OR Citizen of ▼ Domiciled in ▼

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed ▼

c **NAME OF AUTHOR** ▼

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

Was this contribution to the work a work made for hire? Yes No

AUTHOR'S NATIONALITY OR DOMICILE
Name of Country OR Citizen of ▼ Domiciled in ▼

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? Yes No Pseudonymous? Yes No

NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed ▼

3 a **YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED**
2004

b **DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK**
Month: December Day: 21 Year: 2004
U.S.A. Nation

4 **COPYRIGHT CLAIMANT(S)** Name and address must be given even if the claimant is the same as the author given in space 2 ▼
American Society of Heating, Refrigerating & Air-Conditioning Engrs
1791 Tullie Circle, NE
Atlanta, GA 30329-2305

TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright ▼

APPLICATION RECEIVED
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TWO DEPOSITS RECEIVED
DEC 30 2004
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• See detailed instructions • Sign the form at line 8

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Page 1 of 2 pages

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EXAMINED BY <u>HLM</u>	FORM TX
CHECKED BY	
<input type="checkbox"/> CORRESPONDENCE	FOR
<input type="checkbox"/> Yes	COPYRIGHT
	OFFICE
	USE
	ONLY

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET

PREVIOUS REGISTRATION Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office?

Yes No If your answer is "Yes," why is another registration being sought? (Check appropriate box.)

- a This is the first published edition of a work previously registered in unpublished form
- b This is the first application submitted by this author as copyright claimant
- c This is a changed version of the work, as shown by space 6 on this application

If your answer is "Yes," give Previous Registration Number ▶ TX 5-662-106 Year of Registration ▶ 2001

5

DERIVATIVE WORK OR COMPILATION

Preexisting Material Identify any preexisting work or works that this work is based on or incorporates

Derivative Work Previously published material

Material Added to This Work Give a brief, general statement of the material that has been added to this work and in which copyright is claimed

Editorial revisions and additional material

a 6
See instructions before completing this space

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account Name Account Number

ASHRAE DA 019739

CORRESPONDENCE Give name and address to which correspondence about this application should be sent Name/Address/Apt/City/State/ZIP

ASHRAE, ATTN Mildred Geshwiler
1791 Tullie Circle, NE
Atlanta, GA 30329-2305

Area code and daytime telephone number ▶ (678) 539-1154

Fax number ▶ (678) 539-2191

Email ▶ mgeswiler@ashrae.org

CERTIFICATION I, the undersigned, hereby certify that I am the

Check only one ▶

- author
- other copyright claimant
- owner of exclusive right(s)
- authorized agent of

of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge

ASHRAE

Name of author or other copyright claimant, or owner of exclusive right(s)

Typed or printed name and date If this application gives a date of publication in space 3, do not sign and submit it before that date

Mildred Geshwiler

Date ▶ December 28, 2004

Handwritten signature (X)

X *Mildred Geshwiler*

Certificate will be mailed in window envelope to this address

Name
ASHRAE, ATTN MILDRED GESHWILER

Number/Street/Apt
1791 TULLIE CIRCLE, NE

City/State/ZIP
ATLANTA, GA 30329-2305

Complete all necessary spaces
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- 1 Application form
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9
Fees are subject to change. For current fees, consult the Copyright Office website at www.copyright.gov or the Copyright Office or call (800) 777-9698

*17 U.S.C. § 506(a) Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409 or in any written statement filed in connection with the application, shall be fined not more than \$2,500

ASHRAE0001597

JA01849

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EXHIBIT 17

EXHIBIT 33
Ashley Soevyn, CSR No 12019
Date 2/26/15
Witness: MALAMUD

From: Carl Malamud
Sent: Tue 6/30/2009 5:22 PM (GMT -7)
To: Deborah Hunt
Cc:
Bcc:
Subject: Re: special libraries

Thanks so much for this tip ... I am actually in Missouri as we speak, but won't be heading through Kansas City until Friday, and they are unfortunately closed for the holidays. But, I will definitely give them a ring.

The Illinois State Library and the Linda Hall Library appear to be the only two in the U.S. with a decent collection of these technical standards from organizations such as ANSI, ASTM, and UL. While many of these standards have a strong copyright interest, there is a subset of these that have been incorporated by reference into the Code of Federal Regulations. Since those standards have become law of the land, and since the courts have ruled that those standards that have been incorporated as law are not subject to copyright, I'm trying to figure out how to make these standards more broadly available for the public to read.

Thanks again for the tip. Perhaps we could do a phone call or I could stop by the Exploratorium to meet you and explain what we're trying to do? I'm based in Sebastopol, about an hour north of you and get to the city frequently.

Best regards,

Carl

On Jun 30, 2009, at 3:56 PM, Deborah Hunt wrote:

- > Hi, Carl.
- > I've been back over 10 days and this got buried.
- > What kind of tech standards are you after?
- > The Linda Hall Library has a fabulous collection:
- > <http://www.lindahall.org/collections/engineering/specs.shtml>
- >
- > Deb
- >
- > On Wed, Jun 10, 2009 at 7:41 PM, Deborah Hunt
- > <dhunt@exploratorium.edu> wrote:
- > Hi, Carl.
- > I'm in DC on vacation and then at the SLA Annual Conference and not
- > back at work till 6/22.
- > If you can wait till then, we can talk.
- >
- > have you tried worldcat.org to look for your standards or
- > firstgov.gov?
- > Deb

01/20/23

>
> On Wed, Jun 10, 2009 at 4:46 PM, Carl Malamud <carl@media.org> wrote:

> Hi -

>

> I run a small nonprofit called Public.Resource.Org that tries to put
> more government information on-line. We've had a big impact on
> putting more judicial information on the Internet, but also do
> video, and a variety of other documents such as IRS nonprofit tax
> returns.

>

> I'm looking for a special library that might have a particular set
> of docs (technical standards) and I was wondering if perhaps you
> might have a few minutes for a phone call to point me in the right
> direction? I must confess, I found your name by scanning the SLA
> board page. My father spent 6 months at the Exploratorium as
> assistant director working with Oppenheimer and then went off and
> started a science museum called SciTech. So, Exploratorium rang a
> bell. :)

>

> Let me know if you might have a few minutes.

>

> Best regards,

>

> Carl Malamud
> Public.Resource.Org

>

>

>

> ==

>

> _____
> Deborah Hunt
> Manager, Learning Commons
> Exploratorium
> 3601 Lyon Street
> San Francisco, CA 94123
> Voice: 415-353-0485
> Fax: 415-561-0370
> mailto:dhunt@exploratorium.edu

>

> "There is no such thing as a self-made (wo)man. We are made up of
> thousands of others. Everyone who has ever done a kind deed for us, or
> spoken one word of encouragement to us, has entered into the makeup of
> our character and our thoughts, as well as our success."

> George Matthew Adams

>

>

>

> ==

>

> _____
> Deborah Hunt
> Manager, Learning Commons
> Exploratorium

- > 3601 Lyon Street
- > San Francisco, CA 94123
- > Voice: 415-353-0485
- > Fax: 415-561-0370
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- > "There is no such thing as a self-made (wo)man. We are made up of
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- > spoken one word of encouragement to us, has entered into the makeup of
- > our character and our thoughts, as well as our success."
- > George Matthew Adams

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EXHIBIT 18

EXHIBIT 38
 Ashley See
 Date 2/20/15
 Witness:
 Table of Codes ↑

Public Safety Standards of the United States

MALAMUD

Public Safety Standards United States (Federal Government)

In order to promote public education and public safety, equal justice for all, a better informed citizenry, the rule of law, world trade and world peace, this legal document is hereby made available on a noncommercial basis, as it is the right of all humans to know and speak the laws that govern them. (See also State and Local codes.)

STANDARD	YEAR	ORGANIZATION	TITLE	CFR AUTHORITY
3M 0222	1995	3M Corporation	Organochlorine Pesticides and PCBs in Wastewater Using Empore Disk	40 CFR 136.3(a) Table ID
AA CONSTRUCT	1971	Aluminum Association	Aluminum Construction Manual	24 CFR 200, Subpart S
AA	1967	Aluminum Association	Aluminum Construction Manual	24 CFR 200, Subpart S
AA DATA	1982	Aluminum Association	Aluminum Standards and Data, Seventh Edition	49 CFR 178.65(b)(2)
AAMA 101-IS2	1997	American Architectural Manufacturers Association	Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors	10 CFR 434.402.2.2.4
AAMA 605	1998	American Architectural Manufacturers Association	Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels	40 CFR 59.401
AAMA 1002.10	1993	American Architectural Manufacturers Association	Aluminum Insulating Products for Windows and Sliding Glass Doors	24 CFR 200.938
AAMA 1102.7	1989	American Architectural Manufacturers Association	Voluntary Specifications for Aluminum Storm Doors	10 CFR 440 Appendix A
AAMA 1503.1	1988	American Architectural Manufacturers Association	Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections	24 CFR 3280.508(e)
AAMA 1702.2	1995	American Architectural	Swinging Exterior	24 CFR 3280.405(e)(2)

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		Manufacturers Association	Passage Doors Voluntary Standard for Utilization in Manufactured-Housing	
AAMA 1704	1985	American Architectural Manufacturers Association	Voluntary Standard Egress Window Systems for Utilization in Manufactured-Housing	24 CFR 3280.404(b)
AAMD	1973	American Association on Mental Deficiency	Classification in Mental Retardation	42 CFR 483.102(b)(3)(i)
AAMVA CDLIS.2.0	1998	American Association of Motor Vehicle Administrators	Commercial Driver License Information System (CDLIS) State Procedures	49 CFR 384.231(d)
AASHTO	1973	American Association of State Highway and Transportation Officials	Standard Specifications for Highway Bridges	24 CFR 200, Subpart S
AASHTO	2001	American Association of State Highway and Transportation Officials	A Policy on Geometric Design of Highways and Streets	23 CFR 625.4
AASHTO	2005	American Association of State Highway and Transportation Officials	A Guide for Accommodating Utilities Within Highway Right-of-Way	23 CFR 645.211
AATCC 118	1997	American Association of Textile Chemists and Colorists	Oil Repellency: Hydrocarbon Resistance Test	10 CFR 430 Subpart B, App. J1, 2.6.4.5.1
AATCC 124	1996	American Association of Textile Chemists and Colorists	Appearance of Durable Press Fabrics After Repeated Home Laundering	16 CFR 1615.32(a)(1)
ABYC A-01	1993	American Boat and Yacht Council	Marine Liquified Petroleum Gas Systems	46 CFR 184.240(a)
ABYC A-07	1973	American Boat and Yacht Council	Boat Heating Systems	46 CFR 184.200
ABYC A-16	1997	American Boat and Yacht Council	Electric Navigation Lights	46 CFR 25.10-3(a)(2)
ABYC A-22	1993	American Boat and Yacht Council	Marine Compressed Natural Gas Systems	46 CFR 184.240(b)
ABYC E-01	1973	American Boat and Yacht Council	Bonding of Direct Current Systems	46 CFR 28.345(b)
ABYC E-09	1990	American Boat and Yacht Council	Direct Current (DC) Electrical Systems on Boats	46 CFR 183.340(b)(4)
ABYC H-02	1989	American Boat and Yacht Council	Ventilation of Boats Using Gasoline	46 CFR 28.340(c)
ABYC H-22	1986	American Boat and	DC Electric Bilge	46 CFR 182.500(b)

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		Yacht Council	Pumps Operating Under 50 Volts	
ABYC H-24	1993	American Boat and Yacht Council	Gasoline Fuel Systems	46 CFR 182.455(c)
ABYC H-25	1994	American Boat and Yacht Council	Portable Gasoline Fuel Systems for Flammable Liquids	46 CFR 182.130
ABYC H-32	1987	American Boat and Yacht Council	Ventilation of Boats Using Diesel Fuel	46 CFR 182.470(c)
ABYC H-33	1989	American Boat and Yacht Council	Diesel Fuel Systems	46 CFR 182.130
ABYC P-01	1993	American Boat and Yacht Council	Safe Installation of Exhaust Systems for Propulsion and Auxiliary Engines	46 CFR 182.130
ABYC P-04	1989	American Boat and Yacht Council	Marine Inboard Engines	46 CFR 182.420(b)
ACGIH	1987	American Conference of Governmental Industrial Hygienists	Guidelines for the Selection of Chemical Protective Clothing, Third Edition	46 CFR 153.933(a)
ACGIH	1998	American Conference of Governmental Industrial Hygienists	Industrial Ventilation Manual	40 CFR 63.2984(e)
ACI 318	1995	American Concrete Institute	Building Code Requirements for Reinforced Concrete	30 CFR 250.901(d)(1)
ACI	1980	American Concrete Institute	Manual of Concrete Practice, Part 1	24 CFR 200, Subpart S
ACRI 210-240	2003	Air Conditioning and Refrigeration Institute	Unitary Air-Conditioning and Air-Source Heat Pump Equipment	10 CFR 431.96
ACRI 310/380	2004	Air-Conditioning, Heating and Refrigeration Institute	Packaged Terminal Air-Conditioners and Heat Pumps	10 CFR 431.96, Table 1
ACRI 320	1998	Air-Conditioning, Heating, and Refrigeration Institute	Water Source Heat Pumps	10 CFR 434.403
ACRI 325	1998	Air-Conditioning, Heating, and Refrigeration Institute	Ground Water-Source Heat Pumps	10 CFR 434.403
ACRI 330	1998	Air-Conditioning, Heating, and Refrigeration Institute	Ground-Source Closed-Loop Heat Pumps	10 CFR 434.403
ACRI 340-360	2004	Air Conditioning and Refrigeration Institute	Commercial and Industrial Unitary Air-Conditioning and Heat Pump Equipment	10 CFR 434.403

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ACRI 365	1994	Air Conditioning and Refrigeration Institute	Commercial and Industrial Unitary Air-Conditioning Condensing Units	10 CFR 434.403
ACRI 1200	2006	Air Conditioning and Refrigeration Institute	Performance Rating of Commercial Refrigerated Display Merchandisers and Storage Cabinets	10 CFR 431.66(a)(3)
AERA	1999	American Educational Research Association	Standard for Educational and Psychological Testing	34 CFR 668.148(a)(2)(iv)
AFPA	2001	American Forest and Paper Association	National Design Specification for Wood Construction With Supplemental Design Values for Wood Construction	24 CFR 3280.304(b)(1)
AGA 3.1	1990	American Gas Association	Orifice Metering of Natural Gas and Other Related Hydrocarbon Fluids: Part 1	40 CFR 75, Appendix D
AGA	2001	American Gas Association	Purging Principles and Practices	49 CFR 193.2615
AHA A135.4	1995	American Hardboard Association	Basic Hardboard	24 CFR 3280.304(b)(1)
AHA A135.5	1995	American Hardboard Association	Prefinished Hardboard Paneling	24 CFR 3280.304(b)(1)
AHA A135.6	1998	American Hardboard Association	Hardboard Siding	24 CFR 3280.304(b)(1)
AHAM DW-1	1992	Association of Home Appliance Manufacturers	Household Electric Dishwashers	10 CFR 430 Subpart B
AHAM HLD-1	1974	Association of Home Appliance Manufacturers	Performance Evaluation Procedure for Household Tumble Type Clothes Dryers	10 CFR 430 Subpart B
AHAM HRF-1	1979	Association of Home Appliance Manufacturers	Household Refrigerators, Combination Refrigerator-Freezers, and Household Freezers	10 CFR 430 Subpart B
AHPA	1992	American Herbal Products Association	Herbs of Commerce	21 CFR 101.4(h)
AI MSI-1	1970	Asphalt Institute	Thickness Design--Full Depth Asphalt Pavement Structures for Highways and Streets	24 CFR 200, Subpart S

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AIHA	1994	American Industrial Hygiene Association	Laboratory Ventilation Workbook	42 CFR 52b.12(c)(10)
AIMM MS41	1996	Association for Information and Image Management	Dimensions of Unitized Microfilm Carriers and Apertures (Aperture, Camera, Copy and Image Cards)	36 CFR 1238.10(a)(1)
AIMM IT2.18	1996	Association for Information and Image Management	Photography—Density Measurements—Part 3: Spectral Conditions	36 CFR 1238.14(d)(2)
AIMM/PIMA IT9.2	1998	Association for Information and Image Management	Photographic Processed Films, Plates, and Papers—Filing Enclosures and Storage Containers	36 CFR 1238.10(a)(1)
AIMM/PIMA IT9.11	1998	Association for Information and Image Management	Imaging Materials—Processed Safety Photographic Film—Storage	36 CFR 1234.14(b)(1)
AIMM IT9.23	1996	Association for Information and Image Management	Imaging Materials—Polyester Based Magnetic Tape—Storage	36 CFR 1234.14(b)(2)
AIMM/PIMA IT9.25	1998	Association for Information and Image Management	Imaging Materials—Optical Disc Media—Storage	36 CFR 1234.14(b)(3)
AIMM MS1	1996	Association for Information and Image Management	Recommended Practice for Alphanumeric Computer-Output Microforms—Operational Practices for Inspection and Quality Control	36 CFR 1238.14(c)
AIMM MS5	1992	Association for Information and Image Management	Microfiche	36 CFR 1238.10(b)
AIMM MS14	1996	Association for Information and Image Management	Specifications for 16mm and 35mm Roll Microfilm	36 CFR 1238.10(a)(1)
AIMM MS19	1993	Association for Information and Image Management	Standard Recommended Practice—Identification of Microforms	36 CFR 1238.12(c)
AIMM MS23	1998	Association for Information and Image Management	Standard Recommended Practice—Production, Inspection, and Quality Assurance of First-Generation, Silver Microforms of Documents	36 CFR 1238.14(d)(2)

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AIMM MS32	1996	Association for Information and Image Management	Microrecording of Engineering Source Documents on 35 mm Microfilm	36 CFR 1238.10(a)(1)
AIMM MS43	1998	Association for Information and Image Management	Standard Recommended Practice—Operational Procedures—Inspection and Quality Control of Microfilms and Documents	36 CFR 1238.14(d)(1)(i)
AIMM MS45	1990	Association for Information and Image Management	Recommended Practice for Inspection of Stored Silver-Gelatin Microforms for Evidence of Deterioration	36 CFR 1238.22(d)(1)
AIMM TR34	1996	Association for Information and Image Management	Sampling Procedures for Inspection by Attributes of Images in Electronic Image Management and Micrographic Systems	36 CFR 1237.28(d)(2)
ALCIDE 980342EA	1995	Alcide Corporation	Determination of Sodium Chlorite: 50 ppm to 1500 ppm concentration	21 CFR 173.325(g)
AMCA 210	1999	Air Movement and Control Association	Laboratory Methods of Testing Fans for Ratings	10 CFR 430 Subpart B, App. M
J-STD-102	2011	Alliance for Telecommunications Industry Solutions	Joint ATIS/TIA CMAS Federal Alert Gateway to CMSP Gateway Interface Text Specification	Warning, Alert and Response Network (WARN) Act of 2006
TELCO FAQ	1891	American Telephone and Telegraph	Practical Information for Telephonists	
ANSI A10.3	1970	American National Standards Institute	Safety Requirements for Powder Actuated Fastening Systems	29 CFR 1926
ANSI A10.4 (pdf) ANSI A10.4 (html)	1963	American National Standards Institute	Safety Requirements for Workmens Hoists	29 CFR 1926
ANSI A10.5 (pdf) ANSI A10.5 (html)	1969	American National Standards Institute	Safety Requirements for Material Joists	29 CFR 1926
ANSI A14.1 (pdf) ANSI A14.1 (html) ANSI A14.1 (svg)	1990	American National Standards Institute	Ladders—Wood—Safety Requirements	29 CFR 1917

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ANSI A14.2 (pdf) ANSI A14.2 (html) ANSI A14.2 (svg)	1990	American National Standards Institute	Ladders—Portable Metal—Safety	29 CFR 1917
ANSI A92.2 (pdf) ANSI A92.2 (html)	1969	American National Standards Institute	Vehicle Mounted Elevating and Rotating Work Platforms	29 CFR 453
ANSI B7.1 (pdf) ANSI B7.1 (html)	1970	American National Standards Institute	Safety Code for the Use, Care, and Protection of Abrasive Wheels	29 CFR 1926
ANSI B20.1 (pdf) ANSI B20.1 (html) ANSI B20.1 (svg)	1957	American National Standards Institute	Safety Code for Conveyors, Cableways, and Related Equipment	29 CFR 1926
ANSI B30.6 (pdf) ANSI B30.6 (html) ANSI B30.6 (svg)	1969	American National Standards Institute	Safety Code for Derricks	29 CFR 1926
ANSI B36.19	1979	American National Standards Institute	Welded and Seamless Wrought Steel Pipe	24 CFR 3280.705(b)(1)
ANSI B56.1 (pdf) ANSI B56.1 (html) ANSI B56.1 (svg)	1969	American National Standards Institute	Safety Standard for Powered Industrial Trucks	29 CFR 1926
ANSI N14.1	2001	American National Standards Institute	Packaging of Uranium Hexafluoride for Transport	49 CFR 173.420(a)(1)
ANSI O1.1 (pdf) ANSI O1.1 (html)	1961	American National Standards Institute	Safety Code for Woodworking Machinery	29 CFR 1926
ANSI S1.4	1983	American National Standards Institute	Specifications for Sound Level Meters	7 CFR 1755.522(s)(3)(v)
ANSI S1.11	2004	American National Standards Institute	Specification for Octave, Half-Octave, and Third Octave Band Filter Sets	49 CFR 227
ANSI S1.25	1991	American National Standards Institute	Specification for Personal Noise Dosimeters	49 CFR 227.103(c)(2)(iii)
ANSI S1.40	1984	American National Standards Institute	Specification for Acoustical Calibrators	49 CFR 229, Appendix I
ANSI S1.43	1997	American National Standards Institute	Specifications for Integrating-Averaging Sound Level Meters	49 CFR 227.103(c)(2)(ii)
ANSI S3.22 (pdf) ANSI S3.22 (html)	2003	American National Standards Institute	Specification of Hearing Aid Characteristics	21 CFR 801
ANSI Z35.1 (pdf)	1968	American National	Specifications for	29 CFR 1926

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Public Safety Standards of the United States

ANSI Z35.1 (html) ANSI Z35.1 (svg)		Standards Institute	Accident Prevention Signs	
ANSI Z35.2 (pdf) ANSI Z35.2 (html) ANSI Z35.2 (svg)	1968	American National Standards Institute	Specifications for Accident Prevention Tags	29 CFR 1926
ANSI Z49.1 (pdf) ANSI Z49.1 (html)	1967	American National Standards Institute	Safety in Welding and Cutting	29 CFR 1926
ANSI Z87.1 (pdf) ANSI Z87.1 (html) ANSI Z87.1 (svg)	2003	American National Standards Institute	Practice for Occupational and Educational Eye and Face Protection	29 CFR 1910
ANSI Z88.2 (pdf) ANSI Z88.2 (html) ANSI Z88.2 (svg)	1992	American National Standards Institute	American National Standard for Respiratory Protection	30 CFR 250
ANSI Z89.1 (pdf) ANSI Z89.1 (html)	1969	American National Standards Institute	Safety Requirements for Industrial Head Protection	29 CFR 1926
ANSI Z89.2 (pdf) ANSI Z89.2 (html)	1971	American National Standards Institute	Industrial Protective Helmets for Electrical Workers	29 CFR 1926
ANSI Z90.4 (pdf) ANSI Z90.4 (html)	1984	American National Standards Institute	Protective Headgear for Bicyclists	16 CFR 1203
ANSI Z245.1 (pdf) ANSI Z245.1 (html) ANSI Z245.1 (svg)	1992	American National Standards Institute	Mobile Refuse Collection and Compaction--Safety Requirements	40 CFR 243
ANSI Z245.2 (pdf) ANSI Z245.2 (html)	1997	American National Standards Institute	Stationary Compactors--Safety Requirements	40 CFR 243
AOAC	1990	AOAC International	Official Methods of Analysis (Volume 1)	9 CFR 318.19(b)
AOAC	1980	AOAC International	Official Methods of Analysis, 1980	21 CFR 131.150(c)
APA 87-1	2001	American Pyrotechnics Association	Standard for Construction and Approval for Transportation of Fireworks and Novelties	49 CFR 173.56(j)(1)
APHA Method 2120 (pdf) APHA Method 2120 (html)	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 141.121
APHA Method 2130 (pdf) APHA Method 2130 (html)	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 141.121
APHA Method	1992	American Public Health	Standard Methods for	40 CFR 136.3(a)

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Public Safety Standards of the United States

2320 (pdf) APHA Method 2320 (html)		Association	the Examination of Water and Wastewater	
APHA Method 2510 (pdf) APHA Method 2510 (html)	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 141.121
APHA Method 2550 (pdf) APHA Method 2550 (html)	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 141.121
APHA Method 2580	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 141.121
APHA Method 3111 (pdf) APHA Method 3111 (html)	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 444.12
APHA Method 3112 (pdf) APHA Method 3112 (html)	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 444.12
APHA Method 3113 (pdf) APHA Method 3113 (html)	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 444.12
APHA Method 3114	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 444.12
APHA Method 3120	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 444.12
APHA Method 3500-AS	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 444.12
APHA Method 3500-CA (pdf) APHA Method 3500-CA (html)	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 136.3(a)
APHA Method 3500-CD (pdf) APHA Method 3500-CD (html)	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 444.12
APHA Method 3500-CR	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 63.404(a)
APHA Method 3500-CU	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 444.12
APHA Method	1992	American Public Health	Standard Methods for	40 CFR 136.3(a)

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3500-MG (pdf) APHA Method 3500-MG (html)		Association	the Examination of Water and Wastewater	
APHA Method 3500-PB (pdf) APHA Method 3500-PB (html)	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 444.12
APHA Method 3500-ZN (pdf) APHA Method 3500-ZN (html)	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 136.3(a)
APHA Method 4110 (pdf) APHA Method 4110 (html)	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 136.3(a)
APHA Method 4500-CIO2 (pdf) APHA Method 4500-CIO2 (html)	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	21 CFR 165.110(b)(4)(iii) (l)(7)(ii)
APHA Method 4500-CL	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	21 CFR 165.110(b)(4)
APHA Method 4500-CN	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 136.3(a)
APHA Method 4500-F	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 136.3(a)
APHA Method 4500-H	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 444.12
APHA Method 4500-NO2	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 136.3(a)
APHA Method 4500-NO3	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 136.3(a)
APHA Method 4500-O3	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 136.3(a)
APHA Method 4500-P	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 136.3(a)
APHA Method 4500-S2	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 136.3(a)
APHA Method 4500-SI	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 141.121

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APHA Method 4500-SO42	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 136.3(a)
APHA Method 5540	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 141.121
APHA Method 6651	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 141.121
APHA Method 9215	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 141.121
APHA Method 9221	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 136.3(a)
APHA Method 9222	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 136.3(a)
APHA Method 9223	1992	American Public Health Association	Standard Methods for the Examination of Water and Wastewater	40 CFR 136.3(a)
API 2INT-MET	2007	American Petroleum Institute	Interim Guidance on Hurricane Conditions in the Gulf of Mexico	30 CFR 250.901(a)(6)
API 5L	2004	American Petroleum Institute	Specification for Line Pipe	49 CFR 192.113
API 5L1	2002	American Petroleum Institute	Recommended Practice for Railroad Transportation of Line Pipe	49 CFR 192.65(a)
API 6A	2004	American Petroleum Institute	Specification for Wellhead and Christmas Tree Equipment	30 CFR 250.806(a)(3)
API 6D	2008	American Petroleum Institute	Specification for Pipeline Valves	49 CFR 195.116(d)
API 12F	1994	American Petroleum Institute	Specification for Shop Welded Tanks for Storage of Production Liquids	49 CFR 195.264(b)(1)
API RP 14C	2001	American Petroleum Institute	Recommended Practice for Analysis, Design, Installation, and Testing of Basic Surface Safety Systems for Offshore Production Platforms	30 CFR 250.1628(c)
API RP 14F	2008	American Petroleum Institute	Recommended Practice for Design and Installation of Electrical	30 CFR 250.114(c)

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API 17J	2008	American Petroleum Institute	Systems for Offshore Production Platforms Specification for Unbonded Flexible Pipe	30 CFR 250.1002(b)(4)
API 80	2000	American Petroleum Institute	Guidelines for the Definition of Onshore Gas Gathering Lines	49 CFR 192.8(a)
API 510	2006	American Petroleum Institute	Pressure Vessel Inspection Code	30 CFR 250.803(b)(1)
API 620	2002	American Petroleum Institute	Design and Construction of Large Welded Low Pressure Storage Tanks	49 CFR 195.264(e)(3)
API 650	2007	American Petroleum Institute	Welded Steel Tanks for Oil Storage	195.132(b)(3)
API 651	1997	American Petroleum Institute	Cathodic Protection of Aboveground Petroleum Storage Tanks	49 CFR 195.565
API 652	1997	American Petroleum Institute	Lining of Aboveground Petroleum Storage Tank Bottoms	49 CFR 195.579(d)
API 653	2003	American Petroleum Institute	Tank Inspection, Repair, Alteration, and Reconstruction	49 CFR 195.432(b)
API 1104	1999	American Petroleum Institute	Standard for Welding Pipelines and Related Facilities	49 CFR 195.214(a)
API 1130	2002	American Petroleum Institute	Computational Pipeline Monitoring	49 CFR 195.444
API 1162	2003	American Petroleum Institute	Public Awareness Programs for Pipeline Operators	49 CFR 192.616(a)
API 2000	1998	American Petroleum Institute	Venting Atmospheric and Low-Pressure Storage Tanks	49 CFR 195.264(e)(2)
API 2003	1998	American Petroleum Institute	Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents	49 CFR 195.405(a)
API 2350	2005	American Petroleum Institute	Overfill Protection for Storage Tanks in Petroleum Facilities	49 CFR 195.428(c)
API 2510	2001	American Petroleum Institute	Design and Construction of LPG Installations	49 CFR 195.205(b)(3)
API RP 14G	2007	American Petroleum	Recommended	30 CFR 250.803(b)(9)(v)

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		Institute		
APLIC	1996	Avian Power Line Interaction Committee	Practice for Fire Prevention and Control on Open Type Offshore Production Platforms Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996	7 CFR 1724.52(a)(1)(i)
APSP 16	2011	Association of Pool and Spa Professionals	Standard Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs	16 CFR 1450.3
ARMA	1984	Asphalt Roofing Manufacturers Association	Residential Asphalt Roofing Manual	24 CFR 200, Subpart S
ASHRAE 15	1994	American Society of Heating, Refrigerating and Air Conditioning Engineers	Safety Code for Mechanical Refrigeration	49 CFR 173.306(e)(1)(i)
ASHRAE	1993	American Society of Heating, Refrigerating and Air Conditioning Engineers	Fundamentals	10 CFR 434.402.2.2.5(a)
ASME B16.9	2003	American Society of Mechanical Engineers	Factory Made Wrought Steel Butt Welding Fittings	49 CFR 195.118(a)
ASME B30.2 (pdf) ASME B30.2 (html) ASME B30.2 (svg)	2005	American Society of Mechanical Engineers	Safety Requirements for Overhead and Gantry Cranes	29 CFR 1926
ASME B30.5 (pdf) ASME B30.5 (html)	2004	American Society of Mechanical Engineers	Safety Requirements for Mobile and Locomotive Cranes	29 CFR 1926
ASME B30.7 (pdf) ASME B30.7 (html)	2001	American Society of Mechanical Engineers	Safety Requirements for Base-Mounted Drum Hoists	29 CFR 1926
ASME B30.14 (pdf) ASME B30.14 (html) ASME B30.14 (svg)	2004	American Society of Mechanical Engineers	Safety Requirements for Side Boom Tractors	29 CFR 1926
ASME B31.4	2002	American Society of Mechanical Engineers	Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids	49 CFR 195.110(a)

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ASME B31.8	2003	American Society of Mechanical Engineers	Gas Transmission and Distribution Piping Systems	49 CFR 192.619(a)(1)(i)
ASME B318S	2004	American Society of Mechanical Engineers	Managing System Integrity of Gas Pipelines	49 CFR 192.903(c)
ASME B31G	1991	American Society of Mechanical Engineers	Manual for Determining the Remaining Strength of Corroded Pipelines	49 CFR 192.485(c)
ASME UPV	1943	American Society of Mechanical Engineers	Code for Unfired Pressure Vessels	49 CFR 173.32(c)(4)
ASQC Q9001	1994	American Society for Quality Control	Quality Assurance in Design, Development, Production, Installation, and Servicing	33 CFR 96.430(a)(2)(ii)
ASQC Q9002	1994	American Society for Quality Control	Quality Systems – Model for Quality Assurance in Production, Installation, and Servicing	24 CFR 200.935(d)(4)(ii)(A)(3)
ASQC Q9003	1994	American Society for Quality Control	Quality Systems - Model for Quality Assurance in Final Inspection and Test	24 CFR 200.935(d)(4)(ii)(A)(4)
ASQC Q9004-1	1994	American Society for Quality Control	Quality Management and Quality Systems Elements-Guidelines	24 CFR 200.935(d)(4)(ii)(A)(5)
ASSE 1001	1990	American Society of Sanitary Engineering	Performance Requirements for Pipe Applied Atmospheric Type Vacuum Breakers	24 CFR 3280.604(b)(2)
ASSE 1006 (pdf) ASSE 1006 (html)	1986	American Society of Sanitary Engineering	Plumbing Requirements for Residential Use (Household) Dishwashers	24 CFR 3280.604(b)(2)
ASSE 1007 (pdf) ASSE 1007 (html)	1986	American Society of Sanitary Engineering	Performance Requirements for Home Laundry Equipment	24 CFR 3280.604(b)(2)
ASSE 1008 (pdf) ASSE 1008 (html)	1986	American Society of Sanitary Engineering	Performance Requirements for Household Food Waste Disposer Units	24 CFR 3280.604(b)(2)
ASSE 1016	1988	American Society of Sanitary Engineering	Performance Requirements for Individual Thermostatic	24 CFR 3280.604(b)(2)

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ASSE 1023 (pdf) ASSE 1023 (html)	1979	American Society of Sanitary Engineering	Pressure Balancing and Combination Control for Bathing Facilities Hot Water Dispensers, Household Storage Type, Electrical	24 CFR 3280.604(b)(2)
ASSE 1025	1978	American Society of Sanitary Engineering	Diverters for Plumbing Faucets with Hose Spray, Anti-Siphon Type, Residential Applications	24 CFR 3280.604(b)(2)
ASSE 1037 (pdf) ASSE 1037 (html)	1990	American Society of Sanitary Engineering	Performance Requirements for Pressurized Flushing Devices (Flushometers) for Plumbing Fixtures	24 CFR 3280.604(b)(2)
ASCE 7	2002	American Society of Civil Engineers	Minimum Design Loads for Buildings and Other Structures	49 CFR 193.2013
ASTM A36	1977	American Society for Testing and Materials	Standard Specification for Carbon Structural Steel	24 CFR Part 200
ASTM A36	1997	American Society for Testing and Materials	Standard Specification for Carbon Structural Steel	46 CFR 160.035-3(b)(2)
ASTM A47	1968	American Society for Testing and Materials	Standard Specification for Malleable Iron Castings	29 CFR 1910.111(b)(7)(vi)
ASTM A82	1979	American Society for Testing and Materials	Cold-Drawn Steel Wire for Concrete Reinforcement	24 CFR 200, Subpart S
ASTM A100	1969	American Society for Testing and Materials	Standard Specification for Ferrosilicon	40 CFR 60.261(s)
ASTM A106	2004	American Society for Testing and Materials	Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service	49 CFR 192.113
ASTM A134	1996	American Society for Testing and Materials	Standard Specification for Pipe, Steel, Electric Fusion (Arc)-Welded (Sizes NPS 16 and Over)	46 CFR 56.60-1(b)
ASTM A179	1990	American Society for Testing and Materials	Standard Specification for Seamless Cold-Drawn Low-Carbon Steel Heat-Exchanger and Condenser Tubes	46 CFR 56.60-1(b)
ASTM A184	1979	American Society for	Standard Specification	24 CFR 200, Subpart S

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		Testing and Materials	for Fabricated Deformed Steel Bar Mats for Concrete Reinforcement	
ASTM A185	1979	American Society for Testing and Materials	Steel Wire Fabric for Concrete Reinforcement	24 CFR 200, Subpart S
ASTM A203	1997	American Society for Testing and Materials	Standard Specification for Pressure Vessel Plates, Alloy Steel, Nickel	46 CFR 54.05-20(b)
ASTM A214	1996	American Society for Testing and Materials	Standard Specification for Electric-Resistance-Welded Carbon Steel Heat-Exchanger and Condenser Tubes	46 CFR 56.60-1(b)
ASTM A242	1979	American Society for Testing and Materials	Standard Specification for High-Strength Low-Alloy Structural Steel	24 CFR 200, Subpart S
ASTM A285	1978	American Society for Testing and Materials	Standard Specification for Pressure Vessel Plates, Carbon Steel, Low- and Intermediate-Tensile Strength	49 CFR 179.300-7(a)
ASTM A307	1978	American Society for Testing and Materials	Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength	46 CFR 56.25-20(b)
ASTM A325	1979	American Society for Testing and Materials	High-Strength Bolts for Structural Steel Joists	24 CFR 200, Subpart S
ASTM A333	1994	American Society for Testing and Materials	Standard Specification for Seamless and Welded Steel Pipe for Low-Temperature Service	46 CFR 56.50-105
ASTM A369	1992	American Society for Testing and Materials	Standard Specification for Carbon and Ferritic Alloy Steel Forged and Bored Pipe for High-Temperature Service	46 CFR 56.60-1(b)
ASTM A370	1977	American Society for Testing and Materials	Standard Test Method and Definitions for Mechanical Testing of Steel Products	49 CFR 179.102-1(a)(1)
ASTM A381	1996	American Society for Testing and Materials	Standard Specification for Metal-Arc-Welded Steel Pipe for Use with High-Pressure Transmission Systems	49 CFR 192.113
ASTM A391	1965	American Society for Testing and Materials	Standard Specification for Alloy Steel Chain	29 CFR 1910.184(e)(4)
ASTM A416	1974	American Society for	Uncoated Seven-Wire	24 CFR 200, Subpart S

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		Testing and Materials	Stress-Relieved Strand for Prestressed Concrete	
ASTM A441	1979	American Society for Testing and Materials	High-Strength Low-Alloy Structural Manganese Vanadium Steel	24 CFR 200, Subpart S
ASTM A449	1978	American Society for Testing and Materials	Quenched and Tempered Steel Bolts and Studs	24 CFR 200, Subpart S
ASTM A475	1978	American Society for Testing and Materials	Standard Specification for Zinc-Coated Steel Wire Strand	7 CFR 1755.370(b)
ASTM A483	1964	American Society for Testing and Materials	Standard Specification for Silicomanganese	40 CFR 60.261(o)
ASTM A490	1979	American Society for Testing and Materials	Quenched and Tempered Alloy Steel Bolts for Structural Steel Joints	24 CFR 200, Subpart S
ASTM A496	1978	American Society for Testing and Materials	Deformed Steel Wire for Concrete Reinforcement	24 CFR 200, Subpart S
ASTM A497	1979	American Society for Testing and Materials	Welded Deformed Steel Wire, Fabric for Concrete Reinforcement	24 CFR 200, Subpart S
ASTM A500	1978	American Society for Testing and Materials	Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes	24 CFR 200, Subpart S
ASTM A501	1976	American Society for Testing and Materials	Hot-Formed Welded and Seamless Carbon Steel Structural Tubing	24 CFR 200, Subpart S
ASTM A502	1976	American Society for Testing and Materials	Steel Structural Rivets	24 CFR 200, Subpart S
ASTM A514	1977	American Society for Testing and Materials	High-Yield Strength, Quenched and Tempered Alloy Steel Plate, Suitable for Welding	24 CFR 200, Subpart S
ASTM A516	1990	American Society for Testing and Materials	Standard Specification for Pressure Vessel Plates, Carbon Steel, for Moderate and Lower-Temperature Service	49 CFR 178.337-2(b)(2)(i)
ASTM A522	1995	American Society for Testing and Materials	Forged or Rolled 8 and 9% Nickel Alloy Steel Flanges, Fittings, Valves, and Parts for Low-Temperature	46 CFR 56.50-105

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ASTM Standard	Year	Organization	Service	CFR Reference
ASTM A529	1972	American Society for Testing and Materials	Structural Steel with 42,000PSI (290 Mpa) Minimum Yield Point (1/2 in (12.7 mm) Maximum Thickness	24 CFR 200, Subpart S
ASTM A529	1975	American Society for Testing and Materials	Structural Steel with 42,000PSI (290 Mpa) Minimum Yield Point (1/2 in (12.7 mm) Maximum Thickness	24 CFR 200, Subpart S
ASTM A539	1990	American Society for Testing and Materials	Standard Specification for Electric-Resistance-Welded Coiled Steel Tubing for Gas and Fuel Oil Lines	24 CFR 3280.705(b)(4)
ASTM A570	1979	American Society for Testing and Materials	Hot-Rolled Carbon Steel Sheet and Strip, Structural Quality	24 CFR 200, Subpart S
ASTM A572	1979	American Society for Testing and Materials	High-Strength Low-Alloy Columbium-Vanadium Steels of Structural Quality	24 CFR 200, Subpart S
ASTM A588	1979	American Society for Testing and Materials	High-Strength Low-Alloy Structural Steel with 50 ksi Minimum Yield Point to 4 inches Thick	24 CFR 200, Subpart S
ASTM A611	1972	American Society for Testing and Materials	Steel, Cold-rolled Sheet, Carbon, Structural	24 CFR 200, Subpart S
ASTM A615	1979	American Society for Testing and Materials	Deformed and Plain Billet-Steel Bars for Concrete Reinforcement	24 CFR 200, Subpart S
ASTM A616	1979	American Society for Testing and Materials	Rail-Steel Deformed and Plain Bars for Concrete Reinforcement	24 CFR 200, Subpart S
ASTM A617	1979	American Society for Testing and Materials	Axle-Steel Deformed and Plain Bars for Concrete Reinforcement	24 CFR 200, Subpart S
ASTM A618	1974	American Society for Testing and Materials	Hot-Formed Welded and Seamless High-Strength Low-Alloy Structural Tubing	24 CFR 200, Subpart S
ASTM A633	1979	American Society for Testing and Materials	Standard Specification for Normalized High-Strength Low Alloy Structural Steel	49 CFR 178.338-2(a)

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ASTM A671	2004	American Society for Testing and Materials	Standard Specification for Electric-Fusion-Welded Steel Pipe for Atmospheric and Lower Temperatures	49 CFR 192.113
ASTM A672	1996	American Society for Testing and Materials	Standard Specification for Electric-Fusion-Welded Steel Pipe for High-Pressure Service at Moderate Temperatures	49 CFR 192.113
ASTM A691	1998	American Society for Testing and Materials	Standard Specification for Carbon and Alloy Steel Pipe, Electric-Fusion-Welded for High-Pressure Service at High Temperature	49 CFR 192.113
ASTM B16	1985	American Society for Testing and Materials	Standard Specification for Free-Cutting Brass Rod, Bar, and Shapes for Use in Screw Machines	46 CFR 56.60-2
ASTM B16	1992	American Society for Testing and Materials	Standard Specification for Free-Cutting Brass Rod, Bar, and Shapes for Use in Screw Machines	46 CFR 56.60-2
ASTM B21	1983	American Society for Testing and Materials	Standard Specification for Naval Brass Rod, Bar, and Shapes	46 CFR 56.60-2
ASTM B21	1996	American Society for Testing and Materials	Standard Specification for Naval Brass Rod, Bar, and Shapes	46 CFR 56.60-2
ASTM B42	1996	American Society for Testing and Materials	Standard Specification for Seamless Copper Pipe, Standard Sizes	46 CFR 56.60-1(b)
ASTM B68	1995	American Society for Testing and Materials	Standard Specification for Seamless Copper Tube, Bright Annealed	46 CFR 56.60-1(b)
ASTM B75	1997	American Society for Testing and Materials	Standard Specification for Seamless Copper Tube	46 CFR 56.60-1(b)
ASTM B85	1984	American Society for Testing and Materials	Standard Specification for Aluminum-Alloy Die Castings	46 CFR 56.60-2
ASTM B88	1996	American Society for Testing and Materials	Standard Specification for Seamless Copper Water Tube	46 CFR 56.60-1(b)
ASTM B96	1993	American Society for Testing and Materials	Standard Specification for Copper-Silicon Alloy	46 CFR 119.440

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ASTM B111	1995	American Society for Testing and Materials	Plate, Sheet, Strip, and Bolled Bar for General Purposes and Pressure Vessels	46 CFR 56.60-1(b)
ASTM B117	1973	American Society for Testing and Materials	Copper and Copper-Alloy Seamless Condenser Tubes and Femule Stock	49 CFR 571.209 S5.2(a)
ASTM B122	1995	American Society for Testing and Materials	Standard Practice for Operating Salt Spray (Fog) Apparatus	46 CFR 119.440
ASTM B124	1996	American Society for Testing and Materials	Standard Specification for Copper-Nickel-Tin Alloy, Copper-Nickel-Zinc Alloy (Nickel Silver), and Copper-Nickel Alloy Plate, Sheet, Strip and Rolled Bar	46 CFR 56.60-2
ASTM B152	1997	American Society for Testing and Materials	Standard Specification for Copper and Copper-Alloy Forging Rod, Bar, and Shapes	46 CFR 58.50-5(a)(4)
ASTM B193	1987	American Society for Testing and Materials	Standard Specification for Copper, Sheet, Strip, Plate, and Rolled Bar	7 CFR 1755.390(i)(5)(v)(A)
ASTM B209	1996	American Society for Testing and Materials	Standard Test Method for Resistivity of Electrical Conductor Materials	46 CFR 58.50-5, Table 58.50-5(a)
ASTM B224	1980	American Society for Testing and Materials	Standard Specification for Aluminum and Aluminum Alloy Sheet and Plate	7 CFR 1755.890(i)(5)(v)
ASTM B227	1970	American Society for Testing and Materials	Standard Classification of Coppers	24 CFR 200, Subpart S
ASTM B280	1997	American Society for Testing and Materials	Hard-Drawn Copper-Clad Steel Wire	46 CFR 56.60-1(b)
ASTM B283	1996	American Society for Testing and Materials	Seamless Copper Tube for Air Conditioning and Refrigeration Field Service	46 CFR 56.60-2
ASTM B315	1993	American Society for Testing and Materials	Standard Specification for Copper and Copper-Alloy Die Forgings (Hot-Pressed)	46 CFR 56.60-1(b)
ASTM B557	1984	American Society for Testing and Materials	Seamless Copper Alloy Pipe Tube	49 CFR 178.46(i)(3)(i)
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ASTM B580	1979	American Society for Testing and Materials	Aluminum and Magnesium-Alloy Products Standard Specification for Anodized Oxide Coatings on Aluminum	49 CFR 171.7
ASTM B694	1986	American Society for Testing and Materials	Standard Specification for Copper, Copper Alloy, and Copper-Clad Stainless Steel Sheet and Strip for Electrical Cable Shielding	7 CFR 1755.390(i)(5)(v)
ASTM B858	1995	American Society for Testing and Materials	Standard Test Method for Determination of Susceptibility to Stress Corrosion Cracking in Copper Alloys Using Ammonia Vapor Test	46 CFR 56.60-2
ASTM C4	1962	American Society for Testing and Materials	Standard Specification for Clay Drain Tile and Perforated Clay Drain Tile	24 CFR 200, Subpart S
ASTM C5	1979	American Society for Testing and Materials	Standard Specification for Quicklime for Structural Purposes	24 CFR 200, Subpart S
ASTM C32	1973	American Society for Testing and Materials	Standard Specification for Sewer and Manhole Brick	24 CFR 200, Subpart S
ASTM C34	1962	American Society for Testing and Materials	Standard Specification for Structural Clay Load-Bearing Wall Tile	24 CFR 200, Subpart S
ASTM C52	1954	American Society for Testing and Materials	Specification for Gypsum Partition Tile or Block	24 CFR 200, Subpart S
ASTM C56	1971	American Society for Testing and Materials	Standard Specification for Structural Clay Nonloadbearing Tile	24 CFR 200, Subpart S
ASTM C64	1972	American Society for Testing and Materials	Specification for Fireclay Brick Refractories for Heavy Duty Stationary Boiler Service	24 CFR 200, Subpart S
ASTM C90	1970	American Society for Testing and Materials	Standard Specification for Hollow Load-Bearing Concrete Masonry Units	49 CFR 223 Appendix A (b)(10)(ii)
ASTM C126	1971	American Society for Testing and Materials	Standard Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units	24 CFR 200, Subpart S

