

NOT YET SCHEDULED FOR ORAL ARGUMENT**Appeal No. 17-7035****(Consolidated with Appeal No. 17-7039)**

United States Court of Appeals**FOR THE DISTRICT OF COLUMBIA CIRCUIT**

American Society for Testing and Materials; National Fire Protection
Association, Inc.; and American Society of Heating, Refrigerating,
and Air Conditioning Engineers, Inc.,

Appellees,

v.

Public.Resource.Org, Inc.,

Appellant.

Appeal from the United States District Court for the District of Columbia
Hon. Tanya S. Chutkan
1:13-cv-1215-TSC
1:14-cv-0857-TSC

**PUBLIC APPENDIX – MATERIAL UNDER SEAL
IN SEPARATE SUPPLEMENT
VOLUME 3 (JA1271-JA1779)**

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I, hereby certify that on January 31, 2018, I electronically filed the foregoing **Appendix** with the Clerk of the United States Court of Appeals for the District of Columbia Circuit by using the appellate CM/ECF system. I certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the appellate CM/ECF system.

By: /s/ Andrew P. Bridges

Andrew P. Bridges (admitted)

abridges@fenwick.com

Matthew B. Becker (admitted)

mbecker@fenwick.com

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555 California Street, 12th Floor

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Attorneys for Appellant

Public.Resource.Org, Inc.

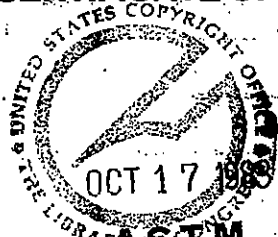
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Filed: 01/31/2018 Page 30 of 537

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☐ other copyright claimant

☐ owner of exclusive right(s) American Society for

☒ authorized agent of 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 is a published work, this date must be the same as or later than the date of publication given in space 3.

Robert L. Meltzer

date ▶ 10/10/83

Handwritten signature (X) ▼

Robert L. Meltzer

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CATE TO

Certificate
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Name ▼	American Society for Testing and Materials (RLM)
Number/Street/Apartment Number ▼	1916 Race Street
City/State/Zip ▼	Philadelphia, PA 19103

Have you:

- Completed all necessary spaces?
- Signed your application in space 10?
- Enclosed check or money order for \$10 payable to Register of Copyrights?
- Enclosed your deposit material with the application and fee?

MAIL TO: Register of Copyrights,
Library of Congress, Washington,
D.C. 20559.

* 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



OFFICIAL SEAL JAN 18 1984

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 Reed

REGISTER OF COPYRIGHTS
United States of America

FORM TX
UNITED STATES COPYRIGHT OFFICE

REGISTRATION NUMBER

TX 1 1-228-879

TX TXU
EFFECTIVE DATE OF REGISTRATION

Month 7 Day 18 Year 83

ASTM
PUBLICATION DIVISION

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

1 TITLE OF THIS WORK ▼ 1983 Annual Book of ASTM Standards Section 2 Volume 02.01
Nonferrous Metal Products Copper and Copper Alloys

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 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 ▼ U.S.A.

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. ▼
Entire Text

NAME OF AUTHOR ▼

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

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☐ No

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☐ No

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Name of Country
OR { Citizen of ▼
Domiciled in ▼

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3 YEAR IN WHICH CREATION OF THIS
WORK WAS COMPLETED This information
1983 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 May Day 25 Year 1983
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
1916 Race Street
Philadelphia, PA 19103

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
18 JUL 1983 NOV -7 1983
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270931 JUL 18 83

MORE ON BACK ► Complete all applicable spaces (numbers 5-11) on the reverse side of this page.

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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.

See Instructions before completing this space.

EXAMINED BY BS/pmc 03/31/2018

Page 35 of 537

FORM TX

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☒ 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 ▼

TX 932-025

Year of Registration ▼

1982

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. ▼

1982 Annual Book of ASTM Standards Part 6 Copper and Copper Alloys

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 previously published text plus additional text.

See instructions
before completing
this space.

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 ▼

Places of Manufacture ▼

Waverly Press, Inc.

Easton, MD

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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.

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 ▼

Robert L. Meltzer, ASTM

1916 Race Street

Philadelphia, PA 19103

Area Code & Telephone Number ▼

215-299-5431

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

Check one ▶

☐ author

☐ other copyright claimant

☐ owner of exclusive right(s) American Society for

☒ authorized agent of 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 is a published work, this date must be the same as or later than the date of publication given in space 3.

Robert L. Meltzer

date ▶ 6/29/83

Handwritten signature (X) ▼

MAIL
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Philadelphia, PA 19103

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JA1277

ASTM000006



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 Reed

REGISTER OF COPYRIGHTS
United States of America

TX 1-374-250

EFFECTIVE DATE OF REGISTRATION

Month 6 Day 25 Year 84

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

1 TITLE OF THIS SERIAL ▼ 1984 Annual Book of ASTM Standards Section 11 Volume 11.01
Water (I)

Volume ▼ Number ▼ Date on Copies ▼ Frequency of Publication ▼
Section 11 Volume 11.01 May 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
OR { Citizen of ▼
Domiciled in ▼ U.S.A.

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

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 the 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 ▼

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☐ No

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Name of Country
OR { Citizen of ▼
Domiciled in ▼

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☐ Collective Work Other:

3 YEAR IN WHICH CREATION OF THIS
ISSUE WAS COMPLETED This information must be given in all cases. 1984 ◀ Year
DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE
Complete this information ONLY if this work has been published. Month ▶ May Day ▶ 20 Year ▶ 1984
United States ◀ Nation

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American Society for Testing and Materials
1916 Race Street
Philadelphia, PA 19103

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25 JUN 1984

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25 JUN 1984
REMITTANCE NUMBER AND DATE

244862 JUN 25 84

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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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Year of Registration ▼

TX 1-280-946

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

1983 Annual Book of ASTM Standards Section 11 Volume 11.01 Water (I)

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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Names of Manufacturers ▼

Places of Manufacture ▼

Waverly Press, Inc.

Easton, MD

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See instructions.

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Name ▼

Account Number ▼

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

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

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 is a published work, this date must be the same as or later than the date of publication given in space 3.

Robert L. Meltzer

date ▶ 6/15/84

Handwritten signature (X) ▼

Robert L. Meltzer

MAIL
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Number/Street/Apartment Number ▼	1916 Race Street
City/State/ZIP ▼	Philadelphia, PA 19103

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* U.S. GOVERNMENT PRINTING OFFICE: 1982: 361-278/50

June 1982:168,000

ASTM000008

JA1279



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[Signature]

REGISTER OF COPYRIGHTS
United States of America

FORM SE
UNITED STATES COPYRIGHT OFFICE

REGISTRATION NUMBER

TX 1 689 871

EFFECTIVE DATE OF REGISTRATION

OCT 21 1985

Month Day Year

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

1 TITLE OF THIS SERIAL ▼ 1985 Annual Book of ASTM Standards Section 2 Volume 02.02
Nonferrous Metals Products
Die-Cast Metals; Aluminum and Magnesium Alloys

Volume ▼ 2.02 Number ▼ 2 Date on Copies ▼ July Frequency of Publication ▼ 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

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

b NAME OF AUTHOR ▼

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Year Born ▼ Year Died ▼

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☐ Collective Work Other:

3 4 YEAR IN WHICH CREATION OF THIS
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American Society for Testing and Materials
1916 Race Street
Philadelphia, PA 19103

TRANSFER If the claimant(s) named here in space 4 are different from the author(s) named
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APPLICATION RECEIVED
OCT. 21. 1985

ONE DEPOSIT RECEIVED

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OCT. 21. 1985

REMITTANCE NUMBER AND DATE

MORE ON BACK ►
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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 ▼

TX 1-453-716

1984

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. ▼

1984 Annual Book of ASTM Standards Section 2 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 previously published text plus additional text

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.

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Places of Manufacture ▼

Waverly Press, Inc.

Easton, MD

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c. ☐ Phonorecords Only

See instructions.

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Robert L. Meltzer, ASTM

1916 Race Street

Philadelphia, PA 19103

Area Code & Telephone Number ▼

215-299-5431

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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 is a published work, this date must be the same as or later than the date of publication given in space 3.

Robert L. Meltzer

date ► 9/20/85

Handwritten signature (s) ▼

Robert L. Meltzer

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American Society for Testing and Materials RLM

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Philadelphia, PA 19103

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☆ U.S. GOVERNMENT PRINTING OFFICE: 1984: 461-584/10,015

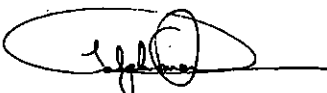
December 1984 — 100,000

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JA1281



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United States of America

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UNITED STATES COPYRIGHT OFFICE
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TX 1 798 078

U
EFFECTIVE DATE OF REGISTRATION
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Month Day Year

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1

TITLE OF THIS SERIAL ▼

1986 Annual Book of ASTM Standards Section 1, Volume 01.01
Iron and Steel Products; Steel-Piping, Tubing, Fittings

Volume ▼ Number ▼ Date on Copies ▼ Frequency of Publication ▼
01.01 1 January 1986 Annual

PREVIOUS OR ALTERNATIVE TITLES ▼

2

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
OR { Citizen of
Domiciled in U.S.A.

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 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

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.

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☐ Collective Work Other:

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United States Nation

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American Society for Testing and Materials
1916 Race Street
Philadelphia, PA 19103

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Page 1 of 2 pages

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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. ▼

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 previously published text plus additional text.

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

R. L. Meltzer, ASTM

1916 Race Street

Philadelphia, PA 19103

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 is a published work, this date must be the same as or later than the date of publication given in space 3.

Robert L. Meltzer

date ▶ 1/31/86

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Robert L. Meltzer

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- Enclosed your deposit material with the application and fee?

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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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July 1985-50,000

JA1283

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United States of America

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UNITED STATES COPYRIGHT OFFICE
REGISTRATION NUMBER
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EFFECTIVE DATE OF REGISTRATION
JUL 14 1987
Month Day Year

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1
TITLE OF THIS SERIAL ▼
1987 Annual Book of ASTM Standards, Nonferrous Metal Products; Copper and Copper Alloys
Volume ▼ Number ▼ Date on Copies ▼ Frequency of Publication ▼
02.01 02 June 1987 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? ☐ 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**

b
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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☐ Collective Work Other:

c
NAME OF AUTHOR ▼
DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼
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Name of Country
OR { Citizen of ▼ Domiciled in ▼
WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
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3
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U. S. A. Nation
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1916 Race Street
Philadelphia, PA 19103**
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1986 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. ▼

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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 ▼

Places of Manufacture ▼

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Name ▼

Account Number ▼

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

R. L. Meltzer, ASTM

1916 Race Street

Philadelphia, PA 19103

Area Code & Telephone Number ▶

215-299-5431

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

Check one ▶

☐ author

☐ other copyright claimant

☐ owner of exclusive right(s) American Society for

☒ authorized agent of 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 is a published work, this date must be the same as or later than the date of publication given in space 3.

Robert L. Meltzer

date ▶ 6/25/87

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City/State/ZIP ▼

Philadelphia, PA 19103

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- Signed your application in space 10?
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 United States of America

REGISTRATION NUMBER

TX 2-210-197

EFFECTIVE DATE OF REGISTRATION

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 Month Day Year

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TITLE OF THIS SERIAL

1987 Annual Book of ASTM Standards, Thermal Insulation: Environmental Acoustics

Volume 04.06 Number 04 Date on Copies October 1987 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

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YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED
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DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE
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Names of Manufacturers ▼
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Places of Manufacture ▼
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R. L. Meltzer, ASTM

1916 Race Street

Philadelphia, PA 19103

Area Code & Telephone Number ▼

215-299-5431

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 is a published work, this date must be the same as or later than the date of publication given in space 3.

Robert L. Meltzer

12/02/87

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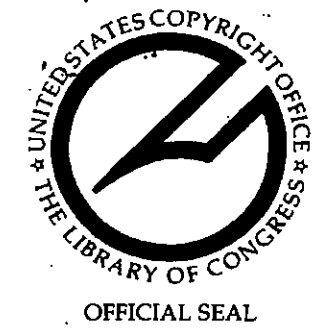
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Library of Congress, Washington,
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United States of America

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TX 2-210-202
EFFECTIVE DATE OF REGISTRATION
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Month Day Year

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1
TITLE OF THIS SERIAL
1987 Annual Book of ASTM Standards, Building Seals and Sealants; Fire Standards; Building Construction
Volume **04.07** Number **04** Date on Copies **November 1987** 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 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**

NOTE
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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
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☐ 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
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YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED **1987** This information must be given in all cases.
DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE
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American Society for Testing and Materials
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1986 Annual Book of ASTM Standards Section 04 Volume 04.07

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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Names of Manufacturers ▼

Waverly Press, Inc.

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R. L. Meltzer, ASTM

1916 Race Street

Philadelphia, PA 19103

Area Code & Telephone Number ▼

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☐ author

☐ other copyright claimant

☐ owner of exclusive right(s)

☒ authorized agent of

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Robert L. Meltzer

date ► 12/02/87

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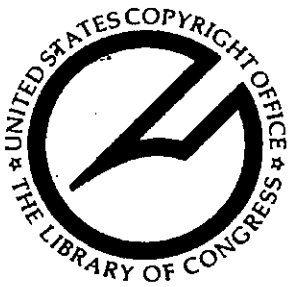
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TITLE OF THIS SERIAL ▼

1988 Annual Book of ASTM Standards, Plastic Pipe and Building Products

Volume ▼

08.04

Number ▼

08

Date on Copies ▼

January 1988

Frequency of Publication ▼

Annual

PREVIOUS OR ALTERNATIVE TITLES ▼

2 NAME OF AUTHOR ▼

American Society for Testing and Materials

DATES OF BIRTH AND DEATH ▼

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

☒ Yes

☐ No

AUTHOR'S NATIONALITY OR DOMICILE

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WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

Anonymous? ☐ Yes ☐ No

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Robert L. Meltzer

date ▶ 03/28/88

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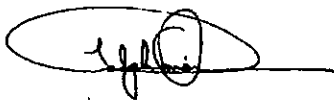
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1988 Annual Book of ASTM Standards, Electrical Conductors

Volume 02.03 Number 02 Date on Copies May 1988 Frequency of Publication Annual

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Anonymous? ☐ Yes ☐ No
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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

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1916 Race Street

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date 05/23/88

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Volume 07.01 Number 07 Date on Copies October 1988 Frequency of Publication Annual

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American Society for Testing and Materials

DATES OF BIRTH AND DEATH

Year Born Year Died

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☐ No

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date ► 12/8/88

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Volume

14.02

Number

14

Date on Copies

JUNE 1990

Frequency of Publication

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PREVIOUS OR ALTERNATIVE TITLES

2

a NAME OF AUTHOR

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NOTE

Under the law,
the "author" of a
"work made for
hire" is the
employer or
other person
for whom the
work was
prepared.

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

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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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Year Born Year Died

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☐ No

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Nation

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

1988 Annual Book of ASTM Standards, Section 17 Volume 14.02

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. ☐

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R. L. Meltzer, ASTM

1916 Race Street

Philadelphia, PA 19103

Area Code & Telephone Number ☐

(215) 299-5431

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

Check one ☐

☐ author

☐ other copyright claimant

☐ owner of exclusive right(s) American Society

☒ authorized agent of 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 is a published work, this date must be the same as or later than the date of publication given in space 3.

Robert L. Meltzer

date ☐ 6-27-90

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Kathleen M. Hooper

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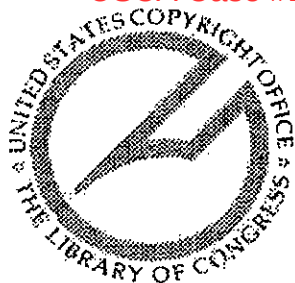
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1991 Annual Book of ASTM Standards: IRON and STEEL PRODUCTS:
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Volume

01-01

Number

01

Date on Copies

JANUARY

Frequency of Publication

ANNUAL

PREVIOUS OR ALTERNATIVE TITLES

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

OR Citizen of Domiciled in United States

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

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Year Born Year Died

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☐ No

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Name of Country

OR Citizen of Domiciled in

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Year

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Philadelphia, PA 19103-1187

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

1990 Annual Book of ASTM Standards, Section 01, Volume 01.01

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. ▼

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

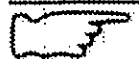
of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge.

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 ▶

3/21/91



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Robert L. Meltzer

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window
envelope

Name ▼	Kathe Hooper, ASTM
Number/Street/Apartment Number ▼	1916 Race Street
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VOLUME ▼

03.06

NUMBER ▼

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DATE ON COPIES ▼

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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 ▼
Domiciled in ▼ United States

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 ▼

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1916 Race Street

Philadelphia, PA 19103-1187

Area Code & Telephone Number ▶ 215-299-5431

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give your
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☐ 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 ▶

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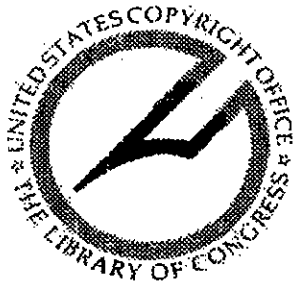
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JA1301

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Volume ▼

Number ▼

Date on Copies ▼

Frequency of Publication ▼

04.06

04

OCTOBER

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
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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. ▼

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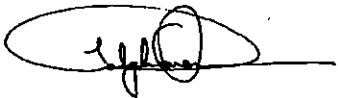
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SHIPBUILDING

Volume ▼

01.07

Number ▼

01

Date on Copies ▼

JANUARY 1992

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 ▼

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Name of Country

OR Citizen of United States
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

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Pseudonymous? ☐ Yes ☐ No

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☐ Collective Work Other: Entire Text

NAME OF AUTHOR ▼

DATES OF BIRTH AND DEATH

Year Born ▼ Year Died ▼

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1 TITLE OF THIS SERIAL ▼

1992 Annual Book of ASTM Standards: General Test Methods, Nonmetal; Laboratory Apparatus; Statistical Methods; Appearance of Materials; Durability of Nonmetallic Materials

Volume ▼ Number ▼ Date on Copies ▼ Frequency of Publication ▼
14 02 June Annual

PREVIOUS OR ALTERNATIVE TITLES ▼

2 NAME OF AUTHOR ▼

American Society for Testing and Materials

DATES OF BIRTH AND DEATH

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

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DATES OF BIRTH AND DEATH

Year Born ▼ Year Died ▼

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☐ No

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1991 Annual Book of ASTM Standards, Section 14, Volume 02

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Volume ▼ Number ▼ Date on Copies ▼ Frequency of Publication ▼
10 01 June Annual

PREVIOUS OR ALTERNATIVE TITLES ▼

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DATES OF BIRTH AND DEATH
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NATURE OF AUTHORSHIP

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NAME OF AUTHOR ▼

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

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date ▶ December 29, 1992

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Barbara Ringer
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 United States of America

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TX 3 689 742

EFFECTIVE DATE OF REGISTRATION

OCT 06 1993
 Month Day Year

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TITLE OF THIS SERIAL ▼
 1993 Annual Book of ASTM Standards: Pesticides, Resources Recovery, Hazardous Substances and Oil Spill Responses, Waste Management, Biological Effects

Volume ▼ **Number** ▼ **Date on Copies** ▼ **Frequency of Publication** ▼
 11 04 August 1993 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 ▼
 Domiciled in ▼ United States

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"?
☐ Yes
☐ No

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

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☐ No

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 Domiciled in ▼

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 1993 Year

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 U.S.A. July 28 1993

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

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TX# 3 450-279

1992

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

1992 Annual Book of ASTM Standards, Section 11, Volume 04.

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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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

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)

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Robert L. Meltzer

date ▶ 8/11/93

Handwritten signature (X) ▼

Robert L. Meltzer

MAIL
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CATE 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
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United States of America

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TX 3 883-920

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AUG 29 1994

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TITLE OF THIS SERIAL ▼

1994 Annual Book of ASTM Standards:

Nonferrous Metal Products

Volume ▼

Number ▼

Date of Copies ▼

Frequency of Publication ▼

02

01

June '94

Annual

PREVIOUS OR ALTERNATIVE TITLES ▼

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

OR Citizen of ▼

Domiciled in ▼ *United States*

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 ▼

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Year

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Philadelphia, PA 19103-1187

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1993 Annual Book of ASTM Standards, Section 02, Volume 201.

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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

Check one ►

☐ author

☐ other copyright claimant

☐ owner of exclusive right(s): American Society

☒ authorized agent of: 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.

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Robert L. Meltzer

date August 18, 1994

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Number/Street/Apartment Number ▼

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Philadelphia, PA 19103-1187

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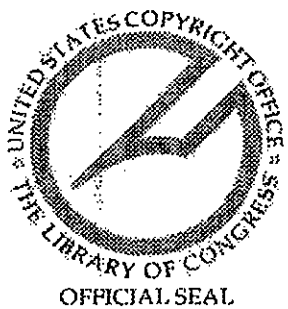
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1

TITLE OF THIS SERIAL

1994 Annual Book of ASTM Standards: *atmospheric. Analyses*

Occupational Health and Safety, Protective Clothing

Volume

11.03

Number

03

Date on Copies

October

Frequency of Publication

Annual

PREVIOUS OR ALTERNATIVE TITLES

2

a

NAME OF AUTHOR

American Society for Testing and Materials

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

☒ Yes

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

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

Collective Work

Other:

Entire Text

DATE OF BIRTH AND DEATH

Year Born

Year Died

NOTE

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

b

NAME OF AUTHOR

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

☐ Yes

AUTHOR'S NATIONALITY OR DOMICILE

OR

Citizen of

Domiciled in

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DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE

Month

October

Day

31

Year

1994

U.S.A.

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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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daytime phone
number

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

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 ▶ October 21, 1994

Handwritten signature (X) ▼



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NAME ▼	
<u>Kathe Hooper, ASTM</u>	
Number/Street Apartment Number ▼	
<u>1916 Race Street</u>	
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<u>Philadelphia, PA</u>	<u>19103-1187</u>

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U.S. GOVERNMENT PRINTING OFFICE: 1990-282-170/20,005

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1 TITLE OF THIS SERIAL
 1994 Annual Book of TM Standards: *Thermal Insulation; Environmental Acoustics*
 Volume **04** Number **06** Date on Copies **October** Frequency of Publication **Annual**
 PREVIOUS OR ALTERNATIVE TITLES

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 **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**
b NAME OF AUTHOR DATES OF BIRTH AND DEATH
 Year Born Year Died

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☐ Collective Work Other:

3 YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED **1994**
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4 U.S.A. Nation

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American Society for Testing & Materials
1916 Race Street
Philadelphia, PA 19103-1187
 APPLICATION RECEIVED **FEB 01 1995**
 ONE DEPOSIT RECEIVED
 TWO DEPOSITS RECEIVED **FEB 01 1995**
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MORE ON BACK • Complete all applicable spaces (numbers 5-11) on the reverse side of this page
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Year of Registration ▼

TX# 3-6816-308

1993

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. ▼

1993 Annual Book of ASTM Standards, Section 04, Volume 06.

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Robert L. Meltzer, ASTM

1916 Race Street

Philadelphia, PA

9103-1187

Area Code & Telephone Number ▶ 215-299-5431

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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Robert L. Meltzer

date ▶ January 21, 1995

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Volume

Number

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Frequency of Publication

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Jan. 1995

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PREVIOUS OR ALTERNATIVE TITLES

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

OR Citizen of Domiciled in *United States*

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

Anonymous? ☐ Yes ☐ No
 Pseudonymous? ☐ Yes ☐ No

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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

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☐ Yes
☐ No

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Name of Country

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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.

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Robert L. Meltzer

date August 24, 1995

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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TITLE OF THIS SERIAL

1995 Annual Book of ASTM Standards;

*General Methods and Instrumentation
General Test Methods, Nonmetallic; Chromatography; Durability of
Nonmetallic Materials; Forensic Sciences; Laboratory Apparatus; Statistical
Methods.*

Volume

Number

Date on Copies

Frequency of Publication

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 DiedWas 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

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☐ Yes ☐ No

Pseudonymous?

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"Yes," see detailed
instructions.

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☐ Collective Work ☐ Other:

Entire Text

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Domiciled in

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and Materials #DA 07R328

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Robert L. Meltzer, ASTM

1916 Race Street

Philadelphia, PA

19103-1187

Area Code & Telephone Number ▶ 215-299-5431

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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Robert L. Meltzer

date July 26, 1995

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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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US Case #1:13-cv-01215-TSC Document #1715850

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Volume ▼

Number ▼

Date on Copies ▼

Frequency of Publication ▼

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01

January '96

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"?

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AUTHOR'S NATIONALITY OR DOMICILE

Name of Country

OR Citizen of ▼

Domiciled in ▼ United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

Anonymous? ☐ Yes ☐ NoPseudonymous? ☐ Yes ☐ No

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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 ▼

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Robert L. Meltzer, ASTM

1916 Race Street

Philadelphia, PA 19103-1187

Area Code & Telephone Number ▶ 215-299-5431

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

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

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Robert L. Meltzer

date ▶ March 13, 1996

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Robert L. Meltzer

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1996 Annual Book of ASTM Standards:

*Nonferrous Metal Products
Copper and Copper alloys*

Volume

Number

Date on Copies

Frequency of Publication

02

01

May '96

Annual

PREVIOUS OR ALTERNATIVE TITLES

2 NAME OF AUTHOR

American Society for Testing and Materials

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 *United States*

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 the material created by this author in which copyright is claimed

☐ Collective Work Other: *Entire Text*

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TX# 4-083-253

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1995 Annual Book of ASTM Standards, Section 03, Volume 01.

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Name ▼ American Society for
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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

1916 Race Street

Philadelphia, PA 19103-1187

Area Code & Telephone Number ▼ 215-299-5431

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 ▶

May 8, 1996

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Kathe Hooper, ASTM

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Philadelphia, PA 19103-1187

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JA1327

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TITLE OF THIS SERIAL

1996 Annual Book of ASTM Standards: *Water and Environmental Technology - Water (11)*

Volume

Number

Date on Copies

Frequency of Publication

11

02

May '96

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

OR Citizen of Domiciled in United States

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

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☐ No

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Name of Country

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U.S.A.

Nation

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TX# 4-088-249

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1995 Annual Book of ASTM Standards, Section 11, Volume 02.

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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

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number

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☐ author

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Robert L. Meltzer

date ▶

April 26, 1996



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Name ▼

Kathe Hooper, ASTM

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1916 Race Street

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Philadelphia, PA 19103-1187

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1. Application form
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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.