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ASTM C139	1973	American Society for Testing and Materials	Standard Specification for Concrete Masonry Units for Construction of Catch Basins and Manholes	24 CFR 200, Subpart S
ASTM C150	1917	American Society for Testing and Materials	Standard Specification for Portland Cement	49 CFR 571.108
ASTM C150	1999	American Society for Testing and Materials	Standard Specification for Portland Cement	30 CFR 250.198
ASTM C150	2007	American Society for Testing and Materials	Standard Specification for Portland Cement	30 CFR 250.901(d)(9)
ASTM C177	1997	American Society for Testing and Materials	Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded Hot-Plate Apparatus	10 CFR 431.102
ASTM C177 (pdf) ASTM C177 (html)	2004	American Society for Testing and Materials	Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded Hot-Plate Apparatus	16 CFR 460.5(a)
ASTM C236	1989	American Society for Testing and Materials	Standard Test Method for Steady-State Thermal Performance of Building Assemblies by Means of a Guarded Hot Box	10 CFR 434.402.1.2.1(a)
ASTM C330	1999	American Society for Testing and Materials	Standard Specification for Lightweight Aggregates for Structural Concrete	30 CFR 250.901(a)(18)
ASTM C476	1971	American Society for Testing and Materials	Standard Specification for Grout for Masonry	24 CFR 200, Subpart S
ASTM C509	1984	American Society for Testing and Materials	Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing Material	24 CFR 200, Subpart S
ASTM C516	1980	American Society for Testing and Materials	Standard Specification for Vermiculite Loose Fill Thermal Insulation	24 CFR 200, Subpart S
ASTM C518	1991	American Society for Testing and Materials	Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission	46 CFR 160.174-17(f)

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ASTM C518	2004	American Society for Testing and Materials	Properties by Means of the Heat Flow Meter Apparatus Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus	16 CFR 460.5(a)
ASTM C549	1981	American Society for Testing and Materials	Standard Specification for Perlite Loose Fill Insulation	10 CFR 440 Appendix A
ASTM C564	1970	American Society for Testing and Materials	Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings	24 CFR 3280.611(d)(5)(iv)
ASTM C720	1989	American Society for Testing and Materials	Spray Applied Fibrous Insulation for Elevated Temperature	10 CFR 440 Appendix A
ASTM C1045	2001	American Society for Testing and Materials	Standard Practice for Calculating Thermal Transmission Properties from Steady-State Heat Flux Measurements	16 CFR 460.5(a)
ASTM C1114	2000	American Society for Testing and Materials	Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Thin-Heater Apparatus	16 CFR 460.5(a)
ASTM C1149	2002	American Society for Testing and Materials	Standard Specification for Self-Supported Spray Applied Cellulosic Thermal Insulation	16 CFR 460.5(a)(4)
ASTM C1224	2003	American Society for Testing and Materials	Standard Specification for Reflective Insulation for Building Applications	16 CFR 460.5(c)
ASTM C1371	2004	American Society for Testing and Materials	Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emisometers	16 CFR 460.5(b)
ASTM C1374	2003	American Society for Testing and Materials	Standard Test Method for Determination of	16 CFR 460.5(a)(5)

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Public Safety Standards of the United States

			Installed Thickness of Pneumatically Applied Loose-Fill Building Insulation	
ASTM D56	1970	American Society for Testing and Materials	Standard Test Method for Flash Point by Tag Closed Cup Tester	29 CFR 1910.106(a)(14)(i)
ASTM D86	2001	American Society for Testing and Materials	Standard Test Method for Distillation of Petroleum Products at Atmospheric Pressure	40 CFR 94.108(a)(1) Table B-5
ASTM D86	2004	American Society for Testing and Materials	Standard Test Method for Distillation of Petroleum Products at Atmospheric Pressure	40 CFR 1065.710
ASTM D86 (pdf) ASTM D86 (html)	2007	American Society for Testing and Materials	Standard Test Method for Distillation of Petroleum Products at Atmospheric Pressure	40 CFR 1065.710
ASTM D88	1956	American Society for Testing and Materials	Standard Test Method for Saybolt Viscosity	29 CFR 1910.106(a)(37)
ASTM D93	2002	American Society for Testing and Materials	Standard Test Method for Flash Point by Pensky-Martens Closed Cup Tester	40 CFR 94.108(a)(1) Table B-5
ASTM D129	1964	American Society for Testing and Materials	Standard Test Method for Sulfur in Petroleum Products (General Bomb Method)	40 CFR 60.106(j)(2)
ASTM D129	1995	American Society for Testing and Materials	Standard Test Method for Sulfur in Petroleum Products (General Bomb Method)	40 CFR 60.106(j)(2)
ASTM D129 (pdf) ASTM D129 (html)	2000	American Society for Testing and Materials	Standard Test Method for Sulfur in Petroleum Products (General Bomb Method)	40 CFR 60.335(b)(10)(i)
ASTM D257	1991	American Society for Testing and Materials	Standard Test Method for DC Resistance of Conductance of Insulating Materials	7 CFR 1755.860(e)(5)
ASTM D287	1992	American Society for Testing and Materials	Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)	40 CFR 94.108(a)(1) Table B-5
ASTM D323	1958	American Society for Testing and Materials	Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method)	29 CFR 1910.106(a)(30)

Public Safety Standards of the United States

ASTM D388	1998	American Society for Testing and Materials	Standard Classification of Coals by Rank	40 CFR 60.251(b)
ASTM D396	1998	American Society for Testing and Materials	Standard Specification for Fuel Oils	40 CFR 60.41b
ASTM D396 (pdf) ASTM D396 (html)	2002	American Society for Testing and Materials	Standard Specification for Fuel Oils	40 CFR 63.7575
ASTM D412	1968	American Society for Testing and Materials	Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension	21 CFR 801.410(d)(2)
ASTM D413	1982	American Society for Testing and Materials	Standard Test Method for Rubber Property—Adhesion to Flexible Substrate	46 CFR 160.055-3 Table 160-055-3(j)
ASTM D445	1965	American Society for Testing and Materials	Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids	29 CFR 1910.106(a)(37)
ASTM D445	1972	American Society for Testing and Materials	Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids	21 CFR 177.1430(c)(2)
ASTM D512	1989	American Society for Testing and Materials	Standard Test Methods for Chloride Ion In Water	40 CFR 136.3(a)
ASTM D611	1982	American Society for Testing and Materials	Standard Test Method for Aniline Point and Mixed Aniline Point of Petroleum Products and Hydrocarbon Solvents	21 CFR 177.1520(b)
ASTM D660	1944	American Society for Testing and Materials	Evaluating Degree of Resistant to Checking of Exterior Paints	24 CFR 200, Subpart S
ASTM D665	1998	American Society for Testing and Materials	Standard Test Method for Rust-Preventing Characteristics of Inhibited Mineral Oil in the Presence of Water	46 CFR 61.20-17(a)
ASTM D750	1968	American Society for Testing and Materials	Recommended Practice for Rubber Deterioration in Carbon-Arc or Weathering Apparatus	24 CFR 200, Subpart S
ASTM D756	1956	American Society for Testing and Materials	Standard Practice for Determination of Weight and Shape Changes of Plastics Under Accelerated Service Conditions	49 CFR 571.209 S5.2(b)

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ASTM D781	1968	American Society for Testing and Materials	Standard Test Methods for Puncture and Stiffness of Paperboard and Corrugated and Solid Fiberboard	24 CFR 3280.304(b)(1)
ASTM D785	1965	American Society for Testing and Materials	Standard Method of Test for Rockwell Hardness of Plastics and Electrical Insulating Materials	16 CFR 1201.4
ASTM D814	1995	American Society for Testing and Materials	Standard Test Method for Rubber Property— Vapor Transmission of Volatile Liquids	40 CFR 1051.245(e)(1)
ASTM D975	1998	American Society for Testing and Materials	Standard Specification for Diesel Fuel Oils	46 CFR 160.176-13(r)
ASTM D975 (pdf) ASTM D975 (html)	2007	American Society for Testing and Materials	Standard Specification for Diesel Fuel Oils	40 CFR 1065.701
ASTM D976	1991	American Society for Testing and Materials	Standard Test Method for Calculated Cetane Index of Distillate Fuels	40 CFR 92.113
ASTM D1056	1973	American Society for Testing and Materials	Standard Specification for Flexible Cellular Materials Sponge or Expanded Rubber	49 CFR 571.213
ASTM D1060	1965	American Society for Testing and Materials	Standard Method of Core Sampling of Raw Wool Packages for Determination of Percentage of Clean Wool Fiber Present	7 CFR 31.204
ASTM D1067	2002	American Society for Testing and Materials	Standard Test Method for Acidity or Alkalinity of Water	40 CFR 141.21
ASTM D1068	2003	American Society for Testing and Materials	Standard Test Methods for Iron in Water	40 CFR 136.3(a)
ASTM D1072	1990	American Society for Testing and Materials	Standard Test Method for Total Sulfur in Fuel Gases	40 CFR 60.335(b)(10)(ii)
ASTM D1081	1960	American Society for Testing and Materials	Test for Evaluating Rubber Property— Sealing Pressure	24 CFR 200, Subpart S
ASTM D1126 (pdf) ASTM D1126 (html) ASTM D1126 (svg)	2002	American Society for Testing and Materials	Standard Test Method for Hardness in Water	40 CFR 136

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Public Safety Standards of the United States

ASTM D1193	1977	American Society for Testing and Materials	Standard Specification for Reagent Water	40 CFR 60, Appendix A-3
ASTM D1200	1970	American Society for Testing and Materials	Viscosity of Paints, Varnishes and Lacquers by Ford Viscosity Cup	49 CFR 171.8
ASTM D1217	1993	American Society for Testing and Materials	Standard Test Method for Density and Relative Density (Specific Gravity) of Liquids by Bingham Pycnometer	40 CFR 75, Appendix D
ASTM D1246	1995	American Society for Testing and Materials	Bromide - Titrimetric	40 CFR 136.3(a) Table IB
ASTM D1253	1986	American Society for Testing and Materials	Standard Test Method for Residual Chlorine in Water	21 CFR 165.110(b)(4)(iii)(I)(5)(i)
ASTM D1253 (pdf)	2003	American Society for Testing and Materials	Standard Test Method for Residual Chlorine in Water	40 CFR 136.3(a) Table IB
ASTM D1253 (html)				
ASTM D1266	1998	American Society for Testing and Materials	Standard Test Method for Sulfur in Petroleum Products (Lamp Method)	40 CFR 60.106(j)(2)
ASTM D1298	1999	American Society for Testing and Materials	Standard Practice for Density, Relative Density (Specific Gravity), or API Gravity of Crude Petroleum and Liquid Petroleum Products	40 CFR 75, Appendix D, Section 2.2.6
ASTM D1303	1955	American Society for Testing and Materials	Standard Method of Test for Total Chlorine in Vinyl Chloride Polymers and Copolymers	21 CFR 177.1610(a)
ASTM D1319 (pdf)	2003	American Society for Testing and Materials	Standard Test Method for Hydrocarbon Types in Liquid Petroleum Products by Fluorescent Indicator Adsorption	40 CFR 80.2(z)
ASTM D1319 (html)				
ASTM D1331	1989	American Society for Testing and Materials	Standard Test Methods for Surface and Interfacial Tension of Solutions of Surface Active Agents	40 CFR 63, Appendix A
ASTM D1335	1967	American Society for Testing and Materials	Standard Test Method for Tuft Bind of Pile Floor Coverings	24 CFR 200.945(a)(1)(ii)

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ASTM D1412	1993	American Society for Testing and Materials	Standard Test Method for Equilibrium Moisture of Coal at 96 to 97 Percent Relative Humidity and 30 Degrees Celsius	30 CFR 870.19
ASTM D1415	1968	American Society for Testing and Materials	Tentative Method of Test for International Hardness of Vulcanized Natural and Synthetic Rubbers	49 CFR 571.116 S7.4.1(b)
ASTM D1415	1988	American Society for Testing and Materials	Standard Practice for Rubber and Rubber Latices—Nomenclature	21 CFR 177.2600(c)(4)(i)
ASTM D1475	1960	American Society for Testing and Materials	Standard Test Method for Density of Paint, Varnish, Lacquer, and Related Products	40 CFR 60, Appendix A-7
ASTM D1480	1993	American Society for Testing and Materials	Standard Test Method for Density and Relative Density (Specific Gravity) of Viscous Materials by Bingham Pycnometer	40 CFR 75, Appendix D
ASTM D1481	1993	American Society for Testing and Materials	Standard Test Method for Density and Relative Density (Specific Gravity) of Viscous Materials by Lipkin Bicapillary Pycnometer	40 CFR 136.3(a) Table IC
ASTM D1505	1968	American Society for Testing and Materials	Standard Test Method for Density of Plastics by the Density-Gradient Technique	21 CFR 177.2480
ASTM D1518	1985	American Society for Testing and Materials	Standard Test Method for Thermal Transmittance of Textile Materials	46 CFR 160.174-17(f)
ASTM D1535	1968	American Society for Testing and Materials	Specifying Color by the Munsell System	16 CFR 1402
ASTM D1535	1968	American Society for Testing and Materials	Specifying Color by the Munsell System	16 CFR 1402.4(a)(1)(i)(E)(2)
ASTM D1535	1989	American Society for Testing and Materials	Specifying Color by the Munsell System	7 CFR 1755.860(c)(3)
ASTM D1552	1995	American Society for Testing and Materials	Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method)	40 CFR 60, Appendix A-7
ASTM D1564	1971	American Society for	Standard Method of	40 CFR 136.3(a)

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		Testing and Materials	Testing Flexible Cellular Materials—Slab Urethane Foam	
ASTM D1687	1992	American Society for Testing and Materials	Standard Test Methods for Chromium in Water	40 CFR 444.12(b)(1)
ASTM D1688	1995	American Society for Testing and Materials	Standard Test Method for Copper in Water	40 CFR 141.23(k)(1)
ASTM D1692	1968	American Society for Testing and Materials	Test for Flammability of Plastic Sheeting and Cellular Plastics	29 CFR 1910.103(c)(1)(v)(D)
ASTM D1785	1986	American Society for Testing and Materials	Standard Specification for Poly (Vinyl Chloride)(PVC) Plastic Pipe, Schedules 40, 80, and 120	46 CFR 56.01-2
ASTM D1835	1997	American Society for Testing and Materials	Standard Specification for Liquefied Petroleum (LP) Gases	49 CFR 180.209(e)
ASTM D1890	1996	American Society for Testing and Materials	Standard Test Method for Beta Particle Radioactivity of Water	40 CFR 136.3(a)
ASTM D1943	1996	American Society for Testing and Materials	Standard Test Method for Alpha Particle Radioactivity of Water	40 CFR 136.3(a)
ASTM D1945	1996	American Society for Testing and Materials	Standard Test Method for Analysis of Natural Gas By Gas Chromatography	40 CFR 60.45(f)(5)(i)
ASTM D1946	1990	American Society for Testing and Materials	Standard Method for Analysis of Reformed Gas by Gas Chromatography	40 CFR 60.614(e)(4)
ASTM D1962	1967	American Society for Testing and Materials	Standard Test Method for Saponification Value of Drying Oils, Fatty Acids, and Polymerized Fatty Acids	21 CFR 178.2010(b)
ASTM D2013	1986	American Society for Testing and Materials	Standard Method of Preparing Coal Samples for Analysis	40 CFR 60, Appendix A-7
ASTM D2015	1996	American Society for Testing and Materials	Standard Test Method for Gross Calorific Value of Solid Fuel by the Adiabatic Bomb Calorimeter	40 CFR 60.45(f)(5)(ii)
ASTM D2036	1998	American Society for Testing and Materials	Standard Test Method for Cyanides in Water	40 CFR 136.3(a) Table IB
ASTM D2099	2000	American Society for Testing and Materials	Standard Test Method for Dynamic Water	40 CFR 63.5350(b)

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ASTM D2156	1965	American Society for Testing and Materials	Resistance of Shoe Upper Maeser Water Penetration Tester Method of Tests for Smoke Density in Flue Gases from Distillate Fuels	10 CFR 430 Subpart B
ASTM D2161	1966	American Society for Testing and Materials	Standard Method of Conversion of Kinematic Viscosity to Saybolt Universal Viscosity or to Saybolt FuroI Viscosity	29 CFR 1910.106(a)(37)
ASTM D2163	1991	American Society for Testing and Materials	Standard Test Method for Analysis of Liquefied Petroleum (LP) Gases and Propane Concentrates by Gas Chromatography	40 CFR 86.1313-94(f)(3)
ASTM D2216	1998	American Society for Testing and Materials	Standard Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass	40 CFR 258.41(a)(4)(iii) (A)
ASTM D2234	1998	American Society for Testing and Materials	Standard Practice for Collection of a Gross Sample of Coal	40 CFR 60, Appendix A-7
ASTM D2236	1970	American Society for Testing and Materials	Standard Method of Test for Dynamic Mechanical Properties of Plastics by Means of a Torsional Pendulum	21 CFR 177.1810(c)(2)(i)
ASTM D2247	1968	American Society for Testing and Materials	Standard Practice for Testing Water Resistance of Coatings in 100 Percent Relative Humidity	24 CFR 200, Subpart S
ASTM D2267	1968	American Society for Testing and Materials	Standard Test Method for Aromatics in Light Naphthas and Aviation Gasoline by Gas Chromatography	40 CFR 61.67(h)(1)
ASTM D2460	1997	American Society for Testing and Materials	Standard Test Method for Alpha-Particle-Emitting Isotopes of Radium in Water	40 CFR 136.3(a) Table IE
ASTM D2502	1992	American Society for Testing and Materials	Standard Test Method for Estimation of Molecular Weight	40 CFR 75, Appendix G

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ASTM D2503	1992	American Society for Testing and Materials	(Relative Molecular Mass) of Petroleum Oils from Viscosity Measurements Standard Method of Test for Molecular Weight of Hydrocarbons by Thermoelectric Measurement of Vapor Pressure	40 CFR 98.254
ASTM D2505	1988	American Society for Testing and Materials	Standard Test Method for Ethylene, Other Hydrocarbons, and Carbon Dioxide in High-Purity Ethylene by Gas Chromatography	40 CFR 98.7
ASTM D2515	1966	American Society for Testing and Materials	Standard Specification for Kinematic Glass Viscosity	49 CFR 571.116 S6.3.2(a)
ASTM D2565	1970	American Society for Testing and Materials	Standard Practice for Operating Xenon Arc-Type Light-Exposure Apparatus With or Without Water for Exposure of Plastics	16 CFR 1201.4(b)(3)(ii)
ASTM D2597	1994	American Society for Testing and Materials	Standard Test Method for Analysis of Demethanized Hydrocarbon Liquid Mixtures Containing Nitrogen and Carbon Dioxide by Gas Chromatography	40 CFR 60.335(b)(9)(i)
ASTM D2622	1998	American Society for Testing and Materials	Standard Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-ray Fluorescence Spectrometry	40 CFR 80.46(a)(1)
ASTM D2724	1987	American Society for Testing and Materials	Standard Test Method for Bonded, Fused, and Laminated Apparel Fabrics	49 CFR 238 Appendix B(a)(1)(ii)
ASTM D2777	1998	American Society for Testing and Materials	Standard Practice for Determination of Precision and Bias of Applicable Test Methods of Committee D-19 on Water	46 CFR 162.050-15(f)(1)
ASTM D2857	1970	American Society for	Standard Method of	21 CFR 177.2210(b)(3)

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		Testing and Materials	Test for Dilute Solution Viscosity of Polymers	
ASTM D2879	1997	American Society for Testing and Materials	Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope	40 CFR 60.116b(e)(3)(ii)
ASTM D2908	1974	American Society for Testing and Materials	Standard Practice for Measuring Volatile Organic Matter in Water by Aqueous-Injection Gas Chromatography	40 CFR 60.564(j)(1)
ASTM D2908	1991	American Society for Testing and Materials	Standard Practice for Measuring Volatile Organic Matter in Water by Aqueous-Injection Gas Chromatography	40 CFR 60.564(j)(1)
ASTM D2986	1995	American Society for Testing and Materials	Standard Method for Evaluation of Air, Assay Media by the Monodisperse DOP (Diocetyl Phthalate) Smoke Test	40 CFR 86.1310-2007(b)(7)(i)(A)
ASTM D3120	1996	American Society for Testing and Materials	Standard Test Method for Trace Quantities of Sulfur in Light Liquid Petroleum Hydrocarbons by Oxidative Microcoulometry	40 CFR 80.46(a)(3)(iii)
ASTM D3168	1973	American Society for Testing and Materials	Standard Recommended Practices for Qualitative Identification of Polymers in Emulsion Paints	21 CFR 200.946
ASTM D3173	1987	American Society for Testing and Materials	Standard Test Method for Moisture in the Analysis Sample of Coal and Coke	40 CFR 60, Appendix A-7
ASTM D3176	1989	American Society for Testing and Materials	Standard Practice for Ultimate Analysis of Coal and Coke	40 CFR 76.15(a)(1)
ASTM D3177	1989	American Society for Testing and Materials	Standard Test Method for Total Sulfur in the Analysis Sample of Coal and Coke	40 CFR 60, Appendix A-7

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ASTM D3178	1989	American Society for Testing and Materials	Standard Test Method for Carbon and Hydrogen in the Analysis Sample of Coal and Coke	40 CFR 60.45(f)(5)(i)
ASTM D3236	1988	American Society for Testing and Materials	Standard Test Method for Apparent Viscosity of Hot Metal Adhesives and Coating Materials	21 CFR 177.1520(b)
ASTM D3246	1996	American Society for Testing and Materials	Standard Test Method for Sulfur in Petroleum Gas by Oxidative Microcoulometry	40 CFR 60.335(b)(10)(ii)
ASTM D3286	1996	American Society for Testing and Materials	Standard Test Method for Gross Calorific Value of Coal and Coke by the Isoperibol Bomb Calorimeter	40 CFR 60.17
ASTM D3371	1995	American Society for Testing and Materials	Standard Test Method for Nitriles in Aqueous Solution by Gas-Liquid Chromatography	40 CFR 136.3(a) Table IF
ASTM D3454	1997	American Society for Testing and Materials	Standard Test Method for Radium-226 in Water	40 CFR 136.3(a) Table IE
ASTM D3559 (pdf) ASTM D3559 (html)	2003	American Society for Testing and Materials	Standard Test Methods for Lead in Water	40 CFR 136
ASTM D3588	1998	American Society for Testing and Materials	Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density (Specific Gravity) of Gaseous Fuels	40 CFR 75, Appendix F
ASTM D3695	1995	American Society for Testing and Materials	Standard Test Method for Volatile Alcohols in Water by Direct Aqueous-Injection Gas Chromatography	40 CFR 136.3(a) Table IF
ASTM D3697	1992	American Society for Testing and Materials	Standard Test Method for Antimony in Water	21 CFR 165.110(b)(4)(iii)(E)(1)(iv)
ASTM D4057	1995	American Society for Testing and Materials	Standard Practice for Manual Sampling of Petroleum and Petroleum Products	40 CFR 80.8(a)
ASTM D4084	1994	American Society for Testing and Materials	Standard Test Method for Analysis of Hydrogen Sulfide in Gaseous Fuels (Lead	40 CFR 60.334(h)(1)

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ASTM D4177	1995	American Society for Testing and Materials	Acetate Reaction Rate Method) Standard Practice for Automatic Sampling of Petroleum and Petroleum Products	40 CFR 80.330(b)(2)
ASTM D4239	1997	American Society for Testing and Materials	Standard Test Methods for Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods	40 CFR 60, Appendix A-7
ASTM D4268	1993	American Society for Testing and Materials	Standard Test Method for Testing Fiber Ropes	33 CFR 164.74(a)(3)(i)
ASTM D4294	1998	American Society for Testing and Materials	Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectrometry	40 CFR 75, Appendix A, Section 2.1.1.1(c)
ASTM D4329	1999	American Society for Testing and Materials	Standard Practice for Fluorescent UV Exposure of Plastics	49 CFR 571.106
ASTM D4420	1994	American Society for Testing and Materials	Standard Test Method for Determination of Aromatics in Finished Gasoline by Gas Chromatography	40 CFR 61.67(h)(1)
ASTM D4442	1992	American Society for Testing and Materials	Standard Test Method for Direct Moisture Content Measurement of Wood and Wood-Based Materials	40 CFR 60, Appendix A-8
ASTM D4444	1992	American Society for Testing and Materials	Standard Test Method for Use and Calibration of Hand-Held Moisture Meters	40 CFR 60, Appendix A-8
ASTM D4763	1988	American Society for Testing and Materials	Standard Practice for Identification of Chemicals in Water by Fluorescence Spectroscopy	40 CFR 136.3(a) Table IF
ASTM D4809	1995	American Society for Testing and Materials	Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method)	40 CFR 61.245(e)(3)

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ASTM D4891 (pdf) ASTM D4891 (html)	1989	American Society for Testing and Materials	Standard Test Method for Heating Value of Gases in Natural Gas Range by Stolchiometric Combustion	40 CFR 75, Appendix F, Section 5.5.2
ASTM D4986	1998	American Society for Testing and Materials	Standard Test Method for Horizontal Burning Characteristics of Cellular Polymeric Materials	46 CFR 32.57-10(d)(7-a)
ASTM D5257	1997	American Society for Testing and Materials	Standard Test Method for Dissolved Hexavalent Chromium in Water by Ion Chromatography	40 CFR 136.3(a)
ASTM D5373	1993	American Society for Testing and Materials	Standard Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal and Coke	40 CFR 75, Appendix G
ASTM D5392	1993	American Society for Testing and Materials	Standard Test Method for Isolation and Enumeration of Escherichia Coli in Water by the Two-Step Membrane Filter Procedure	40 CFR 136.3(a) Table IH
ASTM D5489	1996	American Society for Testing and Materials	Standard Guide for Care Symbols for Care Instructions on Textile Products	16 CFR 423.8(g)
ASTM D5673	1996	American Society for Testing and Materials	Standard Test Method for Elements in Water by Inductively Coupled Plasma	40 CFR 444.12(b)(1)
ASTM D5865	1998	American Society for Testing and Materials	Standard Test Method for Gross Calorific Value of Coal and Coke	40 CFR 60.45(f)(5)(ii)
ASTM D6216	1998	American Society for Testing and Materials	Standard Practice for Opacity Monitor Manufacturers to Certify Conformance with Design and Performance Specifications	40 CFR 60, Appendix B
ASTM D6228	1998	American Society for Testing and Materials	Standard Test Method for Determination of Sulfur Compounds in	40 CFR 60.334(h)(1)

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ASTM D6420	1999	American Society for Testing and Materials	Natural Gas and Gaseous Fuels by Gas Chromatography and Flame Photometric Detection Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry	40 CFR 63.5850(e)(4)
ASTM D6503	1999	American Society for Testing and Materials	Standard Test Method for Enterococci in Water Using Enterolert	40 CFR 136.3(a) Table IH
ASTM D6522	2000	American Society for Testing and Materials	Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers	40 CFR 60.335(a)(2)
ASTM E11	1970	American Society for Testing and Materials	Standard Specification for Wire Cloth and Sieves for Testing Purposes	33 CFR 159.4
ASTM E11	1995	American Society for Testing and Materials	Standard Specification for Wire Cloth and Sieves for Testing Purposes	33 CFR 159.125
ASTM E23	1982	American Society for Testing and Materials	Standard Test Methods for Notched Bar Impact Testing of Metallic Materials	46 CFR 56.50-105(a)(1)(ii)
ASTM E23	1993	American Society for Testing and Materials	Standard Test Method for Notched Bar Impact Testing of Metallic Materials	46 CFR 56.50-105(a)(1)(ii)
ASTM E29	1967	American Society for Testing and Materials	Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications	40 CFR 86.609-98
ASTM E29	1990	American Society for Testing and Materials	Standard Practice for Using Significant Digits	40 CFR 86.000-28(a)(4)(iii)

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			in Test Data to Determine Conformance with Specifications	
ASTM E29 (pdf) ASTM E29 (html)	2002	American Society for Testing and Materials	Standard Specification for Diesel Fuel Oils	40 CFR 1065.701 Table 1
ASTM E72	1980	American Society for Testing and Materials	Standard Test Methods of Conducting Strength Tests of Panels for Building Construction	30 CFR 75.333(e)(1)(i)
ASTM E84 (pdf) ASTM E84 (html)	2001	American Society for Testing and Materials	Standard Test Method for Surface Burning Characteristics of Building Materials	24 CFR 3280.203(a)
ASTM E96	1995	American Society for Testing and Materials	Standard Test Methods for Water Vapor Transmission of Materials	24 CFR 3280.504(a)
ASTM E119 (pdf) ASTM E119 (html)	2000	American Society for Testing and Materials	Standard Test Methods for Fire Tests of Building Construction and Materials	49 CFR 238 Appendix B(a)(1)(v)
ASTM E145	1994	American Society for Testing and Materials	Standard Specification for Gravity-Convection and Forced-Ventilation Ovens	40 CFR 63.14
ASTM E145	1994	American Society for Testing and Materials	Standard Specification for Gravity-Convection and Forced-Ventilation Ovens	40 CFR 63.4581
ASTM E154	1968	American Society for Testing and Materials	Materials for Use as Vapor Barriers Under Concrete Slabs and as Ground Cover in Crawl Spaces	24 CFR 200, Subpart S
ASTM E163	1963	American Society for Testing and Materials	Methods for Fire Tests of Window Assemblies	24 CFR 200, Subpart S
ASTM E168	1967	American Society for Testing and Materials	Standard Practices for General Techniques of Infrared Quantitative Analysis	40 CFR 60.485(d)(1)
ASTM E168	1988	American Society for Testing and Materials	Standard Practices for General Techniques of Infrared Quantitative Analysis	40 CFR 264.1063(d)(1)
ASTM E169	1987	American Society for Testing and Materials	Standard Practices for General Techniques of Ultraviolet-Visible Quantitative Analysis	40 CFR 264.1063(d)(1)

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ASTM E185	1982	American Society for Testing and Materials	Standard Practice for Conducting Surveillance Tests for Light-Water Cooled Nuclear Power Reactor Vessels	10 CFR 50 App. H, I
ASTM E258	1967	American Society for Testing and Materials	Standard Test Method for Total Nitrogen Inorganic Material by Modified Kjeldahl Method	40 CFR 761.71(b)(2)(vi)
ASTM E260	1996	American Society for Testing and Materials	Standard Practice for Packed Column Gas Chromatography	40 CFR 60.485(d)(1)
ASTM E283	1991	American Society for Testing and Materials	Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors	10 CFR 434.402.2
ASTM E298	1968	American Society for Testing and Materials	Standard Methods for Assay of Organic Peroxides	49 CFR 571.116 S6.11.3(a)
ASTM E408	1971	American Society for Testing and Materials	Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques	16 CFR 460.5(b)
ASTM E424	1971	American Society for Testing and Materials	Test for Solar Energy Transmittance and Reflectance (Terrestrial) of Sheet Materials	24 CFR 200, Subpart S
ASTM E606	1980	American Society for Testing and Materials	Standard Recommended Practice for Constant-Amplitude Low-Cycle Fatigue Testing	24 CFR 200.946
ASTM E681	1985	American Society for Testing and Materials	Standard Test Method for Concentration Limits of Flammability of Chemicals	49 CFR 173.115(a)(2)
ASTM E695	1979	American Society for Testing and Materials	Standard Method of Measuring Relative Resistance of Wall, Floor and Roof Construction to Impact Loading	24 CFR 200.946(a)(1)(vii)
ASTM E711	1987	American Society for Testing and Materials	Standard Test Method for Gross Calorific Value of Refuse-Derived Fuel by the	40 CFR 63, Subpart DDDDD, Table 6

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ASTM E773	1997	American Society for Testing and Materials	Bomb Calorimeter Standard Test Method for Seal Durability of Sealed Insulating Glass Units	4 CFR 3280.403(d)(2)
ASTM E774	1997	American Society for Testing and Materials	Standard Specifications for Sealed Insulating Glass Units	24 CFR 3280.403(d)(2)
ASTM E775	1987	American Society for Testing and Materials	Standard Test Methods for Total Sulfur in the Analysis Sample of Refuse-Derived Fuel	40 CFR 49.123(e)
ASTM E776	1987	American Society for Testing and Materials	Standard Test Method for Forms of Chlorine in Refuse-Derived Fuel	40 CFR 63, Subpart DDDDD, Table 6
ASTM E885	1988	American Society for Testing and Materials	Standard Test Method for Analyses of Metals in Refuse-Derived Fuel by Atomic Absorption Spectroscopy	40 CFR 63, Subpart DDDDD, Table 6
ASTM E1333	1996	American Society for Testing and Materials	Standard Test Method for Determining Formaldehyde Levels from Wood Products Under Defined Test Conditions Using a Large Chamber	24 CFR 3280.406(b)
ASTM E1337	1990	American Society for Testing and Materials	Standard Test Method for Determining Longitudinal Peak Braking Coefficient of Paved Surfaces Using Standard Reference Test Tire	49 CFR 571.105 S6.9.2(a)
ASTM E1590 (pdf) ASTM E1590 (html)	2001	American Society for Testing and Materials	Standard Test Method for Fire Testing of Mattresses	49 CFR 238 Appendix B(a)(1)(xi)
ASTM E1625	1994	American Society for Testing and Materials	Standard Test Method for Determining Biodegradability of Organic Chemicals in Semi-Continuous Activated Sludge	40 CFR 799.5085
ASTM E1719	1997	American Society for Testing and Materials	Standard Test Method for Vapor Pressure of Liquids by Ebulliometry	40 CFR 799.5085
ASTM F462	1979	American Society for Testing and Materials	Slip-Resistant Bathing Facilities	24 CFR 200, Subpart S

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ASTM F476	1984	American Society for Testing and Materials	Standard Test Method for Security of Swinging Door Assemblies	24 CFR 200.949(a)(1)(ix)
ASTM F478	1992	American Society for Testing and Materials	Standard Specification for In-Service Care of Insulating Line Hose and Covers	29 CFR 1910.137(b)(2)(ix)
ASTM F631	1980	American Society for Testing and Materials	Standard Guide for Collecting Skimmer Performance Data in Controlled Environments	33 CFR 156.40
ASTM F631	1993	American Society for Testing and Materials	Standard Guide for Collecting Skimmer Performance Data in Controlled Environments	33 CFR 154 Appendix C
ASTM F682	1982	American Society for Testing and Materials	Standard Specification for Wrought Carbon Steel Sleeve-Type Pipe Couplings	46 CFR 56.01-2
ASTM F715	1981	American Society for Testing and Materials	Standard Test Methods for Coated Fabrics Used for Oil Spill Control and Storage	33 CFR 154.106
ASTM F715	1995	American Society for Testing and Materials	Standard Test Methods for Coated Fabrics Used for Oil Spill Control and Storage	33 CFR 155, Appendix B, 2.4
ASTM F722	1982	American Society for Testing and Materials	Standard Specification for Welded Joints for Shipboard Piping Systems	33 CFR 155.140
ASTM F808	1983	American Society for Testing and Materials	Guide for Collecting Skimmer Performance Data in Uncontrolled Environments	33 CFR 154, Appendix C
ASTM F808	1983	American Society for Testing and Materials	Guide for Collecting Skimmer Performance Data in Uncontrolled Environments	33 CFR 154, Appendix C, 6.3.1
ASTM F1003	1986	American Society for Testing and Materials	Standard Specification for Searchlights on Motor Lifeboats	46 CFR 199.175(a)(28)(i)
ASTM F1006	1986	American Society for Testing and Materials	Standard Specification for Entrainment Separators for Use in Marine Piping Applications	46 CFR 56.60-1(b)

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ASTM F1007	1986	American Society for Testing and Materials	Standard Specification for Pipe-Line Expansion Joints of the Packed Slip Type for Marine Application	46 CFR 56.60-1(b)
ASTM F1014	1992	American Society for Testing and Materials	Standard Specification for Flashlights on Vessels	46 CFR 35.30-20(c)(3)
ASTM F1020	1986	American Society for Testing and Materials	Standard Specification for Line-Blind Valves for Marine Applications	46 CFR 56.60-1(b)
ASTM F1120	1987	American Society for Testing and Materials	Standard Specification for Circular Metallic Bellows Type Expansion Joints for Piping Applications	46 CFR 56.60-1(b)
ASTM F1121	1987	American Society for Testing and Materials	Standard Specification for International Shore Connections for Marine Fire Applications	33 CFR 126.15(a)(5)
ASTM F1122	1987	American Society for Testing and Materials	Standard Specification for Quick Disconnect Couplings	33 CFR 154.500(d)(3)
ASTM F1123	1987	American Society for Testing and Materials	Standard Specification for Non-Metallic Expansion Joints	46 CFR 56.60-1(b)
ASTM F1139	1988	American Society for Testing and Materials	Standard Specification for Steam Traps and Drains	46 CFR 56.60-1(b)
ASTM F1155	1998	American Society for Testing and Materials	Standard Practice for Selection and Application of Piping System Materials	33 CFR 154
ASTM F1172	1988	American Society for Testing and Materials	Fuel Oil Meters of the Volumetric Positive Displacement Type	46 CFR 56.60-1(b)
ASTM F1173	1995	American Society for Testing and Materials	Standard Specification for Thermosetting Resin Fiberglass Pipe and Fittings to be Used for Marine Applications	46 CFR 56.60-1(b)
ASTM F1196	1994	American Society for Testing and Materials	Standard Specification for Sliding Watertight Door Assemblies	46 CFR 170.270(c)(1)
ASTM F1197	1989	American Society for Testing and Materials	Standard Specification for Sliding Watertight Door Control Systems	46 CFR 174.100(e)(2)
ASTM F1199	1988	American Society for Testing and Materials	Cast (All Temperatures and Pressures) and Welded Pipe Line Strainers (150 psig and	46 CFR 56.60-1(b)

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ASTM F1200	1988	American Society for Testing and Materials	150 Degrees F Maximum) Standard Specification for Fabricated (Welded) Pipe Line Strainers (Above 150 psig and 150°F)	46 CFR 56.60-1(b)
ASTM F1201	1988	American Society for Testing and Materials	Standard Specification for Fluid Conditioner Fittings in Piping Applications Above Zero Degrees F	46 CFR 56.60-1(b)
ASTM F1271	1990	American Society for Testing and Materials	Standard Specification for Spill Valves for Use in Marine Tank Liquid Overpressure Protection Applications	46 CFR 39.20-9(c)(1)
ASTM F1273	1991	American Society for Testing and Materials	Standard Specification for Tank Vent Flame Arresters	46 CFR 32.20-10
ASTM F1292	2004	American Society for Testing and Materials	Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment	36 CFR 1191, App B, 105.2.3
ASTM F1321	1992	American Society for Testing and Materials	Standard Guide for Conducting a Stability Test (Lightweight Survey and Inclining Experiment) to Determine Light Ship Displacement and Centers of Gravity of a Vessel	46 CFR 28.535(d)
ASTM F1323	1998	American Society for Testing and Materials	Standard Specification for Shipboard Incinerators	46 CFR 63.25-9
ASTM F1471	1993	American Society for Testing and Materials	Standard Test Method for Air Cleaning Performance of a High-Efficiency Particulate Air-Filter System	40 CFR 86.1310-2007(b)(1)(iv)(B)
ASTM F1546	1996	American Society for Testing and Materials	Standard Specification for Firehose Nozzles	46 CFR 162.027-3(a)
ASTM F1548	1994	American Society for Testing and Materials	Performance of Fittings for Use with Gasketed Mechanical Couplings Used in Piping Applications	46 CFR 56.30-35(a)
ASTM F1951	1999	American Society for	Standard Specification	36 CFR 1191, App B,

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		Testing and Materials	for Determination of Accessibility of Surface Systems Under and Around Playground Equipment	1008.2.6.1
ASTM F2412 (pdf)	2005	American Society for Testing and Materials	Standard Test Methods for Foot Protection	29 CFR 1910
ASTM F2412 (html)				
ASTM F2412 (svg)				
ASTM F2413 (pdf)	2005	American Society for Testing and Materials	Performance Requirements for Protective Footwear	29 CFR 1910
ASTM F2413 (html)				
ASTM G21	1990	American Society for Testing and Materials	Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi	7 CFR 1755.910(d)(5)(iv)
ASTM G23	1969	American Society for Testing and Materials	Standard Practice for Operating Light Exposure Apparatus (Carbon Arc Type) With and Without Water for Exposure of Nonmetallic Materials	49 CFR 571.209 S5.1(e)
ASTM G26	1970	American Society for Testing and Materials	Standard Recommended Practice for Light- and Water-Exposure Apparatus (Xenon-Arc Type) for Exposure of Non-metallic Materials	16 CFR 1201.4(b)(3)(ii)
ASTM G151	1997	American Society for Testing and Materials	Standard Practice for Exposing Nonmetallic Materials in Accelerated Test Devices that Use Laboratory Light Sources	49 CFR 571.106 S12.7(b)
ASTM G154	2000	American Society for Testing and Materials	Standard Practice for Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials	49 CFR 571.106 S12.7(b)
ATAA 300	1996	Air Transport Association of America	Packaging of Airline Supplies, Revision 19	49 CFR 171.7
AWPA A1	1991	American Wood Preservers Association	Standard Methods for Analysis of Creosote and Oil-Type Preservatives	7 CFR 1728.201(i)(1)(i)

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AWPA A2	1991	American Wood Preservers Association	Standard Methods for Analysis of Waterborne Preservatives and Fire-Retardant Formulations	7 CFR 1728.201(i)(1)(iii) (A)
AWPA A3	1991	American Wood Preservers Association	Standard Methods for Determining Penetration of Preservatives and Fire Retardants	7 CFR 1728.201(k)(3)
AWPA A5	1991	American Wood Preservers Association	Standard Methods for Analysis of Oil-Borne Preservatives	7 CFR 1728.202(g)(1)(v) (B)
AWPA A6	1989	American Wood Preservers Association	Method for the Determination of Oil-Type Preservatives and Water in Wood	7 CFR 1728.202(g)(1)(v) (A)
AWPA A7	1975	American Wood Preservers Association	Standard Wet Ashing Procedure for Preparing Wood for Chemical Analysis	7 CFR 1728.202(g)(1)(v) (D)
AWPA A9	1990	American Wood Preservers Association	Standard Method for Analysis of Treated Wood and Treating Solutions by X-ray Spectroscopy	7 CFR 1728.202(g)(1)(v) (C)
AWPA A11	1983	American Wood Preservers Association	Standard Method for Analysis of Treated Wood and Treating Solutions by Atomic Absorption Spectroscopy	7 CFR 1728.201(i)(1)(iii) (B)
AWPA M3	1981	American Wood Preservers Association	Standard Quality Control Procedures for Wood Preserving Plants	7 CFR 1728.202(f)(1)
AWPA P1	1991	American Wood Preservers Association	Standard for Coal Tar Creosote for Land and Fresh Water and Marine (Coastal) Water Use	7 CFR 1728.201(i)(1)(i)
AWPA P5	1991	American Wood Preservers Association	Standard for Waterborne Preservative	7 CFR 1728.201(i)(1)(iii) (A)
AWPA P8	1991	American Wood Preservers Association	Standard for Oil-Borne Preservatives	7 CFR 1728.201(i)(1)(iv)
AWPA P9	1991	American Wood Preservers Association	Standard for Solvents and Formulations for Organic Preservative Systems	7 CFR 1728.201(i)(1)(iv)
AWS B3.0	1977	American Welding	Standard Qualification	49 CFR 178.356-2(e)

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		Society	Procedure	
AWS D1.1	2000	American Welding Society	Structural Welding Code—Steel	30 CFR 250.901(a)(20)
BHMA A156.10	1999	Builders Hardware Manufacturers Association	Power Operated Pedestrian Doors	36 CFR 1191, App B, 105.2.1
BHMA A156.19	2002	Builders Hardware Manufacturers Association	Power Assist and Low Energy Power Operated Doors	36 CFR 1191, App B, 408.3.2.1
BOCA	1993	Building Officials and Code Administrators International	Mechanical Code	24 CFR 200.925c(a)(1)(i)
BOCA	1993	Building Officials and Code Administrators International	Plumbing Code	24 CFR 200.925c(a)(1)(i)
BSI EN-13000 (pdf) BSI EN-13000 (html)	2004	British Standards Institute	Cranes—Safety—Mobile Cranes	29 CFR 1926
BSI EN-14439 (pdf) BSI EN-14439 (html)	2006	British Standards Institute	Cranes—Safety—Tower Cranes	29 CFR 1926
CEC Test Method	2004	California Energy Commission	Calculating the Energy Efficiency of Single-Voltage External Ac-Dc and Ac-Ac Power Supplies	10 CFR 430 Subpart B
CABO	1992	Council of American Building Officials	One and Two Family Dwelling Code	24 CFR 200.926b(c)
CABO	1993	Council of American Building Officials	One and Two Family Dwelling Code with Errata Package and 1993 Amendments	24 CFR 200.926(d)(1)(ii) ((B)(2)(ii))
CFTA	1977	Cosmetic, Toiletry, and Fragrance Association	Cosmetic Ingredient Dictionary	21 CFR 701.3(c)(2)(i)
CGA C-5	1991	Compressed Gas Association	Cylinder Service Life-Seamless Steel High Pressure Cylinders	49 CFR 173.302a(b)(3)(i) (A)
CGA C-8	1985	Compressed Gas Association	Standard for Requalification of DOT-3HT Cylinders	49 CFR 180.205(f)(1)
CGA C-11	2001	Compressed Gas Association	Recommended Practice for Inspection of Compressed Gas Cylinders at Time of Manufacture	49 CFR 178.35(g)
CGA C-12	1994	Compressed Gas Association	Qualification Procedure for Acetylene Cylinder	49 CFR 173.303(a)

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CGA C-13	2000	Compressed Gas Association	Design Guidelines for Periodic Visual Inspection and Requalification of Acetylene Cylinders	49 CFR 173.303(e)
CGA G-1	2009	Compressed Gas Association	Acetylene	29 CFR 1910.102(a)
CGA G-2.2	1985	Compressed Gas Association	Guideline Method for Determining Minimum of 0.2% Water in Anhydrous Ammonia	49 CFR 173.315(l)(5)
CGA G-4.1	1985	Compressed Gas Association	Cleaning Equipment for Oxygen Service	49 CFR 178.338-15
CGA P-1	1965	Compressed Gas Association	Safe Handling of Compressed Gases	29 CFR 1910.101(b)
CGA P-20	2003	Compressed Gas Association	Standard for the Classification of Toxic Gas Mixtures	49 CFR 173.115
CGA S-1.1	2005	Compressed Gas Association	Pressure Relief Device Standards	49 CFR 173.301(c)
CGA S-1.2	1980	Compressed Gas Association	Safety Release Device Standard—Cargo and Portable Tanks for Compressed Gases	49 CFR 178.277(e)(4)(iv)
CGA S-7 (pdf) CGA S-7 (html)	2005	Compressed Gas Association	Method for Selecting Pressure Relief Devices for Compressed Gas Mixtures in Cylinders	49 CFR 173.301(c)
CGA TB-2	1980	Compressed Gas Association	Guidelines for Inspection and Repair of MC-330 and MC-331 Cargo Tanks	49 CFR 180.407(g)(3)
CGA TB-25	2008	Compressed Gas Association	Design Considerations for Tube Trailers	49 CFR 173.301
CGSB 43.147	2005	Canadian General Standards Board	Construction, Modification, Qualification, Maintenance, and Selection and Use of Means of Containment for the Handling, Offering for Transport, or Transportation of Dangerous Goods by Rail	49 CFR 171.12
CGSB 43.147	2005	Office des Normes Generales du Canada	Construction, Modification, Qualification, Entretien, Selection Et Utilisation	49 CFR 171.12

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Public Safety Standards of the United States

			Des Contenants Pour La Manutention, La Demande De Transport Ou La Transport Des Marchandises Dangereuses Par Chemin De Fer	
CI 57	2009	Chlorine Institute	Emergency Shut-Off Systems for Bulk Transfer of Chlorine	49 CFR 177.840(u)
CI 101-7	1993	Chlorine Institute	Excess Flow Valve with Removable Seat	49 CFR 178.276(c)(7)(i)
CI 104-9	2002	Chlorine Institute	Standard Chlorine Angle Valve Assembly	49 CFR 178.337-9(b)(8)
CI 106-6	1993	Chlorine Institute	Excess Flow Valve with Removable Baskets	49 CFR 178.276(c)(7)(ii)
CI 166	2002	Chlorine Institute	Angle Valve Guidelines for Chlorine Bulk Transportation	49 CFR 178.337-9(b)(8)
CI H50155	1996	Chlorine Institute	Pressure Relief Device for Chlorine Service	49 CFR 173.315(i)(13)
CI H51970	1996	Chlorine Institute	Safety Valve for Chlorine Service	49 CFR 173.315(i)(13)
CI	2009	Chlorine Institute	Chlorine Institute Emergency Kit A for 100-lb. and 150-lb. Chlorine Cylinders	49 CFR 173.3(e)(1)
CI	2009	Chlorine Institute	Chlorine Institute Emergency Kit B for Chlorine Ton Containers	49 CFR 173.3(e)(1)
CIE 15	2004	International Commission on Illumination	Technical Report: Colorimetry, 3rd edition	10 CFR 430 Subpart B, App. R, 4.1.1
CIE 15A (xls)	2004	International Commission on Illumination	Supplementary Spectra	10 CFR 430 Subpart B, App. R, 4.1.1
CIE 15B (xls)	2004	International Commission on Illumination	Supplementary Tables	10 CFR 430 Subpart B, App. R, 4.1.1
CRA A-20	1986	Com Refiners Association	Analysis for Starch in Com	7 CFR 801.7(a)(2)
CSA C390	1993	Canadian Standards Association	Energy Efficiency Test Methods for Three-Phase Induction Motors	10 CFR 431.19(b)(4)
CTIOA R8-103-62	1969	Ceramic Tile Institute of America	Standard Specifications for the	24 CFR 200, Subpart S

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			Installation of Tile Lined Shower Receptors	
CSVA	2004	Commercial Vehicle Safety Alliance	North American Standard Out-of-Service Criteria and Level VI Inspection Procedures and Out-of-Service Criteria for Commercial Highway Vehicles	49 CFR 385.415(b)(1)
EI IP-501	2005	Energy Institute	Determination of aluminum, silicon, vanadium, nickel, iron, sodium, calcium, zinc and phosphorus in residual fuel oil	40 CFR 1065.705 Table 1
FGMA	1990	Flat Glass Marketing Association	Glazing Manual	24 CFR 200, Subpart S
GLI METHOD 2	2009	Great Lakes Instruments	Turbidity	40 CFR 141.74(a)(1)
GPA 2261	2000	Gas Producers Association	Analysis of Natural Gas and Similar Gaseous Mixtures by Gas Chromatography	40 CFR 75, Appendix F, Section 5.5.2
GPA 2261	2000	Gas Processors Association	Analysis of Natural Gas and Similar Gaseous Mixtures by Gas Chromatography	40 CFR 75, Appendix F
GPA 2377	1986	Gas Processors Association	Test for Hydrogen Sulfide and Carbon Dioxide in Natural Gas Using Length of Stain Tubes	40 CFR 60.334(h)(1)
GRI 02-0057	2002	Gas Research Institute	Internal Corrosion Direct Assessment of Gas Transmission Pipelines Methodology	49 CFR 192.927(c)(2)
HACH 8000	2007	Hach Chemical Company	Oxygen Demand, Chemical Using Reactor Digestion Method	40 CFR 136.3(a)
HACH 8008	2007	Hach Chemical Company	1, 10-Phenanthroline Method Using FerroVer Iron Reagent for Water	40 CFR 136.3(a)
HACH 8009	2007	Hach Chemical Company	Zincon Method for Zinc, Hatch Handbook of Water Analysis	40 CFR 444.12(b)(1)
HACH 8034	2007	Hach Chemical Company	Periodate Oxidation Method for Manganese	40 CFR 136.3(a)
HACH 8507	2007	Hach Chemical	Nitrogen Nitrite-Low	40 CFR 136.3(a)

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		Company	Range, Diazotization Method for Water and Wastewater	
HI BTS-2000	2007	Hydronics Institute	Method to Determine Efficiency of Commercial Space Heating Boilers	10 CFR 431.86
HPMA HP-SG-96	1996	Hardwood Plywood Manufacturers Association	Structural Design Guide for Hardwood Plywood Wall Panels	24 CFR 3280.304(b)(1)
IAPMO PS-2	1989	International Association of Plumbing and Mechanical Officials	Material and Property Standard for Cast Brass and Tubing P-Traps	24 CFR 3280.604(b)(2)
IAPMO PS-5	1984	International Association of Plumbing and Mechanical Officials	Material and Property Standard for Special Cast Iron Fittings	24 CFR 3280.604(b)(2)
IAPMO PS-9	1984	International Association of Plumbing and Mechanical Officials	Material and Property Standard for Diversion Tees and Twin Waste Elbow	24 CFR 3280.604(b)(2)
IAPMO PS-14	1989	International Association of Plumbing and Mechanical Officials	Material and Property Standard for Flexible Metallic Water Connectors	24 CFR 3280.604(b)(2)
IAPMO PS-23	1989	International Association of Plumbing and Mechanical Officials	Material and Property Standard for Dishwasher Drain Airgaps	24 CFR 3280.604(b)(2)
IAPMO PS-31	1977	International Association of Plumbing and Mechanical Officials	Material and Property Standard for Backflow Prevention Devices	24 CFR 3280.604(b)(2)
ICAO 9284	2011	International Civil Aviation Organization	Technical Instructions for the Safe Transport of Dangerous Goods by Air	49 CFR 171.7
ICAO Annex 2	1990	International Civil Aviation Organization	Convention on International Civil Aviation, Rules of the Air	14 CFR 135.3(a)(2)
ICAO Annex 16	2008	International Civil Aviation Organization	Environmental Protection, Volume II – Aircraft Engine Emissions	40 CFR 87.89
ICBO	1991	International Conference of Building Officials	Uniform Building Code (1991)	24 CFR 200.925c(a)(1)(iii)
ICBO	1991	International	Uniform Mechanical	24 CFR 200.925c(c)(3)

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		Conference of Building Officials	Code (1991)	
ICEA S-87-640	2006	Insulated Cable Engineers Association	Standard for Optical Fiber Outside Plant Communications Cable	7 CFR 901(c)
ICEA S-110-717	2003	Insulated Cable Engineers Association	Standard for Optical Drop Cable	7 CFR 901(c)
ICS	1973	International Chamber of Shipping	Clean Seas Guide for Oil Tankers	33 CFR 157.23(b)
IEEE 45	2002	Institute of Electrical and Electronics Engineers	Recommended Practice for Electrical Installations on Shipboard	46 CFR 110.10-1
IEEE 112	2004	Institute of Electrical and Electronics Engineers	Test Procedure for Polyphase Induction Motors and Generators	10 CFR 431.15
IEEE 114	2010	Institute of Electrical and Electronics Engineers	IEEE Standard Test Procedure for Single-Phase Induction Motors	10 CFR 431
IEEE 1202 (pdf) IEEE 1202 (html)	1991	Institute of Electrical and Electronics Engineers	Standard for Flame Testing of Cables	46 CFR 111
IEEE C2	1997	Institute of Electrical and Electronics Engineers	National Electrical Safety Code	7 CFR 1755.503(d)(1)
IEEE C2	2007	Institute of Electrical and Electronics Engineers	National Electrical Safety Code (2007)	7 CFR 1755.901(b)
IEEE C37.14	2002	Institute of Electrical and Electronics Engineers	Standard for Low-Voltage AC Power Circuit Breakers Used in Enclosures	46 CFR 110.10-1
IEEE P730.1	1989	Institute of Electrical and Electronics Engineers	Standard for Software Quality Assurance Plans	7 CFR 1755.522(n)(2)
IESNA LM-45	2000	Illuminating Engineering Society of North America	Method for Electrical and Photometric Measurements of General Service Incandescent Filament Lamps	10 CFR 430 Subpart B
IME 22	2011	Institute of Makers of Explosives	Recommendations for the Safe Transportation of Detonators in a Vehicle with Certain Other Explosive Materials	30 CFR 57.6133(b)
IME	1940	Institute of Makers of	Safety in the Handling	29 CFR 1910.261(a)(4)

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		Explosives	and Use of Explosives	(iii)
IMO IMDG.1	2006	International Maritime Organization	International Maritime Dangerous Goods Code (Volume 1)	49 CFR 172.519(f)
IMO IMDG.2	2006	International Maritime Organization	International Maritime Dangerous Goods Code (Volume 2)	49 CFR 172.519(f)
IMO ISPS	2003	International Maritime Organization	International Ship and Port Facility Security Code	33 CFR 101.410(a)
AG ENG	1965	Interstate Printers and Publishers, Inc.	Agriculture Engineering	29 CFR 570.71(b)
ISO 535	1991	International Organization for Standardization	Paper and Board—Determination of Water Absorptiveness—Cobb Method	49 CFR 178.516(b)(1)
ISO 1496-1	1990	International Organization for Standardization	Series 1 Freight Containers—Specification and Testing—Part 1, General Cargo Containers	49 CFR 173.411(b)(6)(iii)
ISO 1496-3	1995	International Organization for Standardization	Series 1 Freight Containers—Specification and Testing—Part 3, Tank containers for Liquids, Gases and Pressurized Dry Bulk	49 CFR 178.74(c)(5)(ii)
ISO 3807-2	2000	International Organization for Standardization	Cylinders for acetylene—Basic requirements—Part 2: Cylinders with fusible plugs	49 CFR 173.303(f)(1)
ISO 6406 (pdf) ISO 6406 (html)	2005	International Organization for Standardization	Seamless Steel Gas Cylinders—Inspection and Testing	49 CFR 180
ISO 7225	2005	International Organization for Standardization	Gas Cylinders—Precautionary Labels	49 CFR 178.71(r)(2)
ISO 7366	1999	International Organization for Standardization	Gas Cylinders—Refillable Seamless Aluminum Alloy Gas Cylinders—Design, Construction and Testing	49 CFR 178.71(h)
ISO 8115	1986	International Organization for Standardization	Cotton bales—Dimensions and density	49 CFR 171.7
ISO 9809-1	1999	International	Gas Cylinders—	49 CFR 178.71(g)(1)

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		Organization for Standardization	Refillable Seamless Steel Gas Cylinders--Design, Construction and Testing--Part 1: Quenched and Tempered Steel Cylinders with Tensile Strength less than 1 100 MPa	
ISO 9809-2	2000	International Organization for Standardization	Gas Cylinders--Refillable Seamless Steel Gas Cylinders--Design, Construction and Testing--Part 2: Quenched and Tempered Steel Cylinders with Tensile Strength Greater than or Equal to 1 100 MPa	49 CFR 178.71(g)(2)
ISO 9809-3	2000	International Organization for Standardization	Gas Cylinders--Refillable Seamless Steel Gas Cylinders--Design, Construction and Testing--Part 3: Normalized Steel Cylinders	49 CFR 178.71(g)(3)
ISO 9978	1992	International Organization for Standardization	Sealed Radioactive Sources--Leak Test Methods	49 CFR 173.469(a)(4)(ii)
ISO 10297	1999	International Organization for Standardization	Gas cylinders--Refillable gas cylinder valves--Specification and type testing	49 CFR 173.301b(c)(1)
ISO 10461 (pdf) ISO 10461 (html)	2005	International Organization for Standardization	Seamless Aluminum Alloy Gas Cylinders--Inspection and Testing	49 CFR 180
ISO 10462 (pdf) ISO 10462 (html)	2005	International Organization for Standardization	Transportable Cylinders for Dissolved Acetylene	49 CFR 180
ISO 11114-1	1997	International Organization for Standardization	Transportable gas cylinders--Compatibility of cylinder and valve materials with gas contents--Part 1: Metallic materials	49 CFR 173.301b(a)(2)
ISO 11114-2	2000	International Organization for Standardization	Transportable gas cylinders--Compatibility of cylinder and valve materials with gas contents--Part 2: Non-metallic materials	49 CFR 173.301b(a)(2)

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ISO 11117	1998	International Organization for Standardization	Gas cylinders--Valve protection caps and valve guards for industrial and medical gas cylinders--Design, construction and tests	49 CFR 173.301b(c)(2)(ii)
ISO 11118	1999	International Organization for Standardization	Gas cylinders--Non-refillable metallic gas cylinders--Specification and test methods	49 CFR 178.71(i)
ISO 11119-1	2002	International Organization for Standardization	Gas cylinders--Gas cylinders of composite construction--Specification and test methods--Part 1: Hoop-wrapped composite gas cylinders	49 CFR 171.7
ISO 11119-2	2002	International Organization for Standardization	Gas cylinders--Gas cylinders of composite construction--Specification and test methods--Part 2: Fully wrapped fibre reinforced composite gas cylinders with load-sharing metal liners	49 CFR 171.7
ISO 11119-3	2002	International Organization for Standardization	Gas cylinders of composite construction--Specification and test methods--Part 3: Fully wrapped fibre reinforced composite gas cylinders with non-load-sharing metallic or non-metallic liners	49 CFR 171.7
ISO 11120	1999	International Organization for Standardization	Gas cylinders--Refillable seamless steel tubes of water capacity between 150 L and 3000 L--Design, construction and testing	49 CFR 178.71(j)
ISO 11621	1997	International Organization for Standardization	Gas cylinders--Procedures for change of gas service	49 CFR 173.301b(a)(2)
ISO 11623 (pdf) ISO 11623 (html)	2002	International Organization for Standardization	Periodic Inspection and Testing of Composite Gas Cylinders	49 CFR 180
ISO 11660-1 (pdf) ISO 11660-1	2008	International Organization for	Cranes: Access, Guards and Restraints:	29 CFR 1926

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(html)		Standardization	General	
ISO 11660-2 (pdf)	1994	International Organization for Standardization	Cranes: Access, Guards and Restraints: Mobile Cranes	29 CFR 1926
ISO 11660-2 (html)				
ISO 11660-3 (pdf)	2008	International Organization for Standardization	Cranes: Access, Guards and Restraints: Tower Cranes	29 CFR 1926
ISO 11660-3 (html)				
ISO 14230-4	2000	International Organization for Standardization	Road Vehicles— Diagnostic Systems	40 CFR 1048.110(g)(2)
ISO 18902 (pdf)	2001	International Organization for Standardization	Photographic Processed Films, Plates, and Papers	36 CFR 1237
ISO 18902 (html)				
ISO 18906 (pdf)	2000	International Organization for Standardization	Photographic Films— Specifications for Safety Film	36 CFR 1237
ISO 18906 (html)				
ITU-R M-493-11	2004	International Telecommunication Union	Digital Selective-calling System for Use in the Maritime Mobile Service, with Annexes 1 and 2	47 CFR 80.1101(c)(2)(ii)
ITU-R M-541-8	1997	International Telecommunication Union	Operational Procedures for the Use of Digital Selective-Calling Equipment in the Maritime Mobile Service	47 CFR 80.1101(c)(4)(iii)
ITU-R M-541-9	2004	International Telecommunication Union	Operational Procedures for the Use of Digital Selective-Calling Equipment in the Maritime Mobile Service	47 CFR 80.1101(c)(2)(iii)
ITU-R M-628-3	1994	International Telecommunication Union	Technical Characteristics for Search and Rescue Radar Transponders	47 CFR 80.1101(c)(6)(ii)
ITU-R M-632-3	1997	International Telecommunication Union	Transmission Characteristics of a Satellite Emergency Position Indicating Radio Beacon	47 CFR 80.1101(c)(11)(iii)
ITU-R M-633-3	2004	International Telecommunication Union	Transmission characteristics of a satellite emergency position-indicating radiobeacon system operating through a low polar-orbiting satellite system	47 CFR 80.1101(c)(5)(iii)
ITU-R M-1371-1	2001	International	Technical	47 CFR 80.1101(c)(12)(i)

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		Telecommunication Union	Characteristics for a Universal Shipborne Automatic Identification System Using Time Division Multiple Access	
ITU-T E.161	2001	International Telecommunication Union	Arrangement of Digits, Letters and Symbols on Telephones and Other Devices that Can Be Used for Gaining Access to a Telephone Network	47 CFR 80.1101(b)(2)
ITU-T E.164.1	2008	International Telecommunication Union	Numbering Plan of the International Telephone Service	47 CFR 80.1101(b)(3)
LACHAT 10-204	2008	Lachat Instruments	Digestion and Distillation of Total Cyanide in Drinking and Wastewaters	40 CFR 136.3(a) Table IB
STEAM	1917	Commonwealth of Massachusetts	District Police Steam Boiler Rules	
MSS SP-44	1996	Manufacturers Standardization Society	Steel Pipe Line Flanges	46 CFR 56.01-2
MSS SP-75	2004	Manufacturers Standardization Society	Specification for High-Test Wrought Butt Welding Fittings	49 CFR 118(a)
NACE RP-0502	2002	National Association of Corrosion Engineers	Pipeline External Corrosion Direct Assessment Methodology	49 CFR 192.925(b)(3)
NACM	2003	National Association of Chain Manufacturers	Welded Steel Chain Specifications	49 CFR 393.104(e)(2)
NAS	1972	National Academy of Sciences	Food Chemicals Codex (1972)	21 CFR 701.3(c)(2)(iv)
NAS	1996	National Academy of Sciences	Food Chemicals Codex (1996)	21 CFR 184
NAS	2011	National Academy of Sciences	Prudent Practices in the Laboratory: Handling and Disposal of Chemicals	42 CFR 52b.12(c)(6)
NCASI 98-01	1998	National Council of the Paper Industry for Air and Stream Improvements	Chilled Impinger Method For Use At Wood Products Mills to Measure Formaldehyde, Methanol, and Phenol	40 CFR 63, Subpart DDDD
NCASII 94-03	2002	National Council of the Paper Industry for Air	Methanol in Process Liquids by Gas	40 CFR 63.457(c)(3)(ii)

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NCASI A105	2001	and Stream Improvements National Council of the Paper Industry for Air and Stream Improvements	Chromatography/Flame Ionization Detection Impinger Source Sampling Method for Selected Aldehydes, Ketones, and Polar Compounds	40 CFR 63, Subpart DDDD
NCASI 99-02	2002	National Council of the Paper Industry for Air and Stream Improvements	Impinger/Canister Source Sampling Method For Selected HAPs and Other Compounds at Wood Products Facilities	40 CFR 63, Subpart DDDD
NCCA	2011	National Cotton Council of America	Specifications for Cotton Bale Packaging Material	7 CFR 1427.5(b)(10)
UCC	2002	National Conference of Commissioners on Uniform State Laws	2002 Official Text and Comments, Sections 8-102 and 8-103	17 CFR 270.17f-4(c)(1)
UCC	2002	National Conference of Commissioners on Uniform State Laws	2002 Official Text and Comments, Sections 8-501 through 8-511	17 CFR 270.17f-4(c)(1)
NCUTLO	1969	National Committee on Uniform Traffic Laws and Ordinances	Uniform Vehicle Code and Model Ordinance	41 CFR 50-204.75
NFPA 10 (pdf) NFPA 10 (html) NFPA 10 (svg)	2002	National Fire Protection Association	Standard for Portable Fire Extinguishers	29 CFR 1915
NFPA 11 (pdf) NFPA 11 (html)	2005	National Fire Protection Association	Standard for Foam	29 CFR 1915
NFPA 12 (pdf) NFPA 12 (html)	2005	National Fire Protection Association	Standard for Carbon Dioxide Extinguishing Systems	29 CFR 1915
NFPA 13	2002	National Fire Protection Association	Standard for the Installation of Sprinkler Systems	36 CFR 1234.12(i)
NFPA 25 (pdf) NFPA 25 (html)	2002	National Fire Protection Association	Standard for Water-Based Fire Protection Systems	29 CFR 1915
NFPA 30 (pdf) NFPA 30 (html)	2003	National Fire Protection Association	Flammable and Combustible Liquids Code	49 CFR 192
NFPA 54 (pdf) NFPA 54 (html) NFPA 54 (svg)	2002	National Fire Protection Association	National Fuel and Gas Code	24 CFR 3280
NFPA 58 (pdf) NFPA 58 (html)	2001	National Fire Protection Association	Standard for Liquefied Petroleum Gases	49 CFR 173
NFPA 58	2004	National Fire Protection	Standard for the	49 CFR 192.11(b)

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		Association	Storage and Handling of Liquefied Petroleum Gases	
NFPA 59	2004	National Fire Protection Association	Standard for the Storage and Handling of Liquefied Petroleum Gases at Utility Gas Plants	49 CFR 192.11(b)
NFPA 72 (pdf) NFPA 72 (html) NFPA 72 (svg)	2002	National Fire Protection Association	National Fire Alarm Code	29 CFR 1915
NFPA 99	2005	National Fire Protection Association	Standard for Health Care Facilities	38 CFR 51.200(b)(4)
NFPA 101 (pdf) NFPA 101 (html)	2000	National Fire Protection Association	Life Safety Code	59 CFR 130
NFPA 704	2007	National Fire Protection Association	Standard System for the Identification of the Hazards of Materials for Emergency Response	6 CFR 27.204(a)(2)
NFPA DUST	1957	National Fire Protection Association	Report of Important Dust Explosions	
NFPA HOST	1953	National Fire Protection Association	Handling Hose and Ladders	
NFPA 70	2005	National Fire Protection Association	National Electrical Code	49 CFR 192.189(c)
NACHA	2005	National Automated Clearing House Association	A Complete Guide to the Rules Governing the ACH Network	45 CFR 162.920
ISS-MCB	2011	International Space Station Multilateral Coordination Board	International Docking Standard	1 Code of Intergalactic Regulations 32
NCRP 33	1968	National Council on Radiation Protection and Measurement	Medical X-ray and Gamma-Ray Protection for Energies Up to 10 MeV—Equipment Design and Use	42 CFR 37.43
NCRP 48	1976	National Council on Radiation Protection and Measurement	Medical Radiation Protection for Medical and Allied Health Personnel	42 CFR 37.43
NCRP 49	1976	National Council on Radiation Protection and Measurement	Structural Shielding Design and Evaluation for Medical Use of X-Rays and Gamma-Rays up to 10 MeV	42 CFR 37.43
NEMA MG-1	2009	National Electrical Manufacturers Association	Motors and Generators	10 CFR 431

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NSF 61 (pdf) NSF 61 (html)	2001	National Sanitation Foundation	Drinking Water System Components—Health Effects	24 CFR 3280
OECD 404	2002	Organization for Economic Cooperation and Development	Guideline for Testing of Chemicals, Acute Dermal Irritation/Corrosion	49 CFR 173.137
OECD C93	1974	Organization for Economic Cooperation and Development	Green List of Wastes	40 CFR 262.89(e)
OR REG	1975	State of Oregon	Oregon Grade Standards Hazelnuts in Shell	7 CFR 982.45(a)
ORION	1970	ORION Research Incorporated	Residual Chlorine Electrode Model 97-70	40 CFR 136.3(a) Table IB
PCI MNL-121	1977	Precast/Prestressed Concrete Institute	Manual for Structural Design of Architectural Precast Concrete	24 CFR 200, Subpart S
PCI MNL-117-77	1977	Precast/Prestressed Concrete Institute	Manual for Quality Control for Plants and Production of Architectural Precast Concrete Products	24 CFR 200, Subpart S
PCSA 1	1968	Power Crane and Shovel Association	Mobile Crane and Excavator Standards	29 CFR 1926.602(b)(3)
PCSA 2	1968	Power Crane and Shovel Association	Mobile Hydraulic Crane Standards	29 CFR 1926.602(b)(3)
PCSA 3	1969	Power Crane and Shovel Association	Mobile Hydraulic Excavator Standards	29 CFR 1926.602(b)(3)
PPI TR-3	2004	Plastics Pipe Institute	Policies and Procedures for Developing Hydrostatic Design Bases (HDB), Pressure Design Bases (PDB), and Minimum Required Thermoplastic Piping Materials	49 CFR 192.121
RTCM C071	1995	Radio Technical Commission for Maritime Services	Recommended Standards for Marine Radar Equipment Installed on Ships of Less Than 300 Tons Gross Tonnage	33 CFR 164.72(a)(1)(i) (B)
RTCM C191	1993	Radio Technical Commission for Maritime Services	Recommended Standards for Marine Radar Equipment Installed on Ships of 300 Tons Gross Tonnage and Upwards	33 CFR 164.72(a)(1)(iii) (B)

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SAE Paper 770141	1977	Society of Automotive Engineers	Optimization of a Flame Ionization Detector for Determination of Hydrocarbon in Diluted Automotive Exhausts	40 CFR 1065.360(c)
SAE J4C	1965	Society of Automotive Engineers	Motor Vehicle Seat Belt Assembly	29 CFR 1928.51(b)(2)(ii)
SAE J30	1998	Society of Automotive Engineers	Fuel and Oil Hoses	40 CFR 1051.501(c)(2)
SAE J166	1971	Society for Automotive Engineering	Minimum Performance Criteria for Brake Systems for Off-Highway Trucks and Wagons	29 CFR 1926.602(a)(4)
SAE J166	1971	Society of Automotive Engineers	Minimum Performance Criteria for Brake Systems for Off-Highway Trucks and Wagons	29 CFR 1926.602(a)(4)
SAE J167	1970	Society for Automotive Engineering	Protective Frame with Overhead Protection	29 CFR 1926.1003(g)
SAE J167	1974	Society of Automotive Engineers	Protective Frame with Overhead Protection	30 CFR 77.403-1(d)(1)(v)
SAE J168	1970	Society for Automotive Engineering	Protective Enclosures—Test Procedures and Performance Requirements	29 CFR 1926.1002(a)(5)(i)
SAE J185	1988	Society of Automotive Engineers	Recommended Practice for Access Systems for Off-Road Machines	29 CFR 1910.266(f)(5)(i)
SAE J186A	1977	Society of Automotive Engineers	Supplemental High Mounted Stop and Rear Turn Signal Lamps	49 CFR 571.108
SAE J211-1 (pdf) SAE J211-1 (html)	1995	Society of Automotive Engineers	Instrumentation for Impact Test	49 CFR 571
SAE J211	1971	Society of Automotive Engineers	Instrumentation for Impact Tests	49 CFR 571.222 S6.6.2
SAE J222	1970	Society of Automotive Engineers	Parking Lamps (Position Lamps)	49 CFR 571.108 S5.1.1.6
SAE J231	1971	Society for Automotive Engineering	Minimum Performance Criteria for Falling Object Protective Structures (FOPS)	30 CFR 77.403(a)
SAE J231	1971	Society of Automotive Engineers	Minimum Performance Criteria for Falling Object Protective	30 CFR 77.403(a)

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SAE J231	1981	Society of Automotive Engineers	Structures (FOPS) Minimum Performance Criteria for Falling Object Protective Structures (FOPS)	29 CFR 1910.266(f)(3)(iii)
SAE J236	1971	Society for Automotive Engineering	Minimum Performance Criteria for Brake Systems for Rubber Tire Self-Propelled Graders	29 CFR 1926.602(a)(4)
SAE J237	1971	Society for Automotive Engineering	Minimum Performance Criteria for Brake Systems for Off-Highway Rubber-Tired Front End Loaders and Dozers	29 CFR 1926.602(a)(4)
SAE J244	1983	Society for Automotive Engineering	Recommend Practice for Measurement of Intake Air or Exhaust Gas Flow of Diesel Engines	40 CFR 92.108(a)(3)
SAE J319	1971	Society of Automotive Engineers	Minimum Performance Criteria for Brake Systems for Off-Highway Rubber-Tired Self-Propelled Scrapers	29 CFR 1926.602(a)(4)
SAE J320	1972	Society for Automotive Engineering	Minimum Performance Criteria for Roll-Over Protective Structures for Rubber-Tired Self-Propelled Scrapers	29 CFR 1926.1001(h)
SAE J320A	1969	Society of Automotive Engineers	Minimum Performance Criteria for Roll-Over Protective Structures for Rubber-Tired Self-Propelled Scrapers	30 CFR 77.403-1(d)(1)(i)
SAE J321	1970	Society of Automotive Engineers	Fenders for Pneumatic-Tired Earthmoving Haulage Equipment	29 CFR 1926.602(a)(5)
SAE J333	1970	Society for Automotive Engineering	Operation Protection for Wheel-Type Agricultural and Industry Tractors	29 CFR 1926.602(a)(2)
SAE J334	1968	Society of Automotive Engineers	Protective Frame Test Procedures and Performance Requirements	30 CFR 77.403-1(d)(1)(vi)
SAE J334	1970	Society for Automotive Engineering	Protective Frame Test Procedures and Performance	30 CFR 77.403-1(d)(1)(vi)

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			Requirements	
SAE J386	1969	Society of Automotive Engineers	Operator Restraint Systems for Off-Road Work Machines	29 CFR 1926.602(a)(2)
SAE J386	1985	Society for Automotive Engineering	Operator Restraint Systems for Off-Road Work Machines	30 CFR 56.14130(h)
SAE J386	1993	Society of Automotive Engineers	Operator Restraint Systems for Off-Road Work Machines	30 CFR 56.14130(h)
SAE J386	1997	Society of Automotive Engineers	Operator Restraint Systems for Off-Road Work Machines	30 CFR 57.14131(c)
SAE J387 (pdf) SAE J387 (html)	1987	Society of Automotive Engineers	Terminology: Motor Vehicle Lighting	49 CFR 571
SAE J394	1969	Society of Automotive Engineers	Minimum Performance Criteria for Roll-Over Protective Structures for Rubber-Tired Front End Loaders and Rubber-Tired Dozers	30 CFR 77.403-1(d)(1)(ii)
SAE J394	1972	Society of Automotive Engineers	Minimum Performance Criteria for Rollover Protective Structures for Wheeled Front-End Loaders and Wheeled Dozers	30 CFR 77.403-1(d)(1)(ii)
SAE J395	1969	Society of Automotive Engineers	Minimum Performance Criteria for Roll-Over Protective Structures for Crawler Tractors and Crawler-Type Loaders	30 CFR 77.403-1(d)(1)(iii)
SAE J396	1972	Society for Automotive Engineering	Minimum Performance Criteria for Roll-Over Protective Structures for Motor Graders	30 CFR 77.403-1(d)(1)(iv)
SAE J397	1969	Society of Automotive Engineers	Deflection Limiting Volume-Protective Structures Laboratory Evaluation	29 CFR 1926.1001(f)(1)(ii)
SAE J397	1988	Society of Automotive Engineers	Deflection Limiting Volume-Protective Structures Laboratory Evaluation	29 CFR 1910.266(f)(3)(iv)
SAE J429	1971	Society for Automotive Engineering	Mechanical and Quality Requirements for Externally Threaded Fasteners	30 CFR 77.403-1(d)(2)(iii)(B)
SAE J429	1983	Society of Automotive	Mechanical and	46 CFR 58.30-15(c)

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		Engineers	Quality Requirements for Externally Threaded Fasteners	
SAE J429D	1967	Society of Automotive Engineers	Mechanical and Quality Requirements for Externally Threaded Fasteners	30 CFR 77.403-1(d)(2)(iii)(B)
SAE J449a	1963	Society of Automotive Engineers	Surface Texture Control	49 CFR 581.6(b)(1)
SAE J476a	1961	Society of Automotive Engineers	Dryseal Pipe Threads	49 CFR 393.67(c)(3)
SAE J527	1967	Society of Automotive Engineers	Brazed Double Wall Low Carbon Steel Tubing	49 CFR 571.116 S6.13.3(b)
SAE J533	1972	Society of Automotive Engineers	Flares for Tubing	24 CFR 3280.703
SAE J557	1968	Society of Automotive Engineers	High Tension Ignition Cable	33 CFR 183.440(a)
SAE J565	1969	Society of Automotive Engineers	Semi-Automatic Headlamp Beam Switching Devices	49 CFR 571.108 S5.5.1
SAE J566	1960	Society of Automotive Engineers	Headlamp Mountings	49 CFR 571.108
SAE J571	1976	Society of Automotive Engineers	Dimensional Specification for Sealed Beam Headlamp Units	49 CFR 571.108
SAE J573d (pdf) SAE J573d (html)	1968	Society of Automotive Engineers	Requirements for Lamp Bulbs and Sealed Units	49 CFR 571
SAE J575	1970	Society of Automotive Engineers	Test for Motor Vehicle Lighting Devices and Components	49 CFR 571.108 S6.1
SAE J575	1983	Society for Automotive Engineering	Test for Motor Vehicle Lighting Devices and Components	49 CFR 571.131 S6.2.3
SAE J575	1988	Society of Automotive Engineers	Test for Motor Vehicle Lighting Devices and Components	49 CFR 571.108 S7.5.8.3(e)
SAE J576	1970	Society of Automotive Engineers	Plastic Materials for Use in Optical Parts, such as Lenses and Reflectors, of Motor Vehicle Lighting Devices	49 CFR 571.108 S6.2
SAE J576 (pdf) SAE J576 (html)	1991	Society of Automotive Engineers	Plastic Materials for Use in Optical Parts	49 CFR 571
SAE J576B	1966	Society of Automotive Engineers	Plastic Materials for Use in Optical Parts,	49 CFR 571.108 S6.2

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			such as Lenses and Reflectors, of Motor Vehicle Lighting Devices	
SAE J578 (pdf) SAE J578 (html)	1995	Society of Automotive Engineers	Color Specifications for Electric Signal Lighting Devices	49 CFR 571.403
SAE J584	1964	Society of Automotive Engineers	Motorcycle and Motor Driven Cycle Headlamps	49 CFR 571.108 S7.9.1(a)
SAE J584 (pdf) SAE J584 (html)	1993	Society of Automotive Engineers	Requirements for Motorcycle Headlamps	49 CFR 571
SAE J585	1970	Society for Automotive Engineering	Tail Lamps (Rear Position Lamps) for Use on Motor Vehicles Less Than 2032 mm in Overall Width	49 CFR 571.108 S5.8.8
SAE J585	1977	Society for Automotive Engineering	Tail Lamps (Rear Position Lamps) for Use on Motor Vehicles Less Than 2032 mm in Overall Width	49 CFR 571.108 S5.1.1.6
SAE J585	2000	Society of Automotive Engineers	Tail Lamps (Rear Position Light)	49 CFR 571.108 S6.1
SAE J586	1970	Society of Automotive Engineers	Stop Lamps for Use on Motor Vehicles Less than 2032 mm in Overall Width	49 CFR 571.108 S5.8.3(b)
SAE J586	1984	Society for Automotive Engineering	Stop Lamps for Use on Motor Vehicles Less Than 2032 mm in Overall Width	49 CFR 571.108 S6.1
SAE J586	2000	Society of Automotive Engineers	Stop Lamps for Use on Motor Vehicles Less than 2032 mm in Overall Width	49 CFR 571.108 S6.1
SAE J586B	1966	Society of Automotive Engineers	Stop Lamps for Use on Motor Vehicles Less than 2032 mm in Overall Width	49 CFR 571.108 S5.8.3(a)
SAE J587 (pdf) SAE J587 (html)	1981	Society of Automotive Engineers	License Plate Lamps (Rear Registration Lamps)	49 CFR 571
SAE J588	1970	Society for Automotive Engineering	Turn Signal Lamps for Use on Motor Vehicles Less Than 2032 mm in Overall Width	49 CFR 571.108 S5.1.1.1
SAE J588	1970	Society of Automotive Engineers	Turn Signal Lamps for Use on Motor Vehicles	49 CFR 571.108 S5.8.4(b)

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			Less Than 2032 mm in Overall Width	
SAE J588 (pdf) SAE J588 (html)	1984	Society of Automotive Engineers	Requirements for Turn Signal Lamps	49 CFR 571
SAE J588	2000	Society of Automotive Engineers	Turn Signal Lamps for Use on Motor Vehicles Less Than 2032 mm in Overall Width	49 CFR 393.25(c)
SAE J588D	1966	Society of Automotive Engineers	Turn Signal Lamps for Use on Motor Vehicles Less Than 2032 mm in Overall Width	49 CFR 571.108 S5.8.4(a)
SAE J592	1972	Society of Automotive Engineers	Clearance, Side Marker and Identification Lamps	49 CFR 571.108 Table III
SAE J592 (pdf) SAE J592 (html)	1992	Society of Automotive Engineers	Clearance, Side Marker, and Identification Lamps	49 CFR 571
SAE J593C	1968	Society of Automotive Engineers	Back-up Lamps	49 CFR 571.108
SAE J594f (pdf) SAE J594f (html)	1977	Society of Automotive Engineers	Requirements for Reflex Reflectors	49 CFR 571
SAE J599	1997	Society of Automotive Engineers	Lighting Inspection Code	49 CFR 581.5(c)(1)
SAE J602 (pdf) SAE J602 (html)	1980	Society of Automotive Engineers	Mechanically Aimable Sealed Beam Headlamps	49 CFR 571
SAE J743A	1964	Society of Automotive Engineers	Tractor Mounted Side Boom	29 CFR 1926.550(a)(18)
SAE J759 (pdf) SAE J759 (html)	1995	Society of Automotive Engineers	Lighting Identification Code	49 CFR 571
SAE J800C	1973	Society of Automotive Engineers	Recommended Practice, Motor Vehicle Seat Belt Installations	49 CFR 571.209
SAE J826	1962	Society of Automotive Engineers	Devices for Use in Defining and Measuring Vehicle Seating Accommodations	49 CFR 571.3(b)
SAE J826	1980	Society for Automotive Engineering	Devices for Use in Defining and Measuring Vehicle Seating Accommodations	49 CFR 571.214 S12.1.3(b)(1)
SAE J826 (pdf) SAE J826 (html)	1995	Society of Automotive Engineers	Defining and Measuring Vehicle Seating Accommodation	49 CFR 571
SAE J839	1991	Society of Automotive Engineers	Passenger Car Side Door Latch System	49 CFR 571.206

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SAE J839B	1965	Society of Automotive Engineers	Passenger Car Side Door Latch System	49 CFR 571.201
SAE J845	1997	Society of Automotive Engineers	Optical Warning Devices for Authorized Emergency, Maintenance and Service Vehicles	49 CFR 393.25(e)
SAE J887	1964	Society of Automotive Engineers	School Bus Red Signal Lamps	49 CFR 571.108
SAE J902A	1967	Society of Automotive Engineers	Passenger Car Windshield Defrosting Systems	49 CFR 571.103
SAE J934	1965	Society of Automotive Engineers	Recommended Practice for Vehicle Passenger Door Hinge Systems	49 CFR 571.206
SAE J942	1965	Society of Automotive Engineers	Passenger Car Windshield Washer System	49 CFR 571.104
SAE J944	1980	Society for Automotive Engineering	Steering Control System-Passenger Car-Laboratory Test Procedure	49 CFR 571.203 S5.1(a)
SAE J945	1966	Society of Automotive Engineers	Vehicular Hazard Warning Signal Flashers	49 CFR 571.108 Table I
SAE J959	1966	Society of Automotive Engineers	Lifting Crane Wire-Rope Strength Factors	29 CFR 1926.550(a)(7)(vi)
SAE J964	1984	Society for Automotive Engineering	Test Procedure for Determining Reflectivity of Rear View Mirrors	49 CFR 571.111
SAE J972	1966	Society of Automotive Engineers	Moving Barrier Collision Test	49 CFR 571.105
SAE J995	1967	Society of Automotive Engineers	Mechanical and Quality Requirements for Steel Nuts	30 CFR 77.403-1(d)(2)(iii)(B)
SAE J995	1971	Society of Automotive Engineers	Mechanical and Quality Requirements for Steel Nuts	30 CFR 77.403-1(d)(2)(iii)(B)
SAE J1040	1994	Society of Automotive Engineers	Performance Criteria for Rollover Protective Structures (ROPS) for Construction, Earthmoving, Forestry and Mining Machines	30 CFR 56.14130(b)(1)
SAE J1063	1993	Society of Automotive Engineers	Cantilevered Boom Crane Structures--Method of Test	29 CFR 1926.1433(c)
SAE J1100	1984	Society for Automotive	Motor Vehicle	49 CFR 571.3(b)

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Public Safety Standards of the United States

		Engineering	Dimensions	
SAE J1100 (pdf) SAE J1100 (html)	2001	Society of Automotive Engineers	Motor Vehicle Dimensions	49 CFR 571
SAE J1127	1980	Society for Automotive Engineering	Battery Cable	33 CFR 183.430(a)(2)(ii)
SAE J1128	1975	Society of Automotive Engineers	Low Tension Primary Cable	33 CFR 183.430(a)(2)(ii)
SAE J1133	1984	Society for Automotive Engineering	School Bus Stop Arm	49 CFR 571.131 S6.2.3
SAE J1151	1991	Society of Automotive Engineers	Methane Measurement Using Gas Chromatography	40 CFR 86.111-94(b)(3)(vi)
SAE J1194	1983	Society for Automotive Engineering	Roll-Over Protective Structures for Wheeled Agricultural Tractors	30 CFR 56.14130(h)
SAE J1194	1994	Society of Automotive Engineers	Roll-Over Protective Structures for Wheeled Agricultural Tractors	30 CFR 56.14130(h)
SAE J1194	1999	Society of Automotive Engineers	Roll-Over Protective Structures for Wheeled Agricultural Tractors	30 CFR 57.14130(h)
SAE J1228	1991	Society of Automotive Engineers	Small Craft-Marine Propulsion Engine and Systems-Power Measurements and Declarations	40 CFR 91.115(a)
SAE J1292	1981	Society of Automotive Engineers	Automobile, Truck, Truck-Tractor, Trailer, and Motor Coach Wiring	49 CFR 393.28
SAE J1318	1986	Society of Automotive Engineers	Gaseous Discharge Warning Lamp for Authorized Emergency, Maintenance, and Service Vehicles	49 CFR 393.25(e)
SAE J1383 (pdf) SAE J1383 (html)	1985	Society of Automotive Engineers	Performance Requirements for Motor Vehicle Headlamps	49 CFR 571
SAE J1395 (pdf) SAE J1395 (html)	1985	Society of Automotive Engineers	Turn Signal Lamps for Use on Motor Vehicles	49 CFR 571
SAE J1398 (pdf) SAE J1398 (html)	1985	Society of Automotive Engineers	Stop Lamps for Use on Motor Vehicles	49 CFR 571
SAE J1475	1984	Society for Automotive Engineering	Hydraulic Hose Fittings for Marine Applications	46 CFR 27.211(e)(2)(v)(B)
SAE J1527	1993	Society of Automotive Engineers	Marine Fuel Hoses	33 CFR 183.540(a)
SAE J1703	1983	Society for Automotive	Motor Vehicle Brake	49 CFR 571.116

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Public Safety Standards of the United States

		Engineering	Fluid	S6.5.4.1
SAE J1703 (pdf)	1995	Society of Automotive Engineers	Motor Vehicle Brake Fluids	49 CFR 571
SAE J1703 (html)				
SAE J1733 (pdf)	1994	Society of Automotive Engineers	Sign Convention for Vehicle Crash Testing	49 CFR 572
SAE J1733 (html)				
SAE J1817	2001	Society of Automotive Engineers	Long Stroke Air Brake Actuator Marking	49 CFR 393.47(e)
SAE J1850	1995	Society of Automotive Engineers	Class B Data Communication Network Interface	40 CFR 86.099-17(h)(1)(i)
SAE J1850	2001	Society of Automotive Engineers	Class B Data Communication Network Interface	40 CFR 86.1806-05(h)(1)(i)
SAE J1877	1994	Society of Automotive Engineers	Recommended Practice for Bar-Coded Vehicle Identification Number Label	40 CFR 86.095-35(h)(2)(i)
SAE J1892	1993	Society of Automotive Engineers	Recommended Practice for Bar-Coded Vehicle Emission Configuration Label	40 CFR 86.095-35(h)(2)(i)
SAE J1930	1993	Society of Automotive Engineers	Electrical/Electronic Systems Diagnostic Terms, Definitions, Abbreviations, and Acronyms	40 CFR 1039.135(c)(8)
SAE J1930	2002	Society of Automotive Engineers	Electrical/Electronic Systems Diagnostic Terms, Definitions, Abbreviations, and Acronyms	40 CFR 86.1806-05(h)(1)(v)
SAE J1937	1989	Society of Automotive Engineers	Recommended Practice for Engine Testing with Low Temperature Charge Air Cooler Systems in a Dynamometer Test Cell	40 CFR 86.1330-90(b)(5)
SAE J1962	1995	Society of Automotive Engineers	Diagnostic Connector Equivalent to ISO/DIS	40 CFR 86.094-17(h)(4)
SAE J1962	2002	Society of Automotive Engineers	Diagnostic Connector Equivalent to ISO/DIS 15031	40 CFR 86.1806-05(h)(1)(iv)
SAE J1978	2002	Society of Automotive Engineers	OBD II Scan Tool Equivalent to ISO/DIS 15031-4	40 CFR 86.1806-05(h)(1)(vi)
SAE J1979	2002	Society of Automotive Engineers	E/E Diagnostic Test Modes	40 CFR 86.1806-05(h)(1)(ii)
SAE J2009 (pdf)	1993	Society of Automotive	Discharge Forward	49 CFR 571

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SAE J2009 (html)		Engineers	Lighting Systems	
SAE J2012	2002	Society of Automotive Engineers	Diagnostic Trouble Code Definitions	40 CFR 86.1806-04(h)(1)(iii)
SAE J2040	2002	Society of Automotive Engineers	Tail Lamps (Rear Position Lamps) for Use on Vehicles 2032 mm or More in Overall Width	9 CFR 393.25(c)
SAE J2260	1996	Society of Automotive Engineers	Non-metallic Fuel System Tubing with One or More Layers	40 CFR 1048.105(a)(2)
SAE J2261	2002	Society of Automotive Engineers	Stop Lamps and Front- and Rear-Turn Signal Lamps for Use on Motor Vehicles 2032 mm or More in Overall Width	49 CFR 393.25(c)
SAE J2534	2002	Society of Automotive Engineers	Recommended Practice for Pass-Thru Vehicle Programming	40 CFR 86.096-38(g)(17)(iv)
SCTE 26	2010	Society of Cable Telecommunications Engineers	Home Digital Network Interface Specification with Copy Protection	47 CFR 76.640(b)(4)(iii)
SCTE 28	2007	Society of Cable Telecommunications Engineers	Host-POD Interface Standard	47 CFR 15.123(b)(4)
SCTE 40	2004	Society of Cable Telecommunications Engineers	Digital Cable Network Interface Standard (2004)	47 CFR 15.123(b)(2)
SCTE 40	2011	Society of Cable Telecommunications Engineers	Digital Cable Network Interface Standard (2011)	47 CFR 15.123(b)(2)
SCTE 41	2011	Society of Cable Telecommunications Engineers	POD Copy Protection System	47 CFR 76.640(b)(2)(ii)
SCTE 54	2009	Society of Cable Telecommunications Engineers	Digital Video Service Multiplex and Transport System Standard for Cable Television	47 CFR 15.123(b)(3)
SCTE 65	2008	Society of Cable Telecommunications Engineers	Service Information Delivered Out-of-Band for Digital Cable Television	47 CFR 76.640(b)(1)(ii)
SEAC	1996	Structural Engineers Association of California	Recommended Lateral Force Requirements and Commentary including Errata	42 CFR 52b.12(c)(5)
SJI	1994	Steel Joist Institute	Standard Specification Load Tables and	24 CFR 3280.304(b)(1)

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Public Safety Standards of the United States