December 1990—75,000

U.S. GOVERNMENT PRINTING OFFICE: 1990—282-170-20,005

JA1329

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CERTIFICATE OF REGISTRATION

USCA Case #17-7095 Document #1715850

Filed: 01/31/2018 Page 88 of 537

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TITLE OF THIS SERIAL ▼

1996 Annual Book of ASTM Standards: *Water and Environmental*

Volume ▼

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Date on Copies ▼

Frequency of Publication ▼

11 01 April '96 Annual

PREVIOUS OR ALTERNATIVE TITLES ▼

NAME OF AUTHOR ▼

2 American Society for Testing and Materials

DATES OF BIRTH AND DEATH

Year Born ▼

Year Died ▼

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☐ No

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WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

☐ Anonymous? ☐ Yes ☐ No
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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

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American Society for Testing and Materials DAO 78338

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1916 Race Street

Philadelphia, PA 19103-1187

Area Code & Telephone Number ▶ 215-299-5431

Be sure to
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☐ other copyright claimant

☐ owner of exclusive right(s)

☒ authorized agent of American Society

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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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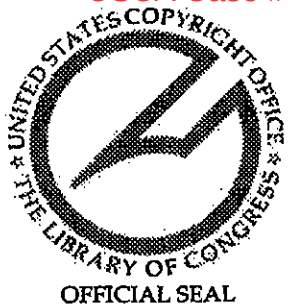
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EFFECTIVE DATE OF REGISTRATION
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Month Day Year

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TITLE OF THIS SERIAL
1996 Annual Book of ASTM Standards: Rubber: Natural and Synthetic - General Test Methods;
Volume 09 Number 01 Date on Copies July 1996 Frequency of Publication Annual
PREVIOUS OR SIMILAR TITLES

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

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

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
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

Was this contribution to the work a "work made for hire"? ☐ Yes ☐ No
AUTHOR'S NATIONALITY OR DOMICILE
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NAME OF AUTHOR DATES OF BIRTH AND DEATH

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

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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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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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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 1, 1996

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Robert L. Meltzer

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Marybeth Peters
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Volume ▼ **04** Number ▼ **06** Date on Copies ▼ **October 1996** Frequency of Publication ▼ **Annual**

PREVIOUS OR ALTERNATIVE TITLES ▼

2
NAME OF AUTHOR ▼

American Society for Testing and Materials

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☐ No

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

DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼

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

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☐ Collective Work Other: **Entire Text**

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Pseudonymous? ☐ Yes ☐ No
If the answer to either
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"Yes," see detailed
instructions

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TH# *4-154-242*

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. ▼

1996 Annual Book of ASTM Standards, Section 04, Volume 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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Testing and Materials

Account Number ▼ DR078328

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)☒ 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 ▶ December 3, 1996



Handwritten signature (X) ▼

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CATE TOCertificate
will be
mailed in
window
envelope

Name ▼

Judy Helm, ASTM

Number Street Apartment Number ▼

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City State ZIP ▼

West Conshohocken, PA 19428-2959

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3. Deposit material

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Washington, D.C. 20559Copyright fees are ad-
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vals, based on in-
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the Consumer Price In-
dex. The next adjust-
ment is due in 1995.
Contact the Copyright
Office in January 1995
for the new fee sched-
ule.

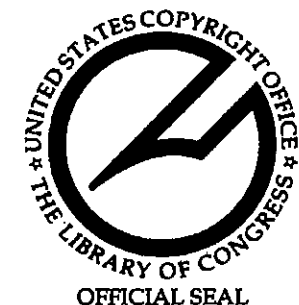
* 17 U.S.C. § 506(h). Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409 or in any written statement filed in connection with the application shall be fined not more than \$2,500.

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U.S. GOVERNMENT PRINTING OFFICE: 1992—312-432/60,002

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JA1335



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1 TITLE OF THIS SERIAL ▼

1996 Annual Book of ASTM Standards: *Textiles*
Textiles (11): D3333-latest

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

PREVIOUS OR ALTERNATIVE TITLES ▼

2

NAME OF AUTHOR ▼

American Society for Testing and Materials

DATES OF BIRTH AND DEATH
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Was this contribution to the work a "work made for hire"?
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☐ No

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Name of Country
OR Citizen of ▼
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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. ▼

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NAME OF AUTHOR ▼

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Year Born ▼ Year Died ▼

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☐ No

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Domiciled in ▼

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☐ No

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Domiciled in ▼

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Page 1 of 2 pages

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JA1336

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Year of Registration ▼

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.

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
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Account Number ▼ # DA078528

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

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Be sure to
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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)

☒ 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 December 3, 1996

Handwritten signature (X) ▼

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Number Street Apartment Number ▼

100 Barr Harbor Drive

City State Zip ▼

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CERTIFICATE OF REGISTRATION

Case 1:13-cv-01215-TSC Document 122-2 Filed 12/22/15 Page 130 of 369

USCA Case #17-7055 Document #1715850

Filed: 01/31/2017 Page 66 of 537

FORM SE

For a Serial

UNITED STATES COPYRIGHT OFFICE

REGISTRATION NUMBER

TX 4-475-108



09/11/1997

EFFECTIVE DATE OF REGISTRATION

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02

SEPTEMBER

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 ▼ 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 ▼

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Year Born ▼ Year Died ▼

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☐ No

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Domiciled in ▼

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NOTE

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3

4

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

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

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number

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

Check one ►

- ☐ author
- ☐ other copyright claimant
- ☐ owner of exclusive rights
- ☒ 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 rights

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*

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Certificate
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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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Contact the Copyright
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June 1992—50,000

U.S. GOVERNMENT PRINTING OFFICE: 1992—312-432/80,002

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TX 4-497-885
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Year Born ▼ Year Died ▼

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☒ 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? ☐ Yes ☐ No
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JA1340

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TH# 4-243-005

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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

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USCA Case #17 5835 Document #1715850

Filed: 01/31/2018 Page 100 of 537

FORM SE

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NOVEMBER 1997

Annual

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date ▼

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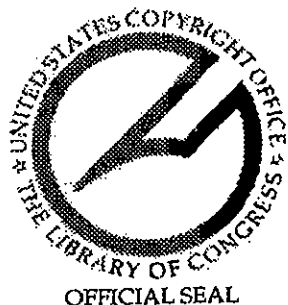
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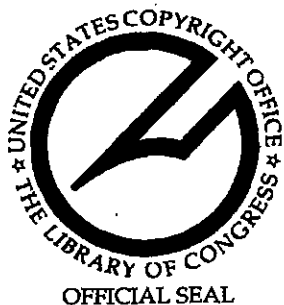
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Domiciled in United States

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 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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Name of CountryOR Citizen of United States
Domiciled in United States

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DATES OF BIRTH AND DEATH

Year Born ▼

Year Died ▼

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NAME OF AUTHOR ▼

DATES OF BIRTH AND DEATH

Year Born ▼

Year Died ▼

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1998

Year

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U.S.A.

Month FEBRUARY Day 12 Year 1998

Nation

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American Society for Testing & Materials
100 Barr Harbor Drive
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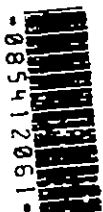
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- Sign the form at line 10

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Page 1 of 2 pages

NOTE

Under U.S. law, the "author" of a "work made for hire" is generally the employer, not the employee (see instructions) For



05412051



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JA1348

ASTM000077

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FORM SE

CHECKED BY *de*

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

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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 25, Volume 15.01

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. ▼
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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

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

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) ▲

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Robert L. Meltzer

date ▶ 2/13/98



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Kathe Hooper, ASTM

Number Street Apartment Number ▼

100 Barr Harbor Drive

City State ZIP ▼

West Conshohocken, PA 19428-2959

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for the new fee sched-
ule.

* 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 1992—50,000

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USCA Case 1:13-cv-01215-TSC Document #1715850

Filed: 6/15/2018

Page 108 of 537



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NTX000454921X

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1 TITLE OF THIS SERIAL ▼

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

Volume Number ▼ Date on Copies ▼ Frequency of Publication ▼

01.04 01 January 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 ▼

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"work made for hire"?
☒ Yes
☐ No

AUTHOR'S NATIONALITY OR DOMICILE

Name of Country

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Domiciled in ▶ United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

Anonymous? ☐ Yes ☐ NoPseudonym? ☐ Yes ☐ No

If the answer to either
of these questions is
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NAME OF AUTHOR ▼

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

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Name

Account Number ▼

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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

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) ▼

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Robert L. Meltzer

date ▶ 3-5-98

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1. Application form
2. Non-refundable \$20 filing fee in cash or money order payable to Registrar of Copyrights
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Registrar of Copyrights
Library of Congress
Washington, D.C. 20540

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Marybeth Peters
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TX 4-737-834

EFFECTIVE DATE OF REGISTRATION
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1

TITLE OF THIS SERIAL

1998 Annual Book of ASTM Standards, Copper and Copper Alloys

Volume	Number	Date on Copy	Frequency of Publication
02.01	02	May 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
 OR { Citizen of United States
 Domiciled in United States

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
 Anonymous? ☐ Yes ☐ No
 Pseudonym? ☐ 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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b. ☐ This is the first application submitted by this author as copyright claimant.
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a. **Preexisting Material** Identify any preexisting work or works that this work is based on or incorporates. *▼*

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American Society for Testing and Materials

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Kathe Hooper, American Society for Testing and Materials

100 Barr Harbor Drive

West Conshohocken, PA 19428-2050

Area Code & Telephone Number *▶* (610) 832-0634

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.

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Robert L. Meltzer

date *▶* 5-20-99



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Name <i>▼</i>	Kathe Hooper, ASTM
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City/State/ZIP	West Conshohocken, PA 19428-2050

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• Sign your application in space 10

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EFFECTIVE DATE OF REGISTRATION
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Month Day Year

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1
TITLE OF THIS SERIAL
1998 Annual Book of ASTM Standards, General Test Methods, Monometal Chromatography, Durability of Monometallic Materials, Forensic Sciences, Lab -
WATERY APPARATUS, STATISTICAL METHODS
Volume 14.02 Number 14 Date on Copies July 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

NOTE

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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
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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3
a YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED 1998
b DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE
Complete this information Month June Day 22 Year 1998
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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

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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DA078328

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Kathe Hooper, American Society for Testing and Materials

100 Barr Harbor Drive

West Conshohocken, PA 19428-2059

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☐ other copyright claimant

☐ owner of exclusive right(s)

☒ authorized agent of American Society for Testing & Materials

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date ▶ 6-22-98



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870804768933

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1
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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

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Robert L. Meltzer

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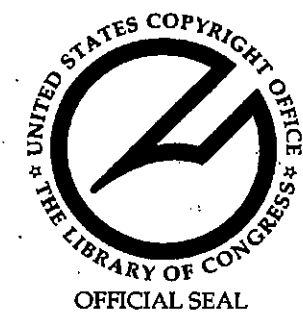
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11.05 11 August 1998 Annual
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NATURE OF AUTHORSHIP Briefly describe nature of the material created by this author in which copyright is claimed. ▼
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1997 Annual Book of ASTM Standards, Section 11, Volume 11.05

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Kathe Hooper, American Society for Testing and Materials

100 Barr Harbor Drive

West Conshohocken, PA 19428-2958

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

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Volume ▼ Number ▼ Date on Copies ▼ Frequency of Publication

04.01 04 September 1998 Annual

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Robert L. Metzger

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Volume 01.07 Number 01. Date on Copies JANUARY 1999 Frequency of Publication Annual
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2
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a **NAME OF AUTHOR**
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OR Citizen of United States
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WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? ☐ Yes ☐ No
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b **NAME OF AUTHOR**
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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 ofAmerican Society
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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.

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date ▶ 2/26/99



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05.01 05 FEBRUARY 1999 Annual

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2

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American Society for Testing and Materials

DATES OF BIRTH AND DEATH
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Year of Registration ▼

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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 05.01.

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

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☐ 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 ▶ 2/26/99



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Kathe Hooper, ASTM

Number Street Apartment Number ▼

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City State ZIP ▼

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01-04 01 JANUARY Annual

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2 NAME OF AUTHOR ▼

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DATES OF BIRTH AND DEATH

Year Born ▼ Year Died ▼

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☐ No

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Name of Country

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WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK

Anonymous? ☐ Yes ☐ No
Pseudonymous? ☐ Yes ☐ No

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

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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

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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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05.02	05	March 1999	Annual

PREVIOUS OR ALTERNATIVE TITLES ▼

2

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a American Society for Testing and Materials

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☐ No

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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. § 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.

This form was electronically produced by Elite Federal Forms, Inc.

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	434-207
TXU	
EFFECTIVE DATE OF REGISTRATION	
3	17
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 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 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 If the answer to either of these questions is "Yes, see detailed instructions attached."
		AUTHOR OF: (Briefly describe nature of this author's contribution)	
	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 If the answer to either of these questions is "Yes, see detailed instructions attached."
		AUTHOR OF: (Briefly describe nature of this author's contribution)	
	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 If the answer to either of these questions is "Yes, see detailed instructions attached."
AUTHOR OF: (Briefly describe nature of this author's contribution)			

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 January 15 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

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 Page 1 of 2 pages

JA1378

ASTM000107

USCA Case #17-7035

Document #1715850

Filed 01/31/2018

Page 137 of 537

EXAMINED BY: <u>17 MAR 1980</u>		APPLICATION FILED: <u>17 MAR 1980</u>	FOR COPYRIGHT OFFICE USE ONLY
CHECKED BY: <u>17 MAR 1980</u>			
CORRESPONDENCE: <input type="checkbox"/> Yes	DEPOSIT RECEIVED: <u>17 MAR 1980</u> <u>17 MAR 1980</u>		
DEPOSIT ACCOUNT FUNDS USED: <input type="checkbox"/>	REMITTANCE NUMBER AND DATE: <u>180750 MAR1780</u>		

TX

434-207

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 X 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 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.)

NAMES OF MANUFACTURERS

PLACES OF MANUFACTURE

Waverly Press, Inc.Easton, MD.

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 phonorecordsb ☐ Copies Onlyc ☐ 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. MeltzerAddress: 1916 Race StreetPhiladelphia PA.19103

(City)

(State)

(ZIP)

9

Fee and
Correspondence

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.

Handwritten signature: (X) Robert L. MeltzerTyped or printed name: Robert L. MeltzerDate 1/31/80

10

Certification
(Application
must be
signed)American Society for Testing and Materials

(Name)

1916 Race Street

(Number, Street and Apartment Number)

Philadelphia

(City)

PA.

(State)

19103

(ZIP code)

MAIL
CERTIFICATE
TO10 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.

U. S. GOVERNMENT PRINTING OFFICE : 1977 O - 248-641

JA1379

ASTM000108

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
TX	TXU
EFFECTIVE DATE OF REGISTRATION	
4	21
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 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.	DATES OF BIRTH AND DEATH: Born Died (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 If the answer to either of these questions is "Yes, see detailed instructions attached."
		AUTHOR OF: (Briefly describe nature of this author's contribution)	
	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 (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 If the answer to either of these questions is "Yes, see detailed instructions attached."
		AUTHOR OF: (Briefly describe nature of this author's contribution)	
	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 (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 If the answer to either of these questions is "Yes, see detailed instructions attached."
AUTHOR OF: (Briefly describe nature of this author's contribution)			

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

DO NOT WRITE HERE
Page 1 of ... 2 ... pages

JA1380

ASTM000109

TX	464-573	CHECKED BY:.....	DEPOSIT RECEIVED: APR 21 1980	FOR COPYRIGHT OFFICE USE ONLY
		CORRESPONDENCE: <input type="checkbox"/> Yes	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...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 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> <tr> <td>NAMES OF MANUFACTURERS</td> <td>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	7 Manufacturing
NAMES OF MANUFACTURERS	PLACES OF MANUFACTURE				
Waverly Press, Inc.	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. <p> <input checked="" type="checkbox"/> Copies and phonorecords <input type="checkbox"/> Copies Only <input type="checkbox"/> Phonorecords Only </p>	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 (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)
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------

<div style="border: 1px solid black; padding: 10px;">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 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.

* U. S. GOVERNMENT PRINTING OFFICE : 1977 O - 248-641

JA1381

ASTM000110

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 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 <input type="checkbox"/> 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)
	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)
	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)

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 March 15 1980 (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.)

- 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

JA1382

ASTM000111

USCA Case #17-7035

Document # 17-13830

Filed 01/31/2018

Page 141 of 537

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) <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 3</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>	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.)	7 Manufacturing		
<table border="0"> <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	
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. <p>a <input checked="" type="checkbox"/> Copies and phonorecords b <input type="checkbox"/> Copies Only c <input type="checkbox"/> Phonorecords Only</p>	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 (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)
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------

<div style="border: 1px solid black; padding: 10px;"> American Society for Testing and Materials 1916 Race Street Philadelphia, PA 19103 (City) (State) (ZIP code) </div>	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.

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JA1383

ASTM000112

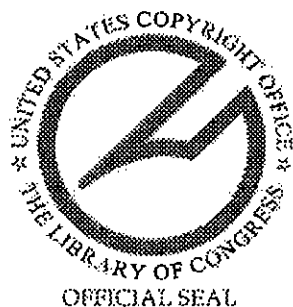
CERTIFICATE OF REGISTRATION

USCA Case #17 3035 Document #1715850

Filed: 01/31/2018

Page 142 of 537

FORM SE

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 5-008-019



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

Volume ▼ Number ▼ Date on Copies Frequency of Publication ▼

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
OR { 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

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

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☐ 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 ▼
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:

3

YEAR IN WHICH CREATION OF THIS

ISSUE WAS COMPLETED

1999

Year

This information must be given in all cases.

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE

Complete this information

ONLY if this work has been published

Month ▼ October Day ▼ 15 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.

APPLICATION RECEIVED

NOV 15 1999

ONE DEPOSIT RECEIVED

TWO DEPOSITS RECEIVED

NOV 15 1999

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date ▶ 12-22-15

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July

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envelope

Name ▼	Kathe Hooper, ASTM
Number/Street/Apartment Number ▼	100 Barr Harbor Drive
City/State/ZIP ▼	West Conshohocken, PA 19428-2859

- 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
 3. Deposit material
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 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 1997 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



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

TX 5-202-197



EFFECTIVE DATE OF REGISTRATION

11 13 00

Month Day Year

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

1

TITLE OF THIS SERIAL
2000 ANNUAL BOOK OF ASTM STANDARDS, ANALYTICAL CHEMISTRY FOR
METHODS, DECS, AND RELATED MATERIALS (11): 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

OR Domiciled in: United States

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

Other: Entire Text

NAME OF AUTHOR

DATES OF BIRTH AND DEATH
Year Born Year Died

Was this contribution to the work a
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OR

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OR Domiciled in:

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☐ Collective Work

Other:

3

a

YEAR IN WHICH CREATION OF THIS
ISSUE WAS COMPLETED
2000

This information
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DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE

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Month: 10 Day: 6 Year: 2000

United States

Nation

4

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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.

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ONE DEPOSIT RECEIVED

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Page 1 of 2 pages

ASTM000121

JA1392

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<input type="checkbox"/> CORRESPONDENCE	FOR
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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 ▼

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. ▼

1999 Annual Book of ASTM Standards, Volume 13.02, Section 13

a

6

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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 ▼ 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 ▶ 10/24/07

Handwritten signature (X) ▼

X *Robert L. Meltzer*

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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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- Sign your application in space 8

1. Application form

2. Nonrefundable filing fee in check or money order As of July 1, 1999,

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. 20559-8000

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 408, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.
June 1998—80,000
WEB REV: June 1999

U.S. GOVERNMENT PRINTING OFFICE: 1999-454-879/60



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Marybeth Peters

TX 5-202-198
EFFECTIVE DATE OF REGISTRATION
11 13 00
Month Day Year

OFFICIAL SEAL REGISTER OF COPYRIGHTS TE CONTINUATION SHEET.

1 TITLE OF THIS SERIAL
2000 ANNUAL BOOK OF ASTM STANDARDS, BUILDING CONSTRUCTIONS
Volume Number Date on Copies Frequency of Publication
0411 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 contribution to the work a "work made for hire"? AUTHOR'S NATIONALITY OR DOMICILE WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
☐ Yes ☐ No OR Citizen of Domiciled in United States 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
b 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
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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 2000 This information must be given in all cases. b DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE Month 10 Day 23 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 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 13 2000 ONE DEPOSIT RECEIVED TWO DEPOSITS RECEIVED NOV 13 2000 FUNDS RECEIVED

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<input type="checkbox"/> CORRESPONDENCE Yes	FOR COPYRIGHT OFFICE USE ONLY

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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?

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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

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.

1999 Annual Book of ASTM Standards, Volume 14.1, Section 27.

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.

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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.

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.

☒ I am 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

12/27/15

Handwritten signature (X)

Robert L. Meltzer

Certificates 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

- Complete all necessary spaces
- Sign your application in space 9

9

1. Application form
2. Nonrefundable filing fee in check or money order As of July 1, 1999, the filing fee for Form SE is \$30.
3. Deposit material
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101 Independence Avenue, S.E.
Washington, D.C. 20559-6001



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 United States of America

FORM SE
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 TX 5-202-199
 011-000-5202199

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Month Day Year

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REGISTER OF COPYRIGHTS

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1

TITLE OF THIS SERIAL ▼
 2000 ANNUAL BOOK OF ASTM STANDARDS, ATMOSPHERIC ANALYSIS; OCCUPATIONAL HEALTH AND SAFETY; PROTECTIVE CLOTHING

Volume ▼ **Number** ▼ **Date on Copies** ▼ **Frequency of Publication** ▼

11.03 11 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? ☐ 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 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: United States

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☐ Collective Work Other:

c

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DATES OF BIRTH AND DEATH
 Year Born ▼ Year Died ▼

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☐ No

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 Name of Country
 OR Citizen of ▼
 Domiciled in: United States

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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**
 2000
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b **DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE**
 Complete this information ONLY if this work has been published.
 Month: 10 Day: 6 Year: 2000
 United States

4

4 **COPYRIGHT CLAIMANT(S)** Name and address must be given even if the claimant is the same as the author. Give in space 4.
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 West Conshohocken, PA 19428-2959

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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. ▼

MORE ON BACK ▶

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CHECKED BY	
<input type="checkbox"/> CORRESPONDENCE Yes	FOR COPYRIGHT OFFICE USE ONLY

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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?

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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.

1999 Annual Book of ASTM Standards, Volume 11.03, Section 11

a 6

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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 khopper@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)

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.

☒ I am 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 10/27/07

Handwritten signature (X) *Robert L. Meltzer*

Certificate
will be
mailed in
window
envelope
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address:

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

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1. Application form
2. Nonrefundable filing fee in check or money order payable to Register of Copyrights
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Copyright Office
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Washington, D.C. 20559-6000
As of July 1, 1999, the filing fee for Form SE is \$38.

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Marybeth Peters

TX 5-345-022



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5 21 01
 Month Day Year

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REGISTER OF COPYRIGHTS

United States of America

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1

TITLE OF THIS SERIAL ▼

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Volume ▼

Number ▼

Date on Copies ▼

Frequency of Publication ▼

11.01

11

APRIL 2001

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

OR 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

Other: Entire Test

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DATES OF BIRTH AND DEATH

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Other:

3

a

YEAR IN WHICH CREATION OF THIS

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DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE

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United States

◀ Nation

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100 Barr Harbor Drive

West Conshohocken, PA 19428-2959

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Page 1 of 2 pages

JA1398

ASTM000127

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☐ 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?

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Year of Registration ▼

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

2000 Annual Book of ASTM Standards, Section II Volume 11.01

a 6

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. ▼

Compilation of previous published text plus additional text.

b

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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

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☐ 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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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 ▶ 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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Copyright Office
101 Independence Avenue, S.E.
Washington, D.C. 20559-5000

As of
July 1,
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the
filing
fee for
Form SE
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 408, 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: 1989-454-879/60



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E CONTINUATION SHEET.

TITLE OF THIS SERIAL

2001 ANNUAL BOOK OF ASTM STANDARDS: ROAD AND PAVING MATERIALS; VEHICLE-PAVEMENT SYSTEMS

Volume

Number

Date on Copies

Frequency of Publication

04-03

04

JUNE 2001

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? ☐ 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 ☒ Other: Entire Test

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.

☐ Collective Work ☐ Other:

c NAME OF AUTHOR

DATES OF BIRTH AND DEATH

Year Born Year Died

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☐ 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.

☐ Collective Work ☐ Other:

3

a YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED
2001

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: JUNE Day: 4 Year: 2001
United States

4

c 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.

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Page 1 of 2 pages

ASTM000129

JA1400

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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.

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

100 Annual Book of ASTM Standards, Section 04 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. ▼

compilation of previous published text plus additional text.

a

6

See instructions
before completing
this space.

b

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the ▼ 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

telex code and daytime telephone number ▶ 610-832-9634

Fax number ▶

610-832-9635

or ▶ kahooper@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

the work identified in this application and that the statements made
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 ▶

6/24/01

Handwritten signature (X) ▼

X *Robert L. Meltzer*

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Kathe Hooper, ASTM

Number/Street/Apt ▼

100 Barr Harbor Drive

City/State/ZIP ▼

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1. Application form
2. Notarization filing fee in check or money order As of July 1, 1999,
payable to Registrar of Copyrights
3. Deposit material
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Copyright Office
101 Independence Avenue, S.E.
Washington, D.C. 20540-8000

9

the
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with the application, shall be fined not more than \$2,500.

US 1005-00,000
REV. June 1998

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Marybeth Peters

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JTH0025369432

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Month Day Year

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CONTINUATION SHEET.

1 TITLE OF THIS SERIAL: 2001 ANNUAL BOOK OF ASTM STANDARDS: WATER (11)

Volume: 11.02

Number: 11

Date on Copies: MAY 2001

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:
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 material created by this author in which copyright is claimed.
☐ Collective Work Other: Entire Test

NOTE

Under the law, the "author" of "work made for hire" is generally the employer, not the employee (see instructions). For any 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 the work, 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.
☐ 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

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☐ Collective Work Other:

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a YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED
2001

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Month: MAY Day: 18 Year: 2001
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 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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JA1402

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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.

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

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

1000 Annual Book of ASTM Standards, Section 11 Volume 11.02

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 Account Number

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

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

Internet 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)
☒ authorized agent of American Society for Testing and Materials

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.

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 6/20/01

Handwritten signature (X)

X [Signature]

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

- Complete all necessary spaces
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1. Application form
2. Nonrefundable filing fee in check or money order As of July 1, 1999, the filing fee for Form SE is \$30.
3. Deposit material

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Washington, D.C. 20559-8000

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June 1999—50,000
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Marybeth Peters

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1

TITLE OF THIS SERIAL ▼ 2001 Annual Book of ASTM Standards
Textiles (I): D76 - D3218

Volume ▼ 07 Number ▼ 01 Date as Copies ▼ December 2001 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 P. United States
Domiciled in P.

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

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
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Domiciled in P.

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☐ Collective Work Other:

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.