			Weight Tables for Steel Joists and Joist Girders	
SMACCNA HVAC (pdf) SMACCNA HVAC (html) SMACCNA HVAC (svg)	1985	Sheet Metal and Air Conditioning Contractors National Association	SMACNA: HVAC Air Duct Leakage Test Manual	10 CFR 434.403.2.9.3
SMACCNA DUCT (pdf) SMACCNA DUCT (html) SMACCNA DUCT (svg)	1995	Sheet Metal and Air Conditioning Contractors National Association	SMACCNA: HVAC Duct Construction Standards – Metal and Flexible (RS-34)	10 CFR 434.403.2.9.3
SMACCNA GLASS (pdf)	1992	Sheet Metal and Air Conditioning Contractors National Association	SMACCNA: Fibrous Glass Duct Construction Standards (RS-36)	10 CFR 434.403.2.9.3
SMACCNA AIR (pdf)	1978	Sheet Metal and Air Conditioning Contractors National Association	SMACCNA: Energy Recovery Equipment and Systems, Air-to-Air	10 CFR 440 Appendix A
NIST Handbook H-28	1942	Department of Commerce	Handbook of Screw-Thread Standards for Federal Service	49 CFR 178.45(f)(5)(ii)
DOD AFTO 11A-1-47	1988	Department of Defense	Explosive Hazard Classification Procedures	49 CFR 173.56(b)(2)(i)
FedSpec RR-C-901D	2003	Department of Transportation	Cylinders, Compressed Gas: High Pressure, Steel DOT 3AA, and Aluminum Applications	49 CFR 173.302(b)(3)
RTCA 23-63	1963	Radio Technical Commission for Aeronautics	Standard Adjustment Criteria for Airborne Localizer and Glide Slope Receivers	14 CFR 91 App. A, 3(a)(1)
SNELL B-90	1998	Snell Memorial Foundation	Standard for Protective Headgear for Use in Bicycling	16 CFR 1203.53(a)(4)
SNELL B-95	1998	Snell Memorial Foundation	Standard for Protective Headgear for Use in Bicycling	16 CFR 1203.53(a)(7)
SRCC OG-300	2008	Solar Rating and Certification Corporation	Operating Guidelines and Minimum Standards for Certifying Solar Water Heating Systems	24 CFR 200.950(a)(1)
TPI	1985	Truss Plate Institute	Design Specifications for Metal Plate Connected Wood	24 CFR 3280.304(b)(1)

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Public Safety Standards of the United States

			Trusses	
TTMA RP-61	1998	Truck Trailer Manufacturers Association	Performance of Manhole and/or Fill Opening Assemblies	49 CFR 180.405(g)(2)(i)
TTMA RP-81	1997	Truck Trailer Manufacturers Association	Performance of Spring Loaded Pressure Relief Valves	49 CFR 178.345-10(b)(3)(i)
TTMA RP-107	1998	Truck Trailer Manufacturers Association	Procedure for Testing In-Service Unmarked and/or Uncertified MC 306 and Non-ASME MC 312 Type Cargo Tank Manhole	49 CFR 180.405(g)(2)(i)
UL 17	1988	Underwriters Laboratories	Vent or Chimney Connector Dampers for Oil-Fired Appliances	10 CFR 440 Appendix A
UL 38	1993	Underwriters Laboratories	Standard for Manually Actuated Signaling Boxes for Use with Fire-Protective Signaling Systems	46 CFR 161.002-4(b)(1)
UL 44	2002	Underwriters Laboratories	Standard for Thermoset-Insulated Wire and Cable	46 CFR 110.10-1
UL 50	1995	Underwriters Laboratories	Standard for Enclosures for Electrical Equipment	46 CFR 111.81-1(d)
UL 62	1997	Underwriters Laboratories	Standard for Flexible Cord and Fixture Wire	46 CFR 110.10-1
UL 127	1996	Underwriters Laboratories	Factory-Built Fireplaces	24 CFR 3280
UL 142 (pdf) UL 142 (html)	1968	Underwriters Laboratories	Steel Above Ground Tanks for Flammable and Combustible Liquids	49 CFR 1910
UL 174	1989	Underwriters Laboratories	Household Electric Storage Tank Water Heaters	46 CFR 63.25-3(a)
UL 217	1993	Underwriters Laboratories	Single and Multiple Station Smoke Detectors	46 CFR 181.450(a)(1)
UL 486A	1990	Underwriters Laboratories	Wire Connections and Soldering Lugs for Use With Copper Conductors	46 CFR 175.600
UL 521	1993	Underwriters Laboratories	Heat Detectors for Fire Protective Signaling Systems	46 CFR 161.002-4(b)(1)
UL 727	1994	Underwriters	Oil-Fired Central	10 CFR 431.76(c)(1)

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Public Safety Standards of the United States

		Laboratories	Furnaces	
UL 746C	1995	Underwriters Laboratories	Polymeric Material– Use in Electrical Equipment Evaluations	16 CFR 1211.10(e)(2)
UL 913	1988	Underwriters Laboratories	Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III Division 1, Hazardous (Classified) Locations	46 CFR 111.105-11(a)
UL 991	1995	Underwriters Laboratories	Tests for Safety-Related Controls Employing Solid-State Devices	16 CFR 1211.4(c)
UL 1042	1995	Underwriters Laboratories	Electric Baseboard Heating Equipment	24 CFR 3280.703
UL 1072	1995	Underwriters Laboratories	Standard for Medium-Voltage Power Cables	46 CFR 111.60-1(e)
UL 1096	1986	Underwriters Laboratories	Electrical Central Air Heating Equipment	24 CFR 3280.703
UL 1104	1983	Underwriters Laboratories	Standard for Marine Navigation Lights	46 CFR 120.420
UL 1426	1986	Underwriters Laboratories	Cables for Boats	33 CFR 183.435(a)(4)
UL 1570	1995	Underwriters Laboratories	Fluorescent Lighting Fixtures	46 CFR 183.410(d)
UL 1571	1995	Underwriters Laboratories	Incandescent Lighting Fixtures	46 CFR 111.75-20(e)
UL 1572	1995	Underwriters Laboratories	High Intensity Discharge Lighting Fixtures	46 CFR 120.410(d)
UL 1574	1995	Underwriters Laboratories	Track Lighting Systems	46 CFR 111.75-20(e)
UL 1995	1995	Underwriters Laboratories	Heating and Cooling Equipment, Second Edition, with 1999 revisions	24 CFR 3280.4
UN ECE	1996	United Nations Economic Commission of Europe	Uniform Provisions Concerning the Approval of Vehicles with Regard to the Installation of Lighting and Light-Signaling Devices	49 CFR 571.108
UN ESC	2009	United Nations Economic and Social Council	Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria	49 CFR 173.128(c)(3)

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UN ESC	2005	United Nations Economic and Social Council	Recommendations on the Transport of Dangerous Goods	49 CFR 173.40(d)(2)
FAO 4	1995	UN Food and Agriculture Organization	Requirements for the Establishment of Pest-free Areas	7 CFR 319.56
IAEA Circular 225	1999	International Atomic Energy Agency	Physical Protection of Nuclear Material and Nuclear Facilities	10 CFR 110.44(b)(1)
IAEA TS-R-1	2009	International Atomic Energy Agency	Regulations for the Safe Transport of Radioactive Material	49 CFR 171.23
IMO Resolution A.264	1960	International Maritime Organization	Amendment to Chapter VI of the International Convention for the Safety of Life at Sea	46 CFR 172.015(a)(2)
IMO Resolution A.265	1973	International Maritime Organization	Carriage of Grain	46 CFR 170.135(a)
IMO Resolution A.342	1975	International Maritime Organization	Recommendations on Performance Standards for Automatic Pilots	33 CFR 164.13(d)(1)
IMO Resolution A.414	1979	International Maritime Organization	Code for Construction and Equipment of Mobile Offshore Drilling Units	33 CFR 143.207(c)
IMO Resolution A.520	1983	International Maritime Organization	Code of Practice for the Evaluation, Testing and Acceptance of Prototype Novel Life-Saving Appliances and Arrangements	46 CFR 108.105(c)(1)
IMO Resolution A.525	1983	International Maritime Organization	Performance Standards for Narrow-band Direct Printing Telegraph Equipment for the Reception of Navigational and Meteorological Warnings	47 CFR 80.1101(c)(1)(i)
IMO Resolution A.601	1987	International Maritime Organization	Provision and Display of Manoeuvring Information on Board Ships	33 CFR 157.450
IMO Resolution A.649	1991	International Maritime Organization	Code for the Construction and Equipment of Mobile Offshore Drilling Units (MODU Code)	46 CFR 108.503
IMO Resolution	1989	International Maritime	Graphical Symbols for	46 CFR 109.563(a)(6)

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A.654		Organization	Fire Control Plans	
IMO Resolution A.657	1989	International Maritime Organization	Instructions for Action in Survival Craft	46 CFR 160.151-21(v)(3)
IMO Resolution A.658	1989	International Maritime Organization	Use and Fitting of Retro-Reflective Materials on Life-Saving Appliances	46 CFR 108.645(a)(4)
IMO Resolution A.662	1989	International Maritime Organization	Performance Standards for Float-Free Release and Activation Arrangements for Emergency Radio Equipment	47 CFR 80.1101(c)(11)(ii)
IMO Resolution A.664	1989	International Maritime Organization	Performance Standards for Enhanced Group Call Equipment	47 CFR 80.1101(c)(10)
IMO Resolution A.688	1991	International Maritime Organization	Fire Test Procedures for Ignitability of Bedding Components	46 CFR 116.405(j)(2)
IMO Resolution A.689	1996	International Maritime Organization	Recommendation on Testing Life-Saving Appliances	46 CFR 160.151-21(f)
IMO Resolution A.694	1991	International Maritime Organization	General Requirements for Shipborne Radio Equipment Forming Part of the Global Maritime Distress and Safety System and for Electronic Navigational Aids	47 CFR 80.1101(b)(1)
IMO Resolution A.700	1991	International Maritime Organization	Performance Standards for Narrow-band Direct-printing Telegraph Equipment for the Reception of Navigational and Meteorological Warnings and Urgent Information to Ships	47 CFR 80.1101(c)(4)(iv)
IMO Resolution A.739	1993	International Maritime Organization	Guidelines for the Authorization of Organizations Acting on Behalf of the Administration	33 CFR 96.440(a)(12)
IMO Resolution A.741	1993	International Maritime Organization	International Management Code for the Safe Operation of Ships and for Pollution Prevention	33 CFR 96.220(b)

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Public Safety Standards of the United States

IMO Resolution A.744	1993	International Maritime Organization	Guidelines on the Enhanced Program of Inspections During Surveys of Bulk Carriers and Oil Tankers	33 CFR 157.430(a)
IMO Resolution A.751	1994	International Maritime Organization	Interim Standards for Ship Manoeuverability	33 CFR 157.445(a)
IMO Resolution A.753	1993	International Maritime Organization	Guidelines for the Application of Plastic Pipe on Ships	46 CFR 56.60-25(a)
IMO Resolution A.760	1993	International Maritime Organization	Symbols Related to Life-Saving Appliances and Arrangements	46 CFR 108.646(a)
IMO Resolution A.788	1995	International Maritime Organization	Guidelines on Implementation of the International Safety Management (ISM) Code by Administrations	33 CFR 96.320(c)(2)
IMO Resolution A.802	1995	International Maritime Organization	Performance Standards for Survival Craft Radar Transponders for Use in Search and Rescue Operations	47 CFR 80.1101(c)(6)(i)
IMO Resolution A.803	1995	International Maritime Organization	Performance Standards for Shipborne VHF Radio Installations Capable of Voice Communication and Digital Selective Calling	47 CFR 80.1101(c)(2)(i)
IMO Resolution A.804	1995	International Maritime Organization	Performance Standards for Shipborne MF Radio Installations Capable of Voice Communication and Digital Selective Calling	47 CFR 80.1101(c)(3)(i)
IMO Resolution A.806	1995	International Maritime Organization	Performance Standards for Shipborne MF/HF Radio Installations Capable of Voice Communication, Narrow-Band Direct Printing and Digital Selective Calling	47 CFR 80.1101(c)(4)(i)
IMO Resolution A.807	1995	International Maritime Organization	Performance Standards for INMARSAT Standard-C	47 CFR 80.1101(c)(9)

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Public Safety Standards of the United States

			Ship Earth Stations Capable of Transmitting and Receiving Direct-Printing Communications	
IMO Resolution A.808	1995	International Maritime Organization	Performance Standards for Ship Earth Stations Capable of Two-Way Communications	47 CFR 80.1101(c)(8)
IMO Resolution A.809	1995	International Maritime Organization	Performance Standards for Survival Craft Two-Way VHF Radiotelephone Apparatus	47 CFR 80.1101(c)(7)(i)
IMO Resolution A.810	1995	International Maritime Organization	Performance Standards for Float-free Satellite Emergency Position-Indicating Radio Beacons (EPIRBs) Operating on 406 MHz	47 CFR 80.1101(c)(5)(i)
IMO Resolution A.812	1995	International Maritime Organization	Performance Standards for Float-Free Satellite EPIRBs Operating Through the Geostationary INMARSAT Satellite System on 1.6 GHz	47 CFR 80.1101(c)(11)(i)
USEC 651	1995	United States Enrichment Corporation	Good Handling Practices for Uranium Hexafluoride	49 CFR 173.417(a)(3)(i)
USPHS 934	1962	U.S. Public Health Service	Food Service Sanitation Ordinance and Code	29 CFR 1910.142(i)(1)
USPHS 956	1962	U.S. Public Health Service	Drinking Water Standards	46 CFR 160.026-4(a)
USPHS 934	1962	U.S. Public Health Service	Food Service Sanitation Ordinance and Code	29 CFR 1910.142(i)(1)
USPHS 9	2003	U.S. Public Health Service	The Ships Medicine Chest and Medical Aid at Sea	33 CFR 143.405(a)(15)
WCLIB R17	2004	West Coast Lumber Inspection Bureau	Grading Rules for West Coast Lumber	7 CFR 1728.201(f)(1)(i)
WHO	1973	World Health Organization	Laboratory Techniques in Rabies	9 CFR 113.209(d)(3)
WIPO ST.25	2001	World Intellectual Property Organization	Handbook on Industrial Property Information	37 CFR 1.821(a)(1)

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Public Safety Standards of the United States				
WQA S-100	1985	Water Quality Association	and Documentation Water Softeners	24 CFR 200, Subpart S
WQA S-200	1988	Water Quality Association	Water Filters	24 CFR 200, Subpart S
WQA S-300	1984	Water Quality Association	Point-of-Use, Low Pressure Reverse Osmosis Drinking Water Systems	24 CFR 200, Subpart S
WQA S-400	1986	Water Quality Association	Point-of-Use Distillation Drinking Water Systems	24 CFR 200, Subpart S
WSTDA T-1	2005	Web Sling and Tiedown Association	Recommended Standard Specification for Synthetic Web Tiedowns	49 CFR 393.104(e)(3)

Last Updated: December 31, 2012

↑
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EXHIBIT 19

EXHIBIT 57
Ashley Soevyn, CSR No. 12019
Date 2/27/15
Witness: MALAMUD

From: Kickstarter
Sent: Tue 10/01/2013 12:23 PM (GMT -7)
To: carl@media.org
Cc:
Bcc:
Subject: Project Update #1: Public Safety Codes of the World: Stand Up For Safety! by Carl Malamud, Public.Resource.Org

Project Update #1: 106 New ASTM Standards Converted

Posted by Carl Malamud, Public.Resource.Org



The work we're doing to rekey standards is part of a long-standing process we've put in place, starting with the California building codes and moving on to over 1,000 standards so far that span the globe. Just today, I added HTML versions of 106 standards from ASTM to our directory of standards required by U.S. federal law. These standards are particularly important because many of these are out-of-date although still required by federal law and there are no readily available version of these documents on the net or in public libraries around the country.

You can really see the difference between the original HTML and the rekeyed HTML:

- A47 is the 1968 standard for Standard Specification for Malleable Iron Castings. It is required by law in the OSHA standards for storage and handling of anhydrous ammonia. Here's the PDF version. Compare that to the HTML version.
- The U.S. Coast Guard requires by law the use of ASTM A333: Standard Specification for Seamless and Welded Steel Pipe for Low-Temperature Service. Here's the PDF version. Compare that to the HTML version.

One of the hopes as we move beyond the rekey stage is that we can do more than simply recover text, but can start adding true value. For example, rekeying the mathematical formulas into MATHML, adding section ID headers so you can permalink not only the standard but a subsection of the standard, and converting the graphics to vector format.

We'll have another 100 or so ASTM standards done in a couple of weeks, plus there is a queue of several hundreds standards from India that have been converted into HTML and are undergoing QA.

We do get some pushback from time to time from organizations that think legally-mandated standards shouldn't be made available, but we fight hard for our right to read, know, and speak the law. Read what our lead firm, the Electronic Frontier Foundation,

21/12/15
Jumtham

has to say in their post yesterday entitled "The Law Belongs To Everyone, We Tell Standards Organizations." Some of the best intellectual property lawyers in the United States are standing firmly with us on this fundamental right to know the laws by which we govern ourselves. I hope you'll stand with us. Thank you for your support.

Care to comment? [View this update on Kickstarter](#) →

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KICKSTARTER

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EXHIBIT 20

EXP 58
Ashley ... 2019
Date 2/27/15
Witness: MALAMUD

From: Kickstarter
Sent: Fri 10/25/2013 12:16 PM (GMT -7)
To: carl@media.org
Cc:
Bcc:
Subject: Project Update #8: Public Safety Codes of the World: Stand Up For Safety! by Carl Malamud, Public.Resource.Org

Project Update #8: A Prayer for Our Democracy

Posted by Carl Malamud, Public.Resource.Org [♥ Like](#)

ASCII to ASCII, disk to disk, data thou art and data thou shalt return.

Today, I published 130 more ASTM standards that have been rekeyed into HTML. We have posted a total of 328 ASTM files as scans from PDF and 256 are now available as open HTML. They are available for open access without restriction from our servers. These are a few of these laws with which we have chosen to govern ourselves:

- ASTM D86 (2007): Standard Test Method for Distillation of Petroleum Products at Atmospheric Pressure, as required by the EPA in 40 CFR 1065.710.
- ASTM D129 (1964): Standard Test Method for Sulfur in Petroleum Products (General Bomb Method) as required by the EPA in 40 CFR 60.106(j)(2).
- ASTM D257 (1991): Standard Test Method for DC Resistance of Conductance of Insulating Materials as required by the Rural Utilities Service, Department of Agriculture at 7 CFR 1755.860(e)(5).
- ASTM D323 (1958): Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method) as required by OSHA in 29 CFR 1910.106(a)(30).
- ASTM D412 (1968): Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension as required by the Food and Drug Administration in 21 CFR 801.410(d).
- ASTM D413 (1982): Standard Test Method for Rubber Property-- Adhesion to Flexible Substrate as required by the Coast Guard in 46 CFR 160.055-3.
- ASTM D445 (1972): Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids as required by the FDA in 21 CFR 177.1430(c)(2).
- ASTM D756 (1956): Standard Practice for Determination of Weight and Shape Changes of Plastics Under Accelerated Service

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- CFR 571.209 S5.2(b).
- ASTM D781 (1971): Standard Test Methods for Puncture and Stiffness of Paperboard and Corrugated and Solid Fiberboard as required by the Department of Housing and Urban Development in 24 CFR 3280.304(b)(1).
- ASTM D1056 (1973): Standard Specification for Flexible Cellular Materials Sponge or Expanded Rubber as required by the National Highway Safety Administration in 49 CFR 571.213.
- ASTM D2156 (1965): Method of Tests for Smoke Density in Flue Gases from Distillate Fuels as required by the Department of Energy in 10 CFR 430 Subpart B.
- ASTM D4268 (1993): Standard Test Method for Testing Fiber Ropes as required by the Coast Guard in 33 CFR 164.74(a)(3)(i).

The rule of law is the secular underpinning of our society. John Adams, in "A Dissertation on the Canon and the Feudal Law" said that for democracy to succeed, we must all know and speak the laws. He said:

"Let the public disputations become researches into the grounds and nature and ends of government, and the means of preserving the good and demolishing the evil. Let the dialogues, and all the exercises, become the instruments of impressing on the tender mind, and of spreading and distributing far and wide, the ideas of right and the sensations of freedom.

In a word, let every sluice of knowledge be opened and set a-flowing."

For our democracy to succeed, we must all be scanners. ASCII to ASCII, disk to disk. Data thou art and data thou shalt return.



When I started to publish federal law, I sent the ASTM and 9 other



I continue publishing the laws of our land. Let every sluce of knowledge be set a-flowing. Thanks for your support.

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EXHIBIT 21



(FILED UNDER SEAL)

EXHIBIT 22

(FILED UNDER SEAL)

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EXHIBIT 23



ASTM Standards, Regulations & Trade

Jeff Grove
VP – Global Policy & Industry Affairs
ASTM Washington Office

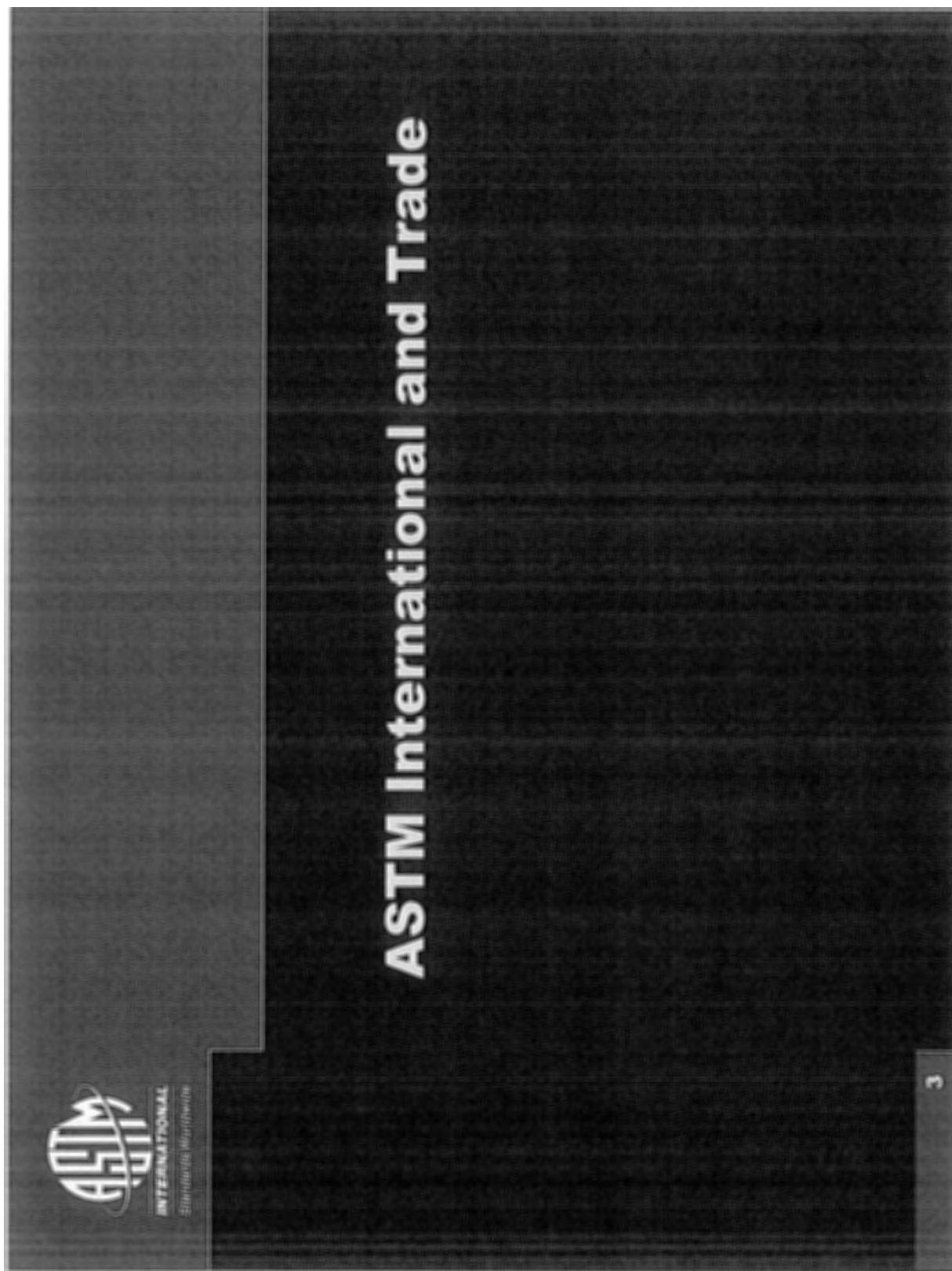
ASTM International / Russian Federal Agency on
Technical Regulating and Metrology Coordinated
Program, Orlando Florida

1



Overview of ASTM International

- Organized in 1898, ASTM is the largest private sector standards development organization in world
- ASTM has a volume of 12,000 standards used worldwide by 90 industrial sectors ranging from fuels and materials to new areas such as nanotechnology
- Offices in U.S., Mexico, China and Brussels





ASTM International & Trade

- ASTM meets World Trade Organization rules and commitments relating to international standards.
- Thousands of ASTM standards are used as the basis for technical regulations in the US, China, and at least 80 other countries worldwide.
- ASTM serves manufacturers and purchasers of strategic importance to Russia including petroleum, timber, steel, aluminum, nickel, inorganic chemicals, tourism, and 90 other industrial sectors.



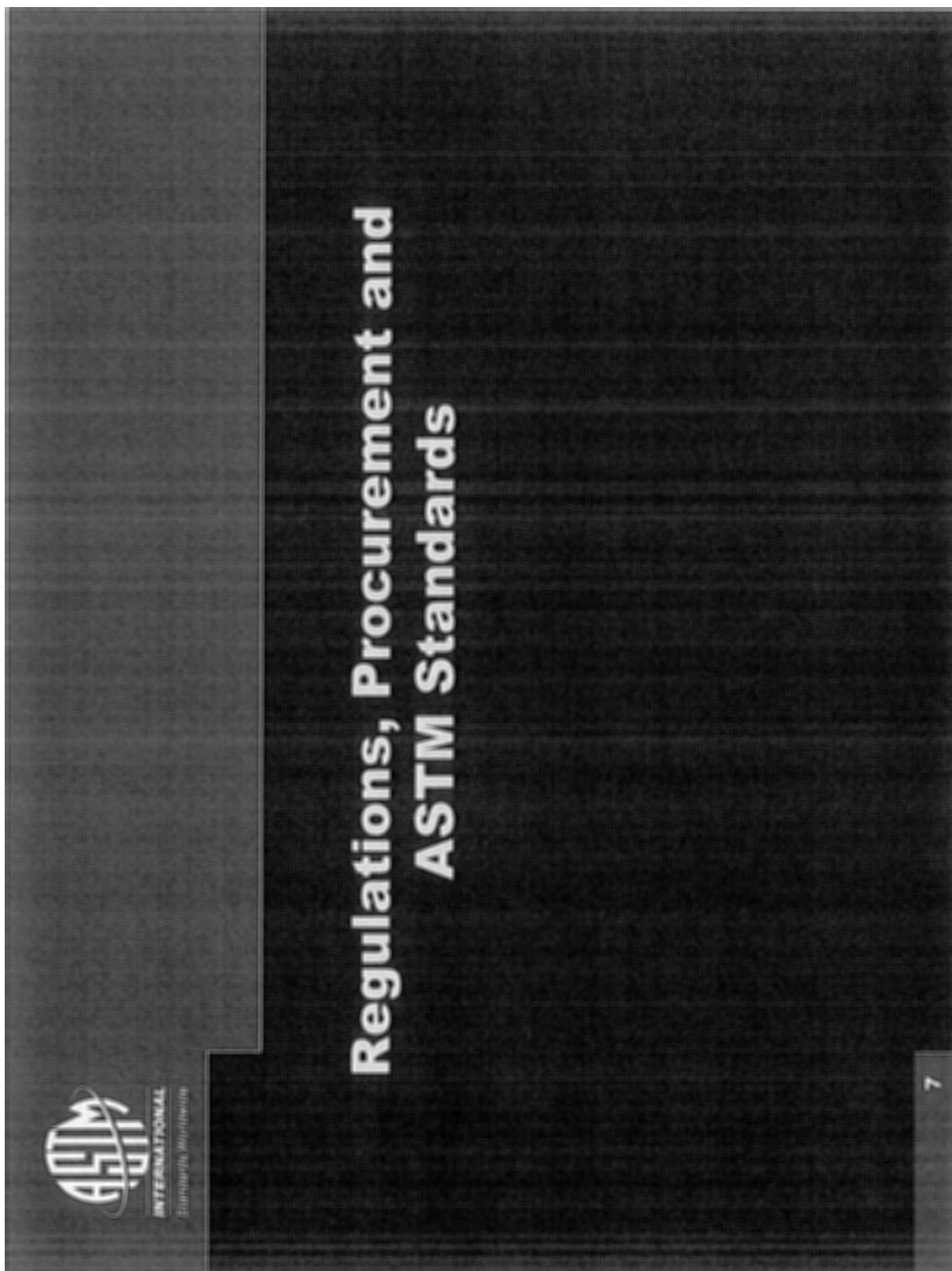
ASTM Complies with WTO

- WTO Technical Barriers to Trade (TBT) Review:
Global debate concerning what is an “International” standard for trade & technical regulation?
- 2002 WTO Committee rendered a Decision and published document G/TBT/1/REV 8 Section IX identifying principles for the development of international standards and rejected the premise that there is a list of recognized international SDOs
- ASTM develops international consensus standards in compliance with the WTO principles:
 - Transparency, Openness, Impartiality/Consensus, Effectiveness/Relevance, and Development dimension



Why is WTO TBT is important?

- Recognizing international standards based on the TBT Decision is an official US position in the current US/Russia Bilateral Negotiation on WTO Accession
- When Russia's WTO Accession is completed, it will be party to the WTO TBT Agreement
- Utilizing ASTM standards in regulations and trade is globally recognized and TBT defensible
- To date, there has never been a WTO TBT dispute challenging the use of an ASTM standard in a regulatory or trade matter





U.S. Legal and Policy Framework


- National Technology Transfer and Advancement Act of 1994 and OMB A-119:

- “...all Federal agencies and departments shall use technical standards that are developed or adopted by voluntary consensus standards bodies, using such technical standards as a means to carry out policy objectives or activities determined by the agencies and departments...and shall, when such participation is in the public interest...participate with such bodies in the development of technical standards.”



U.S. Government and ASTM

- ASTM standards continue to meet Government needs
 - 2006 NTTAA 10 year review demonstrates our value
- U.S. Government is both an equal partner and key stakeholder
 - 1000 units of U.S. Government participation in ASTM
 - Active in 93% of ASTM's committees
 - Wide array of agencies represented
 - Relationships with Federal Standards Executives
- State government officials are also engaged (47 states are represented, including California)



ASTM Standards in U.S. Law

- Of the 6500 Voluntary Consensus Standards incorporated by reference in the *US Code of Federal Regulations*, ASTM standards are listed over 3000 times
- ASTM International is the number one SDO on the Government's Top Ten Regulatory SDO List


See: <http://standards.gov/sibr/query/index.cfm>

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Standards Incorporated by Reference in U.S. Regulations

ASTM International	ASTM	3348
<u>American National Standards Institute</u>	ANSI	805
<u>American Society of Mechanical Engineers</u>	ASME	666
<u>National Fire Protection Association</u>	NFPA	546
<u>Society of Automotive Engineers</u>	SAE	503
<u>American Petroleum Institute</u>	API	438
Reprographic Technologies		348
<u>Underwriters Laboratories, Inc.</u>	UL	339
State of Illinois, Administrative Code	I.A.C.	338
<u>International Maritime Organization</u>	IMO	330



U.S. CFR Citations of ASTM


- Energy – 50
- Commerce – 12
- Consumer Products - 9
- Food and Drug – 129
- Highways – 279
- Housing – 320
- Interior - 17
- Labor – 56
- Environment – 692
- Shipping & Rail – 989
 - Federal Railroad Administration
- Agriculture - 240

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U.S. Procurement Standards

Defense Supply Center	DSC	1526
<u>General Services Administration</u>	GSA	736
ASTM International	ASTM	502
<u>Institute for Printed Circuits</u>	IPC	474
<u>Society of Automotive Engineers</u>	SAE	451
<u>U.S. Department of Energy</u>	DOE	157
<u>Compressed Gas Association</u>	CGA	105
<u>Naval Air System Command</u>	NAVAIR	90
<u>American Society of Mechanical Engineers</u>	ASME	70



ASTM Standards in Global Regulations (or as the basis of a national standard)

Asia (11)	Europe (32)	Latin America & Caribbean (18)	Middle East & North Africa (9)	Sub-Saharan Africa (12)
AFGHANISTAN CHINA INDONESIA KOREA MALAYSIA MONGOLIA PHILIPPINES SINGAPORE SRI LANKA TAIWAN VIETNAM	RUSSIA EU - 27 Members* BOSNIA CROATIA KAZAKHSTAN	BOLIVIA CHILE COLOMBIA COSTA RICA DOMINICA ECUADOR EL SALVADOR GRENADA GUATEMALA HONDURAS JAMAICA PANAMA PERU NICARAGUA ST. LUCIA ST. VINCENT & GRENADINES TRINIDAD & TOBAGO URUGUAY	EGYPT GCC (Gulf States) IRAQ ISRAEL JORDAN MOROCCO PALESTINE TURKEY QATAR SAUDI ARABIA	BOTSWANA CONGO ETHIOPIA GHANA KENYA MAURITIUS MOZAMBIQUE NIGERIA SOUTH AFRICA UGANDA ZAMBIA ZIMBABWE



Global References to ASTM

- Access to U.S. and North American market often requires ASTM in regulations and procurement
- Industry buyers of steel, aluminum, nickel, petroleum and other materials often require ASTM specs in contracts and orders
- Growing references in ASTM outside of the U.S.
 - China, South Africa and 10 other countries require ASTM blendstock specification for fuel grade ethanol imports
 - ASTM specs facilitates petro trade between China and producers in Africa including Nigeria and Congo



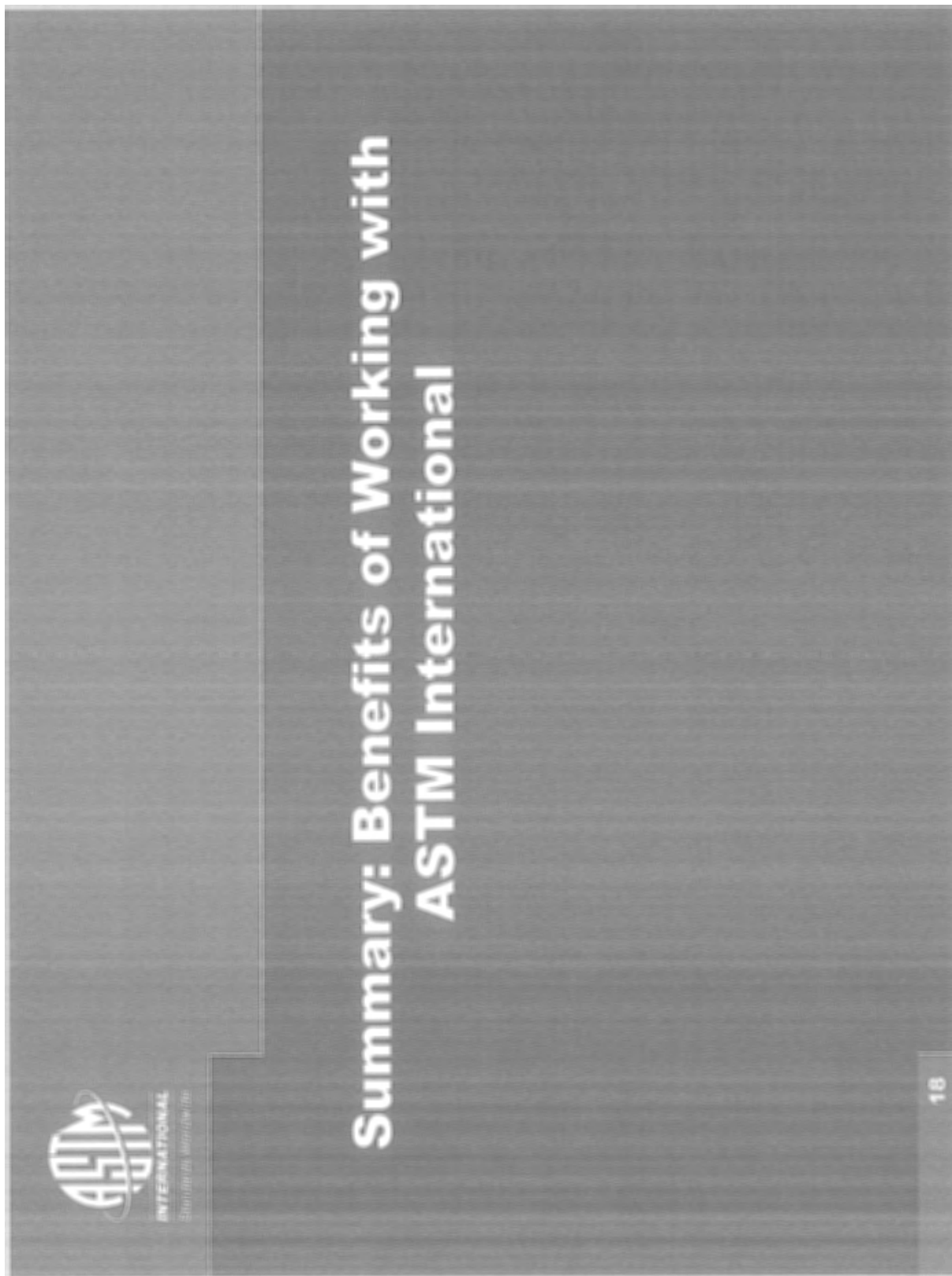
References to ASTM in the EU

- Since 2001, there have been at least 311 references to ASTM standards in European legislation
 - Mostly in the areas of fuels, lubricants and chemicals
- One challenge to ASTM is the EU's New Approach to Regulation
 - Use of CEN standards triggers presumption of compliance to essential requirements of directives
- Bad policy: EU regulations under New Approach are rigid and don't recognize the flexibility to select standards based on quality and relevance



ASTM in the EU


- While there are regulatory hurdles, industry use of ASTM standards in EU is strong
 - 1500 members from all EU countries
- New ASTM activities in emerging areas have heavy EU participation:
 - Nanotechnology, Pharmaceuticals, REACH/ROHS and DecaBDE Declarations
- Industry and consumers concerned about the pace and effectiveness of CEN and prefer certain ASTM standards (toys, fire safety, environment, etc).





Benefits to Russian Industry

- Access to regulators from the U.S. (Federal and State) and other countries
- Early and direct knowledge of emerging technical regulations in the US and abroad
- Ability to shape the instruments of global regulation
 - ASTM Committee F40 doing developing tools for REACH/ROHS and DecaBDE compliance (Europe, US, China and Korea)



Benefits to Russian Government

- Eliminate/reduce costs of developing standards
- Decrease costs of good purchased
 - Commercial off the shelf procurement
- Promotes efficiency and economic competition
- Relies on the private sector to meet needs
 - Access to industry experts and technology
 - Process is faster and more dynamic

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Summary Message

- ASTM meets World Trade Organization (WTO) criteria for "international" standards
- Knowledge of ASTM standards is important for complying with U.S. regulations and procurement requirements.
- Increasingly, ASTM standards are being used around the world (84 countries) in technical regulations and trade.
- We hope that industry and regulators are open to choose from a portfolio of international standards that includes ASTM International.
- ASTM Technical Committees would benefit from the knowledge and expertise that would come from more Russian participation.



Thank you for your interest!

Jeff Grove

VP – Global Policy & Industry Affairs

ASTM International

1828 L Street, NW, Suite 906

Washington, DC 20036

phone: 202-223-8505

Email: jgrove@astm.org

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EXHIBIT 24

From: Petre, Sarah <spetre@astm.org>
Sent: Thursday, October 4, 2012 4:43 PM
To: Grove, Jeff <jgrove@astm.org>; Smith, Dan <dsmith@astm.org>; Quinn, Anthony <aquinn@astm.org>
Cc: McClung, Kate <kmclung@astm.org>
Subject: RE: ASTM Follow Up on S1492
Attach: Three Kids Mine_S 1492_Text_Oct2012.docx



Per Alex's email below, I would appreciate your feedback on the language. I attached the legislation with my comments.

The primary issue that I would like to discuss with you is:

Should we request that Congress use the language "the most current version of XXX"? (it currently does for two of the three standards in this draft legislation)

Or

Now that we have learned that this language is not technically right because the initial version of the standard that Congress intended to include might be substantively different from an updated version of the standard that would then be automatically incorporated----should we suggest that Congress use language like that which is used in CPSIA and the most recent draft of the gypsum bill? I could supply this sample language to Alex and set his feedback on it.

Thank you!

Sarah

From: McDonough, Alexander (Reid) [mailto:Alexander_McDonough@reid.senate.gov]
Sent: Thursday, October 04, 2012 4:16 PM
To: Petre, Sarah
Cc: Quinn, Anthony; Smith, Dan
Subject: RE: ASTM Follow Up on S1492

Hi Sara- I know it's been over a year since we met but we're now getting around to making the necessary revisions to this S.1492, the Three Kids Mine remediation bill.

I want to be absolutely sure that we properly cite the most up-to-date version of your environmental site assessment standards in the bill. Would you be able to provide us a suggestion how to modify the attached legislative language?

I'm happy to discuss further if that would be helpful. My direct line is 202-224-1052. Thanks!

Alex

Alex McDonough
Policy Advisor - Natural Resources
Senate Majority Leader Harry Reid
202-224-3542



For more information, or to receive the Reid Report E-Newsletter, visit Senator Harry Reid's website at <http://reid.senate.gov>

From: Petre, Sarah [<mailto:spetre@astm.org>]
Sent: Tuesday, August 30, 2011 2:21 PM
To: McDonough, Alexander (Reid)
Cc: Quinn, Anthony; Smith, Dan
Subject: ASTM Follow Up on S1492

Good afternoon Alex:

Thank you for meeting with ASTM International last week to discuss our work on standards for environmental site assessments as it relates to mine safety in S1492. After a seemingly long week of earthquakes and hurricanes, I am following up with you to provide you with a document that explains the major changes to standard E1903-97 (2002) reflected in the recently approved 2011 version. As mentioned in our meeting, as compared to the language in the statute for two other standards, ASTM E2137-06 and E1527-05, the language for E1903 does not reflect Congress' intent to use the most recent standard, which industry would be using. While the 2002 version of the standard still effectively provides the framework for good commercial and customary practices in conducting a Phase II environmental site assessment, a reference of the most recent standard is important to reflect Congress' intent.

Please let us know how ASTM can be a resource for your staff on this particular legislation and other related issues. ASTM's standards are effective tools to address the environmental, safety and health issues related to abandoned mine sites.

Best to you,

Sarah

Sarah Petre
ASTM International
Manager, Industry and Federal Affairs
Office: 202-223-8399
Cell: 484-358-2455
spetre@astm.org
www.astm.org

From: McDonough, Alexander (Reid) [mailto:Alexander_McDonough@reid.senate.gov]
Sent: Wednesday, August 10, 2011 11:23 AM
To: Petre, Sarah
Cc: Quinn, Anthony; Smith, Dan
Subject: RE: Request for Meeting Re: S1492

Sarah- Let's meet in Hart 522. Thanks,
Alex

From: Petre, Sarah [<mailto:spetre@astm.org>]
Sent: Wednesday, August 10, 2011 11:19 AM
To: McDonough, Alexander (Reid)
Cc: Quinn, Anthony; Smith, Dan
Subject: RE: Request for Meeting Re: S1492

Good morning, Alex:
Let's plan on meeting on August 23 at 10am. Where is the best location to meet you?
Best,
Sarah

Sarah Petre
ASTM International
Manager, Industry and Federal Affairs
Office: 202-223-8399
Cell: 484-358-2455
spetre@astm.org
www.astm.org

From: McDonough, Alexander (Reid) [mailto:Alexander_McDonough@reid.senate.gov]
Sent: Tuesday, August 09, 2011 4:42 PM
To: Petre, Sarah
Cc: Quinn, Anthony; Smith, Dan
Subject: RE: Request for Meeting Re: S1492

Hi Sarah – I'm available to meet on the 23rd. My schedule is very flexible right now, so please send me a couple good times that work for you. Thanks,
Alex

From: Petre, Sarah [<mailto:spetre@astm.org>]
Sent: Thursday, August 04, 2011 3:16 PM
To: McDonough, Alexander (Reid)
Cc: Quinn, Anthony; Smith, Dan
Subject: Request for Meeting Re: S1492

Good afternoon Alex:

I am contacting you regarding Senator Reid's recently introduced bill, S1492, on the remediation and reclamation of the Three Kids Mine Project Site, which has a sister bill, HR2512, sponsored by Representative Heck.

ASTM is pleased to see that Senator Reid values the development of a public-private partnership, particularly with the utilization of ASTM International's standards, for the success of the Three Kids Mine project. To give you a brief background on ASTM International: we are a non-profit organization that serves as a forum for the development and publication of technical, voluntary consensus standards for materials, products, services, and systems. ASTM standards include product specifications, safety standards, and test methods that cover a range of products from environmental assessment and building materials to clinical tools and consumer products. We bring together technical experts representing regulators, producers, consumers, and academia to create voluntary consensus standards. Participation in ASTM International is open to all with a material interest, anywhere in the world. ASTM standards are used in business transactions, federal and state regulations, as well as international commerce. More than 100 industries rely on ASTM standards and over 2,500 ASTM Standards have also been adopted as the basis for national standards or are referenced in regulation outside the United States.

ASTM's standards are effective tools to address the environmental, safety and health issues related to abandoned mine sites. **As you know, with the passage of S1492 and HR2512, three ASTM Standards will be used for the project, including: ASTM E2137-06: Standard Guide for Estimating Monetary Costs and Liabilities for Environmental Matters; E1527-05: Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process; and E1903-97 (2002): Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process.**

ASTM Committee E50 on Environmental Assessment, Risk Management and Corrective Action just approved the 2011 revision and update of E1903-97 (2002). For these reasons, ASTM has already met with the Majority and Minority Staff of the House Subcommittee on Energy and Mineral Resources. **We would also like to request a meeting with you to discuss the ASTM standard, its changes, and how it affects the project and legislation. Are you available for a meeting on August 16, 19, 22, or 23?**

I look forward to your response. Thank you,

Sarah Petre

Sarah Petre
ASTM International
Manager, Industry and Federal Affairs
Washington Office
1828 L Street, NW, Suite 906
Washington, DC 20036
Office: 202-223-8399
spetre@astm.org
www.astm.org

ASTM019653

JA01967

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EXHIBIT 25



Form and Style for ASTM Standards



January 2015

FORM AND STYLE FOR ASTM STANDARDS

Form of ASTM Test Methods
Form of ASTM Specifications
Form of Other Types of ASTM Standards
Use of the Modified Decimal Numbering System
Terminology in ASTM Standards
Caveats and Other Legal Aspects in Standards—Special Instructions
Standards Style Manual
Use of SI Units in ASTM Standards
Annex A



ASTM INTERNATIONAL
100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959

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Part C. Form of Other Types of ASTM Standards.....	C-1
Part D. Use of the Modified Decimal Numbering System.....	D-1
Part E. Terminology in ASTM Standards	E-1
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PREFACE

ASTM International (hereafter referred to as ASTM International or ASTM), founded in 1898, is a scientific and technical organization formed for “the development of standards on characteristics and performance of materials, products, systems, and services; and the promotion of related knowledge.” It is the world’s largest source of voluntary consensus standards.

The purpose of this manual is to promote uniformity of form and style in ASTM standards. Such uniformity is desirable because it helps the user to find what is needed more easily and to understand what is read more quickly. Such uniformity in a manuscript is necessary if it is to be published by ASTM International. Deviations from ASTM style may mean wasted time on the part of authors, reviewers, editors, and eventually the reader of the standard. This means costly time and resources are lost by everyone involved.

Section 10.7 of the *Regulations Governing ASTM Technical Committees* requires that the current edition of this manual be followed in the writing of standards. When conditions preclude compliance with this manual, a committee may request an exemption from the Committee on Standards (COS).

Responsibility for the *Form and Style for ASTM Standards* is vested in the Board of Directors. Revisions to this manual may be recommended by the Board of Directors, by the Committee on Standards, or by a technical committee or its Executive Subcommittee. The Committee on Standards acts upon recommendations for changes and reviews all requests from technical committees for exceptions to the *Form and Style for ASTM Standards*. Recommended changes to this manual in *technical* substance and format shall be referred to the Committee on Standards, which, at a regular meeting, shall rule on the merits of the recommendation. A circular letter ballot will be issued to the technical committees and the responses will be addressed by COS. The COS recommendation shall be sent to the Board of Directors. Changes adopted by the Board of Directors shall be announced to the members and shall become effective on the date determined by the Board of Directors.

Suggestions for *editorial* revision of this manual should be addressed to the Staff Coordinator—Form and Style Manual, ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959.

INTRODUCTION

This manual is the basic textbook for anyone writing an ASTM standard. A study of Parts A, B, C, or E will show the proper form for the principal types of standards including a detailed explanation of how to write each section, from the title to the appendixes. Within Parts A, B, C, and E, the first section lists the preferred sequence of headings and indicates whether these sections are mandatory. The headings identified as “mandatory” are required. Other headings shall be included when the subject matter is pertinent to the document under development, in which case, all instructions and guidance for that particular section shall be followed. For example, if the standard does not contain reference to any standard documents within the text, it is not required to include a section on Referenced Documents. If, however, specific hazards are cited throughout the text, then the section on Hazards shall be followed. Included at appropriate places are examples and standard wording. Also included are examples of correctly written complete manuscripts of various types of standards. Where standards are referenced throughout the text of this manual, visit the ASTM website, www.astm.org, and refer to the standard’s Document Summary page.

For easy reference purposes, each paragraph in an ASTM standard shall be numbered. The modified decimal numbering system adopted is explained in Part D. Part E gives instructions for preparing standard definitions and a format for specialized terminology standards. Special instruction concerning patents, use of trademarks, open-end agreements, fire standards, and other legal issues are given in Part F.

Part G is a detailed Style Manual that includes among other things information on abbreviations, spellings, literature references, and preparation of illustrations.

ASTM policy is that SI units be included in all standards. Part H is included to aid the standards writer to incorporate these units correctly. It is the technical committee’s decision whether SI or other units are the preferred unit of measurement used in the committee’s document. When SI and non-SI units of measurement are contained in a document, the order in which they appear is determined by that committee.

For additional information about ASTM procedures, or available publications such as the *Regulations Governing ASTM Technical Committees* and *Officer Handbook*, contact ASTM Technical Committee Operations, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959 (Telephone: 610-832-9673).

DEFINITION

The following definitions apply to the use of the content of this manual and clarify which sections or formats, or both, are mandatory when presenting ASTM documents:

1. “Shall” is used to indicate that a provision is mandatory.
2. “Should” is used to indicate that a provision is not mandatory but is recommended as good practice.
3. “May” is used to indicate that a provision is optional.
4. “Will” is used to express futurity, but never to indicate any degree of requirement.

Definitions for *standard*, *classification*, *guide*, *practice*, *specification*, *terminology*, and *test method* are quoted below from the current *Regulations Governing ASTM Technical Committees*:

standard, *n*— as used in *ASTM International*, a document that has been developed and established within the consensus principles of the Society and that meets the approval requirements of ASTM procedures and regulations.

DISCUSSION—The term “standard” serves in ASTM International as a nominative adjective in the title of documents, such as test methods or specifications, to connote specified consensus and approval. The various types of standard documents are based on the needs and usages as prescribed by the technical committees of the Society.

classification, *n*— a systematic arrangement or division of materials, products, systems, or services into groups based on similar characteristics such as origin, composition, properties, or use.

guide, *n*— a compendium of information or series of options that does not recommend a specific course of action.

DISCUSSION—A guide increases the awareness of information and approaches in a given subject area.

practice, *n*— a definitive set of instructions for performing one or more specific operations that does not produce a test result.

DISCUSSION—Examples of practices include, but are not limited to: application, assessment, cleaning, collection, decontamination, inspection, installation, preparation, sampling, screening, and training.

specification, *n*— an explicit set of requirements to be satisfied by a material, product, system, or service.

DISCUSSION—Examples of specifications include, but are not limited to, requirements for; physical, mechanical, or chemical properties, and safety, quality, or performance criteria. A specification identifies the test methods for determining whether each of the requirements is satisfied.

terminology standard, *n*— a document comprising definitions of terms; explanations of symbols, abbreviations, or acronyms.

test method, *n*— a definitive procedure that produces a test result.

DISCUSSION—Examples of test methods include, but are not limited to: identification, measurement, and evaluation of one or more qualities, characteristics, or properties. A precision and bias statement shall be reported at the end of a test method. (Refer to Section A21 on Precision and Bias.)

approval date, *n*— the date assigned by ASTM International through the Committee on Standards, which indicates that a new standard, revision or reapproval has successfully completed the balloting and appeals process in accordance with the *Regulations Governing ASTM Technical Committees*.

publication date, *n*— the month/year that an approved standard is made publicly available in either electronic or hardcopy form.

PART A

FORM OF ASTM TEST METHODS

INTRODUCTION

An ASTM test method, as defined on p. vii, typically includes a concise description of an orderly procedure for determining a property or constituent of a material, an assembly of materials, or a product. The directions for performing the test should include all of the essential details as to apparatus, test specimen, procedure, and calculations needed to achieve satisfactory precision and bias.

An ASTM test method should represent a consensus as to the best currently available test procedure for the use intended. It should be supported by experience and adequate data obtained from cooperative tests.

In order to be the “best currently available,” test methods need periodic review to determine whether revisions are desirable as the result of technological advances in manufacturing, testing, and use requirements.

ASTM test methods are frequently intended for use in the buying and selling of materials according to specifications and therefore should provide such precision that when the test is properly performed by a competent operator the results will be found satisfactory for judging the compliance of the material with the specification. These test methods cover the determination of fundamental properties of materials such as density, absolute viscosity, softening point, and flash point. They may include a variety of different laboratory procedures such as chemical and spectrochemical analyses, mechanical and electrical tests, weathering tests, visual examination, fire tests, performance characteristics, sampling, nondestructive tests, and radiation exposure tests. In some standards, optional test methods are included.

Statements addressing precision and bias are required in ASTM test methods. This gives the user of the test method an idea of the nature of the sample to be prepared and analyzed and information regarding the nature of the data obtained by using the method. The requirement of precision and bias statements does not mean that numerical statements are required. It means that the spread of resulting data and its relationship to an accepted reference material or source (if available) shall be addressed. Some test methods have no numerical expression of precision or bias (for example, pass/fail tests, spot tests.) In these cases, precision and bias shall be addressed and the reasons for not including relevant data explained. Test methods are sometimes prepared for use in research rather than in the buying and selling of materials. Other test methods cover process control, screening, and field tests. Although these latter test methods may not always be as precise as referee test methods, they are sufficiently precise for the intended use and usually require less time. Field tests allow testing at the site, thus eliminating transportation of specimens to and from the laboratory.

Special instructions with respect to the legal aspects are included in Part F and shall be followed in writing any standard. These include such matters as contractual items, caveat statements, patents, and fire standards. Assistance on the development of fire standards is available from Committee E05. The policies contained in Part F are approved by and are under the jurisdiction of the ASTM Board of Directors.

When a standard is being developed, the costs associated with its development and subsequent use generally should be considered. The prime objective should be the optimum use of resources to achieve satisfactory definition of the product or service. However, it should be noted that when the standard relates to the safety of persons, cost considerations are likely to become much less important than when attributes of materials or products are involved. Some standards, such as definitions, impose no cost on the user; others that include numerous and extensive requirements can entail significant expense to users of the standard. The requirements to be included should, therefore, be those that are technically relevant and yield benefits commensurate with the cost of their determination.

FORM OF ASTM TEST METHODS

Cost effectiveness statements or rationale may be included within a standard if appropriate, usually in an appendix.

A1. Subject Headings of Text

A1.1 The following is the sequence for the text of ASTM test methods. Headings are those most generally used but may not be all-inclusive. It may be necessary to include other headings for specialized subjects. The headings identified as “mandatory” are required. Other headings shall be included when the subject matter is pertinent to the document under development, in which case, all instructions and guidance for that particular section shall be followed. For example, if the standard does not contain reference to any standard documents within the text, it is not required to include a section on Referenced Documents. If, however, specific hazards are cited throughout the text, then the section on Hazards shall be followed.

	Title (mandatory)
†	Designation (mandatory)
†	Introduction
	Scope (mandatory)
†	Referenced Documents
†	Terminology
	Summary of Test Method
	Significance and Use (mandatory)
	Interferences
	Apparatus
	Reagents and Materials
	Hazards (mandatory when applicable)
	Sampling, Test Specimens, and Test Units
	Preparation of Apparatus
	Calibration and Standardization
	Conditioning
	Procedure (mandatory)
	Calculation or Interpretation of Results
	Report
	Precision and Bias (mandatory)
	Measurement Uncertainty
†	Keywords (mandatory)
†	Annexes and Appendixes
†	References
	Summary of Changes

† The headings marked with a dagger (†) should appear only once in test methods that contain two or more test methods.

A1.2 Not all of these headings may be required for a particular standard. Additional headings that are included to cover specialized subjects should appear in the most appropriate place, depending on their relation to the sections listed in A1.1. When a standard includes several

test methods, repetition of appropriate headings may be desirable.

A1.3 Subject headings in boldface type shall precede each section to orient the reader. Text divisions shall be subdivided in accordance with the Use of the Modified Decimal Numbering System guide in Part D of this publication.

A1.4 For convenience in application and when economy in printing may result, test methods may include a series of procedures for determining the same or different properties of a given material. In such test methods, include at the beginning of the standard individual sections describing those features that are common to all of the separate test methods. Identify different methods within the standard by capital letters, starting with A; i.e., Test Method A, Test Method B, etc.

A1.5 Examples of test methods for single determination:

B331 Test Method for Compressibility of Metal Powders in Uniaxial Compaction
C693 Test Method for Density of Glass by Buoyancy

A1.6 Examples of test methods covering a series of test methods:

D1179 Test Methods for Fluoride Ion in Water
D2137 Test Methods for Rubber Property—Brittleness
Point of Flexible Polymers and Coated Fabrics
F38 Test Methods for Creep Relaxation of a Gasket Material

A1.7 In deciding whether to describe similar test methods as portions of a single standard or as separate test methods, the following criterion may be found useful: When the descriptions of the apparatus and procedure are similar and a significant economy in printing can be accomplished by combining, and if, because of clearly understood distinctions in applicability, no confusion can rise as to which test method should be used, then it is desirable to treat the test methods as parts of a single standard. If confusion could arise, the test methods should be published separately. If one test method is preferred as a referee method, it should be so designated, in which case

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the other test methods should be designated as optional or nonreferee. When test methods are published separately, a worthwhile saving can be accomplished by making cross-references from one test method to another for the apparatus and detailed description of the procedure.

A2. Title (Mandatory)

A2.1 The title should be concise but complete enough to identify the nature of the test, the material to which it is applicable, and to distinguish it from other similar titles. Titles of analogous standards should be identical, except for the distinctive feature(s) of each standard. Titles are used frequently in lists, tables of contents, indexes, tabulating card systems, etc., and therefore should be brief but inclusive. Select words that easily lend themselves to indexing. The essential features of a title are the particular property or constituent being determined, the material to which the test method is applicable, and when pertinent, the technique or instrumentation. If the test method is designated to determine a number of constituents or properties, use a general title, omitting the names of specific constituents or properties. When a standard includes a number of individual test methods for different constituents or properties, the title need indicate only the general nature of the tests and the material to which it is applicable.

A3. Designation and Year Date

A3.1 *Designation (mandatory)*— The ASTM designation, assigned by Headquarters on submittal for approval, consists of the following sequential parts:

A3.1.1 A letter designation denoting in general the classification according to material, product, system or service.

- A—Ferrous metals and products
- B—Nonferrous metals and products
- C—Cementitious, ceramic, concrete, and masonry materials
- D—Miscellaneous materials and products
- E—Miscellaneous subjects
- F—End-use materials and products
- G—Corrosion, deterioration, weathering, durability, and degradation of materials and products

A3.1.2 A sequential number following the letter designation (for example, Specification C150).

A3.2 *Year Date:* (for example, Specification C150-01).

A3.2.1 After the designation, a hyphen is followed by the last two numbers of the year of acceptance or of last revision. If the standard is revised again during the same year, this is indicated by adding an “a” for the second revision, “b” for the third revision, etc.

A3.2.2 The parenthetical phrase “(Reapproved 20____)” to designate the year of last preapproval of a standard, if applicable.

A3.2.3 For editorial changes that do not change the year designation, a note is inserted before the text to indicate the location and date of the change and a superscript epsilon (^ε) is added after the year designation. The epsilon designations and corresponding notes are numbered chronologically and are deleted upon occasion of the next revision or reapproval.

A3.3 The designation numbers of standards that have been discontinued are not reassigned.

A3.4 *SI Standards* (see Part H and Section G24.)

A4. Introduction

A4.1 A separate section covering general introductory or informational material is not generally used in ASTM test methods. Occasionally, a test method is of such a nature that it requires an explanatory statement for proper understanding by the user. In such instances an introduction should be included immediately after the title of the test method but without a section number.

A4.2 Examples of test methods that include introductions are as follows:

D143 Test Methods for Small Clear Specimens of Timber
D905 Test Method for Strength Properties of Adhesive Bonds in Shear by Compression Loading

A5. Scope (Mandatory)

A5.1 Include in this section information relating to the purpose of the test method. State if the method is quantitative or qualitative, and any known limitations. Concisely state the property or constituent that is being determined and the

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materials that can be analyzed. State the range of concentrations/values determined.

A5.2 Include, where applicable, the analytical technique, for example, gas chromatography, and whether the test is performed in the laboratory, field, or on-line.

A5.3 Include in this section the system of units to be used in referee decisions.

A5.4 Include in this section any caveats required by ASTM policy such as the caveats on *safety hazards* (see F2.1) and *fire hazards* (see F2.2).

A5.5 For standards developed for reference in model (building) codes, include the following statement:

The text of this standard references notes and footnotes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the standard.

A6. Referenced Documents

A6.1 List in alphanumeric sequence the designation and complete title of the following documents referenced within the standard; ASTM standards and adjuncts; and standards and codes of other organizations. For references to all other documents, including ASTM STPs, use the format indicated in Section G21.

A6.2 Provide footnotes to this section to indicate the sources of these documents. When ASTM standards are referenced later in the text, use only the type of standard (that is, specification, test method, practice, classification, guide, terminology, etc.) and the designation letter and number (for example, Test Method D1310).

A6.3 Do not include the year date when designating referenced documents unless there is a technical reason for requiring a particular revision.

A6.4 When listing referenced adjuncts, provide a brief description in this section, and a footnote of the availability. (For more specific information on adjuncts, refer to Section A28).

A7. Terminology

A7.1 Every standard should include a section on terminology.

A7.1.1 All significant terms that may have a meaning more specialized than the commonly

used language should be defined within a standard or the terminology standard should be referenced. (See Part E on Terminology.)

A7.1.2 To avoid redundant definitions, check the committee terminology standard, terminology sections within committee technical standards, and the *ASTM Online Dictionary of Engineering Science and Technology*.

A7.2 *Terminology Within a Standard*— This section may include paragraphs on definitions, definitions of terms specific to a standard, symbols, abbreviations, acronyms, discussions, or a combination thereof.

A7.2.1 *Definitions*— Write a definition in the dictionary-definition form and assign a section number, term, part of speech, definition, and, when applicable, a delimiting phrase. Italicize the term, part of speech, and delimiting phrase. Do not capitalize the term or any other components of the definition except for proper nouns, acronyms, or any other words capitalized in normal usage (see Section E4). List the terms in alphabetical order. Example follows:

3. Terminology—(Always use as the main heading.)

3.1 *Definitions*:

3.1.1 *color blindness, n*—total or partial inability to differentiate certain hues.

3.1.2 *transmittance, n*—of light, that fraction of the incident light of a given wavelength which is not reflected or absorbed, but passes through a substance.

A7.2.2 *Discussions*— When more detail of the concept being defined is desirable, supplementary information should be added as a separate numbered paragraph labeled “Discussion” immediately following the definition. Use the term “Discussion” instead of “Note” (see E5.8). Example follows:

3.1.2.1 *Discussion*—Extraneous leakage is the sum of all leakage other than that intended to be measured by the test.

E283

A7.2.3 *Definition(s) of Term(s) Specific to This Standard*— This is a term that is specific to the standard in which it is used and that has no application out of that context. Write a definition of term specific to a standard in the dictionary-definition form and include a section number,

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term, part of speech, definition, and, when applicable, a delimiting phrase. Italicize the term, part of speech, and delimiting phrase. Do not capitalize the term or any other components of the definition except for proper nouns, acronyms, or other words capitalized in normal usage (see Section E4). List the terms in alphabetical order. Example follows:

3.1 *Definition of Terms Specific to This Standard:*

3.1.1 *batch sampling, n*—sampling over some time period in such a way as to produce a single test sample for analysis.
D4175

A7.2.4 *Symbols*— In a standard with numerous equations containing identical quantity symbols, symbols may be listed alphabetically and unnumbered in this section instead of under each equation; also italicize the symbol and do not capitalize the definition. (See also Section E6.) Example follows:

3.1 *Symbols:*

A = cross-sectional area of specimen
B = normal induction

A7.2.5 *Referencing Terminology Standard*— If the terminology applicable to the standard is included in a terminology standard, cite the applicable terminology standard. Example follows:

3.1 *Definitions:*

3.1.1 For definitions of terms used in this test method, refer to Terminology D1129.

A8. Summary of Test Method

A8.1 Include here a brief outline of the test method, describing in the passive voice its essential features without the details that are a necessary part of the complete statement of procedure. If desired, a brief statement of the principle of the test method may be given; this is particularly desirable in the case of chemical methods and should appear as the first paragraph. In chemical methods state the type of procedure, such as colorimetric, electrometric, and volumetric, and describe the source of color, major chemical reaction including pertinent chemical equations, etc.

A9. Significance and Use (Mandatory)

A9.1 Include in this section information that explains the relevance and meaning of the test. State the practical uses for the test and how it is typically employed. Avoid repetition of information included in the Scope (see Section A5). Include statements to provide the user with comprehensive understanding of the following:

A9.1.1 The meaning of the test as related to the manufacture and end use of the material,

A9.1.2 The suitability of the test for specification acceptance, design purposes, service evaluation, regulatory statutes, manufacturing control, development and research, and

A9.1.3 The fundamental assumptions inherent in the test method that may affect the usefulness of the results.

A9.2 Include any discretion needed in the interpretation of the results of the test.

A9.3 Include, where applicable, comparisons of the test to other similar procedures.

A10. Interferences

A10.1 If the successful application of the test method requires the inclusion of explanatory statements on interference effects, include such information here; otherwise, omit this section. List briefly the constituents or properties that are likely to cause interference and the amounts that are known to interfere. In some cases this information is obtainable only by observation during the performance of the test. If the presence of an interfering factor affects the precision or bias of the test results and compensations are made in the calculations (Section A19), this should be explained in this section and noted in the appropriate section. In some cases, interferences may be a major factor in judging test results and explanations of their effects may become lengthy. Lengthy explanations may be placed in an annex to the standard.

A11. Apparatus

A11.1 In this section, include a brief description of the essential features of the apparatus and equipment required for the test, and, where they clarify or supplement the text, schematic drawings or photographs. Cover in separate

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text divisions the important features and requirements for the apparatus. Do not list common laboratory apparatus, such as flasks and beakers, but include any especially modified forms or unusual sizes of common apparatus that are required or that may require special preparation.

A11.2 Trademarks shall not be used unless a specific manufacturer's product is required for a well-defined reason (see Section F3 for regulations regarding patents in ASTM standards). In such cases an explanatory footnote shall be included giving supplementary information regarding such apparatus or material. The footnote shall state that this apparatus or material "has been found satisfactory for this purpose." When special types of glassware are required, such as heat-resistant and chemical-resistant, state the significant characteristic desired rather than a trademark. For example, use "borosilicate glass" rather than "Pyrex" or "Kimax." Specify filter paper by describing the significant characteristic such as porosity, rate of filtering, and ash content, or by reference to ASTM Specification E832, for Laboratory Filter Papers

NOTE A1—Policies have been adopted by the Board of Directors that are applicable to standards involving patented apparatus, materials, and processes. These policies are described in the *Regulations Governing ASTM Technical Committees*. Before submitting to subcommittee or main committee ballot any draft test method that requires a specific manufacturer's product, consult the Staff Manager of your committee as to necessary conformance with the *Regulations Governing ASTM Technical Committees*.

A11.3 Detailed manufacturing requirements for apparatus, unless quite brief, should preferably be placed in an annex to the test method (see A24.3), retaining in the text only a brief outline with schematic drawings or illustrations where necessary. The purpose of this outline is to provide information regarding the essential features of the apparatus, to enable the user to assemble the equipment and understand its use in the test method.

A11.4 When essentially the same apparatus is used for more than one standard and the description of the apparatus requirements is lengthy, it is recommended that the complete specifications for the apparatus be included in an annex to one standard and merely a reference be

made to them in the other standard, mentioning under "Apparatus" only such modifications as may apply in each particular case.

A11.5 When the same apparatus is used in several standards, the detailed specifications should be covered by a separate ASTM standard. Examples of such standards are:

E1 Specification for ASTM Thermometers
E133 Specification for Distillation Equipment

A11.6 It is the responsibility of the sponsoring committee to assure itself that suitable apparatus is available (see Section F4).

A11.6.1 If the apparatus is special or not readily available, detailed rules for referencing sources of supply shall be followed (see Section F4).

A11.6.2 If the apparatus has to be built, blueprints, plans, etc., should be cited in a footnote in this section as available through ASTM International Headquarters as adjunct material to the standard.

A12. Reagents and Materials

A12.1 When more than one procedure is included in one standard, list the reagents and materials required for each procedure as a separate section under each subdivision.

A12.2 It is recommended that, where applicable, the following be included as secondary sections ".1" and ".2" of this section:

6.1 *Purity of Reagents*—Reagent grade chemicals shall be used in all tests. Unless otherwise indicated, it is intended that all reagents conform to the specifications of the Committee on Analytical Reagents of the American Chemical Society where such specifications are available.¹ Other grades may be used, provided it is first ascertained that the reagent is of sufficiently high purity to permit its use without lessening the accuracy of the determination.

6.2 *Purity of Water*—Unless otherwise indicated, references to water shall be understood to mean reagent water as defined by Type ___ of Specification D1193.

NOTE A2—The identifying number (for example 6.1 and 6.2 as above) used in recommended texts are for illustrative purposes.

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¹ *Reagent Chemicals, American Chemical Society Specifications*, American Chemical Society, Washington, DC. For suggestions on the testing of reagents not listed by the American Chemical Society, see *Analar Standards for Laboratory Chemicals*, BDH Ltd., Poole, Dorset, U.K., and the *United States Pharmacopeia and National Formulary*, U.S. Pharmacopeial Convention, Inc. (USPC), Rockville, MD.

A12.2.1 If a different grade of water is required, add a second sentence as follows: “Water conforming to the following specifications is required” (list the specific properties, kinds of ion freedom, etc.)

A12.2.2 In standards covering two or more chemical methods these statements on purity should be made in a separate section entitled “Purity of Reagents.”

A12.3 List the reagents alphabetically in separate divisions. Give the name of the reagent first, followed by any descriptive terms (see A12.7). State the desired concentration if significant; then follow with instructions for preparation and standardization (if required), using the imperative mood and concise descriptions. Spell out the full name of the reagent, and immediately after the first mention of the name include within parentheses the exact chemical formula of the reagent showing any water of crystallization, etc. Exception to this may be made in the case of organic, organometallic, or complex inorganic compounds by omitting the chemical formula. Subsequent references to compounds shall be by formula only where they can be clearly specified by this means, as in the case of most inorganic compounds. As exceptions, always spell out the word “water” and the names of substances in their elementary state; for example, use lead, not Pb; oxygen, not O₂. If the reagent is to be used as purchased, and not diluted, dissolved, or purified, state the chemical formula as given by the manufacturer.

A12.4 Do not use trademarks unless a specific manufacturer’s product is required for a well-defined reason. (See Section F4.) In this case, use a superior reference number to refer to a footnote giving the required information, incorporating the phrase “has been found satisfactory for this purpose.” Where particular reagents are required only for standardization or calibration, identify them by reference to an appropriate

footnote such as “This reagent is used for standardization purposes only.”

A12.5 Specify the reagent concentration in applicable terms, as follows:

Concentrated acids and bases ... density, unless mass percent is more generally used or required

Dilute acids and bases ... volume ratio, X + Y (X volumes of reagent added to Y volumes of water)

Nonstandardized solutions ... grams of reagent as weighed out per litre of solution

Standardized solutions ... normality, expressed decimally; or the equivalent of 1 mL of solution in terms of grams of a given element expressed as “1 mL + xxx g of ...”

A12.6 Wherever possible, use the same concentrations of reagents and methods of standardization as used in other similar ASTM test methods.

A12.7 Examples of reagent descriptions are as follows:

A12.7.1 *Ammonium Carbonate* (NH₄)₂CO₃.

A12.7.2 *Sodium Chloride Solution* (100 g/L)—Dissolve 100 g of sodium chloride (NaCl) in water and dilute to 1 L.

A12.7.3 *Potassium Hydroxide, Methanol Solution* (33 g/L)—Dissolve 33 g of potassium hydroxide (KOH) in methanol and dilute to 1 L with methanol.

A12.7.4 *Barium Chloride Solution* (100 g BaCl₂/L)—Dissolve 117.3 g of barium chloride dihydrate (BaCl₂ · 2H₂O) in water and dilute to 1 L.

A13. Hazards

A13.1 *Safety Hazards*— Paragraph F2.1 specifies the generic safety hazards caveat and the types of standards in which it shall be used. Other statements on safety are subject to the following policies.

A13.1.1 *Warning Statement*— A warning statement identifies a specific hazard and provides information for avoiding or minimizing a particular hazard. When there are hazards to personnel, such as explosion, fire toxicity, or radiation, or technical hazards, such as damage to equipment, a warning statement shall be placed at the appropriate point in the text beginning with “Warning” in boldface type followed by a

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description of the hazard, or a reference to a description of the hazard within the body of the standard (refer to A13.1.2).

A13.1.2 *Remedial Statements*— A remedial statement provides recommendations for treating a situation resulting from an unsuccessfully controlled hazard *associated with the use of a standard*. Such remedial statements shall not be included in standards, but reference may be made in a note to authoritative sources where reliable information about remedial measures can be obtained such as the appropriate Material Safety Data Sheet (MSDS) where applicable.

A14. Sampling, Test Specimens, and Test Units

A14.1 Under this heading give necessary special directions, in the imperative mood, for physically obtaining sample test units. If a test result is defined as a combination of the observations made on different test specimens, particularly describe how these specimens are to be selected. Give necessary special directions for storage of specimens, for preservation of specimens, and for special preparation of specimens for the test.

A14.2 Statistical aspects of sampling for a specific purpose, for example, in determining conformance of the mean properties of a lot to specifications, should be referenced or discussed in an appendix. These statistical aspects might include stratification, selection of primary and secondary sampling units, the number of such units to be selected, in the case of bulk material the number of increments combined to form a composite sample, the number of composites to be formed, the method of subsampling a composite, and the number of tests made on a subsample.

A14.3 If the method of sampling is described in an existing ASTM test method or ASTM specification, refer to that test method or specification by designation.

A14.4 If the method of sampling is detailed in a readily available publication other than an existing ASTM standard, refer to the publication in a footnote, arranging the information in accordance with the suggestions presented in the Standards Style Manual, Part G, of this publication.

A14.5 Where an existing sampling method (other than ASTM) is cited in a test method, guidelines should be given as to the use of the sampling scheme and precautions if needed. If explanatory documents regarding sampling are available, these should be cited in this section.

A14.6 A *test unit* is a unit or portion of a material that is sufficient to obtain a test result(s) for the property or properties to be measured. A *test specimen* is a test unit or portion of a test unit upon which a single or multiple observation is to be made. A *test result* refers to the value obtained for a given property from one test unit. A test unit may be a subunit of a primary (first stage) sampling unit or it may be a subunit of a composite of primary sampling units or of increments from these primary sampling units. A test result may be a single observation or a combination of a number of observations when two or more test specimens are measured for each test unit. (For additional information see Section G23.)

A14.7 The size of the test unit for chemical analysis usually is given in the “Procedure” section, but if significant in connection with pretreatment or preparation, it should be included here. When a test specimen is specified by mass, indicate the degree of precision desired.

A14.8 Include detailed requirements as to the size and number of test specimens to be used for both physical and chemical tests. Where a test specimen or test unit of a particular shape is required, the essential dimensions shall be specified, including tolerance. A drawing showing the details of the specimen or test unit may be included.

A15. Preparation of Apparatus

A15.1 Use this section only when detailed instructions are required for the initial assembly, conditioning, or preparation of the apparatus (see also A24.3.6).

A16. Calibration and Standardization

A16.1 *Apparatus*— Give detailed instructions, in the imperative mood, for calibration and adjustment of the apparatus necessary for the use of the test method.

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A16.2 *Reference Standards and Blanks*— Give detailed instructions for the standardization and use of reference standards and blanks used in the test method. Describe any standard samples used to assure uniformity of the test technique, and standard specimens or photographic standards.

A16.3 *Calibration Curves and Tables*— Give detailed instructions for the preparation and use of calibration curves or tables, in accordance with the suggestions presented in the Standards Style Manual, Part G, of this publication. Include in the instructions for curve or table preparation items such as calibration, solutions, reference standards, blanks, color development, photometry, and construction.

A17. Conditioning

A17.1 Specify, in the imperative mood, the conditioning atmosphere to be used and the time of exposure to the atmosphere, as well as the atmosphere required during the test, where necessary. State whether the conditioning requirements apply to laboratory samples as well as individual specimens. Indicate any requirements for preconditioning. Where applicable, refer to ASTM Terminology E41, Terms Relating to Conditioning, and to ASTM Practice E171/E171M, for Conditioning and Testing Flexible Barrier Packaging.

A18. Procedure (Mandatory)

A18.1 Include in proper sequence detailed directions for performing the test. Describe the procedure in the imperative mood, present tense; for example: “Heat the test specimen ...” rather than “The test specimen shall be heated ...” State the number of samples to be taken, and also state the number of specimens to be tested from each sample. Describe in detail the successive steps of the procedure, grouping related operations into logical divisions. Subheadings may be used if they will help the organization of the material. Make the text of the procedure concise, to the point, and easily understandable. When alternative procedures are given, state their relative status; that is, which is the preferred or referee procedure.

A18.2 In chemical methods, specify the size of test specimen and indicate the degree of precision desired in the weighing. Consider the specimen size and its accuracy of weighing in connection with the ultimate use of the method. If the formula for a reagent has been given previously in accordance with the instructions given in A12.3, refer to the reagent by chemical formula only or name, whichever is less confusing. Otherwise, spell out the name of the reagent. The procedure shall provide for any operations necessary to obtain any correction data that may be needed.

A19. Calculation or Interpretation of Results

A19.1 *Calculation*— State the directions in the imperative mood for calculating the results of test including any equations and any required significant figures (see also Section G16 and ASTM Practice E29 for Using Significant Digits in Test Data to Determine Conformance with Specifications.) Spell out names in the text but use letter symbols in the equations to designate individual values. Use numerical values for any constants. Describe the letter symbol immediately under the equation (unless a section on symbols is included; see A7.2.4). Avoid the use of combined factors in chemical methods. Indicate the reference point on which the calculations are based, such as on the sample as received and dry basis, and the units in which the results are reported. If necessary for clarity, a typical calculation should be included in an explanatory note.

A19.1.1 An example of a typical equation is:

$$\text{Aluminum, \%} = \frac{(A \times B) \times 0.0587}{C} \times 100$$

where:

A = grams of aluminum oxyquinolate found in the aliquot used,

B = grams of aluminum oxyquinolate found in the blank,

and

C = grams of sample represented in the aliquot used.

A19.2 *Interpretation of Results*— Use this heading in place of “Calculation” when the results of the test are expressed in descriptive form, relative terms, or abstract values. List and

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define the descriptive terms or classifications used. The results of a test may be interpreted or expressed in terms of a rating scale. There is fairly wide agreement on five-step scales for many values or rankings of merit, with 5-good, 3-middle, 1-bad. In general, a higher score for more of a desirable property is the more satisfactory arrangement. This eliminates confusion arising from No. 1 in rank for the most of a quantity, without regard to the relative desirability.

A19.2.1 Examples of test methods that include rating systems are:

D130 Test Method for Detection of Copper Corrosion from Petroleum Products by the Copper Strip Tarnish Test
D3511/D3511M Test Method for Pilling Resistance and Other Related Surface Changes of Textile Fabrics: Brush Pilling Tester Method

A20. Report

A20.1 State in this section the detailed information required in reporting the results of the test. When two or more procedures are described in a test method, the report shall indicate which procedure was used. When the test method permits variation in operating or other conditions, incorporate in the report a statement as to the particular conditions used in the test. As an aid in the calculation and uniform recording of test results a standard report form or work sheet may be used, and if desirable a facsimile of the form may be included in the test method. Introduce the section as follows: "Report the following information:"

A21. Precision and Bias (Mandatory)

A21.1 *Definitions and Additional Information:*

A21.1.1 For precise definitions of statistical terms, refer to ASTM Terminology E456, Relating to Quality and Statistics.

A21.1.2 For more information on calculation methods relating to the use of statistical procedures, refer to ASTM Practices E177 and E691.

A21.2 *Statement of Precision (Mandatory):*

A21.2.1 Precision is the closeness of agreement between test results obtained under prescribed conditions. A statement on precision

allows potential users of the test method to assess in general terms its usefulness in proposed applications. A statement on precision is not intended to contain values that can be duplicated in every user's laboratory. Instead the statement provides guidelines as to the kind of variability that can be expected between test results when the test method is used in one or more reasonably competent laboratories.

A21.2.2 Precision shall be estimated in accordance with the interlaboratory test program prescribed in Practice E691, Conducting an Interlaboratory Study to Determine the Precision of a Test Method, or by an interlaboratory test program that yields equivalent information, for example, a standard practice developed by an ASTM technical committee. The data and details of the interlaboratory study to determine precision shall be filed as a research report at ASTM International Headquarters. The precision statement shall include reference to the research report in a Note.

A21.2.3 Every test method shall contain: (1) a statement regarding the precision of test results obtained in the same laboratory under specifically defined conditions of within-laboratory variability (repeatability conditions); and (2) a statement regarding the precision of test results obtained in different laboratories (reproducibility conditions).

A21.2.4 The repeatability conditions defined in Terminology E456 shall be used; namely, within-laboratory conditions under which test results are obtained with the same test method in the same laboratory by the same operator with the same equipment in the shortest practicable period of time using test specimens taken at random from a single quantity of homogeneous material. If some other within-laboratory variability is also determined (such as for longer times or different operators within a laboratory), the particular conditions shall be reported in detail, and the precision designated "intermediate precision" (see Terminology E456). If the committee formerly called this repeatability, add "(formerly called repeatability)."

A21.2.5 The statement regarding between-laboratory variability shall pertain to test results obtained with the same method on random test

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units from the same lot of homogeneous material in different laboratories with different operators using different equipment (reproducibility conditions).

A21.2.6 The precision statement shall include the repeatability standard deviation and reproducibility standard deviation; and shall include the 95 % repeatability limit and the 95 % reproducibility limit for the largest expected differences between two test results. The latter are numerically equal to 2.8 times the respective standard deviation for data that are known to be normally distributed, and approximately so for most other data encountered in ASTM committee work. Use a statement such as the following:

*Precision*¹—The repeatability standard deviation has been determined to be (insert repeatability value) and the 95 % repeatability limit is (insert value). The reproducibility standard deviation has been determined to be (insert reproducibility value) and the 95 % reproducibility limit (insert value).

¹Supporting data have been filed at ASTM International Headquarters and may be obtained by requesting Research Report RR: (insert report number). Contact ASTM Customer Service at service@astm.org.

A21.3 *Statement on Bias (Mandatory):*

A21.3.1 Bias is a systematic error that contributes to the difference between the mean of a large number of test results and an accepted reference value. A discussion on bias may be found in statistical documents, such as Practices E177 and C670.

A21.3.2 The bias statement shall describe the bias and methods employed to provide corrected test results. If the bias is not known but the direction or bounds on the bias, or both, can be estimated, these shall be reported in the bias statement.

A21.4 *General Considerations:*

A21.4.1 The precision and bias section of the test method shall include a brief descriptive summary of the interlaboratory study that will permit the user of the test method to judge the reliability of the data. This summary should include number of laboratories, number of property levels tested, range of the measured average property levels, and number of replicate tests. The summary may be included in a Note.

A21.4.2 If precision or bias, or both, varies with the test level, the variation shall be described in the statement.

A21.4.3 When revising or reapproving a test method, ensure that the information reported in the Precision and Bias section and the supporting data are still valid. If there has been a change to the test method that could affect precision, a new interlaboratory study should be conducted.

A21.5 *Exceptions:*

A21.5.1 If the responsible committee decides that an interlaboratory study for a new test method should be delayed, a temporary statement shall be included which addresses only repeatability based on the results from a single operator. A repeatability limit is not included. This temporary precision statement is permitted for five years, use a statement such as the following:

*Precision*¹—The repeatability standard deviation from a single operator has been determined to be (insert repeatability value or values for different average property values).

¹An interlaboratory study of this test method is being conducted and a complete precision statement is expected to be available on or before (insert year).

A21.5.2 If it is not feasible to determine the reproducibility, as directed in A21.2, within five years of the first approval of the standard, use a statement such as the following:

*Precision*¹—The repeatability standard deviation from a single operator has been determined to be (insert the average test values and corresponding repeatability values).

¹The reproducibility of this test method is not provided at this time because (insert here the reason or reasons). The reproducibility of this test method is being determined and is expected to be available on or before (insert year).

A21.5.3 When a test method specifies that the procedure in another ASTM test method is to be used without modification, no statements of precision and bias are necessary if those in the other test method are applicable. When a test method specifies that the procedure in another ASTM test method is to be used with only insignificant modification(s), use a statement

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such as the following to assure the reader that precision and bias are not affected by the modification(s):

Precision and Bias—The precision and bias of this test method for measuring (insert here the name of the property) are essentially as specified in Test Method (insert here the designation of the other test method).

When a test method specifies that the procedure in another ASTM test method is to be used with significant revisions, provide statements on precision and bias as directed in A21.2 and A21.3.

A21.5.4 When a test method specifies that a test result is a nonnumerical report of success or failure or other categorization or classification based on criteria specified in the procedure, use a statement on precision and bias such as the following:

Precision and Bias—No information is presented about either the precision or bias of Test Method X0000 for measuring (insert here the name of the property) since the test result is nonquantitative.

A21.5.5 If it is not possible to provide a statement on precision (repeatability or reproducibility) as directed in A21.2, use a statement such as the following:

Precision—It is not possible to specify the precision of the procedure in Test Method X0000 for measuring (insert here the name of the property) because (insert here the reason or reasons).

Citing impracticability is not warranted if the reason is that an interlaboratory study has revealed that the precision is poor or that the standard was written before precision statements were required.

A21.5.6 If bias cannot be determined, a statement to this effect shall be included, such as the following:

Bias—No information can be presented on the bias of the procedure in Test Method X0000 for measuring (insert here the name of the property) because (insert here the reason; such as “no material having an accepted reference value is available”).

A22. Measurement Uncertainty

A22.1 Measurement uncertainty is an estimate of the magnitude of systematic and random measurement errors that may be reported along with the measurement result. An uncertainty statement relates to a particular result obtained in a laboratory carrying out the test method, as opposed to precision and bias statements which are mandatory parts of the method itself and normally derived from an interlaboratory study conducted during development of the test method.

A22.2 It is neither appropriate for, nor the responsibility of, the test method to provide explicit values that a user would quote as their estimate of uncertainty. Uncertainty values must be based on data generated by a laboratory reporting results using the test method.

A22.3 In this section include guidance for developing estimates of uncertainty to be reported with test results. Suggestions should be considered for studies to perform, listings of the potential major contributing factors to uncertainty, descriptions of how the variation due to each factor might be evaluated, and examples of how they might be combined. Information of this type is particularly useful to users of the test method seeking laboratory accreditation. Information on measurement uncertainty may be placed in an appendix if it is for information only.

A22.4 For additional guidance refer to Guide E1488.

A23. Keywords (Mandatory)

A23.1 In this section, identify the words, terms, or phrases, that best represent the technical information presented in the standard. Select the keywords from the title and body of the document and include general, vernacular, and trade terms. These keywords will be used in the preparation of the ASTM Subject Index.

A23.2 Select three or more keywords that describe the names of tests, procedures, special materials, or the specific application(s) that will facilitate the identification and retrieval of the standard.

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A23.3 All selected keywords shall be stand-alone terms; the type of standard, incomplete phrases, unattached adjectives, etc., shall not be used.

A24. Annexes and Appendixes

A24.1 Additional information may be included in one or more annexes and appendixes to the test method.

A24.2 The words “Mandatory Information” shall be included directly under the title of annexes and the words “Nonmandatory Information” shall be included directly under the title of appendixes.

A24.3 *Annexes*— Include in annexes any detailed information such as that on apparatus or materials that is a mandatory part of the test method but too lengthy for inclusion in the main text. Annexes shall precede appendixes. Examples of such information are as follows:

A24.3.1 Glossary of terms used in the method,

A24.3.2 List of symbols,

A24.3.3 Detailed description of apparatus,

A24.3.4 Instructions for calibrating and standardizing apparatus,

A24.3.5 Directions for cleaning apparatus, and

A24.3.6 Operating instructions and adjustments of specific makes of apparatus.

A24.4 *Appendixes*— An appendix to an ASTM standard is informative only and is not a mandatory part of the standard. Information on the following general subjects has been included in such appendixes:

A24.4.1 Notes on significance and interpretation of the test method, usually to amplify the statement in the text,

A24.4.2 Development of equations used in the calculations,

A24.4.3 Charts or supplementary information for computations,

A24.4.4 Suggested data forms for recording test results, and

A24.4.5 Commentary on rationale used in the development of the test method.

A25. References

A25.1 Include only references to publications supporting or providing needed supplementary information. Historical and acknowledgment references are not desirable. If there are five or more references, list them in an unnumbered section at the end of the standard in the order in which they appear in the text. If there are fewer than five literature references, use footnotes (see Section G21).

A26. Footnotes

A26.1 *General*— Footnotes referenced in the text are intended only for reference and shall never include any information or instructions necessary for the proper application of the method. Table footnotes are a part of the table. Use consecutive superior numerals for reference to footnotes except in connection with tables, in which case use italic capital letters.

A26.2 *Committee Jurisdiction and History*— Footnote 1 shall include in the first paragraph the committee having jurisdiction and, where the committee so requests, the subcommittee. The second paragraph shall include history information as follows: (1) approval date of latest revision, (2) month and year of publication, (3) designation and year of original issue, (4) designation and year of previous issue, and (5) information as to any other standards that may have been replaced by the standard, year of redesignation, etc.

A26.3 *Literature References*— Use footnotes for references if there are fewer than five. For five or more see Section A25, observing the limitations noted therein. Also see Section G21.

A26.4 *Sources of Apparatus*— Where apparatus may be special or not readily available from more than one source, the source may be referenced. (However, see Section F4 for detailed rules.)

A26.5 *Research Reports*— Reference in a footnote the availability of Research Reports (see Section A29).

A27. Notes

A27.1 Notes in the text shall not include mandatory requirements. Notes are intended to

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set explanatory material apart from the text itself, either for emphasis or for offering informative suggestions, which are not properly part of the standard. Clarification of the description of required apparatus or procedure and modifications required or permitted in certain cases belong in the text itself. If inclusion of the contents yields a different result, then that information is considered mandatory for the performance of the standard and shall be located in the text. Notes may be preferable for detailed description of auxiliary procedures (for example, correction of barometric pressure in a test method not primarily concerned with pressure). Table notes are a part of the table and are mandatory provisions.

A27.2 Notes appearing in a given standard shall be numbered in sequence separately in the main text, separately in sequence in the annex, and separately in sequence in the appendix and should appear at the end of the paragraph to which they pertain. If it is desired to refer to a text note in connection with a specific word or phrase in the text, that word or phrase should be followed by a reference to the note, “(NOTE 1),” etc.

A27.3 Notes in the text are preferred for the following:

A27.3.1 To refer to editorial changes made in the text,

A27.3.2 To refer to similar or companion ASTM standards,

A27.3.3 Limitations of the application of the test when not covered in the text.

A27.3.4 Description, if included under “Scope,” of experimental means for recognizing cases where the method is not applicable to the material under test.

A27.3.5 Description of additional (not alternative) apparatus, materials, procedures, or calculations that are not actually required; or description of merely recommended forms of construction of required apparatus.

A27.3.6 Explanation, if desired, of the reasons for a certain requirement or direction. If brief, include in the text rather than as a note.

A27.4 *Patent Disclaimer of Liability*— See Section 15 of the *Regulations Governing ASTM Technical Committees*. This note, quoted in F3.2

and not numbered, is generally placed at the end of the standard. Refer questions regarding the applicability of this section to the Staff Manager of your committee.

A27.5 *General Statement of ASTM Policy*— This note, quoted in F2.3 and not numbered, is generally placed at the end of the standards after the note on Patent Disclaimer of Liability.

A28. Adjuncts

A28.1 Occasionally, it is not practicable to publish as an integral part of the standard, because of its nature, material that may be required for use of the standard. Such material is published as an adjunct.

A28.2 Include a description of the adjunct in the text of the standard. If appropriate, include a figure (illustration) of the adjunct.

A28.3 When adjunct material is indicated, it shall be made available at the time of publication of the standard.

A28.4 Include all referenced adjuncts in the Referenced Documents section (see Section A6).

A28.5 Examples of adjuncts are as follows:

A28.5.1 Comparison standards such as the copper strip corrosion standards for Test Method D130 (lithograph aluminum strips),

A28.5.2 Charts such as the viscosity-temperature charts for liquid petroleum for D341,

A28.5.3 Reference radiographs such as E155 or reference photographs, such as E125,

A28.5.4 Technical data such as the twelve volumes of D1250, Petroleum Measurement Tables, and

A28.5.5 Drawings such as detailed drawings for the construction of the smoke chamber in Test Method D2843.

A29. Research Reports (Mandatory for Precision and Bias Statements Producing Numerical Results)

A29.1 Where numerical data have been generated to establish the precision and bias of a test method, a research report is required. The research report shall include a list of participating laboratories, description of samples, a copy of the laboratory instructions, the equipment/apparatus

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used, the data, a statistical summary and a copy of the Precision and Bias Statement, where applicable. A guide for the research report is available at www.astm.org or from ASTM International Headquarters. The research report shall be placed on file at ASTM. A number is assigned by ASTM and a copy may be obtained upon request. A footnote shall be placed in the standard stating that a copy of the research report may be obtained from ASTM, giving the "RR" designation number.

A30. Rationale

A30.1 The inclusion of a rationale (commentary) section in ASTM standards is encouraged to ensure that brief and concise documentation is available to the user of the standard and to provide traceability and clarification of past actions. This documentation may include: (1) a brief history of the development of a new standard or revision to an existing standard including when and why the effort was initiated, (2) reasons and justification for requirements, (3) documentation of factors considered, and (4) listing of technical sources and literature.

A30.2 If included, this information shall appear in an appendix of the standard.

A30.3 Examples of standards that include section on rationale:

E84 Test Method for Surface Burning Characteristics of Building Materials

F746 Test Method for Pitting or Crevice Corrosion of Metallic Surgical Implant Materials

A31. Summary of Changes

A31.1 If the committee chooses to provide a Summary of Changes, place this unnumbered

section at the end of the standard and begin with the following introductory paragraph:

Committee XXX has identified the location of selected changes to this standard since the last issue (insert designation and year date) that may impact the use of this standard.

A31.2 An asterisk will appear after the Scope (**Scope***) with the following wording at the bottom of the first page:

***A Summary of Changes section appears at the end of this standard.**

A31.3 Next list, by section or subsection, changes made since the last issue that may impact the use of the standard. For standards that have undergone multiple revisions in a short period of time, keep the Summary of Changes in the standard for 18 months. This will ensure that all changes from one publication of the Annual Book of ASTM Standards to the next are recorded. Brief descriptions of the changes and reasons for the changes may be included. If desired, a more extensive description of reasons for the changes should be placed in the appendix.

A31.4 An example of the list of changes is:

- (1) Deleted Section 5 and renumbered subsequent sections.
- (2) Updated precision statement in Section 10 to reflect the results of a recent interlaboratory study.
- (3) Revised hardness requirements in Table 2.
- (4) Revised Section 14 on Product Marking.

PART B

FORM OF ASTM SPECIFICATIONS

INTRODUCTION

The broad scope of ASTM International, which covers materials, products, systems, and services, and the need to provide for a variety of approaches to the writing of ASTM specifications, prevent the development of a single document or a series of documents that list all subjects to be covered in all ASTM specifications. This document, however, is intended to provide considerable guidance to the committees in their specification-writing activities.