3

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Month: OCT Day: 26 Year: 2001

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United States

Nation

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West Conshohocken, PA 19428-2959

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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.

2000 Annual Book of ASTM Standards, Section 07 Volume 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.

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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

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

Kathe Hooper, American Society for Testing and Materials

100 Barr Harbor Drive

West Conshohocken, PA 19428-2939

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)☒ 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 11/9/07

Handwritten signature (X)

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 19428-2939

• Complete all necessary spaces.
• Sign your application in space 8.1. Application form
2. Payment fee in check or money order As of July 1, 1999, the filing fee for Form SB is \$31.
3. Deposit material
Library of Congress
Copyright Office
101 Independence Avenue, S.E.
Washington, D.C. 20540-6000*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 409, or in any written statement that is in connection with the application, shall be fined not more than \$2,500.
June 1999—60,000
WEB REV: June 1999
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USCA Case #17-7035 Document #1715850
CERTIFICATE OF REGISTRATION

Filed: 01/31/2018 Page 164 of 537



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Margbeth Peters

For a Serial
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REGISTRATION

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LATE CONTINUATION SHEET.

1

TITLE OF THIS SERIAL ▼

2002 Annual Book of ASTM Standards — *Plastics II: D2383-D4322*

Volume ▼

Number ▼

Date on Copies ▼

Frequency of Publication ▼

18

02

JUNE 2002

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? ☐ 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 Other: Entire Text

NAME OF AUTHOR ▼

DATES OF BIRTH AND DEATH

Year Born ▼ Year Died ▼

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NAME OF AUTHOR ▼

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☐ Collective Work Other: _____

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YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED

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Month ▼

United States

Day ▼

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Year ▼

2002

Nation

4

b

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American Society for Testing and Materials

100 Barr Harbor Drive

West Conshohocken, PA 19428-2959

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<input type="checkbox"/> CORRESPONDENCE Yes	FOR COPYRIGHT OFFICE USE ONLY

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

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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.

Derivative 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

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 ▼

Account Number ▼

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 ▼

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

E-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) ▲

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

Typed as 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. Melizer

Date ▶ 7-22-01

Handwritten signature (X) ▼

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

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 SE
is \$38.

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.
Jan 1998-50,000
WEB REV. June 1999
PRINTED ON RECYCLED PAPER
U.S. GOVERNMENT PRINTING OFFICE: 1989-454-872/60



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 SE

For a Serial
 UNITED STATES COPYRIGHT OFFICE

TX 5-641-808
 01/21/2018

NOV - 7 2002

Month Day Year

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

1

TITLE OF THIS SERIAL

2002 Annual Book of ASTM Standards: *SPORTS EQUIPMENT; SAFETY AND TRACTION FOR FOOTWEAR; AMUSEMENT RIDES; CONSUMER PRODUCTS*

Volume *15.07* Number *15* Date on Copies *NOVEMBER* 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
 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 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
 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 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
 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 Other:

3

a

YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED
 2002

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE
 Complete this information ONLY if this work has been published.
 Month *Oct* Day *19* Year *2002*
 United States

4

See instructions before completing this space.

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 07 2002
ONE DEPOSIT RECEIVED
TWO DEPOSITS RECEIVED
 NOV 07 2002
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.

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 Page 1 of _____ pages

ASTM000137

JA1408

EXAMINED BY 	FORM SE
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<input type="checkbox"/> CORRESPONDENCE Yes	FOR COPYRIGHT OFFICE USE ONLY

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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

6

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.

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

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)

☒ 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.

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 

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

Library of Congress
Copyright Office
101 Independence Avenue, S.E.
Washington, D.C. 20540-6000

As of July 1, 1999, the filing fee for Form SE is \$38.

*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—\$0,000
WEB REV: June 1999
U.S. GOVERNMENT PRINTING OFFICE: 1999-454-879/80

JA1409

ASTM000138

CERTIFICATE OF REGISTRATION

Registration #1715850

Filed: 01/31/2018

Page 168 of 537



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FORM SE

For a Serial

FICE

TX 5-641-809



EFFECTIVE DATE OF REGISTRATION

NOV - 7 2002

Month Day Year

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.

1

TITLE OF THIS SERIAL ▼

2002 Annual Book of ASTM Standards: *BUILDING CONSTRUCTION (E): E72 - E1670*

Volume ▼

04.11

Number ▼

04

Date on Copies ▼

NOVEMBER

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? ☐ 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 ☐ 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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☐ Collective Work ☐ Other:

NAME OF AUTHOR ▼

DATES OF BIRTH AND DEATH

Year Born ▼ Year Died ▼

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☐ No

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Name of Country

 OR { Citizen of ▼
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 material created by this author in which copyright is claimed. ▼

☐ Collective Work ☐ Other:

3

YEAR IN WHICH CREATION OF THIS

ISSUE WAS COMPLETED

2002

This information must be given in all cases.

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE

Complete this information ONLY if this work has been published.

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. ▼

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NOV 07 2002

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 • Complete all applicable spaces (numbers 5-9) on the reverse side of this page.
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Page 1 of _____ pages

JA1410

ASTM000139

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CHECKED BY 	
<input type="checkbox"/> CORRESPONDENCE Yes	FOR COPYRIGHT OFFICE USE ONLY

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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 ▼

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

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. ▼

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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)

☒ 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.

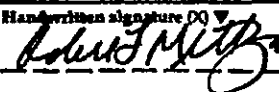
Name of author or other copyright claimant, or owner of exclusive right(s) ▲

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 (DO NOT SIGN HERE) 

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 8

1. Application form
2. Nonrefundable filing fee in check or money order As of July 1, 1999,
payable to Register of Copyrights
3. Deposit material

Library of Congress
Copyright Office
101 Independence Avenue, S.E.
Washington, D.C. 20540-8000

9

the filing fee for Form SE is \$30.

*17 U.S.C. § 606(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 1988—\$7,000
WEB REV: June 1999

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U.S. GOVERNMENT PRINTING OFFICE: 1999-454-872/60

CERTIFICATE OF REGISTRATION

USCA Case #17-7925

Document #1715850

Filed: 01/31/2018

Page 170 of 537



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Marybeth Peters
REGISTER OF COPYRIGHTS
United States of America

FORM SE

For a Serial
UN
RE TX 5-785-473
THREE 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 Copies ▼

Frequency of Publication ▼

110111APRIL 2003Annual

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? ☐ Yes ☐ NoPseudonymous? ☐ 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 ☐ Other: Entire Text

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: _____

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☐ Collective Work ☐ Other: _____

NAME OF AUTHOR ▼

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Citizen of ▼

Domiciled in: _____

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☐ Collective Work ☐ Other: _____

3

a

YEAR IN WHICH CREATION OF THIS ISSUE WAS COMPLETED

2003

This information must be given in all cases.

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE

Complete this information ONLY if this work has been published.

Month: 4Day: 15Year: 2003United States

Nation

4

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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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MAY 21 2003
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ASTM000141

JA1412

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CHECKED BY <u> </u>	
<input type="checkbox"/> CORRESPONDENCE	FOR COPYRIGHT OFFICE USE ONLY
Yes <u> </u>	

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 ▾

TX 531 951

2002

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 ▾

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 ▾

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.

Name ▾

Account Number ▾

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 ▾

Katie 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

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)

☒ (If 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

John Pace

Date ▾ 5-14-03

Handwritten Signature (S) ▾

X John Pace

Certificate will be mailed in window envelope to this address

Name ▾

Katie 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 8.

1. Application form

2. Nonrefundable filing fee in check or money order As of July 1, 1994

payable to Register of Copyrights

3. Deposit material

Library of Congress

Copyright Office

101 Independence Avenue, S E

Washington, D.C. 20540-0000

*17 U.S.C. § 800(c): 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 \$2,000.
June 1999—80 000
WEB REV June 1999

PRINTED ON RECYCLED PAPER

U.S. GOVERNMENT PRINTING OFFICE: 1999-464-879/00

JA1413

ASTM000142

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

TX 5-829-682



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): D450-D5611*

Volume ▼

Number ▼

Date on Copy ▼

Frequency of Publication ▼

D450

04

MARCH 2004

Annual

PREVIOUS OR ALTERNATIVE TITLES ▼

2

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 ☐ Domiciled in

United States

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 ☐ Other: Entire Text

NAME OF AUTHOR ▼

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☐ Collective Work ☐ Other:

3

YEAR IN WHICH CREATION OF THIS

ISSUE WAS COMPLETED

2004

This information must be given in all cases.

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR ISSUE

Complete this information ONLY if this work has been published.

Month *March* Day *26* 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. ▼

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MAR 30 2004

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MAR 30 2004

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Page 1 of 2 pages

EXAMINED BY	FORM 58
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.

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 5 712 336 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.

2003 Annual Book of ASTM Standards, Section 6, Volume 04.02

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.

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

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

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 rights)

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 ASTM International

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.

John Pace

Date 3-26-04

Handwritten signature (X) John Pace

Certificate will be mailed in window envelope to this address:

Name Kathe Hooper, ASTM International
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 fee
2. Nonrefundable filing fee in check or money order As of July 1, 1996, the filing fee for Form 58 is \$35.
3. Deposit material
Library of Congress Copyright Office
101 Independence Avenue, S.E.
Washington, D.C. 20540-8000

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

TX 5-996-821

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). D4329-19 TEST*

Volume ▼

0803

Number ▼

08

Date on Copies ▼

July 2004

Frequency of Publication ▼

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

OR 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

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 ▼

OR Domiciled in ▼

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Pseudonymous? ☐ Yes ☐ No

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☐ Collective Work

Other

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 ▼

OR 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

Other

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.

3

a YEAR IN WHICH CREATION OF THIS

ISSUE WAS COMPLETED

2004

Year

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

JUNE

Day

25

Year

2004

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 ▼

ASTM International

100 Barr Harbor Drive, PO Box C 700

West Conshohocken, PA 19380 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

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

ASTM000145

JA1416

EXAMINED BY <u>QMM</u>	FORM SE
CHECKED BY <u>2</u>	
<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 5 794 777 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 ▼

2005 Annual Book of ASTM Standards Section 08 Volume 08-03

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 ▼

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

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 ▼

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

Check only one ►

☐ author

☐ other copyright claimant

☐ owner of exclusive right(s)

☒ authorized agent of ASTM International

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

John Pace

Date ► 6-25-04

Handwritten signature (X) ▼

X

Certificate will be mailed in window envelope to this address

Name ▼

Kathe Hooper ASTM International

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 8

1 Application form
2 Nonrefundable filing fee in check or money order As of July 1 1999
3 Deposit material the filing fee for Form SE is \$38
Library of Congress
Copyright Office
101 Independence Avenue S E
Washington D C 20558-6000

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	534-158
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.	
	NAME OF AUTHOR: American Society for Testing and Materials	DATES OF BIRTH AND DEATH:
	Was this author's contribution to the work a "work made for hire"? Yes <input checked="" type="checkbox"/> No	Born Died
	AUTHOR'S NATIONALITY OR DOMICILE:	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK:
	Citizen of } or { Domiciled in U.S.A.	Anonymous? Yes No
	(Name of Country) (Name of Country)	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.
	Entire Text	
	NAME OF AUTHOR:	DATES OF BIRTH AND DEATH:
	Was this author's contribution to the work a "work made for hire"? Yes No	Born Died
	AUTHOR'S NATIONALITY OR DOMICILE:	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK:
	Citizen of } or { Domiciled in	Anonymous? Yes No
(Name of Country) (Name of Country)	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:	
Was this author's contribution to the work a "work made for hire"? Yes No	Born Died	
AUTHOR'S NATIONALITY OR DOMICILE:	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK:	
Citizen of } or { Domiciled in	Anonymous? Yes No	
(Name of Country) (Name of Country)	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:	DATE AND NATION OF FIRST PUBLICATION:
	Year: 1980 (This information must be given in all cases.)	Date: June 15 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
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Page 1 of 1

ASTM000147

JA1418

TX 1 534-158

EXAMINED BY: *dm*CHECKED BY: *dm*

18 AUG 1980

CORRESPONDENCE:

☐ Yes

DEPOSIT RECEIVED:

18 AUG 1980 18 AUG 1980

DEPOSIT ACCOUNT FUNDS USED:

☐

REMITTANCE NUMBER AND DATE:

346019 AUG 1980

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- 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 278-711 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 31

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, MD

7

Manufacturing

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- 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 phonorecordsb ☐ Copies Onlyc ☐ Phonorecords Only

8

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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, ASTMAddress: 1916 Race StreetPhiladelphia, PA 19103

(City) (State) (ZIP)

9

Fee and
Correspondence

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.

Handwritten signature: (X) Robert L. MeltzerTyped or printed name: Robert L. MeltzerDate: 7/31/80

10

Certification
(Application must be signed)American Society for Testing and Materials

(Name)

1916 Race Street

(Number, Street and Apartment Number)

Philadelphia

(City)

PA

(State)

19103

(ZIP code)

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.

U.S. GOVERNMENT PRINTING OFFICE: 1979-311-426/1

1-10-1980-000-000

ASTM000148

JA1419

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	534-160
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.	
	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: 1 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 If the answer to either of these questions is "Yes," see detailed instructions attached.
	AUTHOR OF: (Briefly describe nature of this author's contribution) Entire Text	
	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: 2 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 If the answer to either of these questions is "Yes," see detailed instructions attached.
	AUTHOR OF: (Briefly describe nature of this author's contribution)	
	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: 3 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 If the answer to either of these questions is "Yes," see detailed instructions attached.
AUTHOR OF: (Briefly describe nature of this author's contribution)		

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
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ASTM000149

JA1420

TX 1 - 534-160

CHECKED BY: *[Signature]*

18 AUG 1980

CORRESPONDENCE:

☐ Yes

DEPOSIT RECEIVED:

18 AUG 1980

18 AUG 1980

DEPOSIT ACCOUNT
FUNDS USED:☐

REMITTANCE NUMBER AND DATE:

346019

18 AUG 1980

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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)
 - ☐ 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 323-382 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 9

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, MD

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.

☒ Copies and phonorecords☐ Copies Only☐ 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

(City)

(State)

19103

(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:

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) *Robert L. Meltzer*

Typed or printed name: Robert L. Meltzer

Date: 7/31/80

10

Certification
(Application must be signed)

American Society for Testing and Materials

(Name)

1916 Race Street

(Number, Street and Apartment Number)

Philadelphia

(City)

PA

(State)

19103

(ZIP code)

MAIL
CERTIFICATE
TO17 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.

U.S. GOVERNMENT PRINTING OFFICE: 1980-311-474/1

Jan. 1980-400 000

ASTM000150

JA1421

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.

Wanda L. Lada

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		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 & 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 If the answer to either of these questions is "Yes," see detailed instructions attached.
		AUTHOR OF: (Briefly describe nature of this author's contribution) Entire Text	
	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 If the answer to either of these questions is "Yes," see detailed instructions attached.
		AUTHOR OF: (Briefly describe nature of this author's contribution)	
	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 If the answer to either of these questions is "Yes," see detailed instructions attached.
AUTHOR OF: (Briefly describe nature of this author's contribution)			

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
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- Sign the form at line 10

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ASTM000151

JA1422

USCA Case #17-7035

Document #17-15830

Filed 01/31/2018

Page 181 of 537

EXAMINED BY: <i>RUB</i>	APPROVED: <i>RUB</i>	FOR COPYRIGHT OFFICE USE ONLY
CHECKED BY: <i>RUB</i>	DEPOSIT RECEIVED: 11-13-19 0 11-13-19 0	
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... <i>X</i> ... No..... • 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 checked="" 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 ... <i>TX 339-440</i> ... Year of Registration ... <i>1979</i>	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.) <i>1979 Annual Book of ASTM Standards, Part 30</i> 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.) <i>Compilation of previously published text plus additional text</i>	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 <i>Waverly Press, Inc.</i> PLACES OF MANUFACTURE <i>Easton, Maryland</i>	7 Manufacturing
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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. 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: <i>Robert L. Meltzer</i> Address: <i>1916 Race Street</i> <i>Philadelphia, Pa. 19103</i> (City) (State) (ZIP)	9 Fee and Correspondence
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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: <i>Materials</i> (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: <i>Robert L. Meltzer</i> Date: <i>9/22/80</i>	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)	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 any written statement filed in connection with the application, shall be fined not more than \$2,500.

U.S. GOVERNMENT PRINTING OFFICE: 1980-311474/1

Jan 1980 200/1

ASTM000152

JA1423

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	626-132
TX	TXU
EFFECTIVE DATE OF REGISTRATION	
2	11
(Month)	(Day)
19	
(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	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"/> 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) 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.
	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) 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	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:	DATE AND NATION OF FIRST PUBLICATION:
	Year 1980 (This information must be given in all cases.)	Date: November 10 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
 Page 1 of ... 2 ... pages

ASTM000153

JA1424

TX: 626-132

EXAMINED BY: CHECKED BY: CORRESPONDENCE: <input type="checkbox"/> Yes	APPLICATION RECEIVED: FEB 11 1981 FEB 11 1981
DEPOSIT ACCOUNT FUNDS USED: <input type="checkbox"/>	REMITTANCE NUMBER AND DATE: 142731 FEB 11 81

FOR
 COPYRIGHT
 OFFICE
 USE
 ONLY

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 500-153 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 32

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.

☒ Copies and phonorecords

☐ Copies Only

☐ 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

☐ 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)

Typed or printed name: Robert L. Meltzer

Date: 1/12/81

10

Certification
 (Applicant must sign)

American Society for Testing and Materials

(Name)

1916 Race Street

(Number, Street and Apartment Number)

Philadelphia

(City)

PA

(State)

19103

(ZIP code)

MAIL
 CERTIFICATE
 TO

(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.

U.S. GOVERNMENT PRINTING OFFICE: 1980-311-425/9

May 1980-100

ASTM000154

JA1425

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 Recd

ASTM
PUBLICATION DIVISION

David L. Ladd

REGISTER OF COPYRIGHTS
United States of America

REGISTRATION NUMBER	
TX 	648-346
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		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 & 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 U.S.A. (Name of Country) (Name of Country)	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."
	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 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 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 June 25 1980 (Month) (Day) (Year) Nation United States (Name of Country) (Complete this block ONLY if this work has been published.)
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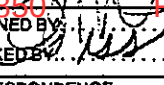

4 Claimant(s)	NAME(S) AND ADDRESS(ES) OF COPYRIGHT CLAIMANT(S): American Society for Testing and Materials 1916 Race Street Philadelphia, PA 19103
	TRANSFER: (If the copyright claimant(s) named here in space 4 are different from the author(s) named in space 2, give a brief statement of how the claimant(s)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

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 • Follow detailed instructions attached

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TX 648-346	EXAMINED BY:  CHECKED BY: 	APPLIC. ON RECEIVED: MAR 11 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	

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

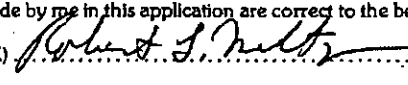
PREVIOUS REGISTRATION: • Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office? Yes...X... No..... • If your answer is "Yes," why is another registration being sought? (Check appropriate box) <input type="checkbox"/> This is the first published 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... TX 278-710 Year of Registration 1979	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.) { 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.) <table border="1"> <tr> <th>NAMES OF MANUFACTURERS</th> <th>PLACES OF MANUFACTURE</th> </tr> <tr> <td>Waverly Press, Inc.</td> <td>Easton, MD</td> </tr> </table>	NAMES OF MANUFACTURERS	PLACES OF MANUFACTURE	Waverly Press, Inc.	Easton, MD	7 Manufacturing
NAMES OF MANUFACTURERS	PLACES OF MANUFACTURE				
Waverly Press, Inc.	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, ASTM Address: 1916 Race Street Philadelphia, PA 19103 (City) (State) (ZIP)	9 Fee and Correspondence
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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: 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)  Typed or printed name: Robert L. Meltzer Date: 2/24/81	10 Certification (Applicant must be signed)
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...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 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

ASTM000156

JA1427

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.

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; Vitrified 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	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 If the answer to either of these questions is "Yes, see detailed instructions attached.
		AUTHOR OF: (Briefly describe nature of this author's contribution) Entire Text	
	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 If the answer to either of these questions is "Yes, see detailed instructions attached.
		AUTHOR OF: (Briefly describe nature of this author's contribution)	
	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 If the answer to either of these questions is "Yes, see detailed instructions attached.
AUTHOR OF: (Briefly describe nature of this author's contribution)			

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.)

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

DO NOT WRITE HERE

ASTM000157

JA1428

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	

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 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.) { 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.) <table> <tr> <th>NAMES OF MANUFACTURERS</th> <th>PLACES OF MANUFACTURE</th> </tr> <tr> <td>Waverly Press, Inc.</td> <td>Easton, MD</td> </tr> </table>	NAMES OF MANUFACTURERS	PLACES OF MANUFACTURE	Waverly Press, Inc.	Easton, MD	7 Manufactur- ing
NAMES OF MANUFACTURERS	PLACES OF MANUFACTURE				
Waverly Press, Inc.	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. <p>a <input checked="" type="checkbox"/> Copies and phonorecords b <input type="checkbox"/> Copies Only c <input type="checkbox"/> Phonorecords Only</p>	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 (City) (State) (ZIP)	9 Fee and Correspond- ence
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------

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 1916 Race Street Philadelphia, PA 19103 (City) (State) (ZIP code)	MAIL CERTIFICATE TO (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



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.

Maurin 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 Specificalton 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

USCA Case #17-7035 Document #1715850

Filed: 01/31/2018

Page 190 of 537



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

USCA Case # 17-7035 Document #1715850

Filed: 01/31/2018

Page 192 of 537



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

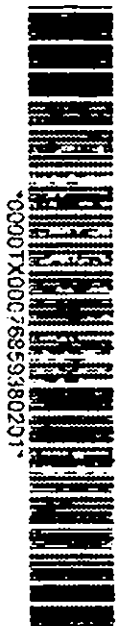
Address: 100 Barr Harbor Drive

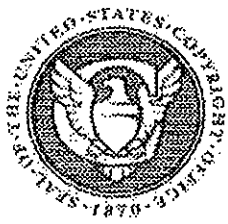
West Conshohocken, PA 19428 United States

Certification

Name: Kathleen Hooper

Date: March 1, 2013





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



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



EXHIBIT 15



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

RE **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

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

OR 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

OR 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

OR 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

2003

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 2 Day 6 Year 2003

ONLY if this work has been published.

USA

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
 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 2004

ONE DEPOSIT RECEIVED

JAN 30 2004

TWO DEPOSITS RECEIVED

FUNDS RECEIVED

DO NOT WRITE IN 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

JA1441

NFPA-PR0020354

EXAMINED BY <i>RK</i>	FORM TX
CHECKED BY <i>RK</i>	
<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 ▼

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 02260

Area code and daytime telephone number ► 617 984-2737

Fax number ► 617 984 7222

Email ►

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. 20540-6222

Fee fee subject to
change. For current
fee, check the
Copyright Office
website at
www.copyright.gov.
with the Copyright
Office, or call
(202) 707-5900.

9

17 USC § 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.



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
#TX0006261668
EFFECTIVE DATE OF REGISTRATION
NOV 04 2005
Month Day Year

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, CONTINUE ON SEPARATE 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

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.

NAME OF AUTHOR ▼

b

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 ▼

NAME OF AUTHOR ▼

c

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

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 8 Day 18 Year 2005

Complete this information ONLY if this work has been published. Country

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.

JAI443

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 *AD*

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 5-970-602

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

a

6

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

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) ▲

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 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.
Write the Copyright
Office, or call
(202) 707-9000

9



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

REI

TX 5-752-623



#1700057532234

EFFECTIVE DATE OF REGISTRATION

12 30 07
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

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 ▼

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
2002
This information must be given in all cases.

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
Nation

4

See Instructions before completing this space.
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 12-30-07
ONE DEPOSIT RECEIVED
TWO DEPOSITS RECEIVED
12-30-07
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 9.

DO NOT WRITE HERE
Page 1 of 2 pages

JA1445

NFPA-PR0020358

EXAMINED BY <i>JS</i>	FORM TX
CHECKED BY	
<input checked="" type="checkbox"/> CORRESPONDENCE	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 5430-865* Year of Registration ▶ *2001*

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

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*

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
• SIGN ALL 3 ENVELOPES 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

Fees are subject to change. For current fees, check the Copyright Office website at www.copyright.gov, write the Copyright Office, or call (802) 787-3000.

*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.



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

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

OR 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 Briefly describe nature of material created by this author in which copyright is claimed ▼

Entirety

NAME OF AUTHOR ▼

b

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? ☐ 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 ▼

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

OR Citizen of

OR 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 in all cases

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

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
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

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

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 4-068-536

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

a 6

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

E-mail ► nzagrodny@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

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 Association

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.
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

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not to be
reproduced
without the
written consent
of the Copyright
Office, U.S. Library
of Congress
(202) 707-6000

9



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 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 ▼

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 ▼

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

YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED This information must be given in all cases. 2005

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

EXAMINED BY KM 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

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 ▼

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@nfpas.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

National Fire Protection Association

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

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

1001-1002
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 Registrar of Copyrights
3. Deposit material

Library of Congress
Copyright Office TX
101 Independence Avenue, 6 E
Washington, D.C. 20540-8222

Free will return is
shown. For return
fee, check the
Copyright Office
envelope or
check the Copyright
Office at 205
(202) 707-6000



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 **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

See instructions before completing this space.

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 5-8) on the reverse side of this page.
 • See detailed instructions. • Sign the form at the B.

DO NOT WRITE HERE
 Page 1 of 2 pages

JA1451

EXAMINED BY	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.

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 5 371-909

Year of Registration > 4/13/2001

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

DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established at 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 - NFPA
1 Batterymarch Park
Quincy, MA 02269

Area code and daytime telephone number > 617-084-7237

Fax number > 617-984-7222

E-mail >

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 > 12/17/03

Handwritten Signature (X) >

x *Nanci Kelly*

Certificates will be mailed in window envelope to this address:

Name >

Nanci Kelly-NFPA

Number/Street/Apt. >

1 Batterymarch Park

City/State/ZIP >

Quincy, MA 02269

Complete all necessary spaces.
Sign your application in space 9.

1. Application form
2. Nonreturnable 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

How an applicant signs the form is important. If the signature is not legible, the Copyright Office will not accept the application.

17 U.S.C. § 506(c): Any person who knowingly misrepresents 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.

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U.S. Government Printing Office: 2000-481-113/20 021

JA1452

NFPA-PR0020365



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



For a Nondramatic Literary Work
UNITED STATES COPYRIGHT OFFICE

REGIS

TX 6-261-666



#TX0006261666#

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

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 ▼

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

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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 This information must be given in all cases. 2005

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

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
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

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OFFICE USE ONLY

MORE ON BACK ▶

• Complete all applicable spaces (numbers 5-9) on the reverse side of this page.
• See detailed instructions

JAI453

DO NOT WRITE HERE

Page 1 of 2 pages

USCA Case #17-7035 Document #1715850

Filed: 01/31/2018 Page 212 of 537
EXAMINED BY DD FORM TX

*Amended by C.O. from phone call to Nancy Zagrodny on January 4, 2006.

CHECKED BY

☐ CORRESPONDENCE
YesFOR
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 formb. ☐ This is the first application submitted by this author as copyright claimantc. ☐ 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

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

a

6

See instructions
before completing
this space

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 ▼

Some new and revised 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
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

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 Association

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 ZagrodnyCertificate
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:

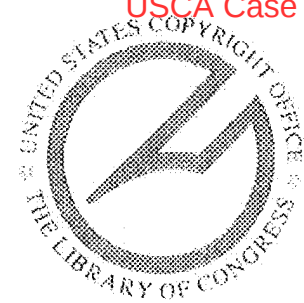
Library of Congress
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101 Independence Avenue, S.E.
Washington, D.C. 20559-6222Fees are subject to
change. For current
fees, check the
Copyright Office
website at
www.copyright.gov.
Write the Copyright
Office, or call
(202) 707-9000

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

JA1454

NFPA-PR0020367



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.

Margbeth Peters

REGISTER OF COPYRIGHTS
1009 E Street, NE Washington, DC 20003-4001
202-755-1772

FORM TX
For a Nondramatic Literary Work
UNITED STATES COPYRIGHT OFFICE

TX 5-401-672



#172005401672

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

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 ENTIRETY 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 ▼ 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. ▼

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 ▼ 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. ▼

3

YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED

2001

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK

Month: January Day: 10 Year: 2001

Year in all cases. Complete this information ONLY if this work has been published. 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
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. ▼

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AUG 24, 2001

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TWO DEPOSITS RECEIVED

AUG 24, 2001

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• Complete all applicable spaces (numbers 5-9) on the reverse side of this page.
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Page 1 of 2 pages

JA1455

EXAMINED BY FORM TX
CHECKED BY
☐ CORRESPONDENCE
Yes

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COPYRIGHT
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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 ▶

2000

DERIVATIVE WORK OR COMPILATION

Existing 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

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 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

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 Assoc.

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

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 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 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
101 Independence Avenue, S.E.
Washington, D.C. 20559-6000

As of July 1, 1999, the filing fee for Form TX is \$30.



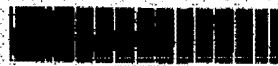
This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Margbeth Peters

Register of Copyrights, United States of America

Form TX
For a Nondramatic Literary Work
UNITED STATES COPYRIGHT OFFICE

TX 5-956-112



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

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 ▼

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 ▼

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

2004 This information must be given in all cases.

b DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK

Month 2 Day 12 Year 2004

USA Complete this information ONLY if this work has been published

Country

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 ▼

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ONE DEPOSIT RECEIVED

APR 26 2004

TWO DEPOSITS RECEIVED

FUNDS RECEIVED

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Sign the form at line 8
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Page 1 of 2

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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 formb ☐ This is the first application submitted by this author as copyright claimantc ☐ 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

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

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 02169

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)

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

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 materialLibrary of Congress
Copyright Office, TX
101 Independence Avenue, S.E.
Washington, D.C. 20559-6222File an initial
copyright notice
with the Copyright
Office, or call
(800) 771-0700

Certificate of Registration



Form TX

For a Nondramatic Literary Work
UNITED STATES COPYRIGHT OFFICE

TX 5-953-205



EFFECTIVE DATE OF REGISTRATION

4 26 01
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

1

TITLE OF THIS WORK ▼

NFPA 59 Utility LP Gas Plant Code 2004 Edition

PREVIOUS OR ALTERNATIVE TITLES ▼

NFPA 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 ▼**

If published in a periodical or serial, give: **Volume ▼** **Number ▼** **Issue Date ▼** **On Pages ▼**

2

NAME OF AUTHOR ▼

a 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 ▶

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 ▼

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 ▼

b

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 ▼

NAME OF AUTHOR ▼

c

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

YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED

2004

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 ▶ 2 Day ▶ 12 Year ▶ 2004

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
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

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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.

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Page 1 of 2 pages

JAI459

EXAMINED BY <u>lbo</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 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

a 6

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 ▼

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 ▶ 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

YOU MUST
Complete all necessary spaces
Sign your application in space 8

ATTENTION
PLEASE READ CAREFULLY

- 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 20540-6222

Fees are subject to change. For current fees, visit the Copyright Office website at www.copyright.gov or call (202) 707-9000

9



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
UNITED STATES COPYRIGHT OFFICE
REGISTRATION NUMBER
TX 4-092-419
EFFECTIVE DATE OF REGISTRATION
NOV 04 1998
Month Day Year

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

TITLE OF THIS WORK

1
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
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 U.S.A.
Domiciled in

WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK
Anonymous? ☐ Yes ☒ No
Pseudonym? ☐ 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. ENTIRETY

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
Pseudonym? ☐ Yes ☒ No
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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
Pseudonym? ☐ 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
4
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

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

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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.
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JAT461

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☐ DEPOSIT ACCOUNT
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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) ▼

☐ 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

DERIVATIVE WORK OR COMPILATION Complete both spaces 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. ▼

Corrections and additions made throughout.

—space deleted—

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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 ▼

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

Area Code & Telephone Number ▼

617-984-7237

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 National Fire Protection Association

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 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

Handwritten signature (X) ▼

Denise McNamara-Tiller

MAIL
CERTIFICATE TO

Name ▼

Denise McNamara-Tiller

Number/Street/Apartment Number ▼

One Batterymarch Park, P.O. Box 9101

City/State/ZIP ▼

Quincy, MA 02269-9101

certificates
will be
mailed in
indow
velope

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

Certificate of Registration

USCA Case #17-7085 Document #1715850

Filed: 01/31/2018 Page 221 of 537



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.

Margareth Peters

Register of Copyrights, United States of America



Form TX

For a Nondramatic Literary Work
UNITED STATES COPYRIGHT OFFICE

REF - -

TX 6-108-410



EFFECTIVE DATE OF REGISTRATION

2 5 2005
Month Day Year

ATE 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

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

NAME OF AUTHOR ▼

b

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 ▼

NAME OF AUTHOR ▼

c

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

YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED

2004

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 ► 8 Year ► 2004

ONLY if this work has been published

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
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 ▼

FEB 03 2005

ONE DEPOSIT RECEIVED

FEB 05 2005

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

JA1463

DO NOT WRITE HERE

Page 1 of 2 pages

NFPA-PR0020376

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 5 457 611

Year of Registration ▶ 2002

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

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)

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

or authorized agent of 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*

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

1. Payment of fee in cash or money order payable to Registrar of Copyrights
2. Non-refundable filing fee in check or money order payable to Registrar of Copyrights
3. Payment of fee in cash or money order payable to Registrar of Copyrights
4. Payment of fee in cash or money order payable to Registrar of Copyrights
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99. Payment of fee in cash or money order payable to Registrar of Copyrights
100. Payment of fee in cash or money order payable to Registrar of Copyrights

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 405 or in any written statement filed in connection with the application shall be fined not more than \$2,500

JA1464

NFPA-PR0020377



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



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

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 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

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

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. ▼

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

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

◀ 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
 1 Battery March 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

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

JA1466

*Amended by C.O. from phone call to
Nanci Kelly on Nov 13, 2003.

EXAMINED BY	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 5-121-992

Year of Registration ▶

12/23/99

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

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 02169

Area code and daytime telephone number ▶ 617-984-7237

Fax number ▶ 617-984-7222

E-mail ▶

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 ▶ 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

YOU MUST

• Complete all necessary spaces
• Sign your application in space 6

SEND ALL 50¢ FEE
WITH NAME PACKAGE

1. Application form
2. Non-refundable 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. 20540-0001

For the subject to
be mailed in
window envelope,
check the
copyright office
envelope of
this copyright act
to be the Copyright
Office, in full
(pg) 101-100.

*17 U.S.C. § 505(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 \$2,000.

Rev. June 2002—20,000 Web Rev. June 2002 © Printed on recycled paper

U.S. Government Printing Office: 2000-481-113/20,021

JA1467

NFPA-PR0020380



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**



TX0006153939

EFFECTIVE DATE OF REGISTRATION

3 28 2005
Month Day Year

DO NOT WRITE ABOVE THIS LINE. FOR REEL-TO-REEL FILM, 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

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.

NAME OF AUTHOR ▼

b

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. ▼

NAME OF AUTHOR ▼

c

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

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
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
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

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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 9.

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Page 1 of 8 pages

JAI468

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 5-584-948

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

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. ▼

Some new and revised text

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

8

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 ▶ 3/22/05

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

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 - 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.
Write the Copyright
Office, or call
(202) 707-5949.

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

JA1469

NFPA-PR0020382

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 5-371-918



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

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 USA
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. ☐ ENTIRELY

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

b 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

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

NAME OF AUTHOR

c 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

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

2000

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 20 Year 2000

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
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 5-8) 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

JA1470

EXAMINED BY AK 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.) ☒ Y

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

Preceding Material: Identify any preceding work or works that this work is based on or incorporates. Y

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. Y

Corrections and additions made throughout

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 Y Account Number Y

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

Nanci Kelly

NFPA

One Batterymarch Park

Quincy, MA 02269-9101 617-984-7237

Area code and daytime telephone number Y

Fax number 617-984-7222

E-mail Y

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

Check only one Y

☒ 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) A

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 Y If this application gives a date of publication in space 8, do not sign and submit it before that date.

Nanci Kelly

Date 4/4/01

Handwritten signature CO Y

Nanci Kelly

Certificate will be mailed in window envelope to this address:

Name Y Nanci Kelly
National Fire Protection Association
Number/Street/Apt Y
One Batterymarch Park
City/State/ZIP Y
Quincy, MA 02269-9101

9
1. Application form
2. Non-refundable filing fee in check or money order As of July 1, 1998, the filing fee for Form TX is \$30.
3. Deposit material
Library of Congress
Copyright Office
101 Independence Avenue, S.E.
Washington, D.C. 20540-6000

17 U.S.C. § 405: Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 402, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.
June 1998 - 200,000
WEB REV. June 1999
A.U.S. GOVERNMENT PRINTING OFFICE: 1999-454-879/40

JA1471



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 5-841-134



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

NAME OF AUTHOR ▼

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

ENTIRETY

NAME OF AUTHOR ▼

b

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 ▼

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

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

a 2003

This information must be given in all cases.

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK

b Complete this information ONLY if this work has been published.

Month ► 1 - * 2 Day ► 2 - * 6 Year ► 2003

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

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

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 5.

DO NOT WRITE HERE

Page 1 of 2 Pages

JA1472

*Amended by C.O. from phone call to
Nanci Kelly on Nov 13, 2003.

EXAMINED BY	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.

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 ▶ TX5-371-918

Year of Registration ▶ 2000

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

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 02169

Area code and daytime telephone number ▶ 617-984-7237

Fax number ▶ 617-984-72222

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

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) ▲

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) ▼

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 8

BIND A 151 PRINT
IN THE SAME PACKAGE

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

U.S. TO
Library of Congress
Copyright Office
101 Independence Avenue, S.E.
Washington, D.C. 20540-9000

Fees are subject to
change. For current
fees, check the
Copyright Office
website at
www.copyright.gov
or call
(202) 707-9000.

*17 U.S.C. § 505(a): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by Section 202, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

Rec June 2002—20,000 Web Rev: June 2002 © Printed on recycled paper

U.S. Government Printing Office: 2000-461-113/20,021

JA1473

NFPA-PR0020386



Form TX

For a Nondramatic Literary Work
UNITED STATES COPYRIGHT OFFICE

REGISTRATION NUMBER

TX 6-294-334



TX0006294334

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 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 ☐ NoAUTHOR'S NATIONALITY OR DOMICILE
Name of CountryOR { Citizen of ► USA
Domiciled in ►WAS THIS AUTHOR'S CONTRIBUTION TO
THE WORKAnonymous? ☐ Yes ☒ No
Pseudonymous? ☐ Yes ☒ NoIf 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. ▼

b NAME OF AUTHOR ▼

Was this contribution to the work a
"work made for hire"? ☐ Yes ☐ NoAUTHOR'S NATIONALITY OR DOMICILE
Name of CountryOR { Citizen of ►
Domiciled in ►DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼WAS THIS AUTHOR'S CONTRIBUTION TO
THE WORKAnonymous? ☐ Yes ☐ No
Pseudonymous? ☐ Yes ☐ NoIf 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 ☐ NoAUTHOR'S NATIONALITY OR DOMICILE
Name of CountryOR { Citizen of ►
Domiciled in ►DATES OF BIRTH AND DEATH
Year Born ▼ Year Died ▼WAS THIS AUTHOR'S CONTRIBUTION TO
THE WORKAnonymous? ☐ Yes ☐ No
Pseudonymous? ☐ Yes ☐ NoIf 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.

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

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
Quincy, MA 02169

APPLICATION RECEIVED

NOV 04 2005

ONE DEPOSIT RECEIVED

NOV 04 2005

1, 20.06

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. ▼

MORE ON BACK ►


• Complete all applicable spaces (numbers 5-9) on the reverse side of this page.
• See detailed instructions.

SIGNATURE OF CLAIMANT

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 	FORM TX
CHECKED BY	
<input checked="" 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 5-841-134

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

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. ▼

Some new and revised text

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@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

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 Association

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

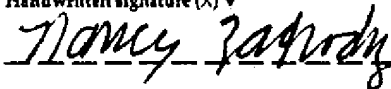
8

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 

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

POSTAGE
 • 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

2. An 10
 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) 707-9000.

9



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



EFFECTIVE DATE OF REGISTRATION

10 18 06
Month Day Year

DO NOT WRITE ABOVE THIS LINE FOR NEED MORE SPACE, USE SEPARATE 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

NAME OF AUTHOR ▼

a 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 ►

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.

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. ▼
Entirety

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.

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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 ▼

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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
2006
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 ► 8 Day ► 17 Year ► 2006
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 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

DO NOT WRITE HERE
OFFICE USE ONLY

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 the bottom.

JAI476

DO NOT WRITE HERE
Page 1 of 2 pages

☐ 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

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. ▼

Some new and revised 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 ▼

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 ▶ 10/13/06

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 FEELINGS
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 is subject to change. For current fees, check the Copyright Office website at www.copyright.gov, write the Copyright Office, or call (202) 707-9000.

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.

USCA Case #17-7035 Document #1715850
Certificate of Registration

Filed: 01/31/2018 Page 236 of 537



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

JA1479



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

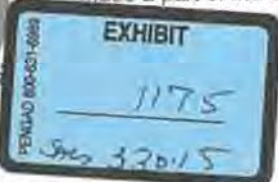
Name: Nancy M. Zagrodny

Date: July 14, 2014

EXHIBIT 16



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 IX

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
Complete this information
ONLY if this work
has been published.
Month ▼ May Day ▼ 15 Year ▼ 1993
USA
Nation

4

See instructions
before completing
this space.

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

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

ONE DEPOSIT RECEIVED

TWO DEPOSITS RECEIVED

FUNDS RECEIVED

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. • Sign the form at line 10.

DO NOT WRITE HERE
Page 1 of 2 pages

JA1482

ASHRAE0001590

EXAMINED BY	30/14	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 2 621 082

Year of Registration ▼

1989

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

—space deleted—

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.

☐ Copies and Phonorecords

☐ Copies Only

☐ 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 ▼ American Society of Heating, Refriger-

ating and Air-Conditioning Engineers, Inc.

Account Number ▼ DA019739

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

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

MAIL
CERTIFI-
CATE 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 1998. Please contact the Copyright Office after July 1998 to determine the actual fee schedule.

*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.

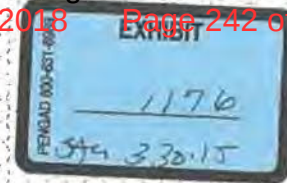
Certificate of Registration



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.

Maura 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 PUBLS

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

Author Created: Inc., dba ASHRAE
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

Name: Air-Conditioning Engineers Inc.
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





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

RECEIVED

JUN 18 2008

SPECIAL PUBLS

Registration Number:

TX 6-842-936

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 (1-P Edition)

PREVIOUS OR ALTERNATIVE TITLES

ANSI/ASHRAE/IESNA Standard 90 1-2001, Energy Standard for Buildings Except Low-Rise Residential Buildings (1-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

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 U.S.A.

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

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

Provide minimum requirements for energy-efficient design of bldgs except low-rise residential bldgs

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

2004 Year

b DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK

Complete this information ONLY if this work has been published. Month Day Year
December 21 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
DEC 30 2004
ONE DEPOSIT RECEIVED

TWO DEPOSITS RECEIVED
DEC 30 2004
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

JA1488

ASHRAE0001596

RECEIVED
FEB 25 2005
SPECIAL PUBS

EXAMINED BY <u>HLM</u>	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 5-662-106

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

a

6

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 ▼

Editorial revisions and additional material

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 ▼

ASHRAE

DA 019739

a

7

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

b

Area code and daytime telephone number ▶ (678) 539-1154

Fax number ▶ (678) 539-2191

Email ▶ mgeshwiler@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 ASHRAE

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

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
* 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. 20540-6222

Fees are subject to
change. For current
fees, consult the
Copyright Office
website at
www.copyright.gov
or call the Copyright
Office at toll
(800) 771 3300

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.

Rev. July 2003—xix Web Rev. July 2003 © Printed on recycled paper.

U.S. Government Printing Office: 2000-461-113/20 021

JA1489

ASHRAE0001597

EXHIBIT 23



ASTM Standards, Regulations & Trade

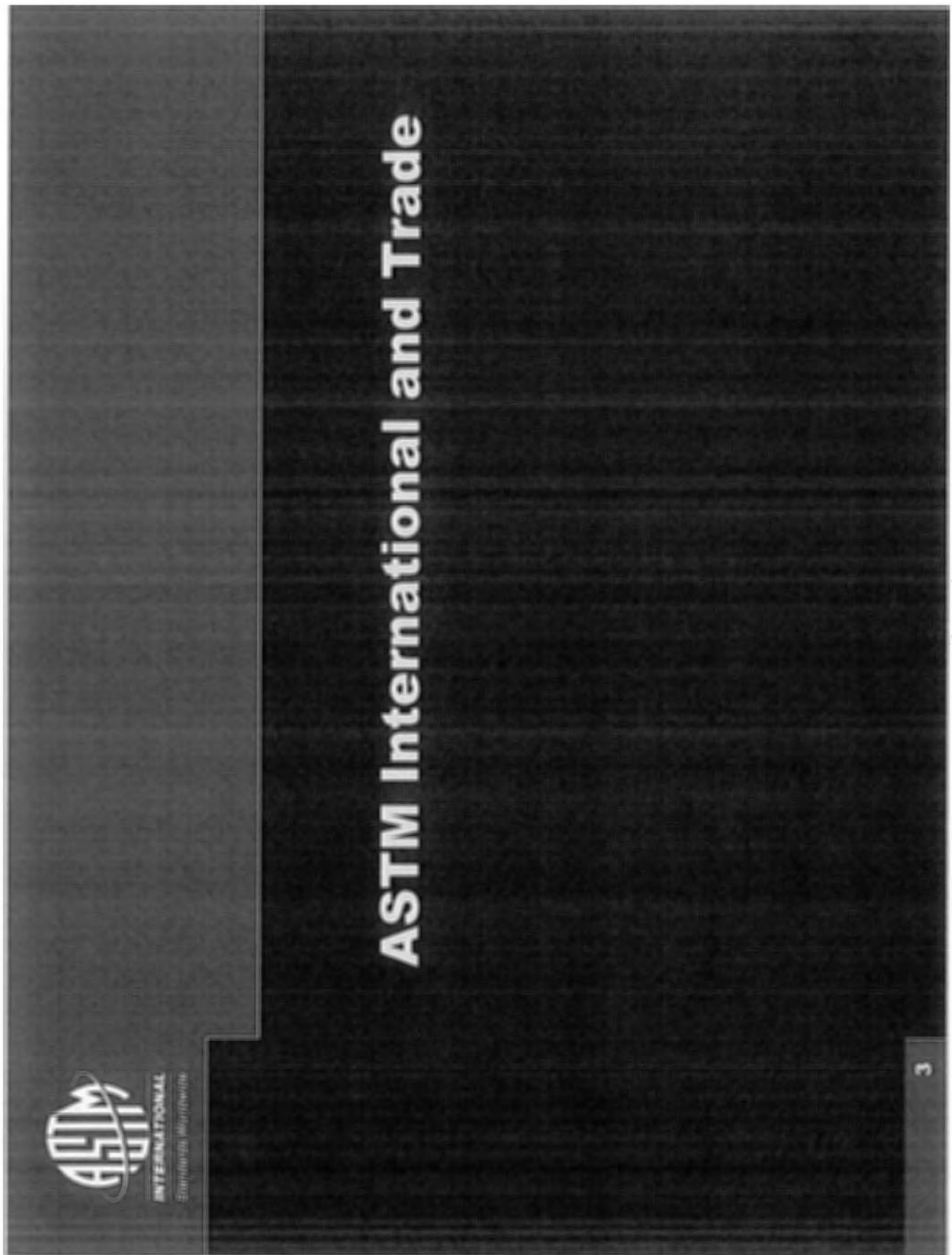
Jeff Grove
VP – Global Policy & Industry Affairs
ASTM Washington Office

ASTM International / Russian Federal Agency on
Technical Regulating and Metrology Coordinated
Program, Orlando Florida



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.



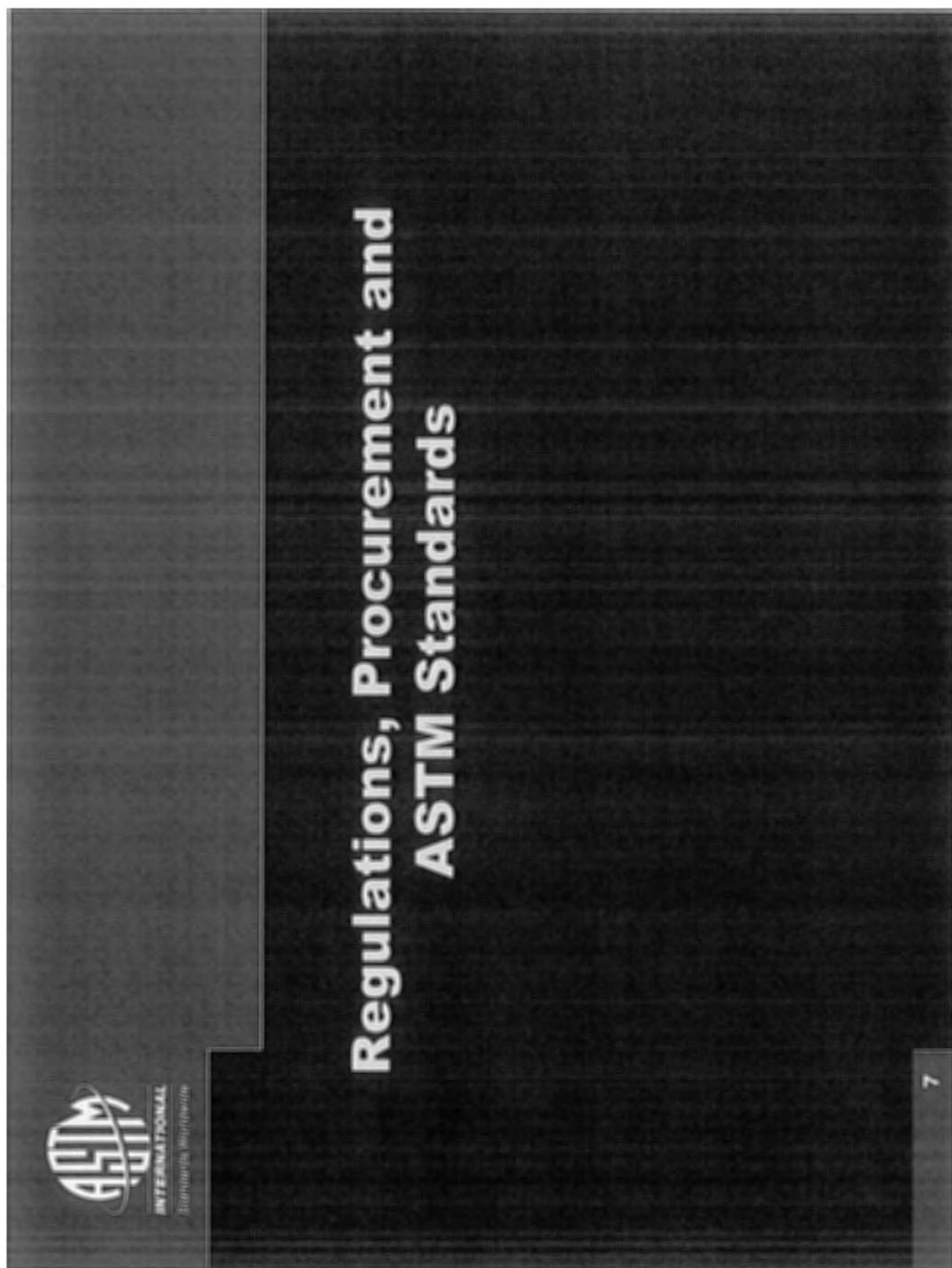
ASTM Complies with WTO

- 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>



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
<u>Reprographic Technologies</u>		348
<u>Underwriters Laboratories, Inc.</u>	UL	339
<u>State of Illinois, Administrative Code</u>	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



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 (22)	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	EUROPE Members* FINLAND 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).