Special instructions with respect to the legal aspects shall be followed in writing any standard. These include such matters as contractual items, caveat statements, patents, and fire standards. Assistance on development of fire standards is available from Committee E05. See Part F for details.

When a standard is being developed, the costs associated with its development and subsequent use generally should be considered. The prime objective should be the optimum use of resources to achieve satisfactory definition of the product or service. However, it should be noted that when the standard relates to the safety of persons, cost considerations are likely to become much less important than when attributes of materials or products are involved. Some standards, such as definitions, impose no cost on the user; others that include numerous and extensive requirements can entail significant expense to users of the standard. The requirements to be included should, therefore, be those that are technically relevant and yield benefits commensurate with the cost of their determination.

Cost effective statements or rationale may be included within a standard if appropriate, usually in an appendix.

Standards or sections of standards relating to the *safe use or performance* of consumer products (see NOTE B1) may be sent to Committee F15 on Consumer Products for review and comment at some appropriate stage prior to letter ballot of the originating main committee. This review is offered by Committee F15 to provide for the maximum of consumer input. Draft standards submitted to Committee F15 will receive rapid and constructive critique.

NOTE B1—Consumer products are those designed primarily for use by the consumer in and around the home, school, or recreational areas.

B1. Functions

B1.1 Specifications (see definition on p. vii) may have three functions and, although many specifications serve all three, it is well that those drafting specifications keep these functions in mind so that the primary purposes are not confused.

B1.1.1 *Purchasing*— Specifications facilitate dealings between the purchaser and the supplier. Sufficient requirements should be included to ensure that all batches, lots, or deliveries from any seller that conform to the specification will be satisfactory to the purchaser. Unnecessary requirements are likely to increase costs and should be avoided.

B1.1.2 *Standardization*— Standardization is an inevitable byproduct of most specifications. In some cases it may be the primary function. Standardization involves a deliberate and possibly arbitrary choice of a limited number from the multiplicity of qualities, sizes, compositions, etc., that may be available.

B1.1.3 *Providing Technical Data*— All specifications contain technical information, but in some cases the designer requires more information than that provided for purchase or standardization. Committees may add information of this type to specifications either as requirements or as appendixes.

B1.2 *Open-End Agreements*— There shall be no statements in specifications that allow

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agreement between purchaser and supplier that do not meet the minimum requirements of the specification by such means as omitting tests that are a part of the specification, substituting or modifying a test method, or by changing the specification limits to be less restrictive.

B2. Subject Headings of Text

B2.1 The following is the sequence for the text of ASTM specifications. Headings are those most generally used, but may not be all-inclusive. It may be necessary to include other headings for specialized subjects. The headings identified as “mandatory” are required. Other headings shall be included when the subject matter is pertinent to the document under development, in which case, all instructions and guidance for that particular section shall be followed. For example, if the standard does not contain reference to any standard documents within the text, it is not required to include a section on Referenced Documents. If, however, specific hazards are cited throughout the text, then the section on Hazards shall be followed. Not all of these headings may be required for a particular standard. Additional headings, which are included to cover specialized subjects, should appear in the most appropriate place and sequence depending on their relation to the sections below.

- Title (mandatory)
- Designation (mandatory)
- Scope (mandatory)
- Referenced Documents
- Terminology
- Classification
- Ordering Information
- Materials and Manufacture
- Chemical Composition
- Physical Properties
- Mechanical Properties
- Performance Requirements
- Other Requirements
- Dimensions, Mass, and Permissible Variations
- Workmanship, Finish, and Appearance
- Sampling
- Number of Tests and Retests
- Specimen Preparation
- † Test Methods
- Inspection
- Rejection and Rehearing
- Certification
- Product Marking
- Packaging and Package Marking
- Keywords (mandatory)

- Supplementary Requirements
- Quality Assurance
- Annexes and Appendixes
- References
- Summary of Changes

† Test methods included shall contain the mandatory headings shown in Section A1, except for title and designation.

B2.2 Subject headings in boldface type shall precede each section to orient the reader. Substitute text divisions and number in accordance with the Use of the Modified Decimal Numbering System guide in Part D of this publication.

B3. Title (Mandatory)

B3.1 The title should be as concise as possible, but complete enough to identify the material, product, system, or service covered by the specification. Titles are used in lists, table of contents, and indexes, and it is most important that they be brief but inclusive. Use the singular form: “specification.”

B4. Designation and Year Date

B4.1 Designation (mandatory)—The ASTM designation, assigned by Headquarters on submittal for approval, consists of the following sequential parts:

B4.1.1 A letter designation denoting in general the classification according to material, product, system, or service:

- A—Ferrous metals and products
- B—Nonferrous metals and products
- C—Cementitious, ceramic, concrete, and masonry materials
- D—Miscellaneous materials and products
- E—Miscellaneous subjects
- F—End-use materials and products
- G—Corrosion, deterioration, weathering, durability, and degradation of materials and products

B4.1.2 A sequential number following the letter designation (for example, Specification C150).

B4.2 Year Date: (for example, Specification C150-01):

B4.2.1 After the designation, a hyphen is followed by the last two numbers of the year of acceptance or of last revision. If the standard is revised again during the same year, this is indicated by adding an “a” for the second revision, “b” for the third revision, etc.

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B4.2.2 The parenthetical phrase (“Reapproved 20____”) to designate the year of last reapproval of a standard, if applicable.

B4.2.3 For editorial changes that do not change the year designation, a note is inserted before the text to indicate the location and date of the change and a superscript epsilon (^ε) is added after the year designation. The epsilon designations and corresponding notes are numbered chronologically and are deleted upon occasion of the next revision or reapproval.

B4.3 Designation numbers of standards that have been discontinued are not reassigned.

B4.4 *SI Standards* (see Part H and Section G24).

B5. Scope (Mandatory)

B5.1 Include in this section information relating to the purpose of the specification. Concisely state the materials, products, systems, or services to which the specification applies and any known limitations. Include, where applicable, the intended use of the specification. Do not include references to trademarks.

B5.2 Include in this section the system of units to be used in referee decisions.

B5.3 Include in this section any caveats required by ASTM policy such as *safety hazards* (see F2.1) and *fire hazards* (see F2.2) if one or more test methods are detailed other than by reference.

B5.4 For standards developed for reference in model (building) codes, include the following statement:

The text of this standard references notes and footnotes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the standard.

B6. Referenced Documents

B6.1 List in alphanumeric sequence the designation and complete title all documents referenced within the standard. Refer to Section A6 for further information.

B6.2 Provide footnotes to this section to indicate the sources of these documents. When ASTM standards are referenced later in the text, use only the type of standard (that is, specifica-

tion, test method, practice, classification, guide, terminology, etc.) and the designation letter and number (for example, Test Method D1310).

B6.3 Do not include the year date when designating referenced documents unless there is a technical reason for requiring a particular revision.

B6.4 When listing referenced adjuncts, provide a brief description in this section, and a footnote of the availability. (For more specific information on adjuncts, refer to Section B29).

B7. Terminology

B7.1 See Section A7.

B8. Classification

B8.1 When more than one material, product, or system is specified, they may be separated first by *types*, which are distinguished by Roman numerals. This first subdivision shall be based upon some major property, composition, or application of the item. Designate further subdivision by *grades* according to some pertinent property or properties and identify by Arabic numbers. If necessary, make additional division into *classes*, identified by capital letters.

B8.2 The precedence of type, grade, and class, as well as the method of designation, is the ASTM preferred style, and it shall be used in the absence of any established preference.

B8.3 When a type, grade, or class has been deleted, do not use this designation again, to avoid confusion with earlier specifications. If new designations are used, they shall be of different format and preferably followed (for a limited time) by the previous designation in parentheses.

B9. Ordering Information (See also Section B25)

B9.1 When the specification covers options for purchase, such as various types, grades, classes, alloys, sizes, and mass, the purchase order or inquiry should state which particular types, alloys, sizes are desired.

B9.2 A listing of each such optional feature, together with a reference to the applicable section of the specification, will be of assistance in the

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wording of orders. After the attention of the purchaser is directed to all of the options in the specification, his attention might be directed to what would be furnished by the supplier if the purchaser fails to specify one or more of the options.

B9.3 It is recommended that this section be included in all specifications as a checklist of items to be included in a purchase order or contract. If this list contains any ASTM designation (including referenced documents), it is desirable to specify “year date(s)” to avoid misunderstandings between contractual parties.

B9.4 When citing a combined standard, indicate the system of units to be applied. For example:

X.X This material/product shall conform to the requirements stated in SI units of Specification A36/A36M.

B10. Materials and Manufacture

B10.1 General requirements regarding the materials and method of manufacture to be used may be included when deemed helpful to the user of the standard, such as the open-hearth, electric-furnace, or basic-oxygen bessemer processes generally specified for steel products. When the material, product, or system specified is made from two or more materials or products, this section should state briefly the general requirements of the materials or products to be used and the process to be followed in manufacture, including items such as the nature and character of any alloys, fillers, saturants, antioxidants, coatings, and plasticizers.

B11. Chemical Composition

B11.1 When necessary, detailed requirements shall be given as to chemical composition and other chemical characteristics for the material, product, or system. Frequently these are presented in tabular form. It is most important that the following information be clearly indicated: (1) name of each constituent specified, (2) whether the requirement is a maximum, minimum, or range, (3) whether an allowance for measurement error is incorporated in these limits, (4) the units applicable, (5) references to notes or footnotes when necessary for further clarification, and (6) appropriate analytical methodology.

B11.2 The sequence of items specified shall be consistent within a related group of specifications.

B11.3 The preferred introduction for this section is: “The material shall conform to the requirements prescribed in Table 1.”

B11.4 *Limits on Nonspecified Elements*— It is suggested that the following statement be added to tables of chemical requirements as applicable to replace the requirements and statements presently being used regarding nonspecified elements: “By agreement between purchaser and supplier, analysis may be required and limits established for elements or compounds not specified in the table of chemical composition” (see also Section B24).

B12. Other Requirements

B12.1 When necessary, detailed requirements should be given as to characteristics to which the material, product, or system shall conform. Frequently these are presented in tabular form. It is most important that the following information be clearly indicated: (1) name of each property or requirements, (2) whether the requirement is a maximum, minimum, or range, (3) whether an allowance for measurement error is incorporated in these limits, (4) the units applicable, (5) references to notes or footnotes when necessary for further clarification, and (6) appropriate test methodology.

B12.2 *Physical Properties*— Present the requirements for electrical, thermal, optical, and similar properties in this section, usually in tabular form.

B12.3 *Mechanical Properties*— Present the requirements for tensile strength, yield strength, elongation, and similar properties in this section.

B12.4 *Performance Requirements*— Include functional, environmental, and similar requirements in this section when necessary.

B12.5 *Other Requirements*— Include additional requirements as needed.

B12.6 In preparing a specification it is essential to make sure that there is a test procedure for determining conformance for each requirement. These shall be listed in the specification (see Section B18).

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B12.7 When it is not feasible to tabular the requirements, separate text division may be used to specify the various requirements. These shall be given appropriate headings consistent with the subject matter included.

B13. Dimensions, Mass, and Permissible Variations

B13.1 Details as to the standard shapes, mass, and size ranges usually are presented best in tabular form with brief reference in the text. Separate sections may be necessary with individual tables. The tables shall clearly indicate where the various size ranges are divided; for example, ranges from 0 to 250 mm, 250 to 500 mm, 500 to 750 mm shall be more properly stated as 250 mm and under, over 250 to 500 mm, inclusive; over 500 to 750 mm, inclusive, etc.

B13.2 The permissible variations in dimensions, mass, etc., may be included in the same tables with the nominal sizes. It shall be made clear whether the tolerances specified are both plus and minus or apply in only one direction.

B14. Workmanship, Finish, and Appearance

B14.1 Requirements covering the workmanship and finish include such general requirements as the type of finish and general appearance or color, uniform quality and tempers (for metals), and whether the item is clean, sound, free of scale and injurious defects. To avoid misunderstanding, these should be spelled out clearly. Provisions for removal or repair of minor surface imperfections that are not considered cause for rejection should be stated.

B14.2 For products such as pipe and tile it is usually customary to specify absence of defects such as fractures, large or deep cracks, checks, blisters, laminations, and surface roughness. The finish and shape of the ends also should be specified.

B15. Sampling

B15.1 If a specification applies to a unit of product or material such as a piece of cloth, a coil of wire, a section of plastic pipe, or a heat of steel, from which specimens are to be taken for testing, the procedure for obtaining these specimens shall be described.

B15.2 If a specification pertains to individual units of a lot and sampling inspection is likely to be the normal procedure, it is desirable for the specification to reference or include in a supplementary section a sampling procedure for determining acceptability of the lot (see Section B25).

NOTE B2—In a single sampling plan by attributes the acceptability of a lot will be determined by the number of units of product in the sample that do not conform to the specifications. The acceptable quality level (AQL) and limiting quality level (LQL) of an acceptance sampling plan, expressed as percentages of the units nonconforming, are characteristics of the sampling plan and are not to be viewed as product specifications.

B15.3 If a specification pertains to the mean of a lot, in particular to the mean of a lot of bulk material such as cement or pig iron, the procedure for sampling the lot or the formation of sample test units, or both, shall be described or referenced. The criterion for determining conformance of the lot shall be specifically stated.

B15.4 If a specification applies to a lot of bulk material, state the number of increments required to create a sample test unit and the number of test units to be taken to determine conformance of the lot.

B15.5 The minimum amount of material required to carry out conveniently all the tests in the specification should be indicated for the convenience of the user of the specification.

B16. Number of Tests and Retests

B16.1 State the number of test units and the number of test specimens or subunits that are required to determine conformance of the material or product to the specifications. In the sampling of a lot of bulk material, state the size of the sample in terms of the number of primary (first stage) sampling units that is required to determine conformance to the specifications.

NOTE B3—When a specification pertains to several different properties of a material to be determined by a variety of test methods, a test unit is defined as a unit or portion of the material that is sufficient to obtain a single, adequate set of test results for all properties to be measured.

B16.2 If a specification allows retesting in cases where the material or product fails to pass

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the specification, state the rules for the retesting and the conditions under which the retesting would be permitted.

B17. Specimen Preparation

B17.1 Where special preparation is required, as for example in specifications for molding materials, this section shall be included.

B17.2 Refer to a standard test method if possible.

B17.3 If no standard test method exists, include sufficient detail in the specification to assure acceptable reproducibility of test results.

B17.4 State that specimens are to be prepared in accordance with the recommendations of the manufacturer only if neither B17.2 nor B17.3 is feasible.

B18. Test Methods

B18.1 List standard test methods for measurement of all requirements of a specification. Refer to the ASTM test methods used in testing the material to determine conformance with the specification. This includes sampling, chemical analysis, mechanical, electrical, thermal, optical, and other testing procedures. When alternative procedures are given in test methods, it is important to state which particular procedure shall be used as the basis for the specification requirement.

B18.2 When there is no ASTM test method specified for a particular quality or property of a specified material, describe the test procedure to be followed in detail in the specification, following the Form of ASTM Test Methods (Part A of this publication). Include all mandatory information listed in A1.1 (title, scope, significance and use, hazards, procedure, precision and bias).

B18.3 Where a method of some other organization is being used and the committee has not approved the test as an ASTM test method, then it is preferable to describe the test in detail in the specification and to include a footnote reference to the original source. Appropriate copyright releases shall be obtained.

B18.4 State all procedures in the imperative mood.

B19. Inspection

B19.1 The following statement has been adopted by the Board of Directors to be used when there is a substantial disagreement between producers and users within a particular committee, resulting in a blockage of progress in the acceptance of new specifications or revisions to specifications:

Inspection of the material shall be agreed upon between the purchaser and the supplier as part of the purchase order or contract.

B19.2 Place any technical requirements on inspection such as sampling plan and physical or mechanical properties in other appropriate parts of the specification.

B20. Rejection and Rehearing

B20.1 The following statement serves as a guide to ASTM committees when there is need for a section on rejection and rehearing:

Material that fails to conform to the requirements of this specification may be rejected. Rejection should be reported to the producer or supplier promptly and in writing. In case of dissatisfaction with the results of the test, the producer or supplier may make claim for a rehearing.

B21. Certification

B21.1 A certification section may be included in the standard when in the judgment of the committee, technical considerations make this advisable. If a certification section is included, the certification shall include reference to the standard designation and year date.

B21.2 The following are suggested statements:

When specified in the purchase order or contract, the purchaser shall be furnished certification stating samples representing each lot have been tested and inspected as indicated in this specification and the requirements have been met. When specified in the purchase order or contract, a report of the test results shall be furnished. Test reports may be transmitted to the purchaser by electronic services. The content of the electronically transmitted document shall conform to any existing agreement between the purchaser and the seller.

B21.3 Upon the request of the purchaser in the purchase order or contract, the certification of an independent third party indicating conformance to the requirements of this specification may be considered.

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B22. Product Marking

B22.1 It is customary to specify the information to be marked on the material or included on the package, or on a label or tag attached thereto. Such information typically may include the name, brand, or trademark of the manufacturer, quantity, size, weight, ASTM designation, or any other information that may be desired for a specific material. If an ASTM standard is specified, indicate "ASTM" and the designation number (for example, ASTM F2063) on the marking, when possible.

B23. Packaging and Package Marking

B23.1 When it is customary and desirable to package, box, crate, wrap, or otherwise protect the item during shipment and storage in accordance with a standard practice, it is customary to state the requirements.

B24. Keywords (Mandatory)

B24.1 In this section, identify the words, terms, or phrases that best represent the technical information presented in the standard. Select the keywords from the title and body of the document and include general, vernacular, and trade terms. These keywords will be used in the preparation of the ASTM Subject Index.

B24.2 Select three or more keywords that describe the names of tests, procedures, special materials, or the specific application(s) that will facilitate the identification and retrieval of the standard.

B24.3 All selected keywords shall be stand-alone terms; the type of standard, incomplete phrases, unattached adjectives, etc., shall not be used.

B25. Supplementary Requirements

B25.1 For some standards supplementary requirements may be specified. These should not include statements that would allow the lowering of minimum requirements of the standard (see B1.2). Usually these apply only when specified by the purchaser in the purchase order or contract. A statement to this effect shall appear in the

first paragraph of the Supplementary Requirements section. The following is a suggested statement relating to special requirements:

The following supplementary requirements shall apply only when specified by the purchaser in the purchase order or contract.

B25.2 Supplementary requirements shall appear separately in a Supplementary Requirements section.

B25.3 *Quality Assurance*— This requirement, if included, shall be qualified by the statement: "When specified in the purchase order or contract." Reference to a suitable document, such as ASTM International, ANSI, MIL, etc., may be made by agreement between the supplier and the purchaser.

B25.4 Qualification:

B25.4.1 Qualification to nongovernment standards shall be based on the same justification and operated under the same rules as qualification to military or federal specifications. The justification and rules are covered in the DoD 4120.3-M manual, Chapter 4. Briefly, qualification is justified when one or more of the following apply: (1) The time to conduct one of the tests exceeds 30 days, (2) conformance inspection will require special equipment, (3) specification covers life survival or emergency life-saving equipment. The committee preparing the specification that calls for qualification will be asked to show that: (1) there is no other practical way of obtaining evidence of the availability of products to meet the specification in a reasonable time independent of that acquisition and (2) two or more sources are available and willing to submit their products for qualification.

B25.4.2 When qualification is determined to be feasible and necessary, it shall be included in the Supplementary Requirements section with wording similar to:

Items furnished under this specification shall be products that are qualified for listing on the applicable qualified products list at the time set for opening of bids.

Qualification testing (as distinct from acceptance testing) shall be specifically identified with accept/reject criteria. A statement shall be made

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concerning retention of qualification. This may either be a manufacturer's periodic self-certification, a periodic submission of test results, or a complete retest of the product. A statement similar to the following shall be included:

With respect to products requiring qualification, awards will be made only for products that are, at the time set for opening of bids, qualified for inclusion in Qualified Parts List (QPL No.) whether or not such products have actually been so listed by that date. The attention of the contractors is called to these requirements, and manufacturers are urged to arrange to have the products that they propose to offer tested for qualification in order that they may be eligible to be awarded contracts or purchase orders for the products covered by this specification. The activity responsible for the Qualified Parts List is (insert name and address of qualifying organization(s)) and information pertaining to qualifications of parts may be obtained from that activity.

B26. Annexes and Appendixes

B26.1 Additional information may be included in one or more annexes or appendixes to the specification.

B26.2 The words "Mandatory Information" shall be included directly under the title of annexes and the words "Nonmandatory Information" shall be included directly under the title of appendixes.

B26.3 *Annexes*— Include in annexes any detailed information such as that on apparatus or materials that is a mandatory part of the specification but too lengthy for inclusion in the main text. Annexes shall precede appendixes.

B26.4 *Appendixes*— There are times when it is desirable to include in a specification additional information for general use and guidance, but which does not constitute a mandatory part of the specification. It is appropriate to include such informational material in appendixes. Examples of material that has been included in such appendixes are tables showing approximate relationship between tensile strength and hardness, list of preferred thickness of plate, sheet, and strip reproduced from other documents, tables of standard mass and standard sizes, information on typical applications of the material covered, and information on typical physical properties whose definite values are not prescribed in the specification.

B27. References

B27.1 Include only references to publications supporting or providing needed supplementary information. Historical and acknowledgment references are not recommended. If there are five or more references, list them in an unnumbered section at the end of the specification in the order in which they appear in the text. If there are fewer than five literature references, use footnotes (see Section G21).

B28. Footnotes

B28.1 *General*— Footnotes referenced in the text are intended only for reference and shall never include any information or instructions necessary for the proper application of the specification. Table footnotes are a part of the table. Use consecutive superior numerals for reference to footnotes except in connection with tables, in which case use italic capital letters.

B28.2 *Committee Jurisdiction and History*— Footnote 1 shall include in the first paragraph the committee having jurisdiction and, where the committee so requests, the subcommittee. The second paragraph shall include history information as follows: (1) approval date of latest revision, (2) month and year of publication, (3) designation and year of original issue, (4) designation and year of previous issue, and (5) information as to the other standards that may have been replaced by the standard, year of redesignation, etc.

B28.3 *Literature References*— Use footnotes for references if there are fewer than five. For five or more see Section B27, observing the limitations noted therein. Also see Section G21.

B28.4 *Sources of Apparatus*— Where apparatus may be special or not readily available from more than one source, the source may be referenced. (However, see Section F4 for detailed rules.)

B28.5 *Research Reports*— Reference in a footnote the availability of research reports (see Section B31).

B29. Notes

B29.1 Notes in the text shall not include mandatory requirements. Notes are intended to

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set explanatory material apart from the text itself, either for emphasis or for offering informative suggestions not properly part of the standard. Clarification of the description of required apparatus or procedure and modifications required or permitted in certain cases belong in the text itself. If inclusion of the contents yields a different result, then that information is considered mandatory for the performance of the standard and shall be located in the text. Notes may be preferable for detailed description of auxiliary procedures (for example, correction of barometric pressure in a test method not primarily concerned with pressure). Table notes are a part of the table and are mandatory provisions.

B29.2 Notes appearing in a given standard shall be numbered in sequence and should appear at the end of the paragraph to which they pertain. If it is necessary to refer to a text note in connection with a specific word or phrase in the text, that word or phrase should be followed by a reference to the note, "NOTE 1", etc.

B29.3 Notes in the text are preferred for the following:

B29.3.1 To refer to editorial changes made in the text.

B29.3.2 To refer to similar or companion ASTM standards.

B29.3.3 Description, if included under "Scope," of experimental means for recognizing cases where the method is not applicable to the material under test.

B29.3.4 Description of additional (not alternative) apparatus, materials, procedures, or calculations that are not actually required; or description of merely recommended forms of construction of required apparatus.

B29.3.5 Explanation, if needed, of the reasons for a certain requirement or direction. If brief, include in the text rather than as a note.

B29.4 *Patent Disclaimer of Liability*— See Section 15 of the *Regulations Governing ASTM Technical Committees*. This note, quoted in F3.2 and not numbered, is generally placed at the end of the standard. Questions regarding the applicability of this section should be referred to the Staff Manager of your committee.

B29.5 *General Statement of ASTM Policy*— This note, quoted in F2.3 and not numbered, is generally placed at the end of the standard after the note on Patent Disclaimer of Liability.

B30. Adjuncts

B30.1 Occasionally it is not practicable to publish as an integral part of the standard, because of its nature, material that may be required for use of the standard. Such material is published as an adjunct.

B30.2 Include a description of the adjunct in the text of the standard. If appropriate, include a figure (illustration) of the adjunct.

B30.3 When adjunct material is indicated, it shall be made available at the time of publication of the standard.

B30.4 Include all referenced adjuncts in the Referenced Documents section (see Section A6).

B30.5 Examples of adjuncts are as follows:

B30.5.1 Comparison standards such as the copper strip corrosion standards for Test Method D130 (lithograph aluminum strips),

B30.5.2 Charts such as the viscosity-temperature charts for liquid petroleum for D341,

B30.5.3 Reference radiographs such as E155 or reference photographs, such as E125,

B30.5.4 Technical data such as the twelve volumes of D1250, Petroleum Measurement Tables, and

B30.5.5 Drawings such as detailed drawings for the construction of the smoke chamber in Test Method D2843.

B31. Research Reports

B31.1 Research reports, which include historical or round-robin information, or other data, shall be sent to Headquarters, where they are given a file number and may be obtained upon request. Such reports may be referenced in a footnote (see B28.5). If the specification contains a detailed test method, the requirements in Section A29 apply.

B32. Rationale (Commentary)

B32.1 The inclusion of a rationale (commentary) section in ASTM standards is encouraged to ensure that brief and concise documentation is available to the user of the standard and to

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provide traceability and clarification of past actions. This documentation might include: (1) a brief history of the development of a new standard or revision to an existing standard including when and why the effort was initiated, (2) reasons and justification for requirements, (3) documentation of factors considered, and (4) listing of technical sources and literature.

B32.2 If included, this information shall appear in an appendix of the standard.

B32.3 Examples of standards that include sections on rationale:

E84, Test Method for Surface Burning Characteristics of Building Materials

F746, Test Method for Pitting or Crevice Corrosion of Metallic Surgical Implant Materials

F763, Practice for Short-Term Screening of Implant Materials

B33. Part Numbering

B33.1 *General*— Part-numbering systems may be included in an ASTM specification. The part-numbering system shall be placed in the appendix, shall be called out “when specified” as a supplementary requirement, and shall be referenced to appropriately under either “product marking,” “packaging and package marking,” or both places.

B33.2 *When Used for DOD Procurement:*

B33.2.1 The inclusion of a part-numbering system should be considered by technical committees when preparing specifications. Although it is a committee decision whether or not to include part numbering, ASTM International encourages such inclusion in specifications to make them more readily usable directly in procurement and supply applications.

B33.2.2 Part numbers shall be kept short and shall not exceed 15 characters. Part numbering shall be uniform for all parts covered by the same specifications; uniformity is also preferred for all part numbers within the same group of closely related items.

B33.3 *Criteria for Inclusion of Part Numbers:*

B33.3.1 In development of standards that embrace end products, every attempt should be made to define all product variables so as to enable one product to be positively distinguished

from another (from both an engineering and stocking viewpoint). Each product so covered shall be assigned a part number that:

- Is uniquely identifying.
- Includes the document (standard) number.
- Does not exceed 15 characters including dashes, slashes, spaces, etc.
- Does not include the letters “I,” “O,” “Q,” “S,” “X,” and “Z.”
- Does not change when the document is changed in a manner that does not affect interchangeability.
- Does not change when the product is modified so as to not be interchangeable. (In such instances, appropriate usage guidance will be provided if appropriate.)

B33.3.2 All standards that include part numbers shall contain a five-digit numerical manufacturers’ code as assigned by the U.S. Government under the Federal Cataloging Program. (See Fig. B1.)

B33.3.3 An example of a part-numbering system appears in ASTM Specification F1667, for Driven Fasteners: Nails, Spikes, and Staples.

B34. Summary of Changes

B34.1 If the committee chooses to provide a Summary of Changes, place this unnumbered section at the end of the standard and begin with the following introductory paragraph:

Committee XXX has identified the location of selected changes to this standard since the last issue (insert designation and year date) that may impact the use of this standard.

B34.2 An asterisk will appear after the Scope (**Scope***) with the following wording at the bottom of the first page:

***A Summary of Changes section appears at the end of this standard.**

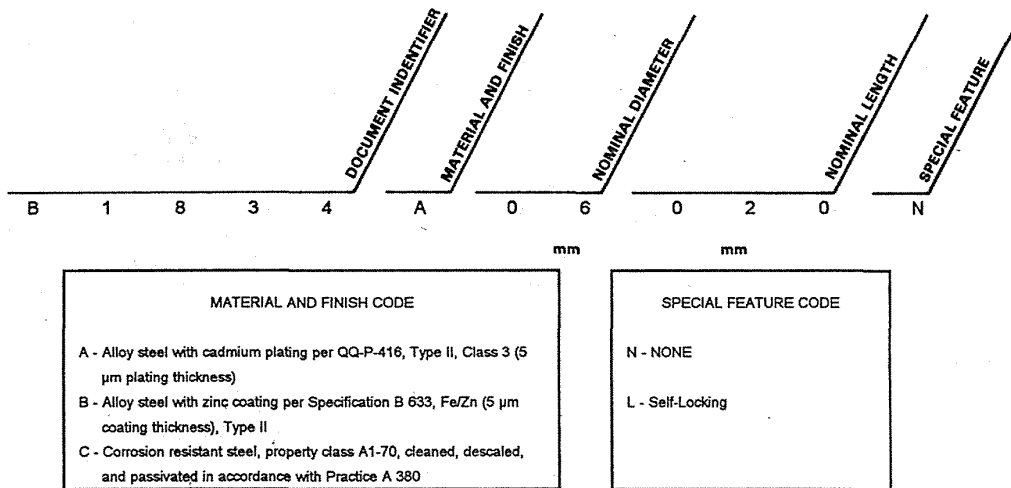
B34.3 Next list, by section or subsection, changes made since the last issue that may impact the use of the standard. For standards that have undergone multiple revisions in a short period of time, keep the Summary of Changes in the

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standard for 18 months. This will ensure that all changes from one publication of the Annual Book of ASTM Standards to the next are recorded. Brief descriptions of the changes and reasons for the changes may be included. If desired, a more extensive description of reasons for the changes should be placed in the appendix.

B34.4 An example of the list of changes is:

- (1) Deleted Section 5 and renumbered subsequent sections.
- (2) Updated precision statement in Section 10 to reflect the results of a recent interlaboratory study.
- (3) Revised hardness requirements in Table 2.
- (4) Revised Section 14 on Product Marking.



Example: B1834A06020N indicates a Screw Cap, Hexagon Socket Button Head, S1, made of Cadmium Plated Alloy Steel, 6 mm in diameter, 20 mm in length, and no special feature

FIG. B1 Part Numbering System Covering Standard Items Used by U.S. Government

PART C

FORM OF OTHER TYPES OF ASTM STANDARDS

INTRODUCTION

In addition to test methods and specifications, ASTM standards take other forms, including the following:

Classifications	Reference Radiographs
Practices	Reference Photographs
Guides	Tables
Terminology or Definitions (see Part E)	Charts

As a committee attempts to develop a standard, the question of differentiation between a practice and a guide may arise. In general, a practice underscores a general usage principle whereas a guide suggests an approach. A standard practice connotes accepted procedures for the performance of a given task. Refer to definitions given on p. vii. A guide may propose a series of options or instructions that offer direction without recommending a definite course of action. The purpose of this type of standard is to offer guidance based on a consensus of viewpoints but not to establish a standard practice to follow in all cases. A guide is intended to increase the awareness of the user concerning available techniques in a given subject area, while providing information from which subsequent testing programs can be derived.

Regarding reference radiographs, reference photographs, tables, and charts, there are relatively few subject headings, and the form of the standard is left to the jurisdiction of the sponsoring committee. The first two types listed in the introduction to Part C, however, are most common and are given greater treatment below.

Special instructions with respect to the legal aspects are included in Part F and shall be followed in writing any standard. These include such matters as contractual items, caveat statements, patents, and fire standards. Assistance on development of fire standards is available from Committee E05. The policies contained in Part F are approved by and are under the jurisdiction of the ASTM Board of Directors.

When a standard is being developed, the costs associated with its development and subsequent use generally should be considered. The prime objective should be the optimum use of resources to achieve satisfactory definition of the product or service. However, it should be noted that when the standard relates to the safety of persons, cost considerations are likely to become much less important than when attributes of materials or products are involved. Some standards, such as a definition, impose no cost on the user; others that include numerous and extensive requirements can entail significant expense to users of the standard. The requirements to be included should, therefore, be those that are technically relevant and yield benefits commensurate with the cost of their determination.

Cost effectiveness statements or rationale may be included within a standard if appropriate, usually in an appendix.

CLASSIFICATIONS

C1. Description

C1.1 "A classification is a systematic arrangement or division of materials, products,

systems, or services into groups based on similar characteristics such as origin, composition, properties, or use."¹

¹From *Regulations Governing ASTM Technical Committees*.

CLASSIFICATIONS

C1.2 Classifications provide a time- and space-saving shorthand for specifying the above description.

C1.3 Classifications may be defined by each committee differently because of the unique nature of that committee. A collection or grouping of definitions to one committee may be termed a classification while still another committee may group objects or properties in a classification.

C2. Subject Headings of Text

C2.1 The following is the sequence for the text of ASTM classifications. Headings are those most generally used but may not be all-inclusive. It may be necessary to include other headings for specialized subjects. The headings identified as “mandatory” are required. Other headings shall be included when the subject matter is pertinent to the document under development; in which case, all instructions and guidance for that particular section shall be followed. For example, if the standard does not contain reference to any standard documents within the text, it is not required to include a section on Referenced Documents. If, however, specific hazards are cited throughout the text, then the section on Hazards (see Section A13) shall be followed. Not all of these headings may be required for a particular standard. The use of footnotes and notes shall follow Sections A26 and A27 respectively. Additional headings that are included to cover specialized subjects should appear in the most appropriate place and sequence depending on their relation to the sections below.

- Title (mandatory)
- Designation (mandatory)
- Scope (mandatory)
- Referenced Documents
- Terminology
- Significance and Use (mandatory)
- Basis of Classification (mandatory)
- Test Methods and Retest
- Keywords (mandatory)
- Annexes and Appendixes
- Summary of Changes

C3. Title (Mandatory)

C3.1 The title of a classification standard should be concise, but complete enough to identify

the nature of the basis for classification, for specific materials, systems, services, and products.

C4. Designation (Mandatory)

C4.1 The ASTM designation is assigned by Headquarters on submittal for approval. Refer to Sections A3 or B4 for sequential parts of numbering.

C5. Scope (Mandatory)

C5.1 Include in this section information relating to the purpose of the classification. Concisely state what characteristics have been classified and the materials, products, systems, or services to which the classification applies. Where applicable state any limitations to the use of the classification.

C5.2 Include in this section the system of units to be used in referee decisions.

C5.3 Include, where applicable, comparisons of the classification to other similar classifications.

C6. Referenced Documents

C6.1 List here in alphanumeric sequence the designation number and complete title of all documents referenced within the classification. Refer to Section A6 for further information.

C7. Terminology

C7.1 See Section A7.

C8. Significance and Use (Mandatory)

C8.1 Include in this section information relating to the relevance of the classification. State how the classification is used and who would typically use it.

C9. Basis of Classification (Mandatory)

C9.1 The basis of classification is in fact the most important portion of the document. This heading sets up categories in which groupings are made. For example, ASTM Classification D388,

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of Coals by Rank (Vol 05.06) defines classification of higher rank coals according to fixed carbon on a dry basis while lower rank coals are classed according to caloric value on the moist basis.

C10. Test Methods and Retest

C10.1 Properties enumerated in a classification may be determined in accordance with specific test methods. These methods should be referenced in this portion of the document.

C10.2 Because of variability resulting from sampling and a lack of satisfactory reproducibility, and in instances when the first test results do not conform to the requirements prescribed in this classification, then a retest option may be provided.

C11. Keywords (Mandatory)

C11.1 In this section, identify the words, terms, or phrases that best represent the technical information presented in the standard. Select the keywords from the title and body of the document and include general, vernacular, and trade terms. These keywords will be used in the preparation of the ASTM Subject Index.

C11.2 Select three or more keywords that describe the names of tests, procedures, special materials, or the specific application(s) that will facilitate the identification and retrieval of the standard.

C11.3 All selected keywords shall be stand-alone terms; the type of standard, incomplete phrases, unattached adjectives, etc., shall not be used.

C12. Annexes and Appendixes

C12.1 Supplementary information is provided herein to aid in understanding and using the standard.

C12.2 Annexes (see A24.3).

C12.3 Appendixes (see A24.4).

C13. Examples

C13.1 Examples of classifications are:

D388 Classification of Coals by Rank

D3475 Classification of Child-Resistant Packages

C14. Summary of Changes

C14.1 If the committee chooses to provide a *Summary of Changes*, place this unnumbered section at the end of the standard and begin with the following introductory paragraph:

Committee XXX has identified the location of selected changes to this standard since the last issue (insert designation and year date) that may impact the use of this standard.

C14.2 Next list, by section or subsection, changes made since the last issue that may impact the use of the standard. Brief descriptions of the changes and reasons for the changes may be included.

C14.3 An example of the list of changes is:

- (1) Deleted Section 5 and renumbered subsequent sections.
- (2) Updated precision statement in Section 10 to reflect the results of a recent interlaboratory study.
- (3) Revised hardness requirements in Table 2.
- (4) Revised Section 14 on Product Marking.

PRACTICES AND GUIDES

C15. Description

C15.1 A standard practice is an accepted procedure for the performance of one or more operations or functions. In certain cases practices may include one or more test methods necessary for full use of the practice. Examples of practices include selection, preparation, application, inspection, necessary precautions for use or dis-

posal, installation, maintenance, and operation of testing apparatus.

C15.2 A standard guide is a compendium of information or series of options that does not recommend a specific course of action. Guides are intended to increase the awareness of information and approaches in a given subject area. Guides may propose a series of options or

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instructions that offer direction without recommending a definite course of action. The purpose of this type of standard is to offer guidance based on a consensus of viewpoints but not to establish a standard practice to follow in all cases.

C16. Subject Headings of Text

C16.1 The following is the sequence for the text of ASTM practices and guides. Headings are those most generally used but may not be all-inclusive. It may be necessary to include other headings for specialized subjects. The headings identified as “mandatory” are required. Other headings shall be included when the subject matter is pertinent to the document under development; in which case, all instructions and guidance for that particular section shall be followed. For example, if the standard does not contain reference to any standard documents within the text, it is not required to include a section on Referenced Documents. If, however, specific hazards are cited throughout the text, then the section on Hazards (see Section A13) shall be followed. The use of footnotes and notes shall follow Sections A26 and A27 respectively.

	Title (mandatory)
	Designation (mandatory)
	Scope (mandatory)
	Referenced Documents
	Terminology
	Summary of Practice
	Significance and Use (mandatory)
	Reagents
	Procedure
†	Test Methods
	Report
	Keywords (mandatory)
	Annexes and Appendixes
	Summary of Changes

†Test Methods included shall contain the mandatory headings included in Section A1, except for title and designation.

C16.2 Not all of these headings may be required for a particular standard. Additional headings that are included to cover specialized subjects should appear in the most appropriate place and sequence depending on their relation to the sections listed in C16.1.

C17. Title (Mandatory)

C17.1 The title should be concise but complete enough to identify the nature of the practice.

It should identify the subject of application and should be distinguishable from similar titles (see A2.1 as it applies to titles of test methods).

C18. Designation (Mandatory)

C18.1 The ASTM designation is assigned by Headquarters on submittal for approval. Refer to Sections A3 and B4 for sequential parts of numbering.

C19. Scope (Mandatory)

C19.1 Include in this section information relating to the purpose of the practice or guide and to what it applies. Clearly state any limitations of the practice or guide.

C19.2 Include in this section the system of units to be used in referee decisions.

C19.3 Include in this section any caveats required by ASTM policy such as *safety hazards* (see F2.1) and *fire hazards* (see F2.2).

C19.4 For standards developed for reference in model (building) codes, include the following statement:

The text of this standard references notes and footnotes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the standard.

C20. Referenced Documents

C20.1 List here in alphanumeric sequence the designation number and complete title of all documents referenced within the practice (or guide). Refer to Section A6 for further information.

C21. Terminology

C21.1 See Section A7 and Part E.

C22. Summary of Practice

C22.1 Include here a brief outline of the practice, describing its essential features without the details that are a necessary part of the complete statement of procedure and sequence. If desired, a brief statement of the principle of the practice may be given.

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C23. Significance and Use (Mandatory)

C23.1 Include in this section information that explains the relevance and meaning of the practice (or guide). State the practical uses for the practice and how it is typically employed. Avoid repetition of information included in the Scope (see Section C19).

C23.2 Include separately any appropriate comments on limitations of the practice. Indicate any means of recognizing cases where the practice may not be applicable.

C23.3 Include, where applicable, comparisons of the practice (or guide) to other similar procedures.

C24. Reagents

C24.1 See Section A12.

C25. Procedure

C25.1 Include in the procedure detailed directions for performing the task outlined in the practice.

C25.2 In some cases, to aid in clarity, a diagrammatic, photographic, or schematic may be of value to the user of the practice. These shall be supplied to the ASTM editorial staff as originals. An excellent example of this type of approach is illustrated in ASTM Practice D2855, for Making Solvent-Cemented Joints with Poly-(Vinyl Chloride) (PVC) Pipe and Fittings.

C26. Test Methods

C26.1 List standard test methods for measurement of all requirements of practices or guides. Refer to the ASTM test methods used in testing the material to determine conformance with the practice or guide. This includes sampling, chemical analysis, mechanical, electrical, thermal, optical, and other testing procedures. When alternative procedures are given in test methods, it is important to state which particular procedure shall be used as the basis for the practice or guide requirement.

C26.1.1 Examples of standard practices that include multiple test methods:

D4169 Practice for Performance Testing of Shipping Containers
E679 Practice for Determination of Odor and Taste Thresholds by a Forced-Choice Ascending Concentration Series Method of Limits
E795 Practices for Mounting Test Specimens During Sound Absorption Tests

C26.2 When there is no ASTM test method specified for a particular quality or property of a specified material, describe the test procedure to be followed in detail in the practice (or guide), following the Form of ASTM Test Methods (Part A of this publication). Include all mandatory information listed in A1.1 (title, scope, significance and use, hazards, procedure, precision and bias).

C26.3 Where a method of some other organization is being used and the committee has not approved the test as an ASTM test method, then it is preferable to describe the test in detail in the practice or guide and to include a footnote reference to the original source. Obtain appropriate copyright releases.

C26.4 State all procedures in the imperative mood.

C27. Report

C27.1 Include detailed information as to calculating, interpreting, and reporting results in this section.

C27.2 Depending upon the nature of the practice, an entire section may, by necessity, be devoted to calculation or interpretation of results, or both.

C27.3 When a practice permits variance in conditions under which the standard practice has been performed, these conditions should become part of the report.

C28. Keywords (Mandatory)

C28.1 In this section, identify the words, terms, or phrases that best represent the technical information presented in the standard. Select the keywords from the title and body of the document and include general, vernacular, and trade terms. These keywords will be used in the preparation of the ASTM Subject Index.

C28.2 Select three or more keywords that describe the names of tests, procedures, special

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materials, or the specific application(s) that will facilitate the identification and retrieval of the standard.

C28.3 All selected keywords shall be stand-alone terms; the type of standard, incomplete phrases, unattached adjectives, etc., shall not be used.

C29. Annexes and Appendixes

C29.1 Supplementary information is provided herein to aid in understanding and utilizing the standard.

C29.2 Annexes (see A24.3).

C29.3 Appendixes (see A24.4).

C30. Rationale

C30.1 The inclusion of a rationale (commentary) section in ASTM standards is encouraged to ensure that brief and concise documentation is available to the user of the standard and to provide traceability and clarification of past actions. This documentation might include: (1) a brief history of the development of a new standard or revision to an existing standard including when and why the effort was initiated, (2) reasons and justification for requirements, (3) documentation of factors considered, and (4) listing of technical sources and literature.

C30.2 If included, this information shall appear in an appendix of the standard.

C30.3 Examples of standards that include sections on rationale:

E84 Test Method for Surface Burning Characteristics of Building Materials
F746 Test Method for Pitting or Crevice Corrosion of Metallic Surgical Implant Materials
F763 Practice for Short-Term Screening of Implant Materials

C31. Summary of Changes

C31.1 If the committee chooses to provide a Summary of Changes, place this unnumbered section at the end of the standard and begin with the following introductory paragraph:

Committee XXX has identified the location of selected changes to this standard since the last issue (insert designation and year date) that may impact the use of this standard.

C31.2 An asterisk will appear after the Scope (Scope*) with the following wording at the bottom of the first page:

***A Summary of Changes section appears at the end of this standard.**

C31.3 Next list, by section or subsection, changes made since the last issue that may impact the use of the standard. For standards that have undergone multiple revisions in a short period of time, keep the Summary of Changes in the standard for 18 months. This will ensure that all changes from one publication of the Annual Book of ASTM Standards to the next are recorded. Brief descriptions of the changes and reasons for the changes may be included. If desired, a more extensive description of reasons for the changes should be placed in the appendix.

C31.4 An example of the list of changes is:

- (1) Deleted Section 5 and renumbered subsequent sections.
- (2) Updated precision statement in Section 10 to reflect the results of a recent interlaboratory study.
- (3) Revised hardness requirements in Table 2.
- (4) Revised Section 14 on Product Marking.

PART D

USE OF THE MODIFIED DECIMAL NUMBERING SYSTEM

INTRODUCTION

In recent years, “point” systems for numbering sections of a document have come into extensive use. Many national organizations, associations, societies, industrial concerns, and government agencies are using a Modified Decimal Numbering (MDN) System. MDN is also used by standardization organizations.

In 1963, ASTM International adopted the MDN System for ASTM standards. This guide has been prepared for the use of members who are drafting or revising standards. The object of the MDN System is to assign to each division in a text a unique number that shows the relationship of the specific section to all previous sections and gives a complete designation which does not require reference to previous sections or pages.

D1. Scope

D1.1 The Modified Decimal Numbering (MDN) System is designed primarily for numbering the text division in standards.

D1.2 The MDN System is also referred to as the “Point” System.

D2. Parts of a Standard

D2.1 All documents are considered to consist of several primary divisions called primary sections. A primary section may include one or more secondary sections. A secondary section may include one or more ternary sections which in turn may include one or more quaternary sections.

D2.2 The terms “primary section,” “secondary section,” “ternary section,” and “quaternary section” shall not be used in headings or references.

D2.3 References shall be made by referring to only the number when referring to secondary, ternary, and quaternary sections. Refer to primary sections as “Section 4” or “Sections 5 to 9.”

D2.4 Either of the generic words “section” or “division” may be used in correspondence or other communication, but shall not be used in references, other than primary, as directed in D2.2 and D2.3.

D3. Assignment of Numbers

D3.1 Number the primary sections of a standard serially, beginning with 1 or “Scope,” using as many numbers as required by the number of sections.

D3.2 Assign to the successive secondary sections of any primary section a two-part number consisting of the number used for the primary section followed by a decimal point and a consecutive number, beginning with 1, using as many numbers as required by the number of secondary sections. For example, if there are eleven secondary sections in the fifth section of a standard, designate these secondary sections 5.1, 5.2, 5.3 ... 5.9, 5.10, and 5.11.

D3.3 Assign to the successive ternary sections in a secondary section a three-part number consisting of the two-part number assigned to the secondary section followed by a decimal point and a consecutive number, beginning with 1, using as many numbers as required by the number of ternary sections. For example, if there are four ternary sections in secondary section 8.4, designate the ternary sections, 8.4.1, 8.4.2, 8.4.3, and 8.4.4.

D3.4 Assign to each of the successive quaternary sections in a ternary section a four-part number consisting of the three-part number assigned to the ternary section followed by a decimal point and a consecutive number, beginning with 1, using as many numbers as required by the number of quaternary sections. For

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example, if there are three quaternary sections in the second ternary section of secondary section 8.4, designate them 8.4.2.1, 8.4.2.2, and 8.4.2.3.

D3.5 There shall be no further subdivision beyond that allowed by the four-part number. The judicious use of unnumbered center headings may help in the adherence to this rule.

D4. Supplementary Requirements

D4.1 Designate each supplementary requirement by the letter “S” followed by a consecutive number, beginning with 1 for the first supplementary requirement.

D4.1.1 There shall be no decimal point between the “S” and the number.

D4.1.2 Do not renumber supplementary requirement designations once deleted.

D4.2 Designate primary, secondary, and ternary sections of each supplementary requirement as shown in D3.2, D3.3, and D3.4, respectively.

NOTE D1—Primary sections of a supplementary requirement, an annex, or an appendix are numbered the same as a secondary section of the main standard (with two-part numbers); secondary and ternary sections of a supplementary requirement, an annex, or an appendix are, therefore, numbered the same as ternary and quaternary sections (with three and four-part numbers), respectively, of the standard.

D4.3 No individual supplementary requirement shall be subdivided into more than three levels in accordance with D3.5.

D5. Literature References

D5.1 Where a document includes five or more literature references, list them in a separate unnumbered section at the end of the document, preceding annexes and appendixes. Assign a one-part number of each individual reference. See Section G21 of this publication.

D6. Annexes and Appendixes

D6.1 Separate annexes and appendixes from the main text with the centered headings ANNEX(ES) and APPENDIX(ES).

D6.2 Precede the title of each annex by the letter “A” followed by a number in consecutive order, beginning with 1 for the first annex (A1,

A2, A3, etc.) Precede the title of each appendix by the letter “X” followed by a number in consecutive order, beginning with 1 for the first appendix (X1, X2, X3, etc.)

D6.2.1 There shall be no decimal point between the “A” or “X” and the number.

D6.3 Designate primary, secondary, and ternary sections of each annex or appendix as shown in D3.2, D3.3, and D3.4, respectively (NOTE D1) (for example, A1.1, A1.1.1, and A1.1.1.1).

D6.4 No individual annex or appendix shall be subdivided into more than three levels in accordance with D3.5.

D7. Equations

D7.1 Equations should be numbered when two or more are included in the main text of the standard (see G16.6). Designate equations with consecutive arabic numbers beginning with 1. Number each equation in the order that it appears in the standard, regardless of the section number in which it is referenced.

D7.2 Designate equations in annexes and appendixes by the designation of the annex or appendix followed by consecutive numbers beginning with 1 (for example, Eq A1.1, A2.4, X3.2).

D8. Tables

D8.1 Assign consecutive arabic numbers to successive tables throughout the main text of the standard without regard to the number assigned to the section in which the table is referenced.

D8.2 Designate tables in annexes and appendixes by the designation of the annex or appendix followed by consecutive numbers beginning with 1 (for example, Table A1.1, A2.4, X3.2). Tables shall follow directly the appropriate annex or appendix.

D9. Figures

D9.1 Assign consecutive arabic numbers to successive figures throughout the main text of the standard without regard to the number assigned to the section in which the figure is referenced.

D9.2 Designate figures in annexes and appendixes by the designation of the annex or appendix followed by consecutive numbers

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beginning with 1 (for example, Fig. A1.1, A2.4, X3.2). Figures shall follow directly any tables of the appropriate annex or appendix.

D10. Text Notes

D10.1 Assign consecutive numbers to successive notes throughout the main text of the standard without regard to the number assigned to the section to which the note may refer. Notes shall be indicated by the word “NOTE” followed by the number.

D10.2 Designate notes in annexes by the letter “A” and in appendixes by the letter “X,” followed by consecutive numbers, beginning with 1.

D10.3 Designate notes pertaining to figures by consecutive numbers, beginning with 1 for the first note to each individual figure.

D11. Footnotes

D11.1 Assign consecutive numbers to successive footnotes throughout the standard, including supplementary requirements, annexes, and appendixes, without regard to the number assigned to the section in which the footnotes appears.

NOTE D2—Since Footnote 1 is required for sponsoring committee and year date of a standard, the first footnote referenced in the body of the text is Footnote 2.

D11.2 Designate footnotes to tables by consecutive letters, beginning with “A” for the first footnote to each individual table.

D11.3 Footnotes shall be referenced by superscript numbers, or, in the case of tables, by superscript italic capital letters.

D12. Combination of Systems

D12.1 Do not use a combination of the MDN System and other systems for designating secondary, ternary, and quaternary sections. For example, do not divide 8.4 into 8.4 (a), 8.4 (b), and 8.4 (c), rather than the 8.4.1, 8.4.2, and 8.4.3 as directed in D3.3.

D13. Omission of Numbers

D13.1 Do not assign MDN numbers to examples that are numbered serially throughout a document.

D13.2 Do not assign numbers to centered headings when used.

D14. Introductory Sections

D14.1 Where a standard has a preliminary section with a heading such as “Introduction” or “Foreword,” do not assign this section a number so that “Scope” shall always be designated with the one-part number “1” in accordance with D3.1.

D15. General Application

D15.1 Exercise care to distinguish between successive, parallel, and alternative sections and supplementary sections such as secondary, ternary, and quaternary sections. Only the latter three require the addition of another decimal point and number. Note also the manner of handling alternative clauses within a section. For example:

10. Procedure

10.1 Dry the specimen by either (1) heating at 105EC (221EF) for 2 h, or (2) holding the specimen in a conditioned atmosphere until dry to the touch.

Note that the above example is a single sentence and no further numbering breakdown is required.

10. Procedure

10.1 Make all tests on conditioned specimens using the procedure given in 10.3 and 10.4.

10.2 Calibrate the tension testing machine and see that the oven is at the specified temperature.

10.3 *Variable Frequency Procedure:*

10.3.1 Adjust the ...

10.3.2 Insert the ...

10.4 *Variable Tension Procedure:*

10.4.1 Start the ...

10.4.2 Clamp the ...

Note that in the above example, 10.3 and 10.4 are successive subdivisions of 10, not subdivisions of 10.1 or 10.2.

D16. Problems

D16.1 Any problems in the implementation of the MDN System in ASTM standards should be referred to the ASTM Director of Standards Publications for resolution.

PART E

TERMINOLOGY IN ASTM STANDARDS

INTRODUCTION

ASTM standard terminology is written to promote three objectives: (1) precise understanding and interpretation of ASTM standards, (2) standardization of terminology in standards, reports, and other technical writings, and (3) explanation of the meanings of technical terms for the benefit of those not conversant with them.

For terminology to be effective, it should be used consistently. It is, therefore, the responsibility of each technical committee to manage terminology usage in all standards for which it has jurisdiction to ensure that usage is consistent both within the committee and the Society. Part E provides guidance to technical committees and to those who review the work of technical committees regarding the principles of terminology.

E1. Terminology Management

E1.1 In ASTM International, technical committees are responsible for defining terminology within technical standards and for developing terminology as a type of standard. Terminology ensures precise interpretation of ASTM standards and explains technical terms for the benefit of users who are not conversant with the language of the standard. Use terminology that is clear, explicit, and not liable to misinterpretation when referred to in technical operations, commercial contracts, or legal proceedings.

E1.2 Terminology in a technical standard may include *definitions of terms* and *definitions of terms specific to a standard* and explanations of *symbols*, *abbreviations*, and *acronyms* that are necessary for the reader to understand that particular standard.

E1.3 All technical standards should contain a *Terminology* section that includes *definitions of terms* or *definitions of terms specific to a standard*, or both. Reference to a related terminology standard(s) can be sufficient for this section.

E1.4 All technical committees should develop and maintain a general terminology standard. Terminology, as a type of standard, is comprised of *definitions of terms* and explanations of *symbols*, *abbreviations*, and *acronyms* pertaining to the scope of a technical committee or a specialized field within the committee.

E2. Definitions of Terms and Definitions of Terms Specific to a Standard

E2.1 The distinction between *definitions of terms* and *definitions of terms specific to a standard* is related to the degree of application. If a term has a meaning more specialized than its commonly used language, is used by two or more subcommittees within a committee, or appears in several standards, it is labeled as a *definition of a term*. When the term is limited in application to the standard in which it needs to be defined, it is labeled as a *definition of a term specific to a standard*. *Definitions of Terms* and *Definitions of Terms Specific to a Standard* appear in separate subsections within the *Terminology* section of a technical standard. Since *definitions of terms specific to a standard* have limited application, they do not generally appear in a technical committee's general terminology standard.

E2.1.1 An example of a *definition* is:

X.x **dolly**, *n*—a low platform or structure mounted on wheels or casters, designed primarily for moving bulky loads for short distances. (Compare **pallet**)

D996

E2.1.2 An example of a *definition specific to a standard* is:

X.x **standard**, *n*—as used in ASTM International, a document that has been developed and established within the consensus principles of the Society and that meets the approval requirements of ASTM procedures and regulations.

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E3. Guidelines for Writing Definitions of Terms and Definitions of Terms Specific to a Standard

E3.1 Use these guidelines when writing both *definition of terms* and *definitions of terms specific to a standard*.

E3.2 Prepare a definition when:

E3.2.1 Any term used in a standard is essential to the interpretation and application of the standard;

E3.2.2 A term used in a standard is not adequately defined in common language;

E3.2.3 Using qualitative adjectives and nouns that *could* be taken to denote or connote an *absolute, unqualified, or unconditional* property or capability; for example: *waterproof, stainless, unbreakable, vapor barrier, gas-free, flat, safe, rigid, pure*. Such qualitative adjectives and nouns shall not be used unless *actually used and defined* in their absolute sense;

E3.2.4 Describing a *quantitative determinable* property or capability that might cause misinterpretation or confusion; for example: *strong, high, accurate, clean*.

E3.3 Do not develop a definition when:

E3.3.1 A term is adequately defined in reference source material (print or electronic version), unless a definition is required for clarity;

E3.3.2 A term has a well-recognized authoritative meaning such as terms defined in the International System of Units (SI);

E3.3.3 A term is defined acceptably for the committee's purposes in the *ASTM Online Dictionary of Engineering Science and Technology* or the committee's terminology standard;

E3.3.4 A term that meets the committee's needs has been defined in a technical standard of another committee or subcommittee.

E4. Form of a Definition

E4.1 Write *definitions of terms* and *definitions specific to a standard* in the dictionary-definition form. Include term, part of speech, definition, and, when applicable, a delimiting phrase (see E5.5).

E4.2 Describe the essential characteristics of the term. Keep it simple. Do not include irrelevant details such as how things are made, used, or measured.

E4.3 State the definition without repeating the term defined. Use language that is understandable to non-experts.

E4.4 Complete the definition in one sentence. If two or more phrases are needed to state the meaning, connect them with semicolons. Include any necessary supplementary information as a Discussion.

E4.5 The term and its elements should appear in the following order: term; abbreviation; symbol; dimensions of quantities, measurement units; part of speech; delimiting phrase; statement of meaning, including specification limits where applicable; cross-references to synonyms or related terms; attribution.

E5. Elements of a Term

E5.1 *Abbreviations*— For terms usually represented by an abbreviation, place a comma and the preferred abbreviation following the term, and then the part of speech, for example:

average. *avg, n*—

E5.2 *Symbols*— For terms usually represented by a letter symbol, place a comma and the preferred symbol following the term, and then the part of speech, for example:

ampere. *A, n*—

E5.3 *Dimensions of Physical Quantities*— If the term represents a physical quantity, state its analytical dimension in italics in square brackets immediately following the letter symbol, or if there is none, following the term itself, for example:

critical height, $H_c[L], n$ —*in earth grading*, the maximum height at which a vertical or sloped bank of soil will stand unsupported under a specific set of conditions.

D653

E5.4 *Parts of Speech*— Including the part of speech enables the user to distinguish between closely allied terms; for example:

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flame resistance, *n*—the ability to withstand flame impingement or give protection from it.

E176

flame resistant, *adj*—having flame resistance

E176

E5.5 Delimiting Phrases— If a term has different meanings in other technical fields or contexts, include an italicized phrase that delimits the definition to its field of application. This phrase should follow the dash and be separated from the basic statement of meaning by a comma, for example:

beam, *n*—*in a balance*, the horizontal pan support.

beam, *n*—*in a building*, a horizontal load-carrying structural member of the building frame.

beam, *n*—*in optics*, a concentrated unidirectional flow of radiant energy.

E284

E5.6 Specification Limits— If a definition involves specification limits applicable only to a specific standard (for example, in defining plate by specifying a thickness range), make the term specific to that standard. If, however, it is intended that this definition be broadly accepted within a specific technical committee or within ASTM International, delimit its scope, for example:

plate, *n*—*aluminum products*, a rolled flat product of thickness 6.4 mm (0.25 in.) or greater.

E5.7 Cross-references— Cross-references bring together related terms and narrower terms of a given genus. A cross-reference may take the place of a definition, or it may be appended to a definition to draw attention to related definition, for example:

flat-bed—see **truck**.

E5.8 Discussions— To fill in more detail of the concept being defined, supplementary information may be added as a separate discussion immediately following the definition, for example:

3.1 **builder's model**, *n*—a reference standard of quality for specific building components, denoting, by example, the level of quality adopted by a builder.

3.1.1 **Discussion**—The examples or samples of construction material, permit examination of quality level.

E631

E5.9 Attributions— If an existing definition is adopted from another reference source material (for example, technical standard, manual, or dictionary), copy it exactly and identify the original source in a boldface notation at the right margin following the definition.

E5.9.1 Notify Headquarters that permission to publish shall be obtained from the organization holding copyright. The definition shall not be published without permission.

E6. Use of Symbols, Acronyms, and Abbreviations as Terminology

E6.1 In standards containing numerous symbols, acronyms, or abbreviations, these items may be listed under the appropriate subheading as a convenience to the user of the standard.

E6.1.1 Symbols— Alphabetically list the symbols. Do not assign a number or capitalize the explanation, for example:

X.x Symbols:

A = cross-sectional area of specimen

B = normal induction

E6.1.2 Acronym— An acronym is a shortened form of a compound term that uses the initial letters of the term to make a pronounceable word. Alphabetically list, and capitalize the acronyms. In a few cases acronyms are written in lower case, such as laser and sonar. Do not capitalize the explanation unless it is a proper noun, for example:

X.x Acronyms:

X.x.1 PERT, *n*—*program evaluation and review technique*

X.x.2 radar, *n*—*radio detecting and ranging*

E6.1.3 Abbreviations— An abbreviation is a shortened form of a compound word or phrase. List the abbreviations alphabetically. Do not include abbreviations appearing in Section G3. Do not capitalize the explanation unless it is a proper noun, for example:

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X.x Abbreviations:
 X.x.1 *asn*—association
 X.x.2 *avg*—average

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E7. Subject Headings of Text

E7.1 The following list shows in sequence the subjects usually covered in a terminology standard:

- Title (mandatory)
- Designation (mandatory)
- Scope (mandatory)
- Significance and Use
- Terminology: Terms and Definitions (mandatory)
- Symbols, Abbreviations, Acronyms
- Keywords (mandatory)
- Annexes and Appendixes
- Bibliography or References
- Summary of Changes

E8. Title (Mandatory)

E8.1 The title should be as concise as possible but complete enough to identify the subject covered by the terminology. The title of a terminology standard preferably is *Terminology of ...*, although *Terminology Relating to ...* is acceptable.

E9. Designation (Mandatory)

E9.1 The designation will be assigned by ASTM International Headquarters upon submittal of the standard for Society approval.

E10. Scope (Mandatory)

E10.1 Provide information about the field of application of the terminology. Include information on how, when, and by whom the terminology will be used. Indicate here whether the terminology standard is general or relates to a specialized field. Where the content of a terminology standard is limited or restricted, as in a specialized terminology standard, the scope statement should so indicate.

E11. Referenced Documents

E11.1 Include in this section only ASTM standards, adjuncts, and standards or codes of other organizations. All referenced documents shall be cited.

E11.1.1 Provide footnotes to this section to indicate the sources of these documents.

E11.1.2 Do not include the year date when designating referenced documents unless there is a technical reason for specifying a particular year date.

E11.1.3 When listing reference adjuncts, provide a brief description, in this section, and a footnote of their availability.

E12. Significance and Use

E12.1 When use restrictions exist, include a significance and use statement. Give a warning of them such as: “This terminology is not intended to ...”

E13. Terminology (Mandatory)

E13.1 *Terms and Their Definitions (Mandatory)*—Compose a definition in the dictionary-definition form (see E4.5) and include the term, part of speech, definition, and when applicable, a delimiting phrase. Boldface the term and italicize the part of speech and delimiting phrase. Do not capitalize the term or any other components of the definition except for proper nouns, acronyms, or any other words capitalized in normal usage. List the terms unnumbered and in alphabetical sequence.

E13.1.1 Although the preferred style of listing terms and their definitions is in alphabetical sequence, in some cases it may be desirable to show the relationships in a logical family of concepts by grouping definitions according to a classification system. Place narrower or subordinate terms and their definitions in alphabetical order under the definition of the broader term, as the main entry, for example:

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soil structure, *n*—an arrangement and state of aggregation of soil particles in a soil mass.

flocculent structure, *n*—an arrangement composed of flocs of soil particles instead of individual soil particles.

honeycomb structure, *n*—an arrangement of soil particles having a comparatively loose, stable structure resembling a honeycomb.

single-grained structure, *n*—an arrangement composed of individual soil particles, characteristic structure of coarse-grained soils.

D653

E13.1.2 *Cross-references*— See E5.7 for rules governing cross-references.

E13.1.3 *Discussions*— See E5.8 for rules governing discussions.

E13.1.4 *Attributions*— See E5.9 for rules governing attributions.

E14. Symbols, Acronyms, and Abbreviations

E14.1 Any of these subsections can be used for the convenience of the user of the standard. Follow the guidelines detailed in Section E6.

E15. Keywords

E15.1 In this section, identify the words, terms, or phrases that best represent the technical information presented in the standard. Select the keywords from the title and body of the document and include general, vernacular, and trade terms. These keywords will be used in the preparation of the ASTM Subject Index.

E15.2 Select three or more keywords that describe the names of tests, procedures, special materials, or the specific application(s) that will facilitate the identification and retrieval of the standard. Keywords for terminology standards should include the words *definitions* and *terminology*.

E15.3 All keywords shall be stand-alone terms; incomplete phrases and unattached adjectives shall not be used.

E16. Annexes and Appendixes

E16.1 To aid in understanding and using the terminology, supplementary information such as illustrations, commentaries, or rationale may be included in annexes (mandatory information), or appendixes (nonmandatory information).

E17. Bibliography or References

E17.1 Supplementary publications, useful for consultation by users who wish to have more detailed information on the particular terminology, may be provided. If the publications are cited in the text, they should be listed in a References section at the end of the standard (see Section A25); otherwise, the section should be titled *Bibliography*.

E18. Summary of Changes

E18.1 This unnumbered section shall be placed at the end of the standard and begin with the following introductory paragraph:

Committee XXX has identified the location of selected changes to this standard since the last issue (insert designation and year date) that may impact the use of this standard.

E18.2 Next list, by section or subsection, changes since the last issue that may impact the use of the standard. Brief descriptions of the changes and reasons for the changes may be included.

E18.3 An example of the list of changes is:

- (1) Added the term bioconcentration.
- (2) Revised scope.
- (3) Modified the definition for sediment.

PART F

CAVEATS AND OTHER LEGAL ASPECTS IN STANDARDS—SPECIAL INSTRUCTIONS

INTRODUCTION

This section contains special instructions for the use of commercial-contractual statements, caveats, patents, trademarks, specific sources of supply, references to other organization, etc., in standards. When a standard contains any one of these statements or references, the committee shall obtain the necessary guidance from ASTM International Headquarters for the inclusion in the standard.

F1. Commercial-Contractual Items in Standards

F1.1 Certain requirements, such as those listed below, shall not be included in ASTM standards. If a committee feels it is important that this type of information be given, the committee may request an exemption from the Committee on Standards for the inclusion of such requirements in an ASTM standard.

- Adjustment, settlement, and investigation of claims
- Costs of testing, retesting statements
- Effective Dates
- Open-end agreements (see B1.2)
- Prices
- Purchasing

F1.2 The matter of who shall pay for services should be stated in the agreement or purchase order and not in the standard. Statements covering inspection (follow Section B19), rejection and reworking (follow Section B20), testing and retesting (follow B16.2), marking (follow Section B22), and certification (follow Section B21) are suitable when they do not contain mandatory requirements covering the costs involved.

F2. Caveat Statements and Policies in Standards

F2.1 The generic caveat on *safety hazards* specified below shall appear in the Scope section of (1) test methods; (2) specifications where test methods are detailed other than by reference; and (3) practices and guides that involve the use of material, operations, or equipment.

This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

F2.1.1 When the standard does not involve the use of hazardous materials, operations, or equipment, a request for an exception to the inclusion of the generic caveat shall be presented to the ASTM Standing Committee on Standards.

F2.1.2 Specific *warning* statements shall be included in the standard (see Section A13 for the use of warning statements). These statements shall not prescribe specific remedial measures and actions. However, reference may be made to authoritative sources where reliable information concerning remedial measures can be obtained.

F2.1.3 Where there exists in a standard a specific warning statement(s), reference to the appropriate section(s) shall be made following the generic safety hazards caveat in the scope.

F2.2 Fire Standards:

F2.2.1 Every fire standard shall state its purpose, specify the known limitations of the standard, and specify the significance of the data that are generated (including relevance to human life and property, where appropriate). Use precise terminology (see Part E, Terminology in ASTM Standards), and include the appropriate caveat as listed below. Standards should include, when practical, sufficient background or explanatory material to guide users in properly applying ASTM fire standards.

F2.2.2 ASTM fire standards include fire-test-response standards, fire hazard assessment standards, and fire risk assessment standards.

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Other types of fire standards shall also be permitted, including terminologies, guides, specifications, and practices. The following criteria shall be followed by fire standards:

F2.2.2.1 Fire-test-response standards provide a means for measuring the response of materials, products, or assemblies to heat and flame under controlled conditions of test. ASTM fire-test-response standards shall contain the following caveat:

This standard is used to measure and describe the response of materials, products, or assemblies to heat and flame under controlled conditions, but does not by itself incorporate all factors required for fire hazard or fire risk assessment of the materials, products, or assemblies under actual fire conditions.

F2.2.2.2 Fire-hazard assessment standards provide a method for assessing the potential for harm for materials, products, or assemblies that could be anticipated under specified fire conditions. ASTM fire-hazard assessment standards shall contain the following statement:

This standard is used to predict or provide a quantitative measure of the fire hazard from a specified set of fire conditions involving specific materials, products, or assemblies. This assessment does not necessarily predict the hazard of actual fires which involve conditions other than those assumed in the analysis.

F2.2.2.3 Fire-risk assessment standards provide a method for assessing the probability of loss resulting from a given fire situation involving interaction between the material, product, or assembly with its environment. ASTM fire-risk assessment standards shall contain the following statement:

This standard is used to establish a means of combining the potential for harm in fire scenarios with the probabilities of occurrence of those scenarios. Assessment of fire risk using this standard depends upon many factors, including the manner in which the user selects scenarios and uses them to represent all scenarios relevant to the application. This standard cannot be used to assess fire risk if any specifications are different from those contained in the standard.

F2.2.2.4 ASTM develops fire standards other than fire-test-response standards, fire-hazard assessment standards, or fire-risk assessment standards, which provide information on fire issues that is not associated with a quantita-

tive output (where quantitative outputs include a binary pass/fail option or a classification into categories). Such ASTM fire standards shall contain the following statement:

This fire standard cannot be used to provide quantitative measures.

F2.2.2.5 The following generic caveat is appropriate for fire standards that do not describe a fire test but do produce quantitative results that are calculated measures of fire-test-response characteristics and not by themselves measures of fire hazard or fire risk.

This standard is used to determine certain fire-test responses of materials, products, or assemblies to heat and flame under controlled conditions by using results obtained from fire-test-response standards. The results obtained from using this standard do not by themselves constitute measures of fire hazard or fire risk.

F2.2.2.6 The following caveat is required for fire test methods:

Fire testing is inherently hazardous. Adequate safeguards for personnel and property shall be employed in conducting these tests.

F2.2.3 *Titles and Criteria for Fire-Hazard and Fire-Risk Assessment Standards*— All standards developed, approved, or reapproved for the analysis and control of fire hazard or fire risk shall contain the words “FIRE-HAZARD ASSESSMENT” or “FIRE-RISK ASSESSMENT” in the title. The results of all such assessments shall be expressed in terms that relate the item in question to the anticipated fire environment. When appropriate, the standard may also contain acceptance or classification criteria and a statistical sampling plan as a guide to its use.

F2.2.4 ASTM Committee E05 on Fire Standards is available to provide review of fire standards developed by other ASTM committees.

F2.3 *General Policy Caveat*— The Board of Directors approved the inclusion of a General Statement of ASTM Policy in all standards:

CAVEATS AND OTHER LEGAL ASPECTS IN STANDARDS—SPECIAL INSTRUCTIONS

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing, you should make your views known to the ASTM Committee on Standards, 100 Barr Harbor Drive, West Conshohocken, PA 19428.

This statement shall appear in a note at the end of the standard, following the note on ASTM Disclaimer of Liability as to Patented Inventions (see Section F3 on Patents in ASTM Standards).

F2.4 Working Document Caveat— The Board of Directors approved the use of the “Working Document” statement to be stated on the front page of every draft document or manuscript from a committee. The following statement shall be typed or stamped on the document:

This document is not an ASTM standard; it is under consideration within an ASTM technical committee but has not received all approvals required to become an ASTM standard. You agree not to reproduce or circulate or quote, in whole or in part, this document outside of ASTM Committee/Society activities, or submit it to any other organization or standards bodies (whether national, international, or other) except with the approval of the Chairman of the Committee having jurisdiction and the written authorization of the President of the Society. If you do not agree with these conditions, please immediately destroy all copies of the document. *Copyright ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428. All Rights Reserved.*

Anyone requesting an ASTM committee draft document is entitled to receive a copy. However, after receipt of this document, they shall adhere to the caveat.

F2.5 Professional Judgment Caveat— When a Technical Committee is developing a Standard Guide or Practice that may involve professional judgment, the following caveats may be used:

Standard Guide—This guide offers an organized collection of information or a series of options and does not recommend a specific course of action. This document cannot replace education or experience and should be used in conjunction with professional judgment. Not all aspects of this guide may be applicable in all circumstances. This ASTM standard is not intended to represent or replace the standard of care by which the adequacy of a given professional service must be judged, nor should this document be applied without consideration of a project’s many unique aspects. The word “Standard” in the title of this document means only that the document has been approved through the ASTM consensus process.

Standard Practice—This practice offers a set of instructions for performing one or more specific operations. This document cannot replace education or experience and should be used in conjunction with professional judgment. Not all aspects of this practice may be applicable in all circumstances. This ASTM standard is not intended to represent or replace the standard of care by which the adequacy of a given professional service must be judged, nor should this document be applied without consideration of a project’s many unique aspects. The word “Standard” in the title means only that the document has been approved through the ASTM consensus process.

F2.6 Mercury Caveat— When a standard includes reference to the element of mercury or products containing mercury, the following caveat shall appear in the Scope section.

Warning—Mercury has been designated by many regulatory agencies as a hazardous substance that can cause serious medical issues. Mercury, or its vapor, has been demonstrated to be hazardous to health and corrosive to materials. Caution should be taken when handling mercury and mercury containing products. See the applicable product Safety Data Sheet (SDS) for additional information. Users should be aware that selling mercury and/or mercury containing products into your state or country may be prohibited by law.

F3. Patents in ASTM Standards

F3.1 When a committee has determined an item covered by a patent or a pending patent may be necessary in a proposed standard, the committee shall include a statement in the balloting process and a footnote in the draft standard, indicating a willingness to consider alternative(s). ASTM standards submitted to ANSI for approval as American National Standards shall conform to the ANSI patent policy. The ANSI patent policy may be obtained on the ANSI website ([www.ansi.org](http://www ansi.org)).

F3.1.1 Statement in Balloting Process— The statement with the ballot shall include a request for an alternative(s) as follows:

CAVEATS AND OTHER LEGAL ASPECTS IN STANDARDS—SPECIAL INSTRUCTIONS

The (name of material, product, process, apparatus) is covered by a patent. If you are aware of an alternative(s) to the patented item, please attach to your ballot return a description of the alternatives. All suggestions will be considered by the committee. If alternatives are identified, the committee shall reconsider whether the patented item is necessary. The committee, in making its decision, shall follow Regulation 15.

F3.1.2 *Statement in Footnote of Standard*— A footnote shall be included in the standard as follows:

The (name of material, product, process, apparatus and may include the patent number for reference) is covered by a patent. Interested parties are invited to submit information regarding the identification of an alternative(s) to this patented item to the ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend.

The footnote shall be cited in the specific section of the standard where the patented item is first mentioned. Information describing the patented item will be set forth once in the standard, in this footnote.

F3.2 *Disclaimer of Liability as to Patented Inventions*— Neither ASTM International nor an ASTM committee shall be responsible for identifying all patents under which a license is required in using an ASTM document or for conducting inquiries into the legal validity of those patents which are brought to the Society's attention. Where applicable, an ASTM document shall include a note worded as follows:

"ASTM International takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility."

F4. Use of Trademarks and Specific Sources of Supply for Apparatus, Reagents, and Materials in ASTM Standards

F4.1 ASTM International is authorized to certify products, equipment or services.

F4.1.1 ASTM International has a registered certification mark, along with other registered marks.

F4.1.2 ASTM International does not permit its trademarks to be used in a manner that suggests it has approved any product, equipment

or services other than in relation to an ASTM Certification Program.

F4.1.3 ASTM International does not permit the use of third-party trade- or service marks in ASTM standards in a manner that could suggest ASTM International's endorsement, approval, sponsorship, or certification of the trademarked item or service.

F4.1.4 Requiring participation in or that a product meet an ASTM Certification Program to comply with an ASTM standard is prohibited.

F4.2 *Trademarks*:

F4.2.1 Trademarks shall not be used in ASTM standards, unless the trademark is used to refer to a specific source of supply and such use conforms to the requirements of F4.3.

F4.2.2 Trademarks in ASTM standards shall not be used in a manner that: is false or misleading; violates the rights of the Mark's owner; violates any law, regulation or other public policy; or mischaracterizes the relationship between the Society and the material, product, system or service represented by the Mark, including but not limited to any use of a Mark that might reasonably be construed as an endorsement, approval, sponsorship, or certification by the Society of the material, product, system or service, or that might be reasonably construed as support or encouragement to purchase or utilize the material, product, system or service represented by the Mark. Judgment is at the sole discretion of the Committee on Standards.

F4.2.3 If ASTM International staff decides permission should be obtained to use a trademark, such permission shall be obtained by ASTM International Headquarters from the holder of the Mark.

F4.2.4 The first reference to the trademark in the standard shall include a footnote containing the name of the trademark holder. Trademark symbols shall not be included. "Trademark" shall be used as an adjective.

F4.3 *Sources of Supply*:

F4.3.1 To allow the widest possible use of ASTM standards, it is the responsibility of the sponsoring committee to ensure that sources of supply exist for unique or difficult-to-obtain apparatus, reagents, and materials.

CAVEATS AND OTHER LEGAL ASPECTS IN STANDARDS—SPECIAL INSTRUCTIONS

F4.3.2 Reference to specific commercial sources of supply are permitted only when there is a sole source of supply.

F4.3.2.1 Information on the sole source of supply shall be included in a footnote. Include wording such as:

The sole source of supply of the apparatus known to the committee at this time is (name and address of the supplier). If you are aware of alternative suppliers, please provide this information to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend.

F4.3.3 If the apparatus is not widely available, but more than one source of supply is known, or if apparatus that is widely available needs to be checked for suitability in the application specified, the committee can reference criteria for evaluating the apparatus. This reference can be to a section of the standard, to a separate existing standard or other published document, or can be in the form of an annex or appendix to the standard, or filed as an ASTM research report or adjunct.

F4.3.3.1 Text referencing the availability of such criteria, and any requirement on the use of such criteria, should be included in the appropriate section of the standard. Include wording such as:

All available apparatus may not be suitable for this application. Apparatus considered for use in this application shall be checked for suitability in accordance with the requirements of (insert reference to appropriate evaluation document).

F5. Reference to Standards of Other Organizations

F5.1 When referencing standards of other organizations, include the designation and title for the document in the *Referenced Documents* sections.

F5.1.1 In all cases, information on the title, designation, and source availability of the reference standards shall be included. Do not include the year date of reference documents unless there is a technical reason for requiring a particular revision.

F5.2 When it is necessary to quote portions of a non-ASTM standard, permission to republish shall be obtained from the organization holding copyright by ASTM International Headquarters.

F5.3 Joint logos shall not be printed on ASTM standards, except with the authorization of the Board of Directors. When a standard has been developed in cooperation with another organization(s), a note may appear in the standard, crediting the other organization's participation.

F5.3.1 In cases of disagreement on implementation of this policy, the matter shall be referred to the Committee on Standards for decision.

PART G

STANDARDS STYLE MANUAL

G1. Styling

G1.1 Check the draft standard against the rules given in this style manual. Many technical committees have editorial subcommittees that review draft standards before submittal to Headquarters. The ASTM editorial staff does the final styling and is available to assist members. There are a number of forms of assistance available to the ASTM standards-writer, such as the following: on-line templates to write standards and access to the latest *Form and Style for ASTM Standards*, the *ASTM Online Dictionary of Engineering Science and Technology* (see www.astm.org), *Committee White Papers* (supplements to this manual), and editorial workshops. Also, see the Introduction to this manual.

G1.2 Of the instructions that follow, some are included because they are deviations from the standard references, some because they are used frequently and are therefore listed here for convenience. Sections on various points of ASTM style appear in the following alphabetical order:

	Section
Abbreviations and Unit Symbols	G3
Alloy Designations	G4
And/Or	G5
Capitalization	G6
Chemical Formulas	G7
Contractual Parties	G8
Crystal Planes and Directions	G9
Dictionaries and Other Reference Publications on Style	G10
Dilution Ratio	G11
Figures	G12
Footnotes	G13
Hyphens	G14
Italics	G15
Mathematical Material	G16
Numbering	G17
Numerals	G18
Percent versus Percentage Points	G19
Polymers	G20
References, Other Documents	G21
References, Standards	G22
Sample versus Specimen	G23
SI Units	G24
Spelling	G25
Symbols	G26
Tables	G27
Tension/Compression/Flexure Tests	G28
Thermal Conductivity	G29
Thermometers	G30
Trademarks	G31

G2. Electronic Standard Preparation

G2.1 *Rationale for Ballot*— A rationale explaining the reason for the ballot is mandatory for all ballots.

G2.2 *New Standard*— For help in writing new standards, go to www.astm.org and use the online draft standard templates.

G2.3 *Extensive Revision*— When doing an extensive revision, process in manuscript form. Submit entire document for ballot and do not use track changes as shown in G2.4 if the revisions would make the ballot too cumbersome to follow. In this case, the ballot rationale shall be used to state the extent of the changes and that the document should be reviewed in its entirety.

G2.4 *Minimum to Moderate Revisions*

G2.4.1 Clearly indicate what has changed by using the “track changes” tool. Follow these instructions to properly use the track changes tool:

G2.4.1.1 Only submit for ballot those sections that are being revised.

G2.4.1.2 Open the document and excerpt into a separate file only those sections to be revised.

G2.4.1.3 Select “Tools” from the pull-down menu.

G2.4.1.4 Select “Track Changes.” This will automatically default to underlining added text and striking through deleted text.

G2.4.1.5 Ensure that all changes (insertions, deletions, etc.) have been properly marked with the revision bar in the margins.

G3. Abbreviations and Unit Symbols

G3.1 In the text, use unit symbols after numbers denoting a definite quantity. Example: “The length is 25 mm [1.0 in].”

G3.2 Use unit symbols in tables and figures, and in lists defining symbols used in equations.

G3.3 Use unit symbols and abbreviations in the singular only. Thus “fifty kilograms” shall be designated “50 kg,” not “50 kgs.” Exceptions: Figs., Nos., Eqs., Refs, Vols.

STANDARDS STYLE MANUAL

G3.4 When a long word or phrase for which there is no standard abbreviations is used frequently, it may be replaced by an abbreviation that is explained when it first occurs. Examples: below top dead center (btde), relative centrifugal force (ref).

G3.5 Commonly accepted abbreviations for names of societies, associations, government agencies, etc., may be used, provided the name is spelled out the first time it is used. Use no periods and run together. Examples: ASTM International, TAPPI, NASA, ARPA.

G3.6 The standard unit symbols and abbreviations for use in Society publications in the list below are so common that they may be used without explanation. For proper form and style for SI units follow IEEE/ASTM SI-10 American National Standard for Metric Practice, the SI Quick Reference Guide (Annex A) and Part G and Part H. If a discrepancy exists between these documents, follow Part G and Part H of the Form and Style Manual.

absolute	abs
academic degrees	use periods and run together (M.S., Ph.D., etc.)
alternating current	ac
American	Am. ^A
American wire gauge	AWG
ampere	A
ampere hour	Ah
angstrom	Å
ante meridian	a.m.
Association	Assn. ^B
atmosphere	atm
average	avg
barrel	bbl
becquerel	Bq
billion electronvolts	(use GeV, gigaelectronvolts)
Birmingham wire gauge	BWG
brake horsepower	bhp
brake-horsepower hour	bhp•h
Brinell hardness number	HB (see ASTM E10)
British thermal unit	Btu
Brown and Sharpe (gauge)	B&S
bushel	Bu
calorie	cal
candela	cd
centimetre	cm
centipoise	cP
centistokes	cSt
circular mil	emil
coefficient	<i>spell out</i>
Company	Co. ^B
Corporation	Corp. ^B
coulomb	C
cubic	use exponential form ^C
cubic centimetre	cm ³

cubic decimetre	dm ³
curie	Ci
cycles per minute	cpm
cycles per second	(use Hz, hertz)
day	<i>spell out</i>
decibel	dB
degree (angle)	°
degree Celsius	°C
degree Fahrenheit	°F
degree Rankine	°R
degrees of freedom	df
Department	Dept. ^B
diameter	dia (in figures and tables)
differential	d
direct current	dc
Division	Div. ^B
dollar	\$
effective horsepower	ehp
electromotive force	emf
electronvolt	eV
Engineers	Engrs. ^A
equation(s)	Eq(s)
farad	F
figure(s)	Fig(s). ^D
foot	ft
footcandle	fc
foot pound-force	ft•lbf (use for work, energy) (see lbf•ft)
gallon	gal
gauss	G
gilbert	Gb
grain	<i>spell out</i>
gram	g
gravity (acceleration)	g
gray	Gy
half hard	SH
henry	H
hertz	Hz
horsepower	hp
horsepower hour	hp•h
hour	h
Hurter and Driffield scale (film density)	H&D
hydrogen ion concentration, negative logarithm of	pH
inch	in.
inch of mercury	in.Hg
inch of water	in.H ₂ O
inch pound-force	in•lbf (use for work, energy) (see lbf•in.)
inclusive	incl (in figures and tables only)
Incorporated	Inc. ^B
indicated horsepower	ihp
inside diameter	ID (in figures and tables only)
Institute	Inst. ^B
integrated neutron flux	nvt, n/cm ²
Iron pipe size	IPS
joule	J
K alpha radiation	Ka
kelvin	K
kilocalorie	kcal
kilocycle per second	(see note on cycles per second)
kilogram	kg
kilogram-calorie	kg•cal
kilogram-force	kgf
kilogram metre	kg•m
kilometre	km

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kilovolt	kV	month (When followed by a date use Jan., Feb., March, April, May, June, July, Aug., Sept., Oct., Nov., Dec. When there is no date, spell out. Examples: Jan. 15, 1995; January 1995)	<i>spell out</i>
kilovolt ampere	kVA	nanometre (formerly millimicron)	nm
kiloelectronvolt	keV	National	Nat. ^A
kilovoltpeak	kVp	newton	N
kilowatt	kW	normal	N
kilowatthour	kWh	number(s) (This abbreviation can often be omitted entirely. It is usually understood (as in <i>STP</i> 325, Specimen 8, Test 14, etc.))	No(s). ^D
kip (1000 lbf)	<i>spell out</i>	oersted	Oe
kip (1000 lbf) per square inch	ksi	ohm	Ω
Knoop hardness number	HK (see ASTM E384)	ortho	<i>o</i>
lambert	L	ounce	oz
linear	<i>spell out</i>	outside diameter	OD (in figures and tables only)
litre	L	page	p.
logarithm (common)	log	pages	pp.
logarithm (natural)	ln	para	<i>p</i>
lumen	lm	parts per billion	ppb
lux	lx	parts per million	ppm
magnetomotive force	mmf	pascal	Pa
mass-to-charge ratio	<i>m/e</i>	per	use the diagonal line in expressions with unit symbols ^E
maximum	max (in figures and tables only)	percent	%
maxwell	Mx	pico (prefix)	p
median effective concentration	EC ₅₀	picofarad	pF
median effective dose	ED ₅₀	pint	Pt
median lethal concentration	LC ₅₀	poise	P
median lethal dose	LD ₅₀	Poisson's ratio	μ (ν is preferred in applied mechanics)
megacycles per second	(see note on cycles per second)	post meridian	p.m.
megagram	Mg	pound	lb
megawatt	MW	pound-force	lbf
meta	<i>m</i>	pound-force foot	lbf•ft (use for torque) (see ft•lbf)
metre	m	pound-force inch	lbf•in. (use for torque) (see in•lbf)
microampere	μA	pound-force per square foot	lbf/ft ²
microcurie	μCi	pound-force per square inch	psi or lbf/in. ²
microfarad	μF	absolute	psia
microgram	μg	pound-force per square inch gauge	psig
microhenry	μH	quart	qt
microinch	μin.	rad (dose unit)	rd
microlitre	μL	radian	rad
micro-micro (prefix, use pico)	<i>p</i>	radio frequency, ⁿ	rf
micrometre (formerly micron)	μm	radio frequency, ^{adj}	r-f
microroentgen	μR	radius	R (in figures and tables only)
microsecond	μs	Railway	Ry. ^B
microvolt	μV	Railroad	R.R. ^B
microwatt	μW	reference(s)	Ref(s)
mil	<i>spell out</i>	relative humidity	RH (in figures and tables only)
mile	<i>spell out</i>	revolution per minute	r/min
miles per hour	mph	revolution per second	r/s
milliampere	mA	Rockwell hardness, C scale	HRC (see ASTM E18)
milli-angstrom	mÅ	roentgen	R
millicurie	mCi	root mean square	rms
milliequivalent	meq	Saybolt Furol seconds	SFS
milligram	mg	Saybolt Universal seconds	SUS
millihenry	mH	second	s
millilitre	mL		
millimetre	mm		
millimetre of mercury	mmHg		
million electronvolts	MeV		
milliroentgen	mR		
millisecond	ms		
millivolt	mV		
milliwatt	mW		
minimum	min (in figures and tables only)		
minute	min (spell out when used with minimum)		
molal	<i>spell out</i>		
molar	<i>M</i>		
mole	mol		

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secondary	sec
siemens	S
Society	Soc. ^B
socket joint (tables and drawings only)	Sj
specific gravity	sp gr
square	use exponential form (exception: psi, ksi) ^C
standard taper (tables and drawings only)	TS
steradian	sr
stokes	St
tensile strength	spell out
tertiary	tert
tesla	T
thousand electronvolts	KeV
thousand pounds	kip
thousand pounds-force per square inch	ksi
ton	spell out
torr	spell out
United States, <i>n</i>	spell out
United States, <i>adj</i>	U.S.
United States Pharmacopeia	USP
versus	spell out
Vickers hardness number	HV (see ASTM E384)
volt	V
volume (of a publication)	Vol ^D
watt	W
watt hour	W•h
weber	Wb
week	spell out
yard	yd
year	spell out
Young's modulus	E

^A In footnotes and references only.

^B At end of name only.

^C With unit symbols only.

^D Only when followed by a number.

^E Exceptions: cpm, mph, psi.

G4. Alloy Designations

G4.1 Use the following for alloy designations:

- 3135 steel
- 2024-T4 aluminum
- Ti-4Al-3V-Mo
- Ti-6Al-4V
- 0.5Ti molybdenum alloy or molybdenum with 0.5 % titanium or
- 0.5Ti alloy (where molybdenum is understood)

G4.2 ASTM and SAE have jointly developed a unified numbering system (UNS) for alloy identification (Practice E527).

G5. And/Or

G5.1 Do not use this expression. For example, when “A and/or B” is truly the case, write “A or B, or both.” For example, when “A,

B, and/or C” is truly the case, write “A, B, or C, or combinations thereof.”

G6. Capitalization

G6.1 Use capitals sparingly.

G6.2 In headings and titles, capitalize all nouns, pronouns, verbs, adjectives, adverbs, and all other words of five or more letters. Do not use initial caps on abbreviations (except see G6.6), or the phrase “et al.” or in the word “to” in the infinitive form of a verb.

G6.3 Use initial cap for “committee” where used in a title, as “Committee A01,” “Committee on Publications.” Everywhere else use lowercase, as “The committee recommends ...” This rule also applies to use of “symposium,” etc.

G6.4 Use initial cap on Society, Staff, and Headquarters when referring to ASTM International, its Staff, and its Headquarters.

G6.5 Capitalize trademarks. The initial cap becomes lowercase after the word is accepted into the language as generic. When in doubt, capitalize. The following are now lowercase: babbitt, bunsen, cellophane, diesel, kraft, neoprene, nylon, portland cement, saran.

G6.6 Use initial cap in referring to volumes, figures, tables, etc., as Vol 2, Fig. 2, Table 2. Use lowercase in less direct references such as: “This volume contains ...” “In the same figure is shown ...”

G6.7 Use initial caps in such expressions as: Test 1, Specimen A, Cement B, Type 1, Class C, Grade B, etc.

G6.8 It is permissible to use all caps in directions such as: “Turn the machine to OFF position” or “Turn the dial to TITRATE.”

G7. Chemical Formulas

G7.1 Chemical formulas should be used freely in tables and figures. In text in which chemical formulas are mentioned infrequently, spell out the names. Where they are mentioned frequently, spell out the name in the first reference to it, followed by the formula in parentheses. The formula alone may be used subsequently. Do not use chemical formulas for organic or complex inorganic compounds. Always spell out the word

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“water” and the name of the elements (use lead, not Pb). Isotopes may be written as carbon-14 or as ^{14}C .

G8. Contractual Parties

G8.1 Terms describing contractual parties shall be limited to the following:

G8.1.1 *Party of First Part*, producer, supplier, seller, or manufacturer.

G8.1.2 *Party of Second Part*, purchaser or user.

G9. Crystal Planes and Directions

G9.1 Use the following symbols for crystallographic planes and directions:

plane (111)

family of planes {111}

direction [111]

family of directions <111>

G10. Dictionaries and Other Reference Publications on Style

G10.1 For spelling, punctuation, capitalization, and foreign words, use a reference source material, such as *Merriam-Webster's Collegiate Dictionary* or *Webster's Third New International Dictionary* (print or electronic versions). For other information on style use *Manual of Style*, The University of Chicago Press (print or electronic version).

G11. Dilution Ratio

G11.1 Use the form “9+1” rather than “9:1” for dilution ratios. This means that the 1 part solute is to be mixed with the 9 parts solvent. Specify whether volumes or weights are being used, for example, volume/volume, weight/volume, etc.

G12. Creating and Submitting Figures for Ballot

G12.1 *Definition*—A figure can be a technical drawing (vector line art), information visual (chart/graph/schematic), or a photograph, or a combination of these.

G12.2 Please include figure(s) with your ballot submission to ensure timely publication of your standards.

G12.2.1 Size each figure up to 30 picas in width (approximately 125 mm or 5 in.) This is the maximum.

G12.3 *How do I create and save non-photographic images (for example, graphs, drawings, schematics) or digital photographs from a hard copy original or from computer-generated artwork?*

G12.3.1 Keep in mind that the larger the original, the greater potential for a better reproduction.

G12.3.2 Size each figure to 30 picas in width (approximately 5 in.). For full-page/landscape figures, size to 42 picas in width (approximately 7 in.). These are the maximum allowable widths.

G12.3.3 When taking digital photographs, use the highest resolution possible on the camera. Absolute minimum resolution is 1200 × 960 pixels. 1936 × 1296 pixels is better, and 2896 × 1944 pixels is even better.

G12.3.4 Check the image quality and the brightness and contrast levels.

G12.3.5 Submit artwork in its original file source/extension. ASTM graphic designers can work with most file formats, including CAD. (SVG, EPS, or AI files are preferred for technical drawings. TIFF or JPG preferred for photographs or halftones. GIF is discouraged as a generally low-resolution file type.)