Summary: Benefits of Working with ASTM International



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



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

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 <kmcclung@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?**

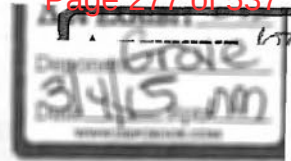
I look forward to your response. Thank you,

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

EXHIBIT 26

Incorporation by Reference Public Workshop
Pipeline & Hazardous Materials Safety Administration
U.S. Department of Transportation
West Building, Media Center
Friday, July 13, 2012



Scott Cooper

Vice President of Public Policy and Government Relations
American National Standards Institute

July 13, 2012

Jeff Grove

Vice President of Global Policy and Industry Affairs
ASTM International

July 13, 2012

JA1521

PHMSA Public Workshop: Implementing the Incorporation by Reference Requirements of the Pipeline Safety Act of 2011

Jeff Grove
Vice President
Global Policy & Industry Affairs
ASTM International

July 13, 2012



JA1522

ASTM INTERNATIONAL

ASTM International

Established in 1898

- Private sector, not for profit organization
- Venue for the development of voluntary, consensus standards
 - Enhance health, safety and quality of life
 - Ensure reliability of materials and products
 - Facilitate trade worldwide



Standards Worldwide

July 13, 2012

PHMSA/ASTM Standards

- A106/A106M
- A333/A333M
- A372/A372M
- A381
- A53/A53M
- A671
- A672
- A691
- D2517
- D638
- F1055
- D2513



July 13, 2012

Technical Knowledge

- The references are highly technical specifications, requirements, and methods of testing for things such as
 - Carbon and alloy steel pipe at various temperatures
 - Epoxy resins and plastics in pipes
- Limited value to the general public



Standards Worldwide

July 13, 2012

Access During Rulemakings

- ASTM provides public access to standards incorporated by reference during public review periods of PHMSA rulemakings
- Consistent with Sec 24 as access is provided at no cost on a website
- Currently providing access to ASTM D2517 as part of a PHMSA NPRM

July 13, 2012



ASTM INTERNATIONAL

Sec 24 Impacts ASTM

- Sec 24 conflicts with goals of the NTTAA and OMB Circular A119 which have been effective in utilizing standards in support of regulations
- Threatens public-private collaboration that has worked for over 100 years
- Underestimates the costs and process of developing high quality standards



Standards Worldwide

July 13, 2012

Reasonable Access

- ASTM strives to provide reasonable access to standards incorporated by reference by PHMSA
- The list price for these 12 standards range from \$40 to \$57 each which is a fair price for the technical knowledge

Many of the producers, users and inspectors of pipeline materials and products access these standards at no cost as a benefit of their ASTM membership.

Many others access the documents far-below the list prices through commercial agreements and site-license agreements

- Our approach is to be flexible, reasonable and fair, and to work with stakeholders to find an access model that works

July 13, 2012



ASTM INTERNATIONAL

Costs of Standards Development

- Investment in technology
 - Electronic standards templates
 - Electronic balloting and editing
 - On-line collaborative platform
 - Virtual meeting technology
 - Web-based resources
- Supporting programs/products
 - ILS, PTP, Symposia/Workshops, Certification, Training, Videos
- ANSI Accreditation
- Maintain offices worldwide and a professional staff to support standards development and distribution



Standards Worldwide

July 13, 2012

Development Models

- What model works best to pay for the production of standards?
- Under the ASTM model

Costs are spread amongst thousands of users

\$75 annual membership gives access to many who need it

No projects fees or front-loaded costs

July 13, 2012



ASTM INTERNATIONAL

ASTM Model Works

- Produces high-quality standards
- Provides value to ASTM members, the public and the government
 - Particularly benefits SME's and individuals who engage on a volunteer basis without corporate funding
- Difficult for the government to replicate
 - Costly to government to duplicate efforts
 - Public/Private collaboration may be chilled
 - Quality and Efficiency could be at risk



July 13, 2012

Summary/Pathway Forward

- We are sensitive to the challenges Sec 24 places on PHMSA.
- We already provide public access during rulemakings and make standards available on a reasonable basis.
- To implement Sec 24, one pathway is to collaborate on an agreement that provides public access without fundamentally changing the core of our existing model.

July 13, 2012



ASTM INTERNATIONAL

Thank you

Contact Information:

ASTM International
100 Barr Harbor Drive
West Conshohocken, PA

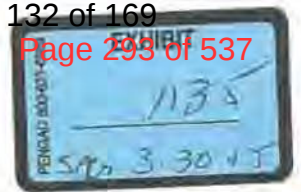
Jim Thomas, President – jthomas@astm.org
John Pace, VP, Publications – jpace@astm.org
Jeff Grove, VP, Government and Industry Affairs –
jgrove@astm.org



www.astm.org

July 13, 2012

EXHIBIT 28



CM SUBMITTAL FORM

NOTE: Use separate form for each comment. Submittals (MS Word 2000 preferred) may be attached to e-mail (preferred), submitted on diskettes or CD, or submitted in paper by mail or fax to ASHRAE, Manager of Standards, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: change.proposal@ashrae.org. Fax +1-404/321-5478.

1. **Submitter:**

Affiliation:

Address:

City:

State:

Zip:

Country:

Telephone:

Fax:

E-Mail:

① I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive rights in copyright, in my proposals. I understand that I acquire no rights in publication of the standard in which my proposals in this, or other analogous, form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

Submitter's signature: All electronic submittals must complete the following statement:

② I (insert name) _____, through this electronic signature, hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive royalty rights, including non-exclusive royalty rights in copyright, in my proposals and I understand that I acquire no rights in publication of this standard in which my proposals in this or other similar analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

2. **Number and year of standard:**

3. **Clause (section), sub-clause or paragraph number; and page number:**

4. **I propose to:** ☐ Change to read as follows ☐ Delete and substitute as follows
(check one) ☐ Add new text as follows ☐ Delete without substitution

Use underscores to show material to be added (added) and strike through material to be deleted (~~deleted~~). Use additional pages if needed.

5. **Proposed change:**

6. **Reason and substantiation:**

7. **Will the proposed change increase the cost of engineering or construction? If yes, provide a brief explanation as to why the increase is justified.**

☐ Check if additional pages are attached. Number of additional pages:

☐ Check if attachments or referenced materials cited in this proposal accompany this proposed change. Please verify that all attachments and references are relevant, current, and clearly labeled to avoid processing and review delays. Please list your attachments here:

Revised 1-30-2006

ASHRAE0022819

JA1535

EXHIBIT 44



APPLICATION FOR PROJECT COMMITTEE ORGANIZATIONAL
REPRESENTATIVE MEMBERSHIP

Part 1 of 2



1. ASHRAE Project Committee (Please use a separate form for each committee)

- ☐ SSPC 34 Designation and Safety Classification of Refrigerants
☐ SSPC 62.1 Ventilation for Acceptable Indoor Air Quality
☐ SSPC 62.2 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings
☐ SSPC 90.1 Energy Standard for Buildings Except Low-Rise Residential Buildings
☐ SSPC 90.2 Energy Efficient Design of Low-Rise Residential Buildings
☐ SSPC 161 Air Quality Within Commercial Aircraft

2. Name of Applicant

Print or Type Name (First, Middle Initial, Last)

Today's Date

ASHRAE Member ID

Primary or Alternate Representative?

Organization Represented

3. Biographical information on ASHRAE's website: (check one):

- ☐ Has been completed/updated and contains current information.
☐ Will be completed/updated on _____

4. The Potential Sources of Bias/Conflict of Interest form, specifically applicable to the purpose and scope of this Project Committee, has been completed: ☐ Yes ☐ No

(Note: This form *must be completed* if applying for membership on a Project Committee.)

5. If elected as an Organizational Member of the Project Committee, I would qualify in the following Interest Category (check one): (See next page for description of interest categories)

- | SSPC 34 | SSPC 62.1 | SSPC 62.2 | SSPC 90.1 | SSPC 90.2 | SSPC 161 |
|--------------------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
| <input type="checkbox"/> Consulting | <input type="checkbox"/> Design/Builders | <input type="checkbox"/> Design/Builders | <input type="checkbox"/> Compliance | <input type="checkbox"/> Compliance | <input type="checkbox"/> Flight Personnel |
| <input type="checkbox"/> Engineer/Contractor/Architect | <input type="checkbox"/> General Interest | <input type="checkbox"/> General Interest | <input type="checkbox"/> Designer | <input type="checkbox"/> General Interest | <input type="checkbox"/> General Interest |
| <input type="checkbox"/> General Interest | <input type="checkbox"/> Manufacturer | <input type="checkbox"/> Manufacturer | <input type="checkbox"/> General Interest | <input type="checkbox"/> Industry | <input type="checkbox"/> Manufacturer |
| <input type="checkbox"/> Producer/Vendor | <input type="checkbox"/> Own/Oper/Occ | <input type="checkbox"/> Own/Oper/Occ | <input type="checkbox"/> Industry | <input type="checkbox"/> Producer | <input type="checkbox"/> Owner/Operator |
| <input type="checkbox"/> User | | | <input type="checkbox"/> User | <input type="checkbox"/> User | <input type="checkbox"/> Passenger |
| | | | <input type="checkbox"/> Utility | <input type="checkbox"/> Utility | |
- PLEASE DO NOT ADD INTEREST CATEGORIES

6. By signing below, I certify that:

If elected as an Organizational Member of any ASHRAE Standard or Guideline Project Committee or appointed as a consultant to such committee I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive, royalty-free rights, including nonexclusive, royalty rights in copyright, to any contributions I make to documents prepared by or for such committee for ASHRAE publication and I understand that I acquire no rights in publication of such documents in which my contributions or other similar analogous form are used. I hereby attest that I have the authority and I am empowered to grant this copyright release.

I am authorized to commit that my organization agrees to the following:

- an intent to participate in a constructive way to achieve the Title, Purpose, and Scope (TPS) of the standard
- to provide an individual with appropriate technical or scientific qualifications to serve as their representative, and if
- to encourage the constituency of the organization to provide input and comments to the organization's representative,
- to provide feedback to the constituency of the organization on the disposition of input and comments submitted by the organization's representative,
- to not expect any financial support from ASHRAE for expenses related to participation in the activities of the SPC/SSPC

SIGNATURE _____

(Note: This form is not valid unless signed by Applicant.)

Submit Completed Form to: (PCMembership@ashrae.net); Tel. (678) 539-1125; Fax (678) 539-2125

BACKGROUND

ASHRAE Standards 34, 62.1, 62.2, 90.1, 90.2 and 161 impact a diverse group of individuals and industries. The constituency for these standards transcends the typical interest categories suggested by ANSI. These interest categories are intended to address the multidisciplinary nature of the standards, and to provide a better balance of interest categories for the SPC/SSPC.

DEFINITIONS

interest: the perspective of a member of a project committee, as judged by his or her present and past sources of income, fees, or reimbursements of related expenses, in the context of the purpose and scope of the project committee. The perspective may also be judged by the recorded views of the individual, or of any organization he/she is employed by or of which he/she is a member.

interest categories: the principal (top) tier of interest classifications. For some standards projects, it may be appropriate to designate subcategories of one or more interest category.

INTEREST CATEGORIES

Compliance: Persons primarily interested in compliance with the standard. A person in this category would make their living from developing regulations, enforcing the requirements of the standard, developing programs tied to the standard, or advocating the standard. Example members of this category would be building code officials, building code organizations, state energy offices, and other local, state, and federal officials.

Designer: A designer of buildings, building systems or subsystems (including envelope, HVAC, lighting). A person in this category would make their living from designing buildings and systems that are impacted by the standard. Example members of this category would be architects, design firms, consulting engineers, lighting designers and employees of energy consulting firms.

Designers/Builders: Those who provide building design and construction services, including consulting engineers, HVAC and general contractors, design/build contractors, or representatives of associations of these types of professionals.

General: Building regulatory officials or their representatives, researchers, educators, IAQ specialists, and others with expertise in the fields of ventilation and indoor air quality. Also, medical doctors, public health experts, industrial hygienists or representatives of associations of these types of professionals.

In addition, this category is intended for those who have interests other than those described in the other categories. Example members of this category would be employees of research institutions, universities, nationally recognized testing laboratories, employees of energy advocacy groups, and others with a general interest in energy utilization in buildings.

Industry: Construction firms or manufacturers, producers, or distributors of products or systems that would be installed in buildings. A person in this category would make their living from constructing buildings or producing or distributing products impacted by this standard or representing groups of manufacturers impacted by this standard. Example members of this category would be contractors, manufacturing firms, assembly firms, distributors and wholesalers, and industry trade associations that represent these groups.

Manufacturers: Employees or representatives of manufacturers, distributors or trade associations of HVAC equipment, HVAC controls, and equipment designed to enhance indoor air quality (e.g. air cleaners). Also, individuals associated with products used in the construction of buildings (e.g., finishes, wall and floor coverings, wood products) and used within buildings by occupants (e.g., furniture and furnishings, tobacco products, appliances, office equipment).

Owners/Operators/Occupants: Employees or representatives of building owners/managers, building engineers, facility managers, and consultants who specialize in working in existing buildings (as opposed to those who design and construct new buildings). Also representatives of building occupants.

Producer: those directly concerned with the production or distribution of the product or service involved, including industry associations representing producers or distributors, or those receiving substantial support from a producer directly concerned.

User: Users of buildings and building systems and subsystems. A person in this category would make their living from owning or operating buildings. Example members of this category would be building owners and operators (private and governmental), tenants, and trade associations or organizations representing these groups.

Utility: Those who provide energy services to buildings impacted by this standard. A person in this category would make their living from providing energy services to a building impacted by this standard. Example members of this category would be electric, gas, steam, or other utility and trade associations or organizations representing these groups.



PART 2 of 2

**PROJECT COMMITTEE ORGANIZATIONAL MEMBERSHIP CONTACT
INFORMATION**

Committee No: _____

Committee Name _____

Organization		
Contact Name / Title		
Address		
City	State	Zip
Phone	Fax	
e-mail		

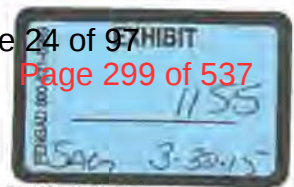
Primary Representative Name / Title		
Address		
City	State	Zip
Phone	Fax	
e-mail		

Alternate Representative Name / Title		
Address		
City	State	Zip
Phone	Fax	
e-mail		

Please describe your organization's interest in this Project Committee:

Please submit this form with copies of the "Application for Project Committee Organizational Representative Membership" forms for each applicant listed above.
Submit completed forms to PCMembership@ashrae.net or fax to 678 539-2125

EXHIBIT 48



APPLICATION FOR MEMBERSHIP ON ASHRAE STANDARD OR GUIDELINE PROJECT COMMITTEE

1. ASHRAE Project Committee for which you are applying:

Committee Number Committee Name

2.

First Name or Initial Middle Name or Initial Last Name

3.

ASHRAE Member Number (if known) Date

4. An updated edition of the ASHRAE Biographical Record is (check one):

- ☐ On file at ASHRAE Headquarters
☐ Attached to this application

5. A Potential Sources of Bias and Conflict of Interest form specifically applicable to the purpose and scope of this Project Committee is (check one):

- ☐ On file at ASHRAE Headquarters
☐ Attached to this application

6. If elected as a voting member of the Project Committee, I would qualify in the following Interest Category (Check one. See reverse side for definitions.):

- ☐ User Interest member
☐ Producer Interest member
☐ General Interest member

7. If elected as a member of any ASHRAE Standard or Guideline Project Committee or appointed as a consultant to such committee I hereby grant the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) the non-exclusive, royalty-free rights, including nonexclusive, royalty rights in copyright, to any contributions I make to documents prepared by or for such committee for ASHRAE publication and I understand that I acquire no rights in publication of such documents in which my contributions or other similar analogous form are used. I hereby attest that I have the authority and I am empowered to grant this copyright release.

Signature _____

**DEFINITIONS EXCERPTED FROM ANNEX A
MANUAL FOR PROCESSING ASHRAE STANDARDS COMMITTEE DOCUMENTS**

Interest: the perspective of a member of a project committee, as judged by his or her present and past sources of income, fees, or reimbursements of related expenses, in the context of the purpose and scope of the project committee. The perspective may also be judged by the recorded views of the individual, or of any organization he/she is employed by or of which he/she is a member.

Interest categories: the principal (top) tier of interest classifications. For some standards projects, it may be appropriate to designate subcategories of one or more interest category. Following are examples of functions covered by each interest category:

Producer: those directly concerned with the production or distribution of the product or service involved, including industry associations representing producers or distributors, or those receiving substantial support from a producer directly concerned.

User: those who use the product or service involved, or those who receive substantial support from a user directly concerned, but are not involved with its production or distribution. This reference is not to users of the standard, but to users of the product or service covered by the standard.

General: those who have interests other than those described above and may include consulting engineers or employees of appropriate Government agencies, nationally recognized testing laboratories or educational institutions, and codes-oriented individuals.

Example subcategories of the User interest category follow:

User-Consumer: a person using goods and services rather than producing or selling them, when the standards activity deals with a consumer product such as a room air conditioner.

User-Industrial: the industrial user of a product, where the standards activity deals with an industrial product such as refrigerant chemicals.

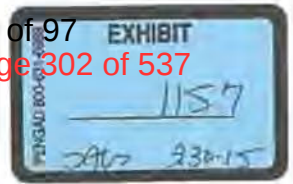
User-Government: the representative of a government agency, where the standards activity is likely to be used as the basis for government agency procurement such as for the design or performance testing of building systems or equipment.

User-Labor: a representative of labor, where the standards activity deals with worker products used in the workplace or with the workplace environment.

Note: The subcategories shown are for example only. The SPLS Subcommittee of the Standards Committee may approve chairman-recommended use of a) subcategories for any interest category, b) no subcategories at all, or c) different interest categories.

(March 5, 2001)

EXHIBIT 49



**Memorandum of Understanding
Between
The United States Department of Energy
And
The American Society of Heating, Refrigerating
and Air-Conditioning Engineers, Inc.**

By this Memorandum of Understanding (MOU), the U.S. Department of Energy (DOE) and the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) agree to further their long-term relationship by working cooperatively to improve the efficient use of energy and the viable and widespread use of renewable energy sources, and to minimize the impact of energy use on the environment.

DOE and ASHRAE are committed to working together toward the following goals:

- 1) Promoting and supporting the continuing development and distribution of ASHRAE standards related to energy efficiency, in particular:
 - ANSI/ASHRAE/IES Standard 90.1, *Energy Efficient Design of New Buildings Except Low Rise Residential Buildings*.
 - ANSI/ASHRAE/IES Standard 90.2, *Energy Efficient Design of Low-Rise Residential Buildings*.
 - ANSI/ASHRAE Standard 62.1, *Ventilation and Acceptable Indoor Air Quality In Commercial, Institutional, Industrial and High-rise Residential Buildings*.
 - ANSI/ASHRAE Standard 62.2, *Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings*.
 - ANSI/ASHRAE/IES Standard 100, *Energy Efficiency in Existing Buildings*.
 - ANSI/ASHRAE 135, *BACnet - A Data Communication Protocol for Building Automation and Control Networks*.
 - ANSI/ASHRAE/USGBC/IES Standard 189.1, *Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings*, and
 - Proposed ASHRAE/NEMA Standard 201, *Facility Smart Grid Information Model*.
- 2) Promoting and supporting implementation of ASHRAE standards through training programs, including self-directed learning, building code interaction, and ASHRAE Chapter-oriented training.
- 3) Promoting and supporting development of guidance for exceeding the minimum efficiencies set by Standard 90.1 and Standard 90.2, and new metrics for commercial building and residential energy efficiency and environmental impact.
- 4) Cooperating in, and supporting research into, clean and renewable sources of energy, energy efficiency in buildings and equipment, and environmental impact of energy and material use.

- 5) Cooperating in promotion of ANSI/ASHRAE standards adoption in the International Standards Organization (ISO) standards.
- 6) Collaborating on the accelerated development and distribution of advanced energy design guidance publications, such as the 30%, 50% and net-zero Advanced Energy Design Guides that can support accelerated transformation to a more sustainable built environment.
- 7) Cooperating in the development and adoption of mechanisms that promote energy efficiency in buildings, such as the Building Energy Quotient (Building EQ) program and the professional certifications.
- 8) Cooperating in promotion of ANSI/ASHRAE standards adoption in building codes.
- 9) Working within the building community and related professions to encourage the interoperability of building related software and integrated solutions among design disciplines, manufacturers, contractors, building owners and operators, to increase energy efficiency, health, and productivity in new and existing buildings.
- 10) Advancing and supporting the professional development of DOE personnel by facilitating membership, attendance, and active participation at the local and Society levels of ASHRAE, especially as members of Technical Committees and Standard Project Committees, and by providing a venue for publication of research and practice.
- 11) Ensuring sufficient numbers of qualified professionals through the full spectrum of building design, equipment installation, building commissioning, building operations and maintenance, and facility management through comprehensive workforce development programs. This includes promoting and encouraging the study of mathematics and science to pre-college students, quality technician and contractor training, the study of building design within college curricula, and the pursuit of continuing education in all of these categories of building professionals.
- 12) Providing and supporting communication of information regarding technology transfer to building owners and management about the interrelationships between mechanical systems and building operating costs, noting energy, indoor environmental quality workplace performance, client satisfaction, and public safety.
- 13) Monitoring the operational, energy and environmental impacts of new counter-terrorism design features, and promoting minimization of those impacts.
- 14) Collaborating to increase the impact of the all energy hubs created as part of the DOE Energy Efficient Building Systems Regional Innovation Cluster Initiative.
- 15) Driving the development and implementation of next-generation refrigerants that achieve low-GWP (Global Warming Potential) targets and concurrently improve equipment energy efficiency.

Collaboration under this MOU will be in accordance with applicable statutes and regulations.

This MOU in no way restricts either of the parties from participating in any activity with other public or private agencies, organizations or individuals.

This MOU is neither a fiscal nor a funds obligation document. Nothing in this MOU authorizes or is intended to obligate the parties to expend, exchange, or reimburse funds, services, or supplies, or transfer or receive anything of value.

This MOU is strictly for internal purposes for each of the parties. It is not legally enforceable and shall not be construed to create any legal obligation on the part of either party. This MOU shall not be construed to provide a private right or cause of action for or by any person or entity.

The MOU will become effective upon signature by the Assistance Secretary for the Office of Energy Efficiency and Renewable Energy in DOE and the President of ASHRAE. It may be modified or amended by written agreement between both parties, and such amendments shall become part of, and shall be attached to this MOU. This MOU shall terminate at the end of three (3) years unless revised or extended at that time by written agreement of the parties. It may be terminated at any time by either party upon 90 days written notice to the other. Its provisions will be reviewed periodically and amended/supplemented if mutually agreed upon in writing.

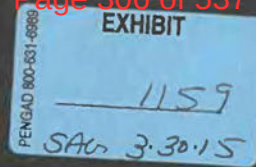
Kathy Zoi Lynn G. Bellenger
Assistant Secretary
Energy Efficiency and Renewable Energy
U.S. Department of Energy

President, 2010-2011
ASHRAE

Date

Date

EXHIBIT 50



Marketing Task Group

TG Meeting Report

June 26, 2004

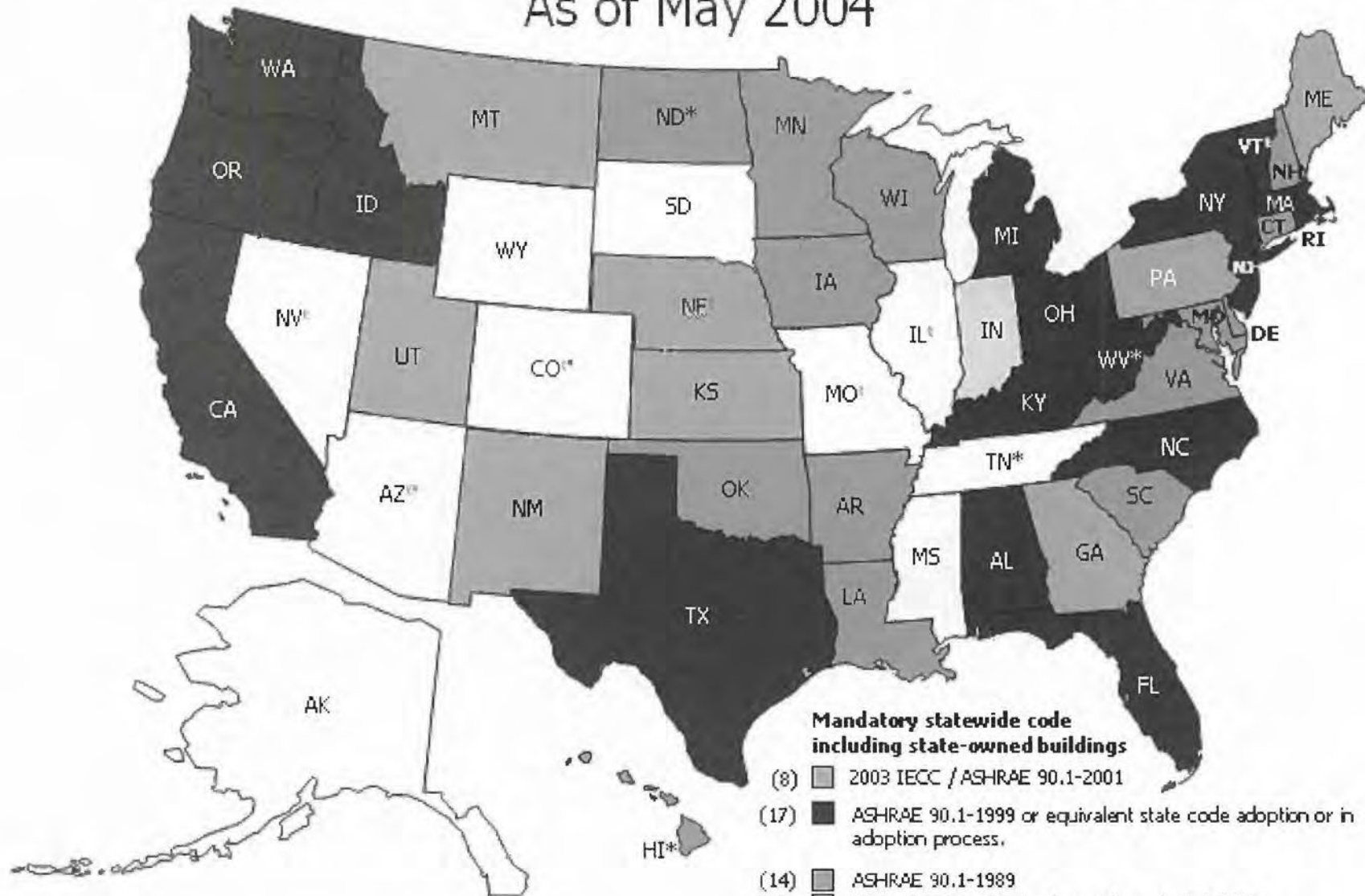
Good News? Bad News? Both?

- Increased number of states using or referencing 90.1

- However, these “adoptions” and references are almost all due to adoption of the I-codes, not the direct adoption of 90.1

Commercial Energy Codes Status

As of May 2004



Building Codes Assistance Project
Commercial Map 5/20/04

* Code implementation depends upon voluntary adoption by local jurisdictions.

* 90.1 Mandatory for state owned buildings

NOTE: This map should be used in conjunction with BCAP's Status of the State newsletter. Go to bcap-energy.org to view current newsletter.

JAI550

ASHRAE0003498

Other Marketing Issues

- Cost of the standard remains an issue
 - Appreciate free “viewing” on the ASHRAE website
- Customers versus competitors?
 - ICC, IECC, NFPA, Advanced Building Guidelines, etc.
- What’s a standard?
 - SP 102 process versus Standards process

Challenges to Adoption

- Cost of the Standard
 - Revenue objectives are antithetical to widespread adoption
- Do we participate in the “battles” in the marketplace surrounding use of our product?
 - Fighting with our customers?
 - Allies or adversaries? Who decides?

Additional Challenges

- “Trickle down” adoption approach takes a lot of time
 - If we build it, **WILL** they come?
 - Others are building code “products” on a much faster timeframe
 - Can we similarly respond?

Some Recognized Risks

- Code proposals to adopt something other than 90.1
 - Others are not passive
- Code proposals that are more stringent than 90.1
 - Viewed as a significant risk to our “standing” in the marketplace
 - Others are not passive

More Recognized Risks

- Perceived loss of “balance of interests” on the committee
 - “Perception is reality”?
 - Risk to marketplace “standing”?
 - Impediment to more robust development?
- ASHRAE has the right experts, do we have the right process to support a market need or desire?

Additional Challenges

- Format and Utility
 - Envelope section is nearly un-useable in present format
 - Entire format is cumbersome and not customer focused
 - Software version needed to increase ease of use

Challenges/Opportunities

- Training
 - Need a training and delivery plan to better get our “product” to the marketplace.
 - Numerous customers for training could aid in adoption
 - Engineers (and EITs)
 - Architects (and architecture students)

Recommendations (Repeated)

- Make it free
- Make it beautiful
- Make it electronic
- Make it easy to demonstrate compliance
- Make it easy for code officials to use
- Spend \$X on development and \$2X on marketing

Operational Recommendations

- Make sure it is developed in a balanced manner
- Set specific improvement targets for each round of the standard.
 - 10% by 2007? 25% by 2009?
 - What are we working toward?
- If we set targets, don't let it out the door until we meet them.
 - Authority coupled with Responsibility.

New Marketplace Activities

- What makes 90.1 meaningful? Why should a state care?
- “No building left behind”
 - Build new compliance systems for states
 - Improved state enforcement under EPA Act?
 - Penalties for non-compliance?
 - Teeth?

Paradigm Shift Issues

- Decide if we want to continue to live in this code minimum world
 - Should we declare victory and go home?
 - Is this an appropriate job for ASHRAE?
 - Should we ride another horse?
 - How long will we have our EPA Act advantage?

Mountaintop Question

Do we want to change the world?

If so, are our current actions
aligned with this goal?

Do we have a business plan aligned
with this goal?

EXHIBIT 51



From: Ferguson, Steve <SFerguson@ashrae.org>
Sent: Thursday, December 17, 2009 7:27 PM
To: Read, Doug; Colker, Ryan; gholness@comcast.net; Littleton, Jeff; ron.jarnagin@pnl.gov; Bellenger, Lynn
Cc: Ramspeck, Claire; Reiniche, Stephanie; mschwedler@trane.com; Drake Erbe
Subject: RE: IECC and 90.1
Attachments: FW: comparison document for 90.1 and IECC (1.62 MB)

Is the document in the attached email the comparison document referred to below?

Thanks

Steve

From: Read, Doug
Sent: Thursday, December 17, 2009 1:45 PM
To: Colker, Ryan; gholness@comcast.net; Littleton, Jeff; ron.jarnagin@pnl.gov; Bellenger, Lynn
Cc: Ramspeck, Claire; Ferguson, Steve; Reiniche, Stephanie; mschwedler@trane.com; Drake Erbe
Subject: RE: IECC and 90.1

I echo Ryan's concerns. I suggest we take a stance and clearly delineate the differences, and differentiate ourselves from the IECC..Doug

Doug Read, Program Director of Government Affairs American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

Extension: Fax: 202-833-0118 eMail: DRead@ashrae.org Web: www.ASHRAE.org<<http://www.ashrae.org/>>

From: Colker, Ryan
Sent: Thursday, December 17, 2009 1:42 PM
To: gholness@comcast.net; Littleton, Jeff; ron.jarnagin@pnl.gov; Bellenger, Lynn
Cc: Ramspeck, Claire; Ferguson, Steve; Reiniche, Stephanie; mschwedler@trane.com; Drake Erbe; Read, Doug
Subject: IECC and 90.1

Folks,

We are seeing some indications from DOE that they are beginning to see the IECC and 90.1 as equivalent (i.e., states can be in compliance if they adopt the IECC without the reference to 90.1). As you can guess, this could have significant impact on the future of 90.1. Of course, there are several considerations as why this is likely not the case (IECC has not undergone the rigorous determination and modeling process of 90.1, IECC is not developed under the ANSI consensus process, etc.). Below are some notes outlining a recent meeting aimed at code adoption organized by BCAP and which includes participation by DOE (I was just made aware of this group and will begin participating).

In my view, we have a couple of options, but their palatability depends on our relationship with ICC and how far we are willing to go:

1. Send a strongly worded letter to DOE leadership expressing our view (including some of the points above)
2. Come out with our own document on how the IECC is not equivalent to 90.1 and why states should continue to utilize 90.1

Please let me know if/how you would like to proceed.

Ryan

Air Support Committee Notes: 12-7-09

Key updates:

FROM DOE:

DOE will publish a side-by-side comparison of ASHRAE 90.1 and the 2009 IECC for commercial buildings. While the report will not specifically state a conclusion - the bottom line is that the two can be viewed as EQUIVALENT.

DOE will make money available for training materials and other educational information. Rescheck has been updated for '09- no rescheck for IRC.

DOE is trying to get final answer on what states will need to report to illustrate 90% compliance- definitive answer to come.

There will be a new program manager after 1-1-10.

Setting Priorities: Where do we need troops on the ground? - Please continue to communicate your organization's focus to the group. We can HELP! Some organizations have available troops and other resources that have yet to be allocated

- In SE the new year will bring a lot of focus on TN and AL. GA also has a lot of action
- May need help from those with legislative connections in NY, MO, and definitely WV
- There is a need to discuss compliance/enforcement- but this is best done in the new year in a forum outside this committee

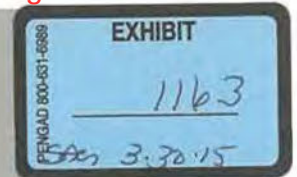
Upcoming ACTIONS:

- RECA code guides are on their way (and make excellent holiday gifts)
 - NAIMA will put together a map showing where NAIMA's members are located
 - Harry will meet with Paul and Eric to update the graph Harry shared earlier this year
 - Monica will take a crack at crafting a one-pager showing how the model code saves money
- Monica will work with others to craft a one-page letter clarifying for states that 90.1 and ASHRAE are equivalent for Recovery Act purposes (I assume this is supposed to say 90.1 and IECC)

Ryan Colker, Manager, Government Affairs American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

Extension: 1116 Fax: 202-833-0118 eMail: RColker@ashrae.org Web: www.ASHRAE.org <<http://www.ashrae.org/>>

EXHIBIT 52



American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

ASHRAE

Government Affairs: Technical Expertise to Policymakers



Doug Read,
Program Director,
Gov't Affairs

Presentation to ASHRAE CTTC and TC
Albuquerque, New Mexico
June 26, 2010



Mark Ames, Manager,
Gov't Affairs

ASHRAE Washington Office
1828 L Street, NW
Suite 906
Washington, DC 20036
202-833-1830
www.ashrae.org/advocacy



Patricia Ryan,
Assistant to the
Director, Washington
Office



ASHRAE DC Office

2010

- Participation in Coalitions
- Workshops/Symposia
- DOE Fellowship
- Internship
- Advocacy
- Government Relations Activities





Participation in Coalitions

High Performance Building Congressional Caucus

Coalition (ask your representative to join)

- Secretariat
- Monthly briefings
- Federal Building Legislation
- 2030 Coalition signatory (AIA, ICC, USGBC, GBI)
- Zero-Energy Commercial Building Consortium
(www.zeroenergycbc.org)
- Steering Committee Member
 - ASHRAE Co-Chairs Codes and Standards Working Group
- Response to EISA Sec. 421/422
- Science, Technology, Engineering, and Math (STEM)
Education Coalition



Participation in Coalitions

- **World Standards Day**
- **Building Community Ad Hocs (climate change, building codes, depreciation, tax credits, federal buildings, Rebuild Haiti, BuildingStar, etc)**
- **HVAC Alliance (ACCA, AHRI, HARDI, PHCC)**
- **Commercial Building Tax Deduction Coalition**
- **Code Adoption and Enforcement (NASEO, ICC, ASE, BCAP)**



Workshops/Symposia/Meetings



Capitol Hill Briefings

- January 28 Facilities Management for Sustainability (IFMA)
- February 4 After the Earthquake: The Role of Buildings and Infrastructure
- February 25 SBIC Beyond Green Awards Reception & Briefing (SBIC)
- March 23 Insulation and the High-Performance Building (SPFA/PIMA/NAIMA)
- April 24 What's Your Quality of Light? Sustainable Solutions for Human Needs
– and Energy Efficiency (IALD, IES, ALA)
- May 24 Building STAR Legislation: Retrofitting Our Way to Energy Saving and Job
Creation (AHRI, ASHRAE, NEMA)
- June 15 Getting the Whole Picture of High-Performance Buildings (NIBS)
- June 18 The Zero Energy Commercial Buildings Consortium: A Public-Private
Consortium for Zero Energy High Performance Buildings (ASE)
-
-
- Future: Rating Tools for Green Buildings (GBI)
- Can Climate Friendly Buildings be High-Performance (EESI)
- Technological Innovations and the Small Business (AHRI/ACCA)
- Solar Reflective Roofing (RCMA)
-



ASHRAE Presidential Meetings

- April 26-28, 2010, DOE, BOMA, USGBC, ASE, AGA, SMACNA

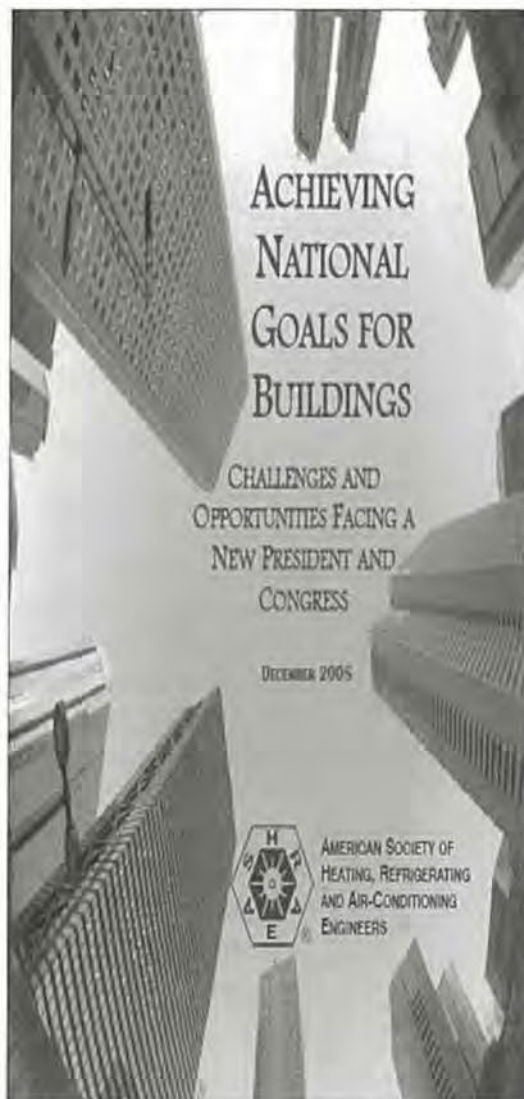


Workshops/Symposia/Meetings

- NIST/BFRL Workshop on International Engagement
- Rebuilding America – Building Star
- AGC Meeting on Construction and Climate Change
- NAE Symposium on K-12 Engineering Education
- NEMA Energy Tax Coalition
- Interagency Sustainability Working Group
- ACEEE Briefing on Behaviors for Energy Efficiency
- Interagency Council on Indoor Air Quality
- USGBC Building Performance Initiative Discussion
- GSA Workshop on Federal Building Commissioning



Advocacy



➤ Report to New Congress & President on Buildings

Explanatory Statement on Section 410, Recovery Act (HRT) by National Building Community Stakeholders (November 18, 2008)

Since the passage of the American Recovery and Reinvestment Act (ARRA) in February, 2009, State Energy Program ("SEP") funding tied to building energy code adoption and enforcement has been the subject of much discussion and debate. The objective of this statement is to clarify the intention of the statute and to offer assistance to state and local governments to advance building energy efficiency codes, including code adoption, training in the operation of the codes and efforts at compliance and enforcement. We recognize that success in this area will not be easy but we have joined together to help. In an effort to provide accurate, understandable, and actionable information to states, local governments and the organizations and entities that support greater energy efficiency in the built environment, the undersigned groups offer the following information about Sec. 410, of ARRA.

The actual statutory provision is as follows

Section 410 (a) (2)

The State, or the applicable units of local government that have authority to adopt building codes, will implement the following:

- (A) A building energy code (or codes) for residential buildings that meets or exceeds the most recently published International Energy Conservation Code, or achieves equivalent or greater energy savings.
- (B) A building energy code (or codes) for commercial buildings throughout the State that meets or exceeds the ANSI/ASHRAE/IESNA Standard 90.1-2007, or achieves equivalent or greater energy savings.
- (C) A plan for the jurisdiction achieving compliance with the building energy code or codes described in subparagraphs (A) and (B) within 8 years of the date of enactment of this Act in at least 90 percent of new and renovated residential and commercial building space. Such plan shall include active training and enforcement programs and measurement of the rate of compliance each year.

Some of the descriptions of this statutory language provided by third parties have resulted in inaccurate information and confusion among those who are involved in meeting the requirements of this Act.

The key points are as follows:

- 1- Conditions for Acceptance of ARRA funding. All 50 state governors have submitted letters to the Department of Energy, providing assurances that their states would comply with the terms of Section 410. All 50 states have accepted SEP funds that were conditioned on these assurances. Therefore, all 50 states have committed to do three things:

➤ Explanatory Statement on ARRA and Code Adoption



Advocacy



HIGH-PERFORMANCE BUILDING CONGRESSIONAL CAUCUS COALITION

www.HPBCCC.org

Producing High-Performance Federal Buildings

As Congress evaluates opportunities to impact the energy use of Federal buildings, the Executive Committee of the High-Performance Building Congressional Caucus Coalition (www.hpbccc.org) developed the following recommendations which, if implemented through upcoming energy legislation, will provide an effective transition to reduced energy consumption, enhanced sustainability, improved building operation and maintenance, and more efficient use of national resources in the Federal building stock.

Advancing energy reduction, enhanced sustainability, improved operation and maintenance, and effective use of resources in the Federal building stock requires addressing the diversity of goals associated with high performance buildings including: sustainability, cost-effectiveness, function and operation, historic preservation, productivity, safety and security and amenability.

Efforts to enhance the energy and sustainability of Federal buildings must proceed within the context of traditional design requirements for safeguarding life, health, property, and public welfare. In order to avoid unintended consequences to building user's health and life-styles, energy efficient/sustainable design practices and standards implemented for Federal building projects should take into account existing building and fire code requirements, avoid creating conflicts with those requirements, and where necessary, include recommendations for coordinating modifications to such codes/standards and standards.

Require Best Life-Cycle Analysis and Decision-Making for the Acquisition of Federal Buildings

The American Institute of Architects (AIA) defines life-cycle and analysis as, "any technique which allows assessment of a given solution, or choice among alternative solutions, on the basis of ascertaining all relevant economic consequences over a given period of time." One of the major impediments to innovation and significant reductions in energy consumption in the Federal building stock is the separation of financial accounting for acquisition from operations. That is, there is a congressional approved budget for acquisition and a totally separate budget for yearly operations. Often the responsibilities for these budgets are in two separate organizational silos with different leadership and reporting responsibilities. This causes that any investment in innovation that increases first [acquisition] cost while substantially reducing long-term cost (operations) is not considered. The fundamental dichotomy (caused by parallel operations in internal management and accounting procedures) creates a misalignment between setting the goals for a high-performance building and achieving those goals.

History has life-cycle costs of a building project part of the life-cycle analysis and decision-making process will provide a major step toward the acquisition of best high-performance Federal buildings.

Require Initial Building Commissioning for the Federal Building Stock

All Federal buildings should be required to utilize total building commissioning, re-commissioning, re-commissioning, and post-occupancy-evaluation to include the documentation of owner performance requirements, design intent and justification, verification and validation of actual building performance, including the comprehensive training of operators and maintenance staff through the adoption of ASHRAE Guideline 0-2008 The Commissioning Process. The requirement to include documentation of lessons learned from post-occupancy-evaluations would provide significant increases in quality control for "green" buildings, including the validation of design strategies and decisions to improve building performance, the verification of actual building performance, the documentation of design intent to be used by building operators staff, and the development and implementation of a comprehensive training program for operators and maintenance staff.

1

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[DISCUSSION DRAFT]

117TH CONGRESS
1st Session

H.R. _____

To provide for the training of Federal building personnel, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

Mr. CARRISANO introduced the following bill, which was referred to the Committee on _____

A BILL

To provide for the training of Federal building personnel, and for other purposes.

1 Be it enacted by the Senate and House of Representa-
2 tives of the United States of America in Congress assembled,
3 SECTION 1. SHORT TITLE.

4 This Act may be cited as the "Federal Buildings Per-
5 sonnel Training Act of 2009".

6 SEC. 2. TRAINING OF FEDERAL BUILDING PERSONNEL.

7 (a) IDENTIFICATION OF CORE COMPETENCIES.—Not
8 later than one year after the date of enactment of this
9 Act and annually thereafter, the Administrator of General

F:\MTC\ARMAR\CAIN\H\CO\XML (4/23/20)
November 16, 2009 (2:57 pm)

➤ HPBCCC Report on Federal Building Opportunities

➤ Legislation to Implement Federal Building Recommendations



Advocacy

➤ Congress

- Building and Efficiency Issues in Stimulus Legislation
- Depreciation of HVAC&R Equipment
- Green Jobs Training
- Building Code Enforcement
- Climate Change
- Recommendations on Federal Buildings

➤ Agencies

- Participate in Interagency Sustainability Working group and IAQ working group
- Regular meetings with DOE, EPA and GSA
- GSA meetings on Federal Building Commissioning Guidelines



Advocacy

- **Hosted Monthly High Performance Building Roundtable Meetings**
- **Participated in Monthly ANSI Caucus Lunches at National Press Club**
- **Engineering R&D Symposium**



Legislation



American Clean Energy and Security Act (H.R. 2454), aka Waxman-Markey

- Sets nat'l building code energy efficiency targets
 - 30% on date of enactment; 50% by January 1, 2015 for commercial
 - Uses ASHRAE 90.1-2004 and IECC 2006 as baselines
- In developing nat'l energy efficiency building code for commercial and residential, USDOE Secretary is to consider ASHRAE standards, IECC, and others
 - DOE shall provide assistance to “recognized consensus-based code development organizations” to facilitate development
- EPA Administrator to establish building energy performance labeling program considering existing programs (Energy Star, HERS Index, DOE Programs)
 - Support development of model labels
 - Utilize incentives to spur use
- Status: Passed House on 6/26/2009 by vote of 219-212

American Clean Energy Leadership Act (S.1462)

- Introduced by Senator Jeff Bingaman (D-NM)
- Updates nat'l building energy codes & standards at least every 3 years to achieve target energy savings of:
 - 30% for ASHRAE Standards released during or after 2010 (commercial buildings)
 - 50% for ASHRAE standards released during or after 2016
 - A different target year may be set by DOE Secretary if determines target can't be met in 2016
 - If DOE determines ASHRAE's future revised model codes will not meet targets, DOE will propose or establish a modified code or standard that meets the above targets
 - Uses 90.1-2004 as baseline for commercial buildings; IECC 2006 for residential
- Authorizes incentive funds for states that have adopted and is implementing, on a statewide basis, a commercial building code that meets or exceeds ASHRAE 90.1-2007
- Authorizes \$100 million to carry out the above
- Status: Passed by Senate Energy and Natural Resources Committee on 7/16/2009, currently awaiting consideration on Senate floor

American Power Act

- Introduced by Senators John Kerry (D-MA) and Joseph Lieberman (ID-CT)
- Authorizes federal funds to states for the implementation of:
 - Building codes that improve energy efficiency
 - Energy-efficient manufactured homes
 - Building energy performance labeling
 - Low-income community energy efficiency improvements
 - Energy efficiency retrofits of existing buildings
- Status: Introduced in Senate in June, 2010

Practical Energy and Climate Plan (Draft legislation)

- Proposed by Senator Richard Lugar (R-IN)
- Would establish mandatory targets for improved energy efficiency building performance measures for new residential and commercial construction
 - The program would work with ASHRAE and other organization in developing codes & standards every 3 years, with the following targets:
 - Commercial energy savings: 30% by 2012, and 50% by 2017
 - Residential energy savings: 30% by 2012, and 50% by 2015
- DOE would partner with state & local gov'ts to achieve the energy saving codes and standards targets, including offering up to a total of \$300 M per year over the next 5 years. If a state is unable to certify compliance w/these target codes & standards, they will be at a disadvantage for receiving further DOE grants
- Would require all new federal bldgs entering the design phase in 2012 or later to be designed to exceed nat'l blding performance standards
- DOE would establish new nat'l blding retrofit program

Federal Buildings Personnel Training Act (H.R.5112/S.3250)

- Introduced by Representatives Carnahan (D-MO), Biggert (R-IL), and Norton (D-DC), and Senators Carper (D-DE) and Collins (R-ME)
- Requires the General Service Administration (GSA) to identify the core competencies necessary for federal personnel performing building operations and maintenance, energy management, sustainability, water efficiency, safety, and building performance measures
- Requires the GSA to work with relevant professional societies, industry associations, and others to develop a recommended curriculum relating to facility management and the operation of high-performance buildings
- Requires GSA to work with relevant professional societies, industry associations, and others to develop a course, certification, degree, license, or registration to demonstrate each core competency, and for ongoing training
- Requires relevant federal personnel to demonstrate competency in the core areas through certification, licensure, etc.
- Requirements of this bill would apply to non-federal personal performing building operations and maintenance, energy management, safety, and design functions under a contract with a federal department or agency





High-Performance Building Congressional Caucus

Co-Chairs

Russ Carnahan (D-MO)

Judy Biggert (R-IL)

Members

Tammy Baldwin (D-WI)	Doris Matsui (D-CA)
Earl Blumenauer (D-OR)	Betty McCollum (D-MN)
Robert Brady (D-PA)	Jim McDermott (D-WA)
Ben Chandler (D-KY)	Mike McIntyre (D-NC)
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Steve Kagen (D-WI)	
Dennis Kucinich (D-OH)	
Dan Lipinski (D-IL)	
Dave Loebsack (D-IA)	
Zoe Lofgren (D-CA)	

Supporting Coalition Includes



<http://www.hpbgccc.org>



Advocacy

➤ Development of letters, comments & testimony to Congress and Agencies on pending actions

- ARRA and Code Adoptions
- STEM Education
- Commercial Building Tax Deduction
- EIA Funding
- Depreciation of HVAC&R Equipment
- Setting Commercial Equipment Efficiency Standards
- Building Codes
- Federal Building Efficiency Standards
- Smart Grid Interoperability Standards
- School Modernization



Advocacy Tools

- **One-page non-technical policy briefs/leave-behinds**
 - Based on existing ASHRAE Position Statements
 - Developed through Advocacy Committee with technical review and approval by ExCom
 - Energy Efficiency
 - Climate Change
 - STEM Education
 - Federal R&D Funding
 - Standards
 - Building Energy Data



Advocacy Tools

- **Government Affairs Updates**
 - Bi-weekly e-mails featuring government activities of interest
 - Sign up at <http://www.ashrae.org/advocacy>
- **Advocacy Packets**
 - Additional licensure requirements
 - State TTAA
 - Building Codes
 - Stimulus Funds (www.ashrae.org/recovery)
 - Building Energy Labeling



Advocacy Tools

➤ Chapter Public Policy Materials

➤ CTTC/Washington Office Primer on Government Activities

➤ Accompanying PowerPoint Presentation

➤ Advocacy Toolkit

➤ <http://www.ashrae.org/advocacy/page/1262>

➤ Government Affairs Brochure

➤ Activities of the ASHRAE Washington Office

➤ Available as PDF for distribution to chapter members





Opportunities for Individual Member Participation

- SET Working Group Congressional Visits Day
- Engineering R&D Symposium
- ASHRAE Congressional Briefings
- Forthcoming programs
 - Washington Visitation Program
 - CTTC Chair training programs
- HPBCCC Congressional Visits Days
- Washington Fellowship
- WISE Program



Additional Washington Office Activities

- Building Energy Quotient Program
 - www.buildingeq.com
- Building Code Adoptions
 - Standard 90.1
 - Standard 189.1/IGCC Promotion
- Empowering Chapters to Engage State and Local Policymakers





Opportunities for Individual Member Participation

- Contact State and Local Policymakers on Important Issues
 - Building Energy Codes
 - NCEES Masters or Equivalent
 - Stimulus Funds
 - Building Energy Disclosure
 - Use of Voluntary Consensus Standards



ASHRAE/DOE Fellowship



- **2008-2010 Fellow Mike Erbesfeld began in Sen. Dianne Feinstein's Office, moved to DOE in May 2009**
- **Currently seeking fellows for placement at DOE on codes issues**
- **Funding provided by DOE**



Internship

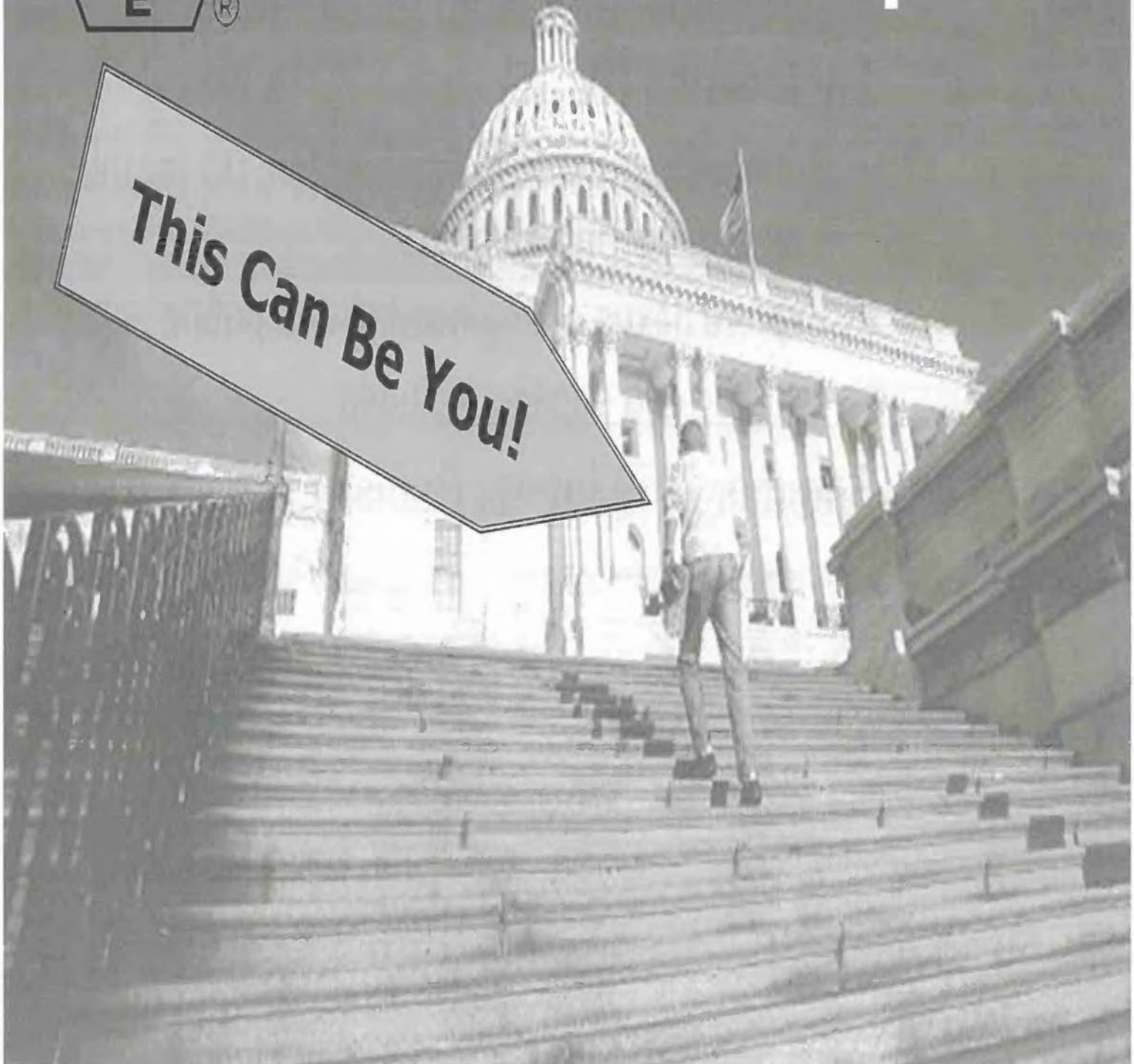
- **Washington Internship for Students of Engineering (WISE)**
 - Summer Internship in Washington, DC for third year engineering students
 - Explore nexus of engineering and public policy
 - Lodging and stipend included
- **Summer 2010 intern, Ramsey Brown, CMA**





Government Activities and ASHRAE Chapters

This Can Be You!