G12.3.6 If you need to scan hard copy, adjust the resolution on your scanner as follows:

G12.3.6.1 Technical drawing or other information visual FTP—Please scan the line art at 1200 dpi (dots per inch).

G12.3.6.2 Photograph FTP—Please scan at 600 DPI. If the image is to be enlarged, increase the percentage of the scanned image.

G12.3.6.3 ASTM can also scan for you (see G12.5).

G12.3.7 Furnish short titles or captions for each figure.

G12.4 *How do I submit the file?*

G12.4.1 **E-mail** your staff manager or editor.

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G12.4.2 **FTP**—Please contact the ASTM Help Desk for assistance at 1-800-262-1373.

G12.4.3 **DVD/CD-ROM**

G12.4.4 *Hard copy can be mailed to ASTM Headquarters, in case ASTM cannot use the electronic file. See the following instructions.*

G12.5 *How do I submit hard copy?*

G12.5.1 Provide camera-ready figures of professional quality, because the printer will scan what is submitted, and it will appear in the standard exactly as you have supplied it. To this end:

G12.5.1.1 Use a laser or other high-quality printer.

G12.5.1.2 Do not handwrite on the figure.

G12.5.1.3 Do not use a faxed or photocopied figure.

G12.5.1.4 Furnish short titles or captions for each figure.

G13. Footnotes

G13.1 For footnotes in tables, use superior italic capital letters, beginning anew for each table. Type the footnotes below the table.

G13.2 For all other footnotes, use superior numbers.

G13.3 Do not use footnotes in figure captions. Either cite a previous footnote or reference (for example, “see Footnote 3,” or “taken from Ref (4)”), or write out the reference in the caption. For style of publication footnotes, see Sections G21 and G22.

G14. Hyphens

G14.1 In ASTM standards, hyphenate compound adjectives, such as: “low-alloy steel,” “cold-drawn wire.” Compound adjectives involving SI units should use a space, such as: “50 mm gauge.” Write expressions such as the following *with* the hyphen after the first word: “high- and low-temperature tests.” For the sake of appearance, omit hyphens in such expressions as “3 % nickel alloy” or “3EC rise in temperature.” Also do not hyphenate chemical compounds and the words “stainless steel” and “cast iron.”

G14.2 Do not hyphenate an adverb-adjective combination when the adverb ends with “ly.”

G14.3 Spelled-out fractions used as nouns are not hyphenated (one third of the load); used as adjectives, they *are* hyphenated (a one-third share).

G15. Italics

G15.1 *Italicize:*

G15.1.1 All symbols for physical quantities that can have a numerical value (quantity symbols).

G15.1.2 Letters in parentheses used to identify listings in text or subdivisions of illustrations, “Fig. 1(a).”

G15.1.3 *Chemistry*— *N* (normal), *M* (molar), *c* (concentration). Do not italicize symbols for the elements (Fe, N, Na, etc.) Exception: italicize *N* for nitrogen when it is used to denote position, as in *N*-methylaniline. Italicize *o*, *m*, and *p* as ortho, meta, and para; for example, *p*-cresol. Italicize and abbreviate secondary and tertiary as *sec* and *tert*; for example, *tert*-butyl alcohol. Italicize *iso* when used in *isooctane*.

G15.1.4 *Titles*— of books, including ASTM books, such as *Annual Book of ASTM Standards* and *ASTM STP 379*.

G15.1.5 *Foreign Words*— Use a reference source material, such as *Merriam-Webster's Collegiate Dictionary* or *Webster's Third New International Dictionary* (print or electronic version) as a guide to foreign words.

G15.1.6 *Transistor Type*— Use *n-p-n*, *p-n-p*, *n*-type, etc.

G15.2 *Do not italicize:*

G15.2.1 Letters used to subdivide a categorical classification, such as Method A, Cement B, Class C, Grade D, Type E, Sample F.

G15.2.2 *Metallurgy*— A_1 point, A_{r1} , etc.

G15.2.3 *Abbreviations*— pH, sin, cos, tan, log, d (for derivative).

G16. Mathematical Material

G16.1 Mathematical material can appear in the standard text or as equations. In all cases, submit clear copy, without ambiguities arising from carelessly placed subscripts or superscripts, confusion between Greek and Roman letters, incomplete fraction lines, and so on. When there

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is a possibility of confusion (for example capital letter O and zero), include an editorial note nearby to clarify with more description. For example:

$$1 = 1 \times 10^3 \mu\text{m}$$

Editorial Note: Lowercase “L” equals number one times 10 superscript 3 Greek mu

G16.2 Greek Symbols— If unclear, type out the name of the Greek symbol in an editorial note.

G16.3 Superscripts (superior symbols) should be marked with a caret or type “super-script” in an editorial note. Subscripts (inferior symbols) should be marked with an inverted caret or type “subscript” in an editorial note.

G16.4 Indicate what symbol is preferred to show multiplication (for example, times symbol, middle dot, or asterisk).

G16.5 Equations— Type on a separate line in a larger font. Equations are numbered throughout the text. The format for a numbered equation is:

$$S = \frac{Mc}{I}$$

where:

S= stress, psi or Pa,

M= bending moment, lbf•in. or N•m,

c= distance from neutral axis to outermost fiber, in., or m, and

I= second moment of area, in.⁴ or m⁴.

G16.6 Exp versus e— If the exponent is relatively short and on one line, without superscripts or subscripts, use e:

$$e^{(a-b)cx}$$

If it is relatively long or has superscripts or subscripts, use exp:

$$\exp[x^2/2 - \ln(x/a)]$$

G16.7 Fractions— Use the solidus (diagonal line) in the text:

1/4

Use the built-up fraction (with a horizontal line) in an equation. If you use a built-up fraction on one side of an equation, use it on the other side:

$$\frac{a}{b} = \frac{c-d}{e-f_2} \times 12$$

Use parentheses liberally to clearly show the complete numerator or denominator. For example, does log *a/b* mean log (*a/b*) or (log *a*)/*b*? Use the parentheses to clarify. If you write *a/b + c* but mean *a/(b + c)*, use parentheses.

G16.8 Statistical Data— For data that are treated statistically, follow the recommendations in the *ASTM Manual on Presentation of Data and Control Chart Analysis (STP 15 D)*. Committee E11 on Quality and Statistics, which is responsible for STP 15 D, is prepared to cooperate with other technical committees in helping them present data most effectively. In particular:

G16.8.1 To present the essential information contained in a set of observations from one population, give the average, the standard deviation or coefficient of variation, and the number of observations.

G16.8.2 Whenever you give an average, give also the number of observations on which the average is based.

G16.8.3 Use the following symbols, where needed:

x = average (arithmetic mean)
s = root-mean square deviation
n = number of observations
s = standard deviation
v = coefficient of variation

G17. Numbering

G17.1 See Part D.

G18. Numerals

G18.1 Use arabic numerals in designating figures and tables, thus: “Fig. 3,” “Table 6.”

G18.2 Spell out all numbers from one through twelve, with the following exceptions:

G18.2.1 Use numerals when the quantity is partly fractional, as: 1.15, 1½.

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G18.2.2 Use numerals when followed by an expression having a standard unit symbol, as: 25 mm, 45 kg, 9 %.

G18.2.3 If for any reason the standard abbreviation or unit symbol of the expression following the number is not used, or if the expression does not admit of abbreviation (as *year*, *ton*, etc.), the use of numerals is optional, unless covered in the following paragraphs:

G18.2.4 In statements containing two or more numbers, one of which is greater than twelve, express all numbers as numerals, such as “2 tests and 16 weighings.”

G18.2.5 In a series of connected numerical statements implying precision, use numerals, as “5 months, 3 days.”

G18.2.6 Use numerals after abbreviations, as: Vol 26, Fig. 2.

G18.3 Use numerals for all numbers exceeding twelve, with the following exceptions:

G18.3.1 Do not begin a sentence with a numeral. When the numeral is spelled out, also spell out the unit following, as “One gram is usually sufficient.”

G18.3.2 Spell out round numbers used in an indefinite sense, such as, “a *hundred* metres or so.”

G18.3.3 Spell out numbers when used in the following manner: “*fifteen* 25-mm rods” (or 15 twenty-five-millimetre rods).

G18.3.4 In decimal numbers having no units, place a zero before the decimal point, as: “0.65 mm,” not “.65 mm.”

G18.4 In pointing off numbers of more than four figures, use spaces instead of commas in the text, illustrations, and tabular matter (I 234 567). Do not point off numbers of four figures (1234) except in tables when they occur in a column containing numbers of more than four figures.

G18.5 In expressing ratios (except dilution ratios) use 1 to 10 or 1:10, not 1-10.

G18.6 In expressing grades of, for example, emery paper, use 3/0, not 000.

G19. Percent versus Percentage Points

G19.1 When a quantity is reduced from 40 to 30, it is reduced by 25 %. When a quantity decreases from 40 % to 30 %, it decreases by 10

percentage points. Use the forms “mass percent,” “volume percent,” “atom percent,” etc.

G20. Polymers

G20.1 Where the name of the monomer is one word, the prefix “poly” is simply run in, as: polystyrene, polyisobutylene, etc. Where the name of the monomer is two words, they are enclosed in parentheses and the prefix “poly” added, as in the following words: poly(vinyl chloride), poly(methyl methacrylate).

G21. References, Other Documents

G21.1 If there are fewer than five references cited in the standard, use footnotes. If five or more references are cited, type them in a separate list of references at the end of the manuscript, following annexes and appendixes, if any. Assign a consecutive arabic number to each reference. Indicate the reference in the text by enclosing the number in parentheses and using boldface. Show a footnote reference after the first boldface reference number, stating in the footnote: “The boldface numbers in parentheses refer to the list of references at the end of this standard.” If it is necessary to use the word “reference,” use the style: “According to Ref (3) ...” It is preferable, however, to use the author’s name, as “According to Jones (3) ...” If there are two authors, use both names, as: “According to Jones and Smith (3)...” If there are three or more authors, use “et al.” as: According to Jones et al (3) ...”

G21.2 Do not list ASTM standards as references; list them in the section on Referenced Documents (see also Section A6). Do not list as references documents that are not readily accessible to the reader, such as unpublished theses and private correspondence.

G21.3 Type references (and publication footnotes) as follows:

G21.3.1 *Books*— Type author’s name or names (initials last), complete title of book (italic, no quotation marks), name of publisher (no abbreviations), address of publisher (city and state), year of publication, and page number, if reference is to a page number. Example:

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Jones, J. J., *Plasticity and Creep*, John Wiley & Sons, Inc., New York, NY, 1958, p. 250.

G21.3.2 Magazines, Journals (including *Standardization News*)— Type author's name or names (initials last), title of paper (in quotation marks), complete title of journal (italic, no quotation marks), volume number, issue number (this may be omitted if the journal page numbers are continuous throughout the volume), date of publication, and page numbers. Example:

Jones, J. J., and Smith, R. R., "Correlation of Brinell Hardness and Tensile Strength," *Materials in Design Engineering*, Vol 10, No. 2, February 1958, pp. 52-67.

G21.3.3 Proceedings, Transactions, Reports, Bulletins, etc.— Type author's name or names (initials last), complete title of paper (in quotation marks), name of publication (italic, no quotation marks), name of publisher, volume number, if any, date of publication, and page numbers. Examples:

Jones, J. J., "Lubrication Problems in Space Vehicles," *Transactions*, American Society of Mechanical Engineers., Vol 52, 1948, pp. 135-140.

Jones, J. J., "Classification of Bitumens," *Journal of the Institute of Petroleum*, Vol 38, 1952, p. 121.

Jones, J. J., "Fatigue of Aircraft Structures," *NASA TR-108*, National Aeronautics and Space Administration, 1959.

Jones, J. J., "Effect of Carbon Content on Notch Properties of Aircraft Steels," *Bulletin 642*, Engineering Experiment Station, University of Illinois, 1957.

G21.3.4 Symposium Volumes or Other Books Comprising Collections of Papers— Follow style for books in G21.3.1 and add title of paper, in quotes, after author's name.

G21.3.5 Patents— Type patent number and date. Example: U.S. Patent No. 2 232 185, Feb. 18, 1941.

G21.3.6 Annual Book of ASTM Standards— Cite referenced ASTM standards in section on Referenced Documents, not in references (see Section G22).

G21.3.7 ASTM Proceedings— McVetty, P.G., "The Interpretation of Creep Tests," *Proceedings*, ASTM International, Vol 34, Part II, 1934, p. 105. (Volume 38 was the last to be issued in two parts.)

G21.3.8 ASTM Special Technical Publication:

G21.3.8.1 Whole Book:

Symposium on Synthetic Bioabsorbable Polymers for Implants. ASTM STP 1396, ASTM International, 2000.

G21.3.8.2 Single Paper:

Gorna, K., and Gogolewski, S., "Novel Biodegradable Polyurethanes for Medical Applications," *Symposium on Synthetic Bioabsorbable Polymers for Implants, ASTM STP 1396*, ASTM International, 2000, p. 39.

G21.3.8.3 Journal Reference to Website:

Name of Author(s), "Name of Paper," *Title of Journal*, Volume, Number, Issue Number, Paper Identification Number, Online, Available: URL, Access Date.

Example:

Aydilek, A. H. and Edil, T. B., "Evaluation of Woven Geotextile Pore Structure Parameters Using Image Analysis," *Geotechnical Testing Journal*, Vol. 27, No.1, ID GTJ111070, Online, Available: www.astm.org, 12 January 2004.

G22. References, Standards

G22.1 Refer to ASTM standards first in the section on Referenced Documents. Follow the designation (without year) with the full title, and use a footnote to refer to the appropriate publication. The footnote should read: For referenced ASTM standards, visit the ASTM website, www.astm.org or contact ASTM Customer Service at Service@astm.org. For the *Annual Book of ASTM standards* volume information, refer the standard's Document Summary page on the ASTM website. Thereafter use simply the abbreviated designation (Test Method D1708, Practice E691, Specification A250/A250M, etc.) Do not include the word "Standard." Do not use quotes on titles of standards, whether those of ASTM International or other organizations.

G22.2 Any reference to a combined standard shall include the entire designation, for example, Specification A36/A36M. When only one system of units is applicable, this may be indicated where the reference is cited; for example:

This material shall conform to the general requirements stated in SI units of Specification A36/A36M.

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G22.3 Do not refer to a specific paragraph, section, table, or figure of another standard unless necessary to avoid confusion. For example, say, “the section on Impregnation Time of Methods D202.”

G23. Sample versus Specimen

G23.1 In general, the word “sample” should be used only to describe a piece or quantity of bulk material that has been selected by some sampling process. Pieces or quantities taken from the sample for testing are called “specimens.” Quantities of liquid or bulk aggregate are usually called “samples,” because a sampling procedure is usually used to obtain them.

G23.2 To describe the piece on which a test is made, use “specimen” or “test specimen,” not “piece” or “sample.”

G24. SI Units

G24.1 SI units shall be included in all ASTM standards in accordance with IEEE/ASTM SI-10, the SI Quick Reference Guide (Annex A) and Part G and Part H. If a discrepancy exists between these documents, follow Part G and Part H of the Form and Style Manual.

G24.2 Combined Standards—Both units of measure are included, and either system is to be regarded separately as the standard. The combined designation format: A36/A36M. (See also A3.4.)

G25. Spelling

G25.1 Included in the following list are those spellings of words commonly found in ASTM standards. For words that do not appear in this list, use a reference source material. *See Section G10 on Dictionaries and Other Reference Publications on Style.* Use international spelling for SI units; that is, litre and metre.

A

airborne
alignment
appendixes (pl)

B

babbitt metal (lc)
Brinell (cap)

C

catalog (not catalogue)
CODEN

D

Disk
disc (CD)
Diskette (Floppy)
drier (comp. of dry)
dryer (apparatus)

E

ensure (meaning be sure)
et al.
eutectic (noun)
eutectoid (adj.)

F

fireclay (adj.)

G

gastight
gauge (measurement, instrument)
Geiger-Muehller tube
gray (not grey)

H

heat treat (verb)
heat-treated (adj.)
Hooke's law (lc “l”)

I

indexes (pl)
in situ (roman)
insofar
isooctane (all other “iso’s” roman)

K

kerosine/kerosene

L

litre (not liter)

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M

magnetic particle inspection (not Magnaflux)
metre (not meter)
microscopic (meaning very small)
microscopical (meaning pertaining to use of a microscope)

N

neoprene (lc)
nital (lc)
nitrile rubber (butadiene) (lc)
Normal Law integral (cap N and L)

P

pipet (not pipette)
plaster of paris (not plaster of Paris)

R

Rockwell (cap)

S

sigma phase (spell out sigma)
siliceous
SR-4 strain gage
Stokes' law (lc "l")

U

Usage

V

V-Notch (noun and adj.)

X

X ray (noun)
X-ray (adj and verb)

G26. Symbols

G26.1 In general, avoid the use of symbols in text except in accordance with Sections G3 and G7. When stating dimensions, use "by" not \times , for example, "10 by 5 in. (254 by 127 mm)." Show tolerances, for example, as 10 by 5 ± 2 in. (254 by 127 ± 6 mm)." Do not use a hyphen or a dash for the word "to" except in tables where needed to conserve space. Do not use (') or (") for feet and inches in text, tables, or figures.

G26.2 In combination with words not having symbols, spell out entirely, for example, "bubbles per minute."

G27. Tables

G27.1 Number each table with an arabic numeral and give it a title that is complete and descriptive.

G27.2 In column headings, first include the quantity being tabulated, then a comma, then the units, for example:

"Tensile Strength, min, psi."

G27.3 *Powers of 10*— Do not use powers of 10 in the column heading, since it is not clear whether the numbers in the table have been or are to be multiplied by the power of ten. Instead, indicate the multiplication (for example, 1.45×10^6) in the first entry in the table; or use an expression such as "Young's Modulus, millions of psi" in the column heading.

G27.4 *Footnotes*— See G13.1.

G27.5 Use horizontal rules under column headings. Use vertical rules only when the complexity of the table demands them for clarity. Use leaders (three periods) in any space that represents a blank entry.

G27.6 *Notes*— Additional information can be included in a note that appears below the title.

G27.7 When two (or more) separate systems of units are both listed in one table (for example, SI and inch-pound units), separate the units by using separate columns, or parentheses, or brackets.

G27.7.1 When the size of a table and limitations of space (on the printed page) make it impractical to expand the table to include SI unit equivalents, duplicate the table.

G27.7.2 When following the instructions given in G27.7 or G27.7.1 is impractical, because of the size and the number of tables, include the pertinent conversion factors as footnotes under each table instead of attempting to include the actual converted numbers themselves.

G28. Tension/Compression/Flexure Tests

G28.1 The words "tension," "compression," and "flexure" are used adjectivally to modify "specimen," "test," or "testing." Examples: tension test, compression testing, flexure specimen. To modify other nouns, the adjectives "tensile,"

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“compressive,” and “flexural” are used. Examples: tensile strength, compressive force, flexural data.

G28.2 In some areas (notably the textile industry) there is a difference between a “tension test” and a “tensile test,” and in these cases the appropriate terminology shall be used.

G29. Thermal Conductivity

G29.1 The form to be used for the unit for thermal conductivity k is: Btu·in./h·ft²·F [SI units: W/(m·K)].

G30. Thermometers

G30.1 Whenever possible, refer to thermometers described in ASTM Specification E1 or E2251, for ASTM Thermometers. Reference to an ASTM thermometer of the desired range should be as follows:

Thermometer—ASTM (name) Thermometer having a range from ___ to ___ (°C or °F, whichever applies) and conforming to the requirements for Thermometer (give thermometer number: for example, 16F) as prescribed in Specification (E1 or E2251, whichever applies).

G30.2 Do not specify both temperature scales unless there is a definite need for them.

G31. Trademarks

G31.1 Avoid the use of trademarks whenever possible. For example, use aluminum oxide instead of Aloxite, petroleum jelly instead of Vaseline. When trademarks are used, they should, of course, be initial cap and the owner of the

trademark indicated by footnote.

Aloxite (trademark, use aluminum oxide)
 Alundum (trademark)
 Bakelite (trademark)
 Carborundum (trademark)
 Celite (trademark)
 Chromel-Alumel (trademark)
 Haydite (trademark)
 Inconel (trademark)
 Invar (trademark)
 Kel-F (trademark, use polychlorotrifluoroethylene)
 Lucite (trademark, use poly(methyl methacrylate) (PMMA))
 Magne-Gage (trademark)
 Masonite (trademark)
 Monel metal (trademark)
 Muntz metal (trademark)
 Mylar (trademark, use polyester film)
 Nichrome (trademark)
 Nujol (trademark, use light mineral oil)
 Plexiglas (trademark, use poly(methyl methacrylate) (PMMA))
 Pyrex (trademark, use borosilicate)
 Scotch tape (trademark, use pressure-sensitive tape)
 Teflon (trademark, use TFE-fluorocarbon or polytetrafluoroethylene (PTFE))
 Thiokol (trademark, use as an adjective, as “Thiokol polysulfide rubber”)
 Transite (trademark)
 Tygon (trademark, use vinyl)
 Vaseline (trademark, use petroleum jelly)
 Vycor (trademark, use high-silica)

PART H

USE OF SI UNITS IN ASTM STANDARDS

H1. Scope

H1.1 This part is intended to guide technical committees in the use of the standard formats for denoting the use of the International System of Units (SI), non-SI units (usually inch-pound), or both in ASTM standards.

H1.2 SI units of measurement shall be included in all ASTM standards.

H1.2.1 Each technical committee shall have the option of using rationalized SI units, or rationalized inch-pound units, or both, as the standard units of measure.

DISCUSSION—Given ASTM's mission to be the foremost developer and provider of voluntary consensus standards with global recognition and use, ASTM technical committees are urged to give diligent consideration to the use of rationalized SI (metric) units in their standards

H1.2.2 Follow the procedures given in IEEE/ASTM SI-10, the SI Quick Reference Guide and Part G and Part H. If a discrepancy exists between these documents, follow Part G and Part H. IEEE/ASTM SI-10 appears in the *Annual Book of ASTM Standards*, and is also available as a separate publication.

H1.2.2.1 For committees that have special considerations with the use of SI units in ASTM Standards, it is permissible to develop committee specific technical guidance for clarification. Examples of such documents are as follows:

ASTM Committee B05 on Copper and Copper Alloys
Outline of Form of Specifications
(www.astm.org/COMMIT/B05_outline.pdf)
A994 Guide for Editorial Procedures and Form of
Product Specifications for Steel, Stainless Steel, and
Related Alloys

H2. Terminology

H2.1 *SI unit, n, in ASTM standards*— unit of the International System of Units (SI) and other units specifically approved in IEEE/ASTM SI-10 as a unit for use with SI.

H2.2 *inch-pound unit, n, in ASTM standards*— unit based on the inch and the pound, commonly used in the United States of America and defined by the National Institute of Standards

and Technology, including certain other units accepted for use with these units.

DISCUSSION—Inch-pound, also known as U.S. Customary Units, are one type of non-SI units. Another example of non-SI units is the centimetre gram second (cgs) system.

H2.3 *rationalization, n, in ASTM standards*— (formerly *hard conversion*) the planned simplification of a converted value achieved by modifying the value to reflect dimensions or physical characteristics of existing real measurements or configurations; as a result of this change the object or quantity may not be interchangeable with the original.

H2.4 *SI standard, n, in ASTM standards*— a standard that contains rationalized SI units of measurement.

DISCUSSION—There are two formats of SI standards: solely SI, combined standard.

H2.4.1 *Solely SI standard, n*— an ASTM standard in which only rationalized SI units are cited; inch-pound units are not provided in the standard.

H2.4.2 *combined standard, n*— an ASTM standard in which rationalized SI units and inch-pound units are included in the same standard, with each system of units to be regarded separately as standard. (For example, Specification A36/A36M).

H3. Format Requirements for Standards in SI Units

H3.1 For a standard citing SI units of measurement as the standard units of measurement, select the type of SI standard to be written and follow the appropriate format requirement listed below:

H3.1.1 *Solely SI Standards*:

H3.1.1.1 *Scope*— Include the following in the scope as a numbered paragraph:

1.X Units—The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

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H3.1.1.2 *Units*— Within the text, show only rationalized SI units.

H3.1.2 *Combined Standards:*

H3.1.2.1 *Scope*— Include the following in the scope as a numbered paragraph:

1.X *Units*—The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

H3.1.2.2 *Units*— Within the text, it is recommended that SI units appear first followed by the inch-pound units in brackets. However, a technical committee can opt to reverse the order in which the units appear (i.e., inch-pound units shown first, followed by SI units in brackets) if the following additional conditions are met: all units appear in a consistent order throughout the text of the standard; all combined standards under the technical committee's jurisdiction apply the same convention.

H3.1.2.3 *Specifying Selected Units in Combined Standard*— When citing a combined standard and applying only one system of units, indicate the system of units to be applied (see B9.4).

H4. Format Requirements for Standards in Inch-Pound Units

H4.1 For a standard citing inch-pound units of measurement as the standard units of measurement, follow the format requirement below:

H4.1.1 *Scope*— Include the following in the scope as a numbered paragraph:

1.X *Units*—The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

H4.2 *Units*— Within the text, inch-pound units shall appear first followed by non-rationalized SI units in parentheses.

H5. Special Format Considerations

H5.1 *Repetitive Equivalents*— For standards in which inch-pound units are regarded as standard, insert a specific repetitive SI equivalent only the first time it occurs in each paragraph of a standard.

H5.2 *Expressing General Units*— When a standard specifies units for reporting results, the preferred unit in each system should be stated, especially in the case of compound units. For example, “Report twist of yarn in twists per inch (twists per metre)”; not “... in twists per inch (25.4 mm).”

H5.3 *Using Percentages for Tolerance Limits*— When appropriate, eliminate the need for equivalents in the case of tolerances by expressing the limits in percentages.

H5.4 *Sieve Sizing*— When a standard cites sieve sizes, use the standard sieve sizes given in Table 1 of ASTM Specification E11, Wire Cloth and Sieves for Testing Purposes.

H5.5 Where it has been long-standing practice to use SI units alone (such as stating temperatures only in degrees Celsius), equivalents may be omitted.

H6. Tables

H6.1 For instructions on including SI units in tables, see Section G27.

ANNEX A
SI QUICK REFERENCE GUIDE

Annex A-1

JA02035

SI QUICK REFERENCE GUIDE

SI QUICK REFERENCE GUIDE:
International System of Units (SI)
*The Modern Metric System**

UNITS

The International System of Units (SI) is based on seven base units:

Base Units

Quantity	Name	Symbol
length	metre	m
mass	kilogram	kg
time	second	s
electric current	ampere	A
thermodynamic temperature	kelvin	K
amount of substance	mole	mol
luminous intensity	candela	cd

and a number of derived units which are combinations of base units and which may have special names and symbols:

Examples of Derived Units

Quantity	Expression	Name	Symbol
acceleration			
angular	rad/s ²		
linear	m/s ²		
angle			
plane	dimensionless	radian	rad
solid	dimensionless	steradian	sr
area	m ²		
Celsius temperature	K	degree Celsius	°C
density			
heat flux	W/m ²		
mass	kg/m ³		
current	A/m ²		
energy, enthalpy			
work, heat	N·m	joule	J
specific	J/kg		
entropy			
heat capacity	J/K		
specific	J/(kg·K)		
flow, mass	kg/s		
flow, volume	m ³ /s		
force	kg·m/s ²	newton	N
frequency			
periodic	1/s	hertz	Hz
rotating	rev/s		
inductance	Wb/A	henry	H
magnetic flux	V·s	weber	Wb
mass flow	kg/s		
moment of a force	N·m		
potential, electric	V/A	volt	V
power, radiant flux	J/s	watt	W
pressure, stress	N/m ²	pascal	Pa
resistance, electric	V/A	ohm	Ω
thermal conductivity	W/(m·K)		
velocity			
angular	rad/s		
linear	m/s		
viscosity			
dynamic (absolute) (μ)	Pa·s		
kinematic (ν)	m ² /s		
volume	m ³		
volume, specific	m ³ /kg		

* For complete information see IEEE/ASTM SI-10.

SI QUICK REFERENCE GUIDE

SYMBOLS

Symbol	Name	Quantity	Formula
A	ampere	electric current	base unit
Bq	becquerel	activity (of a radio nuclide)	1/s
C	coulomb	electric charge	A·s
°C	degree Celsius	temperature interval	°C = K
cd	candela	luminous intensity	base unit
F	farad	electric capacitance	C/V
Gy	gray	absorbed dose	J/kg
g	gram	mass	kg/1000
H	henry	inductance	Wb/A
Hz	hertz	frequency	1/s
ha	hectare*	area	10 000 m ²
J	joule	energy, work, heat	N·m
K	kelvin	temperature	base unit
kg	kilogram	mass	base unit
L	litre	volume	m ³ /1000
lm	lumen	luminous flux	cd·sr
lx	lux	illuminance	lm/m ²
m	metre	length	base unit
mol	mole	amount of substance	base unit
N	newton	force	kg·m/s ²
Ω	ohm	electric resistance	V/A
Pa	pascal	pressure, stress	N/m ²
rad	radian	plane angle	m/m (dimensionless)
S	siemens	electric conductance	A/V
Sv	sievert	dose equivalent	J/kg
s	second	time	base unit
sr	steradian	solid angle	m ² /m ² (dimensionless)
T	tesla	magnetic flux density	Wb/m ²
t	tonne, metric ton	mass	1000 kg; Mg
V	volt	electric potential	W/A
W	watt	power, radiant flux	J/s
Wb	weber	magnetic flux	V·s

* allowed with SI

Use of Symbols

The correct use of symbols is important because an incorrect symbol may change the meaning of a quantity. Some SI symbols are listed in the Symbol table.

SI has no abbreviations—only symbols. Therefore, no periods follow a symbol except at the end of a sentence.

Examples: A, not amp; s not sec; SI, not S.I.

Symbols appear in lower case unless the unit name has been taken from a proper name. In this case the first letter of the symbol is capitalized.

Examples: m, metre; Pa, pascal; W, watt

Exception: L, litre

Symbols and prefixes are printed in upright (roman) type regardless of the type style in surrounding text.

Example: . . . a distance of 73 km between . . .

Unit symbols are the same whether singular or plural.

Examples: 1 mm, 100 mm; 1 kg, 65 kg

Leave a space between the value and the symbol.

Examples: 115 W, not 115W; 0.75 L, not 0.75L
88 °C, not 88°C or 88° C

Exception: No space is left between the numerical value and symbol for degree of plane angle.

Examples: 73°, not 73 °

Note: Symbol for coulomb is C; for degree Celsius it is °C

Do not mix symbols and names in the same expression.

Examples: radians per second or rad/s,
not radians/second; not radians/s
m/s or metres per second,
not metres/second; not metres/s
J/kg or joules per kilogram,
not joules/kilogram; not joules/kg

Symbol for product—use the raised dot (·)

Examples: N·m; mPa·s; W/(m²·K)

Symbol for quotient—use one of the following forms:

Examples: m/s or m% or use the negative exponent

Note: Use only one solidus (/) per expression and parentheses to avoid any ambiguity.

SI QUICK REFERENCE GUIDE

PREFIXES

Most prefixes indicate orders of magnitude in steps of 1000 and provide a convenient way to express large and small numbers and to eliminate nonsignificant digits and leading zeroes in decimal fractions.

Examples: 64 000 watts is the same as 64 kilowatts*
0.057 metre is the same as 57 millimetres
16 000 metres is the same as 16 kilometres*
*except for intended accuracy

Prefix	Symbol	Represents
yotta	Y	10 ²⁴
zetta	Z	10 ²¹
exa	E	10 ¹⁸
peta	P	10 ¹⁵
tera	T	10 ¹²
giga	G	10 ⁹
mega	M	10 ⁶
kilo	k	10 ³
hecto	h*	10 ²
deka	da*	10 ¹
deci	d*	10 ⁻¹
centi	c*	10 ⁻²
milli	m	10 ⁻³
micro	μ	10 ⁻⁶
nano	n	10 ⁻⁹
pico	p	10 ⁻¹²
femto	f	10 ⁻¹⁵
atto	a	10 ⁻¹⁸
zepto	z	10 ⁻²¹
yocto	y	10 ⁻²⁴
	* allowed with SI	

To realize the full benefit of the prefixes when expressing a quantity by numerical value, choose a prefix so that the number lies between 0.1 and 1000. For simplicity, give preference to prefixes representing 1000 raised to an integral power (i.e., mm, μm, km).

**Exceptions:* In expressing area and volume, the prefixes hecto, deka, deci, and centi may be required; for example, cubic decimetre (L), square hectometre (hectare), cubic centimetre.

Tables of values of the same quantity.

Comparison of values.

For certain quantities in particular applications. For example, the millimetre is used for linear dimensions in architectural and engineering drawings even when the values lie far outside the range of 0.1 mm to 1000 mm; the centimetre is usually used for anatomical measurements and clothing sizes.

Compound Units. A compound unit is a derived unit expressed with two or more units. The prefix is attached to a unit in the numerator.

Examples: N/m not mV/mm

MJ/kg not kJ/g

Compound prefixes formed by a combination of two or more prefixes are not used. Use only one prefix.

Examples: 2 nm not 2 mμm;
6 m³ not 6 kL;
6 mPa not 6 kkPa

Exponential Powers. An exponent attached to a symbol containing a prefix indicates that the multiple (of the unit with its prefix) is raised to the power of 10 expressed by the exponent.

Examples: 1 mm³ = (10⁻³ m)³ = 10⁻⁹ m³
1 ns⁻¹ = (10⁻⁹ s)⁻¹ = 10⁹ s⁻¹
1 mm²/s = (10⁻³ m)²/s = 10⁻⁶ m²/s

NUMBERS

International practice separates the digits of large numbers into groups of three, counting from the decimal to the left and to the right, and inserts a space to separate the groups. In numbers of four digits, the space is not necessary except for the uniformity in tables.

Examples: 6.358 568; 85 365; 51 845 953; 88 000;
0.246 113 562; 7 258

Small Numbers. When writing a number between one and minus one, put a zero before the decimal marker.

Note: This applies to large numbers which have an exponent: as -0.1 × 10⁶. This rule is given colloquially as "never use a naked decimal point."

Decimal Marker. The recommended decimal marker is a dot on the line (period). (In some countries, a comma is used as the decimal marker.)

Because **billion** means a million million in most countries but a thousand million in the United States, avoid using billion in technical writing.

DO'S AND DON'TS

The units in the international system of units are called SI units—not Metric Units and not SI Metric Units.

Non-SI units include inch-pound units, old metric units and many other units. Inch=pound units (IP) refers to sets of units which contain inches and pounds. These include so-called customary units, US customary units, conventional units, imperial units, and English units.

Treat all spelled out names as nouns. Therefore, do not capitalize the first letter of a unit except at the beginning of a sentence or in capitalized material such as a title.

SI QUICK REFERENCE GUIDE

Examples: watt; pascal; ampere; volt; newton; kelvin
Exception: Always capitalize the first letter of Celsius.

Do not begin a sentence with a unit symbol—either rearrange the unit names or write the unit name in full.

Use plurals for spelled out unit names when required by the rules of grammar.

Examples: metre—metres; henry—henries;
 kilogram—kilograms; kelvin—kelvins
Irregular: hertz—hertz; lux—lux; siemens—siemens

Do not put a space or hyphen between the prefix and unit name.

Examples: kilometre *not* kilo metre or kilo-metre;
 milliwatt *not* milli watt or milli-watt

When a prefix ends with a vowel and the unit name begins with a vowel, retain and pronounce both vowels.

Example: kiloampere

Exceptions: hectare; kilohm; megohm

When a derived unit name is formed by multiplication, leave a space between units that are multiplied.

Examples: newton metre, *not* newton-metre;
 volt ampere, *not* volt-ampere

Use the modifier squared or cubed after the unit name.

Example: metre per second squared
Exception: For area or volume the modifier may be placed before the units.

Example: square millimetre; cubic metre

When derived units are formed by division, use the word *per*, not a solidus (*/*).

Examples: metre per second, *not* metre/second; watt per square metre, *not* watt/square meter

SELECTED CONVERSION FACTORS

CAUTION: These conversion values are rounded to three or four significant figures, which is sufficiently accurate for most applications. When making conversions, remember that a converted value is no more precise than the original value. Round off the final value to the same number of significant figures as those in the original value. See ANSI SI 10 for additional conversions with more significant figures.

<i>Multiply</i>	<i>By</i>	<i>To Obtain</i>
acre	0.4047	ha
atmosphere, standard	*101.325	kPa
bar	*100	kPa
barrel (42 US gal, petroleum)	159	L
Btu, (International Table)	1.055	kJ
Btu/lb-°F (specific heat, C ²)	4.184	kJ/(kg·K)
bushel	0.03524	m ³
calorie, kilogram (kilocalorie)	4.187	kJ
candle, candlepower	*1.0	cd
centipoise, dynamic viscosity, μ	*1.00	mPa·s
centistokes, kinematic viscosity, ν	*1.00	mm ² /s
ft	*0.3048	m
ft	*304.8	mm
ft/min, fpm	*0.00508	m/s
ft/s, fps	*0.3048	m/s
ft of water	2.99	kPa
ft ²	0.09290	m ²
ft ² /s, kinematic viscosity, ν	92.900	mm ² /s
ft ³	28.32	L
ft ³	0.02832	m ³
ft ³ /h, cfh	7.866	mL/s
ft ³ /min, cfm	0.4719	L/s
ft ³ /s, cfs	28.32	L/s
footcandle	10.76	lx
ft-lb, (torque or moment)	1.36	N·m
ft-lb, (work)	1.36	J
ft-lb/lb (specific energy)	2.99	J/kg
ft-lb/min (power)	0.0226	W
gallon, US (*231 in ³)	3.785	L
gph	1.05	mL/s
gpm	0.0631	L/s
gpm/ft ²	0.6791	L/(s·m ²)
gr/gal	17.1	g/m ³
horsepower (550 ft-lb/s)	0.746	kW
inch	*25.4	mm
in of mercury (60°F)	3.377	kPa

SI QUICK REFERENCE GUIDE

<i>Multiply</i>	<i>By</i>	<i>To Obtain</i>
in of water (60°F)	248.8	Pa
in-lb _t (torque or moment)	113	mN-m
in ²	645	mm ²
in ³ (volume)	16.4	mL
in ³ (section modulus)	16 400	mm ³
in ⁴ (section moment)	416 200	mm ⁴
km/h	0.278	m/s
kWh	*3.60	MJ
kip/in ² (ksi)	6.895	MPa
litre	*0.001	m ³
micron (μm) of mercury (60°F)	133	mPa
mil (0.001 in.)	*25.4	mm
mile	1.61	km
mile, nautical	1.85	km
mph	1.61	km/h
mph	0.447	m/s
millibar	*0.100	kPa
mm of mercury (60°F)	0.133	kPa
mm of water (60°F)	9.80	Pa
ounce (mass, avoirdupois)	28.35	g
ounce (force of thrust)	0.278	N
ounce (liquid, US)	29.6	mL
ounce (avoirdupois) per gallon	7.49	kg/m ³
pint (liquid, US)	473	mL
pound		
lb _m (mass)	0.4536	kg
lb _m (mass)	453.6	g
lb _f (force or thrust)	4.45	N
lb _w /ft (uniform load)	1.49	kg/m
lb _w /(ft-h) (dynamic viscosity, μ)	0.413	mPa-s
lb _w /(ft-s) (dynamic viscosity, μ)	1490	mPa-s
lb _w -s/ft ² (dynamic viscosity, μ)	47 880	mPa-s
lb _w /min	0.00756	kg/s
lb _w /h	0.126	g/s
lb _w /ft ²	47.9	Pa
lb _w /ft ²	4.88	kg/m ²
lb _w /ft ³ (density, ρ)	16.0	kg/m ³
lb _w /gallon	120	kg/m ³
ppm (by mass)	*1.00	mg/kg
psi	6.895	kPa
quad (10 ¹⁵ Btu)	1.06	EJ
quart (liquid, US)	0.946	L
rpm	0.105	rad/s
tablespoon (approx.)	15	mL
teaspoon (approx.)	5	mL
therm (100,000 Btu)	105.5	MJ
ton, short (2000 lb)	0.907	Mg; t (tonne)
yd	*0.9144	m
yd ²	0.836	m ²
yd ³	0.7646	m ³

* Conversion factor is exact.

Note: In this list the kelvin (K) expresses temperature intervals. The degree Celsius symbol (C) may be used for this purpose as well

Summary of Changes

The following changes were made since the March 2014 edition and published in this edition.

- (1) Revised Sections G3.6, G24.1, and H1.2.2 to reference IEEE SI 10, the SI Quick Reference Guide, and Part G and Part H. The ASTM Form and Style is the default document for formatting so that the spelling of litre and metre can be maintained.
- (2) Revised G14.1 and G18.3.3 to reflect using space rather than hyphen for compound adjectives using SI units.
- (3) Added the SI Quick Reference Guide to the Form and Style Manual as Annex A.
- (4) General revisions were made to reflect current practices.

The following changes were made since the October 2013 edition and published in this edition.

- (1) Added F2.6, Mercury Caveat.

The following changes were made since the March 2013 edition and published in this edition.

- (1) Revised Section F1 on Commercial-Contractual Items in Standards.
- (2) Editorially revised Section G12 on Creating and Submitting Figures for Ballot

The following changes were made since the October 2012 edition and published in this edition.

- (1) Editorially revised B22.1 on Product Marking.

The following changes were made since the March 2012 edition and published in this edition.

- (1) Revised Section A21 on Precision and Bias.

The following changes were made since the October 2011 edition and published in this edition.

- (1) Clarified use of the term “dictionary” to mean print or electronic reference materials in A7.1.1, E2.1, E3.3.1, E5.9, G10.1, G15.1.5, and G25.1.
- (2) Editorially updated ASTM standards references in A17.1, A19.2, and the table in G3.6 (Vickers Hardness number)

The following changes were made since the October 2010 edition and published in this edition.

- (1) Clarified language in Section F1.
- (2) Revised Ordering Information, B9.3, to focus on the importance of referenced documents within a specification, and to encourage the use of year dates.
- (3) Editorially changed A27.4 and A29.4 to correct a reference in the *Regulations Governing ASTM Technical Committees*.
- (4) Editorially updated the title of IEEE/ASTM SI-10 in G3.6.

The following changes were made since the March 2010 edition and published in this edition.

- (1) Editorially removed reference to ANSI Y10.3M in A19.1 since it was withdrawn without replacement.
- (2) Revised D4 with the addition of D4.1.2 to modify language on the current editorial practice for Supplementary Requirements.
- (3) Editorially changed E3.3.3 to update the referenced title to *ASTM Online Dictionary of Engineering Science and Technology*.
- (4) Revised F4.1 to include ASTM Certification Programs.

The following changes were made since the September 2009 edition and published in this edition.

- (1) Added “kerosene” as an acceptable spelling in G25.1.

The following changes were made since the March 2009 edition and published in this edition.

- (1) Revisions of A27.1 and B29.1 for better clarity.
- (2) Replaced G12 with a new procedure for creating and submitting figures for ballot.
- (3) Editorial changes were made to C2, C16, A26.4, and B28.4.

The following changes were made since the March 2008 edition and published in this edition.

- (1) Insertion of new sections F2.2.2.5 and F2.2.2.6 dealing with Fire Standards Safety Caveats.

Changes-1

SUMMARY OF CHANGES

The following changes were made since the October 2007 edition and published in this edition.

- (1) Revisions were made to Part G dealing with Styling, Electronic Manuscript Preparation, Abbreviations, Figures, Mathematical Material, and Thermometers.

The following changes were made since the October 2006 edition and published in this edition.

- (1) Removal of the 'separated by a space' requirement in standard designation numbers found in A3.1.2 and B4.1.2.
- (2) Insertion of new section G16.6.1 and an example for clarifying how to place a multiplication symbol in an equation.
- (3) Revision of G27.7 for better clarity.
- (4) Revision of H1.2.1 for better clarity, as well as to include a *Discussion* on the use of SI units in standards.
- (5) Reversal of the order of appearance of Sections H3 and H4.

The following changes were made since the March 2006 edition and published in this edition.

- (1) Insertion of a new section F4.1 to clarify ASTM's policy on certification and accreditation.
- (2) Reversal of the order of appearance of the *Trademarks* section with the *Sources of Supply* section for a more logical flow.
- (3) Removal of the word *reference* where used as an adjective in the term *reference material* to expand this section to cover all materials – not just *reference materials*.
- (4) Insertion of new language as F4.2.2 to make trademark language consistent with *Regulations Governing ASTM Technical Committees* and Board Policy.

The following changes were made since the October 2005 edition and published in this edition.

- (1) Revisions were made to A21.4.1, A21.4.2, and A21.5.4 to clarify the intent of the language.
- (2) Sections A29 and B31 on Research Reports

were revised to make clearer the instructions on how the research report is to be referenced in a standard.

- (3) Revision to F2.4, Working Document Caveat, in order to remain consistent with ASTM policy.
- (4) Revisions were made to Sections F4 and F4.2 dealing with Use of Trademarks.

The following changes were made since the March 2005 edition and published in this edition.

- (1) Revision to Working Draft Caveat, F2.4, in order to remain consistent with ASTM policy.
- (2) Section G25.1, added (measurement, instrument) to "gauge" and deleted spelling "gage."

The following changes were made since the September 2004 edition and published in this edition.

- (1) Section A18.3 was deleted. Including this section was redundant and could lead to confusion.
- (2) New Section H1.2.2.1 was added pertaining to rounding of SI Units.

The following changes were made since the April 2004 edition and published in this edition.

- (1) New Section A21.4.5 pertaining to precision and bias was added.
- (2) A revision was made in B1.2 for clarification.

The following changes were made since the September 2003 edition and published in this edition.

- (1) Revisions to A1.4 clarify how to identify different test methods within a standard.
- (2) New Section A22 on Measurement Uncertainty was added.
- (3) Revision to F1 was made and new Section F1.4 was added concerning effective dates.
- (4) Revisions were made to F3.1, F3.1.1, and F3.1.2 dealing with patents.

The following changes were made since the March 2003 edition and published in this edition.

Changes-2

SUMMARY OF CHANGES

- (1) The following sentence was added in B25.1. "These should not include statements that would allow the lowering of minimum requirements of the standard (see B1.2)."
- (2) Megagram (Mg) was added to G3.6.

The following changes were made since the September 2002 edition and published in this March 2003 edition.

- (1) New definitions for "publication date" and "approval date" were added to p. viii on Definitions
- (2) Sections A31.3, B34.3, and C31.3 on Summary of Change Sections were revised to permit standards that have undergone multiple revisions in a short period of time to retain changes for 18 months.
- (3) The statement in A21.5.3 was revised to correct ambiguity in the requirement for precision and bias.

The following changes were made editorially since the March 2002 edition and are published in the September 2002 edition.

- (1) Replaced the verbiage "year of issue" and "date of issue" with "year date" throughout.
- (2) Standardized the terms "purchase order or contract" in Part B.
- (3) An additional sentence was included in F3.1 regarding the ANSI patent policy.

The sections shown below have been editorially changed since the October 2001 edition and are published in the March 2002 edition.

- (1) Section G2 on Electronic Manuscript Preparations was replaced.
- (2) Additional sentences were included in the suggested statement in B21.2.

The following changes were made since the March 2001 edition and published in the October 2001 edition.

- (1) Deletion of A3.1.3 and A5.4 regarding companion standards. The same changes were made to B4.1.3 and B4.4.1
- (2) Mandatory for Standards Producing Numerical Results was added to the heading of Section A29 on Research Reports.
- (3) New section F2.2.2.4 dealing with a fire risk assessment statement.
- (4) Deletion of G24.2 dealing with companion standards.

The following changes were made since the February 2000 edition and are published in the March 2001 edition.

- (1) Revisions to Section B21 on Certification.

The following changes were made since the December 1998 edition and are published in the February 2000 edition.

- (1) Revision to Section A13 to revised A13.1.1 on Warning Statement, delete A13.1.2 on Precautionary Statement, and delete A13.2 on Technical Hazards. Revise F2.1.2 and F2.1.3 to eliminate wording dealing with precautionary statements.

The following changes were made since the January 1996 edition and published in the December 1998 edition.

- (1) Revision to Part H dealing with the use of SI units in ASTM standards. Revision to G38. These were the results from Circular Letter #713.
- (2) Added new F2.5 Professional Judgment Caveat.

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Vice President of Public Policy and Government Relations
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