Government Relations Activities

- **Build relationships with government officials interested in the built environment**
- **Establish ASHRAE as a source for unbiased, technical expertise**
 - **White House Office of Science & Technology Policy (OSTP)**
 - **Department of Energy (DOE)**
 - **Environmental Protection Agency (EPA)**
 - **General Services Administration (GSA)**
 - **U.S. Congress**
 - **NIST/FERC—Smart Grid/Demand Response**



Advocacy Priorities

- Energy Efficiency
- Climate Change
- Indoor Environmental Quality
- Water Conservation
- STEM Education/Competitiveness



Anticipated Issues

- Energy Efficiency
 - Incentives (tax deductions/credits, depreciation)
 - Continued focus on Building Codes language
 - R&D in needed technologies
 - RPS with efficiency component
 - Building energy disclosure
- Climate Change
 - More cap-and-trade legislation with a little more potential
- Economy
 - Opportunities for buildings



What's Planned for the Remainder of 2010?

- Increase ASHRAE member participation and interest in public policy
- Continue enhancement of ASHRAE Government Affairs webpage (<http://www.ashrae.org/advocacy>)
- Recruit and place DOE Fellows
- Recruit 2011 WISE Intern
- Develop marketing materials for ASHRAE Government Relations Activities
- Continue participation in relevant coalitions and input to public policy
- Expand ASHRAE's role at the State and local levels

EXHIBIT 73

Mar 15 00 11:28a

Polk Co Fire Department

9

P. 1

**FORM FOR COMMENTS ON NFPA REPORT ON PROPOSALS
2000 NOVEMBER ASSOCIATION TECHNICAL MEETING**

FINAL DATE FOR RECEIPT OF COMMENTS: 5:00 pm EST, MARCH 31, 2000

For further information on the standards-making process, please contact the Codes and Standards Administration at 617-984-7249

For technical assistance, please call NFPA at 617-770-3000

FOR OFFICE USE ONLY

Log #: 2

Date Rec'd: _____

Please indicate in which format you wish to receive your ROP/ROC ☐ electronic ☐ paper ☐ download
(Note: In choosing the download option you intend to view the ROP/ROC from our Website; no copy will be sent to you.)

Date 3-14-06 Name Wesley W. Hayes Jr. Tel. No. 863 534-0383

Company Polk County Fire Services Division

Street Address Bld. 250/suite 1 City Bartow State FL Zip 33831

Please indicate Organization Represented (if any) Florida Fire Chiefs Association

1. a) NFPA Document Title _____ NFPA No. & Year 58-107

b) Section/Paragraph Sec. 3-2.5 / Paragraph 3-2.5.1

2. Comment on Proposal No. (from ROP): 58-107 Log # 70

3. Comment recommends: (check one) ☒ new text ☐ revised text ☐ deleted text

4. Comment (include proposed new or revised wording, or identification of wording to be deleted): (Note: Proposed text should be in legislative format i.e., use underscore to denote wording to be inserted (inserted wording) and strike-through to denote wording to be deleted (deleted wording).)

Cylinders shall NOT be permitted on roof top AS.

5. Statement of Problem and Substantiation for Comment: (Note: State the problem that will be resolved by your recommendation; give the specific reason for your comment including copies of tests, research papers, fire experience, etc. If more than 200 words, it may be abstracted for publication.)

Please see Attached.

6. ☒ This Comment is original material. (Note: Original material is considered to be the submitter's own idea based on or as a result of his/her own experience, thought, or research and, to the best of his/her knowledge, is not copied from another source.)

☐ This Comment is not original material, its source (if known) is as follows: _____

I hereby grant the NFPA the nonexclusive, royalty-free rights, including nonexclusive, royalty-free rights in copyright, in this comment, and I understand that I acquire no rights in any publication of NFPA in which this comment in this or another similar or analogous form is used.

Signature (Required)

Wesley W. Hayes Jr.

PLEASE USE SEPARATE FORM FOR EACH COMMENT - NFPA Fax: (617) 770-3500

Mail to: Secretary, Standards Council, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269

ADS020867

JA1600

May 15 DD 11:28a

Polk Co Fire Department

941 534 0385

p.2

Attachment 58-107 log #70

Installation of propane tanks on roofs, brings on a multifaceted problem for the fire service, starting with the fire ground tactics. Approaching a propane tank is an extremely complex problem, exacerbated by the situation being on a rooftop. The proper compliment of manpower, equipment and water capacity are not the only concerns facing this sort of issue. Rescue, interior attack, and time are of extreme importance. Locating permanent tanks on roofs will have a direct adverse effect on all the issues mentioned. The proper strategy of firefighters will be immensely changed.

The speed required to set up elevated platforms and ladders for an attack on a rooftop installation promotes recklessness. Valuable time is wasted, while the fire service is setting up equipment. The fire service is dedicated to responding to all types of dangers. However, placing firefighters on a roof, with no escape route is against everything learned in Hazardous Materials Training.

Propane is heavier than air. The approach of the fire service will obviously be lower than what the tank is. Firefighters will be required to go through the hazard to get to the problem. Once again, this is against everything learned in Hazardous Materials Training. There is no viable approach to a leaking tank on a roof.

In researching the NFPA guidelines, I could not find one document that spoke to propane leaks or fires located on roofs. I take this to mean that no information is together that the fire service can use to attack a tank located on a roof. Tactics have been written, researched, and papers written on above ground tanks, underground tanks and even tanker trucks. Nothing addresses the issue of an attack on rooftop installations. Having no measure to go by, gives the fire service nothing to turn to for information. The lack of information alone nullifies the use of LP storage tanks on rooftops.

A propane tank on fire on a rooftop, is a situation that no fire department wishes to contend with. Firefighters have the commitment of rescue in buildings. That commitment will be shortened due to the grave danger of the firemen and equipment. An interior attack would be accessed on minute by minute situation. Having a BLEVE over the heads of emergency responders would be a nightmare.

The incident of having to rescue firefighters on a roof that have been hurt during a BLEVE would be to the point of being totally unmanageable to handle. The involvement would introduce risks beyond what any firefighter should face.

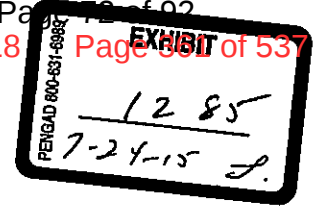
3-14-2008

Wesley W. Mays

ADS020868

JA1601

EXHIBIT 77



Approved 28 April 1999

INTELLECTUAL PROPERTY POLICY OF ASTM

I. INTRODUCTION.

- A. Section 1 of the ASTM Charter states in part: “The corporation is formed for the development of standards on characteristics and performance of materials, products, systems and services; and the promotion of related knowledge.”
- B. By-law 4.4 states: “The Board shall delegate to such committees and other groups those powers necessary for the fulfillment of their assigned function.”
- C. By-law 7.1 states: “The Board of Directors is empowered to promulgate procedures for the development and adoption of voluntary consensus standards ...”.
- D. The Standing Committee on Publications advises the Board of Directors on the formulation of publications policy. The Committee is responsible for the publications program of the Society except the acceptance for publication of ASTM’s standards. “The Committee administers the Society’s publications program ...”
- E. The Committee on Technical Committee Operations (“COTCO”) is responsible for the Regulations Governing ASTM’s Technical Committees 18.1, which state: “Documents [including standards and provisional standards], technical papers, reports, minutes, letters to the editor, and related materials should be released for publication only through ASTM’s Headquarters.”

ASTM103277

JA1603

F. The Committee on Standards is responsible for the manual, "Form and Style for ASTM Standards." Regulation 10.7 of the Regulations Governing ASTM Technical Committees requires the current edition of *Form and Style for ASTM Standards* shall be followed in the writing of standards. Section F of that manual covers policies and procedures governing reference to patents, trademarks, similar marks, and reference to standards of other organizations in ASTM Documents.

II. TYPES OF INTELLECTUAL PROPERTY.

Intellectual property includes patents, trademarks, copyrights and trade secrets, as defined in various federal and state statutes.

A. Patent. A patent is a property right granted by the government to individuals who invent new and useful inventions. Patents may be granted on any new and useful process, machine, manufactured article, composition of matter, or any new and useful improvements thereof. During a patent's limited term, its owner has the right to exclude others from making, using, selling, offering for sale or importing the patented invention into the United States.

B. Copyright. A copyright is a property right granted to the creators (i.e. authors) of original works which are fixed in a tangible medium of expression and which are independently created and possess some minimal degree of creativity. The exclusive rights provided by a copyright include protection against unauthorized printing, publishing, copying, selling, distributing, and/or performing of the copyrighted work. Copyrighted materials include not only traditional written works but also such things as computer software, electronic files and publications,

internet/website files and publications, multimedia, CD-ROM's, videotapes, audiotapes, and training programs.

- C. Trademark. A trademark is either a word, phrase, symbol or design, or combination of words, phrases, symbols or designs, which identifies and distinguishes the source of goods or services from one party from those of others. A service mark is the same as a trademark except it identifies and distinguishes the source of a service rather than a product. Trademark rights may be used to prevent others from using a confusingly similar mark but not to prevent others from making the same goods or from selling them under a non-confusing mark.

III. PURPOSE OF THIS POLICY.

The purpose of this policy is to specify and protect the interests of ASTM in its intellectual property rights, and to describe the means by which ASTM has addressed protection of its rights and recognition of the intellectual property rights of others. ASTM's intellectual property rights, and the revenue generated by utilization of those rights, enables ASTM to carry out its mission.

All ASTM staff , members, and others as given in IV.B below are expected to comply with this policy.

IV. SCOPE.

- A. This policy applies to any ASTM standard, draft standard, or related document defined in Regulation 2 of the Regulations Governing ASTM Technical Committees, as well as to all other ASTM publications and related property, in all forms (including CD-ROM, software, multimedia, ASTM Internet Web Site, videotapes, audiotapes, and written), such as Special Technical Publications, Manuals, Technical Journals, Proficiency Test Program materials, Professional and

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- B. This policy applies to all employees, members, officers, directors, participants, and others involved with the development, adoption, publication, and/or distribution of ASTM Intellectual Property.

V. **POLICY.**

- A. All of ASTM’s Intellectual Property rights must be protected, regulated and maintained, no matter how wide the information is distributed in print, electronically, or otherwise.
- B. ASTM’s owns and maintains the rights to its Intellectual Property.
- C. ASTM reserves the right to copyright any of its print, electronic products, databases, audio/visual products and any other subject matter covered by the Copyright Act. This is intended to protect ASTM and its members from unauthorized copying and distribution of ASTM Intellectual Property.
- D. By participating in any ASTM technical committee and/or participating in the creation and adoption of ASTM’s Intellectual Property, participants and committee members acknowledge that the copyright to such Intellectual Property resides in ASTM. Such participants and committee members agree, if necessary,

to execute any and all documents deemed necessary or appropriate by ASTM to transfer and effectuate ownership of all such rights, including but not limited to copyrights, they may have in ASTM Intellectual Property.

- E. All participants in the creation of ASTM Intellectual Property agree to abide by the ASTM Charter, By-laws, Regulations Governing ASTM Technical Committees, and Form and Style for ASTM Standards, as well as this Policy, as may be amended from time to time.
- F. Individuals who participate in ASTM technical committees and related activities may, from time to time, where appropriate, be required to sign an agreement acknowledging the transfer of any rights in ASTM Intellectual Property to ASTM. The rights granted to ASTM by this assignment shall belong to ASTM in perpetuity.
- G. It is ASTM policy that the copyrights and other intellectual property rights of third parties be respected and not infringed by ASTM or any of its committees, or any employee, member or other person acting on behalf of ASTM.
- H. Electronic Networks.
 - I. The Copyright Act provides copyright protection for certain works fixed in any tangible medium expression, now or later developed, from which they can be perceived, reproduced or otherwise communicated, either directly or with the aid of technology.

2. As more and more sophisticated technology becomes available, it may become increasingly difficult to determine and enforce ownership of ASTM Intellectual Property rights. Therefore, inputting, uploading, downloading, reproducing, or transmitting ASTM Intellectual Property without ASTM's prior written permission is prohibited, with the exception that ASTM is not intending to limit the applicability of the "fair use" doctrine developed under the Copyright Act.

VI. PROCEDURE.

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1. Standards and related documents developed by ASTM committees are copyrighted by ASTM as a "Work for Hire" as given in the U.S. Copyright Act. When an individual accepts appointment to a committee, the individual may also be asked to acknowledge that copyrights and all rights to all materials produced by ASTM committees are owned by ASTM and that ASTM may register the copyright in its own name.
2. If, in developing a standard or related document, a committee proposes to incorporate material from the copyrighted publication of another organization, the committee should request ASTM staff to obtain written permission from the publisher to reprint the material. Reference to a patented item should be avoided, but the ASTM patent policy (F3 of Form and Style for ASTM Standards) must be complied with. Regulations Governing ASTM Technical Committees, Form and Style for ASTM Standards (including but not limited to F3, F4 and F5), and ASTM staff should be consulted for guidelines if patented items are to be referenced in a standard or document.

3. ASTM standards may currently include copyrighted material reproduced under agreement with the copyright holder. Similarly, ASTM may permit others to reprint its material based on appropriate license agreements.
4. The provision stated in A.3 (above) apply to all forms, including, for example, both hard copy and electronic media.
5. ASTM registers its trademarks and service marks in the United States and in countries around the world. As a condition for membership, members agree that the marks are the property of ASTM at all times.
6. Guidance to committees on protection of ASTM's Intellectual Property rights and avoidance of infringement of the rights of others is provided by the ASTM staff.

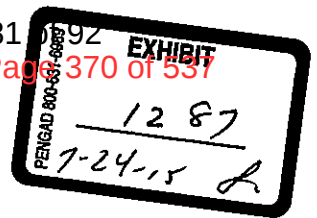
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Adopted by the ASTM Board of Directors, 28 April 1999

EXHIBIT 78



Originally Approved 28 April 1999

INTELLECTUAL PROPERTY POLICY OF ASTM INTERNATIONAL ("POLICY")

I. INTRODUCTION. Ownership and use of ASTM's Intellectual Property is vital to the ability of ASTM to fulfill its mission. ASTM owns and maintains the rights to its Intellectual Property; it is the responsibility of ASTM's Board of Directors ("Board"), staff, members, participants and authorized resellers/distributors to protect these valuable assets and ensure that they are used in accordance with this Policy.

A. Section 1 of the ASTM Charter states in part: "The corporation is formed for the development of standards on characteristics and performance of materials, products, systems and services; and the promotion of related knowledge."

B. ASTM By-law 4.4 states: "The Board shall delegate to such committees and other groups those powers necessary for the fulfillment of their assigned function."

C. By-law 7.1 states: "The Board of Directors is empowered to promulgate procedures for the development and adoption of voluntary consensus standards ..."

D. The Standing Committee on Publications ("COP") advises the Board on the formulation of publications policy. COP is responsible for the publications program of the Society except the acceptance for publication of ASTM's standards. "The Committee administers the Society's publications program ..."

E. The Committee on Technical Committee Operations ("COTCO") is responsible for the *Regulations Governing ASTM's Technical Committees ("Regulations")*, of which *17.1*, states: "Documents [including standards and provisional standards], technical papers, reports, minutes, letters to the editor, and related materials should be released for publication only through ASTM's Headquarters." *Regulation 15* governs the use or reference to a patent in an ASTM standard.

F. The Committee on Standards ("COS") is responsible for the manual, *Form and Style for ASTM Standards ("Form and Style")*. *Regulation 10.7* requires the current edition of *Form and Style* shall be followed in the writing of standards. *Section F* of that manual sets forth policies and procedures governing reference to patents, trademarks, similar marks, and reference to standards of other organizations in ASTM documents.

II. TYPES OF INTELLECTUAL PROPERTY.

Intellectual property includes patents, trademarks, and copyrights and trade secrets, as defined in various federal and state statutes.

A. Patent. A patent is a property right granted by the government to individuals who invent new and useful inventions. Patents may be granted on any new and useful process, machine, manufactured article, composition of matter, or any new and useful improvements thereof. During a patent's limited term, its owner has the right to exclude others from making, using, selling, offering for sale or importing the patented invention into the United States.

B. Copyright. A copyright is a property right granted to the creators (i.e. authors) of original works which are fixed in a tangible medium of expression and which are independently created and possess some minimal degree of creativity. The exclusive rights provided by a copyright include protection against unauthorized printing, publishing, copying, selling, distributing, and/or performing of the copyrighted work. Copyrighted materials include not only traditional written works but also such things as computer

software, electronic files and publications, internet/website files and publications, multimedia, CD-ROM's, videotapes, audiotapes, and training programs.

C. Trademark. A trademark is either a word, phrase, symbol or design, or combination of words, phrases, symbols or designs, which identifies and distinguishes the source of goods or services from one party from those of others. A service mark is the same as a trademark except it identifies and distinguishes the source of a service rather than a product. Trademark rights may be used to prevent others from using a confusingly similar mark but not to prevent others from making the same goods or from selling them under a non-confusing mark.

III. PURPOSE OF THIS POLICY.

The purpose of this Policy is to specify and protect the interests of ASTM in its intellectual property rights, and to describe the means by which ASTM has addressed protection of its rights and recognition of the intellectual property rights of others. ASTM's intellectual property rights and revenue generated by utilization of those rights enables ASTM to carry out its mission. All ASTM staff, members and others as given in IV.B, below, are expected to comply with this Policy.

IV. SCOPE.

A. This Policy applies to any ASTM standard, draft standard or related document defined in *Regulation 2* (and any adjuncts to such standard or document), as well as to all other ASTM publications and related intellectual property, in all forms (including CD-ROM, software, multimedia, ASTM Internet Web Site, videotapes, audiotapes, and written), such as Special Technical Publications, Manuals, Technical Journals, Proficiency Test Program materials, Professional and Technical Training materials, as well as use of trademarks, service marks and Logos (collectively referred to here as "ASTM Intellectual Property"). (Many of these, as well as other examples of ASTM Intellectual Property, are listed in the ASTM Publications Catalog and related brochures. Logos are specifically covered by the *ASTM Logo Policy* as adopted by the ASTM Board on October 15, 1998.)

B. This Policy applies to all employees, members, officers, directors, participants, authorized resellers/distributors and others involved with the development, adoption, publication, use and/or distribution of ASTM Intellectual Property. For purposes of this Policy, "committee" or "technical committee" includes sub-committees and task groups.

C. Participants, members and authorized resellers/distributors acknowledge and agree that the adoption, enactment, reference, or incorporation of any of the ASTM Intellectual Property by any government or agency has not and will not effect, transfer, modify or alter the copyrights of the ASTM Intellectual Property in any way.

V. POLICY.

A. All of ASTM's Intellectual Property rights must be protected, regulated and maintained, no matter how wide the information is distributed in print, electronically, or otherwise. Such protection is essential to ASTM's ability to fulfill its mission.

B. ASTM's owns and maintains the rights to its Intellectual Property.

C. ASTM reserves the right to copyright any of its print, electronic products, databases, audio/visual products and any other subject matter covered by the Copyright Act. This is intended to protect ASTM and its members from unauthorized copying and distribution of ASTM Intellectual Property.

D. By participating in any ASTM technical committee and/or participating in the creation, development and/or adoption of ASTM's Intellectual Property, participants and committee members acknowledge that the copyright to such Intellectual Property resides in ASTM. Such participants and committee members agree if requested by ASTM, to execute any and all documents deemed necessary or appropriate by ASTM to transfer and effectuate ownership of all such rights, including but not limited to copyrights, they may possibly have in ASTM Intellectual Property. The rights granted to ASTM by this assignment or transfer shall belong to ASTM in perpetuity.

E. All participants, members and staff agree to abide by and follow the requirements of the ASTM Charter, By-laws, *Logo Policy*, *Regulations Governing ASTM Technical Committees*, and *Form and Style for ASTM Standards*, as well as this Policy, as each may be amended from time to time, when creating, developing or utilizing ASTM Intellectual Property.

F. It is ASTM policy that the copyrights and other intellectual property rights of third parties be respected and not infringed by ASTM or any of its committees, or any employee, member or other person acting on behalf of ASTM.

G. It is ASTM policy that, if at all possible, proprietary and/or patented equipment, apparatus, material or information not be included in a standard. If such inclusion is necessary, *By-law 15* must be complied with.

H. ASTM registers its trademarks and service marks in the United States and in countries around the world. As a condition for membership, members agree that the marks are the property of ASTM at all times. Use of the marks is subject to, among other things, ASTM's *Logo Policy*.

I. Electronic Networks.

1. The Copyright Act provides copyright protection for certain works fixed in any tangible medium expression, now or later developed, from which they can be perceived, reproduced or otherwise communicated, either directly or with the aid of technology.

2. As more and more sophisticated technology becomes available, it may become increasingly difficult to determine and enforce ownership of ASTM Intellectual Property rights. Therefore, inputting, uploading, downloading, reproducing, or transmitting ASTM Intellectual Property without ASTM's prior written permission is prohibited.

VI. PROCEDURE.

A. Intellectual Property – Standards.

1. Standards and related documents developed by or for ASTM committees are copyrighted by ASTM as set forth in the U.S. Copyright Act. When an individual or entity joins, volunteers for or accepts appointment to the Society or a committee, the individual or entity, as a condition of membership and participation, expressly acknowledges and agrees that copyrights and all rights to all materials produced by or for ASTM committees are owned by ASTM and that ASTM will register the copyright in its own name.

2. If, in developing a standard, other document or adjuncts to such standards or documents, a committee proposes to incorporate material from the copyrighted publication of another organization, the committee should request ASTM staff to obtain written permission from the publisher copyright holder to reprint the material. Reference to a patented item should be avoided if at all possible, but in all cases the *ASTM Patent Policy (By-law 15)* and *F3 of Form and Style for ASTM Standards* must be complied with. *Regulations Governing ASTM Technical Committees, Form and Style for ASTM Standards* (including but not limited to *F3, F4 and F5*), and ASTM staff should be consulted for guidance if patented items or trade/service marks are to be referenced in a standard or document.

3. ASTM standards may currently include copyrighted material reproduced under

agreement with the copyright holder. Similarly, ASTM may permit others to reprint its material based on appropriate license agreements. F3 of *Form and Style* must be followed when referencing standards of other organizations.

4. The provision stated in A.3 (above) applies to all forms of media, including, for example, both hard copy and electronic formats.

5. Guidance to committees and members on protection of ASTM's Intellectual Property rights and avoidance of infringement of the rights of others is provided by the ASTM staff.

6. Only [an officer] of ASTM can grant permission for the use, copying or distribution of ASTM Intellectual Property by others. Any requests for such permission must be forwarded to ASTM staff for consideration and further action.

B. Intellectual Property Other Than Standards

1. ASTM recognizes different ways to assign intellectual property rights:

a) When individual authors submit manuscripts for technical papers for publication by ASTM in an ASTM Special Technical Publication or ASTM Journal, the author must sign an agreement (**Author Agreement**) whereby ownership of the material is assigned to ASTM. However, if the technical paper was prepared in the course of the author's employment by the U.S., Canadian, or British Governments, ASTM acknowledges that copyright does not exist.

b) When ASTM contracts, subsidizes, or agrees with writers, authors, editors, or others to prepare or otherwise help create ASTM Intellectual Property other than technical papers as given in 1a above, a "**Work for Hire**" Agreement must be signed in which copyright is acknowledged to reside in ASTM or will be assigned to ASTM. Copyright shall be granted and/or assigned exclusively to ASTM, including any and all rights protected by the Copyright laws of the United States and all other countries as set forth in the respective agreement.

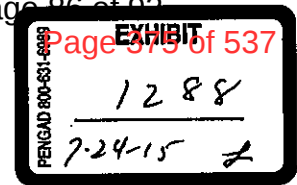
2. When ASTM creates and distributes its Intellectual Property, ASTM may do so in whatever manner it decides. This will not, however, preclude the use of the Intellectual Property by authors and editors as set forth in the applicable agreements described in 1a and 1b above.

3. ASTM will take reasonable precautions to preserve the property rights of an author of a manuscript submitted but not accepted for publication by ASTM.

C. Licensing. ASTM may, at its sole discretion, assign, license or permit the use by others of its Intellectual Property. ASTM requires any individual or entity who desires to copy, reproduce, market, create a derivative work utilizing or distribute any of ASTM's Intellectual Property (e.g. Standards, Draft Standards, Adjuncts, Technical Papers, Research Reports, Manuals, Software, Training Course Materials, Logos) to execute an appropriate **ASTM License Agreement**. Such agreements will normally require, among other things, that licensees not modify the ASTM Intellectual Property and to make appropriate copyright acknowledgments and royalty payments. ASTM has no obligation to execute such agreements.

As amended by the ASTM Board of Directors, _____ 2003.

EXHIBIT 79



Originally Approved 28 April 1999

INTELLECTUAL PROPERTY POLICY OF ASTM INTERNATIONAL ("POLICY")

I. INTRODUCTION. Ownership and use of ASTM International's Intellectual Property (e.g. Standards, Draft Standards, Adjuncts, Certification Programs and related materials, Technical Papers, Research Reports, Manuals, Software, Training Course Materials and Logos collectively referred to as "ASTM IP") are vital to the ability of ASTM International to fulfill its mission. ASTM International owns and maintains the rights to its Intellectual Property; it is the responsibility of ASTM International's Board of Directors ("Board"), staff, members, and others who participate in the creation of ASTM IP (collectively "Participants"), as well as authorized resellers/distributors of ASTM IP, to protect these valuable assets and ensure that they are used in accordance with this Policy.

A. Section 1 of the ASTM International Charter states in part: "The corporation is formed for the development of standards on characteristics and performance of materials, products, systems and services; and the promotion of related knowledge." Section 9 of the Charter also states, in part: "...the Corporation shall not engage in any activity which is not educational, technical, scientific or charitable..."

B. ASTM International By-law 4.4 states: "The Board shall delegate to such committees and other groups those powers necessary for the fulfillment of their assigned function."

C. ASTM International By-law 7.1 states: "The Board of Directors is empowered to promulgate procedures for the development and adoption of voluntary consensus standards..."

D. The Standing Committee on Publications ("COP") advises the Board on the formulation of publications policy. COP is responsible for all publications programs of the Society except the acceptance for publication of ASTM International's standards.

E. The Committee on Technical Committee Operations ("COTCO") is responsible for the *Regulations Governing ASTM's Technical Committees ("Regulations")*, of which **Regulation 17.1** states: "Documents [including standards and provisional standards], technical papers, reports, minutes, letters to the editor, and related materials should be released for publication only through ASTM's headquarters."

F. Regulation 10.7 requires that the current edition of the manual, *Form and Style for ASTM Standards ("Form & Style")* will be followed in the writing of standards (the Committee on Standards ("COS") is responsible for Form & Style). **Section F** of Form & Style sets forth policies and procedures governing, among other matters, reference to patents, trademarks, similar marks, and reference to standards of other organizations, in ASTM International documents. **Regulation 15** governs the use or reference to a patent in an ASTM International standard.

II. TYPES OF INTELLECTUAL PROPERTY.

Intellectual property includes patents, trademarks and copyrights, as defined in various federal and state statutes.

A. Patent. A patent is a property right granted by the government to inventors of new and useful inventions. Patents may be granted on any new and useful process, machine, manufactured article, composition of matter, or any new and useful improvements thereof. During a patent's limited term, its owner has the right to exclude others from making, using, selling, offering for sale or importing the patented invention into the United States.

B. Copyright. A copyright is a property right granted to the creators (i.e. authors) of original works that are fixed in a tangible medium of expression and that are independently created and possess some minimal degree of creativity. The exclusive rights provided by a copyright include protection against unauthorized printing, publishing, copying, selling, distributing, and/or performing of the copyrighted work. Copyrighted materials include not only traditional written works but also such things as computer software, electronic files and publications, internet/website files and publications, multimedia, CD-ROMs, DVDs, videotapes, audiotapes, and training programs.

C. Trademark. A trademark is a word, phrase, symbol or design, or combination of words, phrases, symbols or designs, which identifies and distinguishes the source of goods or services from one party from those of others. A service mark is the same as a trademark except it identifies and distinguishes the source of a service rather than a product. Trademark rights may be used to prevent others from using a confusingly similar mark but not to prevent others from making the same goods or from selling them under a non-confusing mark.

III. PURPOSE OF THIS POLICY.

The purpose of this Policy is to specify and protect the interests of ASTM International in its Intellectual Property rights, and to describe the means by which ASTM International has addressed protection of these rights and recognition of the intellectual property rights of others. ASTM International's Intellectual Property rights and revenue generated by utilization of those rights enable ASTM International to carry out its mission. All ASTM International staff, members, and others as stated in IV.B, below, are expected to comply with this Policy.

IV. SCOPE.

A. This Policy applies to any ASTM International standard, draft standard or related document (hereinafter referred to as "ASTM Documents") defined in Regulation 2 of the Regulations Governing ASTM Technical Committees, and any adjuncts to such ASTM Documents, as well as to all other ASTM International publications and related property, in all forms (including CD-ROM, software, multimedia, ASTM Internet Web Site, videotapes, audiotapes) and written materials such as Certification Programs and materials, Special Technical Publications, Manuals, Technical Journals, Proficiency Test Program materials, Professional and Technical Training materials, as well as use of trademarks, service marks, certification marks and Logos (collectively part of ASTM IP). (Many of these, as well as other examples of ASTM IP, are listed in the ASTM International Publications Catalog and related brochures. Logos are specifically covered by the ASTM International Logo Policy as adopted and amended by the Board.)

B. This Policy applies to all ASTM International employees, members, officers, directors, Participants, resellers/distributors and others involved with the development, adoption, publication, use and/or distribution of ASTM IP. For purposes of this Policy, "committee" or "technical committee" includes subcommittees and task groups.

C. Participants, members, and authorized resellers/distributors acknowledge and agree that the adoption, enactment, reference, or incorporation of any of the ASTM IP by any government or agency has not and will not effect, transfer, modify or alter the copyrights of the ASTM IP in any way.

V. POLICY.

A. All of ASTM International's Intellectual Property rights must be protected, regulated and maintained, no matter how wide the information is distributed in print, electronically, or otherwise. Such protection is essential to ASTM International's ability to fulfill its mission and maintain its Intellectual Property. The Board of Directors has approved the Principles for the Use of ASTM Intellectual Property by Other Standards Organizations.

B. ASTM International owns and maintains the rights to its Intellectual Property.

C. ASTM International reserves the right to copyright any of its print, electronic products, databases, audio/visual products and any other subject matter covered by Copyright (pursuant to the US Copyright Act and International Copyright law). This is intended to protect ASTM International and its members from unauthorized copying and distribution of ASTM IP.

D. By participating in any ASTM International technical committee and/or participating in the creation, development and/or adoption of ASTM IP, Participants and committee members acknowledge that the copyright to such Intellectual Property resides in ASTM International. Each member agrees, by such participation and enjoyment of his/her annual membership benefits, to have transferred any and all ownership interest, including copyright, they possess or may possess in the ASTM IP to ASTM. If requested by ASTM International, such Participants and committee members agree to execute any and all documents deemed necessary or appropriate by ASTM International to transfer and effectuate ownership of all such rights, including but not limited to copyrights, they may possibly have in ASTM IP. The rights granted to ASTM International by this assignment or transfer shall belong to ASTM International in perpetuity.

E. All Participants, members and staff agree to abide by and follow the requirements of the ASTM International Charter, ASTM International By-laws, Regulations Governing ASTM Technical Committees, and Form and Style for ASTM Standards, ASTM International Logo Policy, as well as this Policy, as each may be amended from time to time, when creating, developing or utilizing ASTM IP.

F. It is ASTM International's policy, reflected in **Form & Style F5**, that the copyrights and other intellectual property rights of third parties be respected and not infringed by ASTM International or any of its committees, or any employee, member or other person acting on behalf of ASTM International.

G. It is ASTM International policy that, if at all possible, proprietary and/or patented equipment, apparatus, material or information not be included in a standard. If such inclusion is necessary, ASTM International's **Patent Policy (Regulation 15)** must be complied with.

H. ASTM International registers its trademarks and service marks in the United States and in countries around the world. As a condition of membership, members agree that the marks are the property of ASTM International at all times. Use of the marks is subject to, among other things, ASTM International's Logo Policy.

I. Electronic Networks.

1. The US Copyright Act (as well as International Copyright law) provides copyright protection for certain works fixed in any tangible medium expression, now or later developed, from which they can be perceived, reproduced or otherwise communicated, either directly or with the aid of technology.

2. As more and more sophisticated technology becomes available, it may become increasingly difficult to determine and enforce ownership of ASTM International's Intellectual Property rights; therefore, inputting, uploading, downloading, reproducing, or transmitting ASTM IP without ASTM International's prior permission (or in conformity with ASTM International's applicable License Agreements) is prohibited.

VI. PROCEDURE.

A. Intellectual Property -- Standards.

1. Standards and related documents developed by or for ASTM International committees are copyrighted by ASTM International, as set forth in the U.S. Copyright Act. When an individual or entity joins, volunteers for or accepts appointment to the ASTM International or an ASTM International committee, the individual or entity, as a condition of membership and participation, expressly acknowledges and agrees that copyrights and all rights to all materials produced by or for ASTM International committees are owned by ASTM International and that ASTM International will register the copyright and hold all intellectual property rights in its own name.

2. Copyrights and Patents in ASTM Standards. If, in developing an ASTM Document or adjuncts to such ASTM Documents, a committee proposes to incorporate material from the copyrighted publication of another organization, the committee should request ASTM International staff to obtain written permission from the copyright holder to reprint the material. Reference to a patented item should be avoided, if at all possible, but in all cases section **F5 of Form & Style** must be complied with. **Regulation 15** of the *Regulations Governing ASTM Technical Committees*, and *Form and Style for ASTM Standards* (including but not limited to sections **F3** and **F4**), as well as ASTM International staff, should be consulted for guidance if patented items or trade/service marks are to be referenced in an ASTM Document.

3. ASTM International standards may currently include copyrighted material reproduced under agreement with the copyright holder. Similarly, ASTM International may permit others to reprint its material based on appropriate license agreements. Section **F5** of Form and Style must be followed when referencing standards of other organizations.

4. The provision stated in A.3 (above) applies to all forms of media, including, for example, both hard copy and electronic formats.

5. Guidance to committees and members on protection of ASTM IP and avoidance of infringement of the rights of others is provided by the ASTM International staff.

6. Permission to Use ASTM IP. Only the President of ASTM International or the Vice President of Publications of ASTM International (in commercial transactions) can grant permission for the use, copying or distribution of ASTM IP by others. Any requests for such permission must be forwarded to ASTM International staff for consideration and further action.

B. Intellectual Property Other Than Standards

1. ASTM International recognizes different ways to assign intellectual property rights:

a) When individual authors submit manuscripts of technical papers for publication by ASTM International, the author must sign an agreement (Author Agreement) whereby ownership of the material is assigned to ASTM International; however, if the technical paper was prepared in the course of the author's employment by the U.S., Canadian, or British Governments, ASTM acknowledges that copyright does not exist.

b) When ASTM International contracts, subsidizes, or agrees with writers, authors, editors, or others to prepare or otherwise help create ASTM IP other than technical papers as given in 1a above, a "Work for Hire" Agreement must be signed in which copyright is acknowledged to reside in ASTM International or will be assigned to ASTM International. Copyright shall be granted and/or assigned exclusively to ASTM International, including any and all rights protected by the copyright laws of the United States and all other countries as set forth in the respective agreement.

2. When ASTM International creates and distributes ASTM IP, ASTM International may do so in whatever manner it decides. This will not, however, preclude the use of the Intellectual Property by authors and editors as set forth in the applicable agreements described in 1a and 1b above.

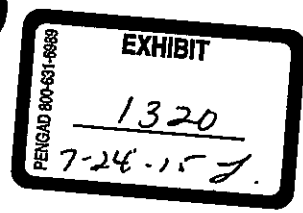
3. ASTM International will take reasonable precautions to preserve the property rights of an author of a manuscript submitted, but not accepted, for publication by ASTM International.

C. Licensing. ASTM International may, at its sole discretion, assign, license or permit the use by others of ASTM IP. ASTM International requires any individual or entity who desires to copy, reproduce, market, create a derivative work utilizing or distribute any of ASTM International's Intellectual Property (e.g. Standards, Draft Standards, Certification Programs and materials, Adjuncts, Technical Papers, Research Reports, Manuals, Software, Training Course Materials, Certification Marks and Logos) to execute an appropriate ASTM License Agreement. Such agreements will normally require, among other things, that licensees not modify the ASTM IP and that they make appropriate copyright acknowledgments and royalty payments. ASTM International has no obligation to execute such agreements.

As amended by the ASTM International Board of Directors, October 28, 2003 and April 13, 2010

EXHIBIT 95

STANDARDS WRITING



101

NEW STANDARDS

/by Felicia Quinzi/

YOUR INDUSTRY OR SERVICE SECTOR
NEEDS A NEW STANDARD, BUT
WHERE DO YOU BEGIN TO
GET IT WRITTEN AND
APPROVED?

READ
ON.

W

riting a new standard can seem a daunting task, especially if you have never before thought of yourself as an author. However, ASTM, a consensus organization that wholly promotes

collaborative efforts, offers many tools to get you started and see you through until the end or, at least, until someone votes negative.

ToolBox

“Search for Individual Standards” Page: To find out if a standard is already developed in the area you want, go to www.astm.org (click on the [ASTM Store](#), then on [Search for Individual Standards](#) and do a keyword search).

“Request for the Development of a New Standard” Form: Go to www.astm.org (click on [Technical Committees/Membership](#), then on [Standards Development Tools](#)) or contact your staff manager.

Form and Style for ASTM Standards: Go to www.astm.org (click on [Technical Committees/Membership](#), then on [Standards Development Tools](#)) or contact your staff manager.

Interactive Standards Development Forums: To develop standards online, see the ASTM Forums Web page (<http://astmforums20.micronexx.com>).

WHAT YOU WILL NEED:

- ▶ New Standard Development request form (Figure 1, see page 22);
- ▶ *Form and Style for ASTM Standards*, a.k.a. the “Blue Book”;
- ▶ Input from other experts;
- ▶ Access to the Internet (optional);
- ▶ Instructions for establishing an interactive forum on the ASTM Web site (optional);
- ▶ Your staff manager;
- ▶ A No. 2 pencil or a PC;
- ▶ A comfortable chair;
- ▶ Patience.

HOW GOOD IS MY IDEA?

The first step is to introduce the idea for a new standard to the appropriate subcommittee. The concept must fall under the subcommittee's scope, first and foremost. The subcommittee should agree that the proposed activity is worthwhile, feasible, and needed. More importantly, verify that the standard you hope to write does not already exist under the jurisdiction of another committee or organization. Avoid duplication of effort and jurisdictional disputes!

To do this, do a keyword search of all approved ASTM standards on the ASTM Web site (see “Search for Individual Standards” in the ToolBox). If a standard turns up that sounds similar

to the one you are about to write, contact your staff manager for further information. In addition, your staff manager can assist in finding out whether your or another committee has a work in progress on a similar or related subject by searching draft standards under development in ASTM.

NEW STANDARD DEVELOPMENT FORM

The best way to ensure that an activity is appropriate is to complete the “Request for the Development of a New Standard” form (see ToolBox).

The subcommittee having jurisdiction over the proposed project should approve the development of the activity and the subcommittee chairman should subsequently sign the form. If you are between meetings, the chairman may sign the form on the assumption that there will be approval of the activity at the next meeting.

Filling out the form will trigger the crucial steps to be taken, such as (1) establishing a well-defined scope or objective; (2) identifying those who have expertise in a given area; (3) identifying those who need to be

made aware of, or invited to participate in, a given activity; (4) identifying the end users; (5) creating a task group representing all interests; (6) enabling the subcommittee to track a task group's efforts; and (7) publicity.

Ideally, the task group would be formed under the subcommittee with

The best way to ensure that an activity is appropriate is to complete the “Request for the Development of a New Standard” form.

a manageable number of members (approximately four to six) representing a balance of interests. Should this task group need to look outside of the ASTM subcommittee or committee for expertise, other members or individuals should be invited to participate.

NOTE—Task group members are not required to be members of ASTM.

JOINT TASK GROUPS

Coordination and cooperation are two of the most important elements

(CONTINUED ON PAGE 23)



REQUEST FOR THE DEVELOPMENT OF A NEW STANDARD

(COMPLETION OF THIS FORM IS REQUIRED FOR THE FORMATION OF A TASK GROUP TO DEVELOP A NEW STANDARD. SOME OF THE INFORMATION MAY NOT BE NECESSARY OR APPROPRIATE AS DETERMINED BY YOUR SUBCOMMITTEE.)

SUBCOMMITTEE DESIGNATION (e.g. A01.22): _____ **DATE:** _____

TASK GROUP CHAIRMAN: _____

PHONE: (_____) _____ **EMAIL:** _____

ADDRESS (* only if non-ASTM member): _____

PROPOSED DRAFT DOCUMENT TITLE: _____

PROPOSED SCOPE: _____

IMPORTANT KEYWORDS that are not included above: _____

PROJECTED TARGET DATE for first subcommittee ballot: _____

EXPLAIN why the standard is needed and how it will be used (i.e. adopted by government agency, procurement, quality assurance): _____

List other ASTM Committees or key outside organizations that you feel should be informed of this activity: _____

LIST TASK GROUP MEMBERS ALONG WITH THEIR AFFILIATIONS:

NAME	AFFILIATION	NAME	AFFILIATION
1		6	
2		7	
3		8	
4		9	
5		10	

Are you interested in utilizing the **ASTM Web-Based Interactive Standards Development Forums?** (please check one) ☐ Yes ☐ No

APPROVED AT SUBCOMMITTEE MEETING ON: _____ (date)

OR

APPROVED BY SUBCOMMITTEE CHAIRMAN ON: _____ (date)

NOTE: If approved by the chairman between meetings, the task group will be approved by the subcommittee at their next meeting.

SIGNATURE OF SUBCOMMITTEE CHAIRMAN: _____

By completing this form, the task group chairman acknowledges that all copyrights to this document, as a draft and as an approved ASTM standard, are the sole and exclusive property of ASTM, in accordance with the Intellectual Property policies of the Society.

SIGNATURE OF TASK GROUP CHAIRMAN: _____

➡ **FORWARD COMPLETED FORM TO YOUR COMMITTEE STAFF MANAGER**

10/99

ments of standards development and maintenance. By coordinating openly with other members, a task group can bring together key stakeholders and receive input at the start of a project, rather than later on when much time and energy has been expended.

Furthermore, when a subcommittee identifies other subcommittees that should be represented on the task group, the subcommittee chairman should inform his or her staff manager. The manager will initiate coordination between the two or more subcommittees. Then, additional members will join the task group to represent the interests of the committees to which they belong. We call this a "joint task group." This could also be the case for representatives from organizations other than ASTM. The joint task group is a vehicle for individuals to communicate their interests.

PUBLICIZE!

If you are uncertain as to whether another committee or organization is interested in or may be impacted by your activity, publicize! Your staff manager can assist you with contacting the ASTM Corporate Communications Department.

HOW WILL THE STANDARD BE USED?

Doing the research up front will save time and energy. Ask questions of your subcommittee, such as: "Is it possible that the standard will be cited in a building code?" "Will a government agency or regulatory body adopt the standard?"

START WRITING

Start by writing "Draft #1" at the top of your first page. It is likely that there will be more than one or two drafts of the document and it is always interesting to keep track.

WHAT KIND OF STANDARD AM I?

Now is the time to reach for your Blue Book (*Form and Style for ASTM Standards*) and dust it off, or download the latest version (October 1999) from the Web site (see ToolBox). Review the definitions of test method,

specification, practice, guide and classification. By determining which type of standard you are writing, you will know which mandatory sections must be included in your document.

Once you know which sections you need, you can start with an outline, such as (in the case of a test method):

- ▶ Title;
- ▶ Scope—purpose of the standard, general information;

The draft will have become a consensus document created, refined, and agreed upon by the experts in the industry.

- ▶ Significance and Use—how the standard is to be applied, specific information;
- ▶ Apparatus;
- ▶ Materials;
- ▶ Procedure;
- ▶ Keywords for indexing purposes.

USING THE INTERNET

ASTM encourages the use of the Interactive Standards Development Forums, a Web-based standards development tool to which you have access 24 hours a day, seven days a week (see ToolBox). Through the Forums, a task group chairman can designate who has the ability to review and

comment on a draft.

Headquarters assigns each task group member a password when a Forum is created. The task group members view not only the draft, but also each other's comments.

YOUR FIRST DRAFT GOES TO BALLOT

A first draft typically goes to a subcommittee ballot and receives its first round of comments and negatives. This is actually very positive and productive for the task group.

If, as mentioned above, a joint task group is working on the draft because another subcommittee needs to be involved, an "informational ballot" is an option. In addition to balloting within the subcommittee with jurisdiction, a different subcommittee may receive an informational ballot. Comments received on the informational ballot are handled in the same manner as a negative or comment on the official ballot.

A STANDARD IS BORN

Maybe it seemed as though there were a few obstacles. Perhaps you thought there was too much paperwork. However, the draft is approved and published as an ASTM standard. The draft will have become a consensus document created, refined, and agreed upon by the experts in the industry. The standard can be used worldwide in the international marketplace and adopted by countries in places where you have never been. We think that it's worth it. //

Felicia Quinzi is a manager in the Technical Committee Operations Division.



HOWTO|

EXHIBIT 96

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA**

AMERICAN SOCIETY FOR TESTING AND
MATERIALS d/b/a ASTM INTERNATIONAL;

NATIONAL FIRE PROTECTION
ASSOCIATION, INC.; and

AMERICAN SOCIETY OF HEATING,
REFRIGERATING, AND AIR CONDITIONING
ENGINEERS, INC.,

Plaintiffs/Counter-defendants,

v.

PUBLIC.RESOURCE.ORG, INC.,

Defendant/Counterclaimant.

Case No. 1:13-cv-01215-TSC-DAR

EXPERT REPORT OF JAMES R. FRUCHTERMAN

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Introduction

As an expert in accessibility of written materials for people who have disabilities that affect using standard print (people who are print disabled), I have been retained by Public.Resource.Org to evaluate the accessibility of certain online content available on the websites of the plaintiffs and the defendant in this case. As someone dedicated to improving accessibility for the benefit of people with disabilities and in the public interest, I agreed to evaluate the accessibility to people who are blind of specific commonly used standard documents located on different websites.

This expert report is a summary of certain opinions that I intend to give, if asked, at trial regarding the accessibility of documents on various websites to people who are blind. This report also states the bases for my opinions, and it discloses the data or other information considered in forming those opinions. I reserve the right to change or supplement this report if additional evidence comes to my attention, and to prepare demonstratives and/or exhibits to illustrate or explain my opinions, as appropriate.

A copy of my curriculum vitae, including a list of my publications and presentations, is **Exhibit A** to this report. I provide my expertise in this case pro bono, and I am not receiving compensation for my time researching, writing this report, or testifying. I previously served as an expert in *The Authors Guild, Inc. et al. v. HathiTrust, et al.*, Case No. 1:11-cv-06351-HB (S.D.N.Y.) (case filed September 12, 2011), although I did not testify in that case. I have not given deposition or trial testimony in the past four years.

Background and Qualifications

I serve as Founder and Chief Executive Officer of Benetech, a nonprofit dedicated to creating new technology solutions that serve humanity and empower people to improve their lives. In 1980 I earned a B.S. in Engineering and an M.S. in Applied Physics from California Institute of Technology. I co-founded Calera Recognition Systems in 1982. Calera developed optical character recognition (OCR) technology that allowed computers to read virtually all printed text.

In 1989, I founded Arkenstone, a nonprofit social enterprise, which produced reading machines for the print disabled community based on the Calera technology, and was at one time the largest maker of affordable reading systems for the blind. The Arkenstone product line was sold in 2000 and the resulting capital funded the next phase of Arkenstone under its new name, Benetech. I have been the CEO of Benetech/Arkenstone since 1989.

I have served on three U.S. federal government advisory committees for disability issues: the Section 255 Telecommunications Access Advisory Committee, the Section 508 Electronic Information and Technology Access Advisory Committee, and the Advisory Commission on Accessible Instructional Materials in Postsecondary Education for Students with Disabilities. I have received numerous other awards and recognition for my work making print materials accessible to people who are blind or otherwise print disabled. In 2006 I received a MacArthur Fellowship. I was named an Outstanding Social Entrepreneur in 2003 by the Schwab Foundation and have frequently participated in the World Economic Forum Annual Meetings in Davos, Switzerland. Benetech received the Skoll Award for Social Entrepreneurship under my leadership. I also received the Migel Medal from the American Foundation for the Blind, the Robert F. Bray Award from the American Council of the Blind, and the American Library

Association's Francis Joseph Campbell Award in recognition of my successful efforts to make literary works more accessible to people who are blind or visually impaired.

What Does Accessibility Mean for a Blind Person?

Accessibility is usually defined in a functional way: can a person with a disability independently access the same information and perform the same tasks as a person without a disability? When it comes to accessing materials traditionally available as print, such as standards, there are many groups of print disabilities. The most severe is blindness, where a person cannot perceive the printed text at all. The next is vision impairment, where a person generally cannot perceive the text directly or with corrective lens, but may be able to use magnifiers of different types to read the text. Another group is learning disabilities that interfere with reading, such as dyslexia. A closely related group of disabilities involve brain injuries that affect reading or the retention of material read. Another group is physical disabilities that interfere with the holding or seeing of books or the turning of pages.

In this report, I focused on the accessibility challenges that would be experienced by blind people, because they are generally the most severe print disabilities. The other groups of people with print disabilities use similar technologies to access print (such as having it read aloud), and experience similar challenges as blind people. In the accessibility field, it is generally understood that if you make information accessible to a blind person, it will probably also meet the accessibility needs of the great majority of people with other print disabilities.

The most common technology used by a blind person for accessibility is called a screen reader. As the name suggests, a screen reader is a program that runs on a personal computer or a smartphone that reads the information on the screen aloud (using a computer-synthesized voice)

to a blind person. The screen reader runs “on top of” other programs, figuring out not only what text is on the screen, but also the controls that are displayed: items such as buttons, menus, text-entry boxes and the like. Because of the amount of information on a complete screen, and its complexity, blind people need to be able to focus on the most important information so that they do not waste time listening to everything on the screen.

For the purpose of this report, measuring the accessibility of standards, I am assuming that the blind user is using a screen reader on top of a web browser on a personal computer. Based on the information the screen reader can glean from the web pages displayed on the screen, can a blind person locate the standard and read it?

The accessibility tasks I tested were designed to assess whether a blind user with basic assistive technology skills could perform the same kind of tasks one might expect a user without a disability to perform in accessing a given standard, without requiring the intervention of a third party. This functional approach is the most common method of assessing accessibility.

The specific tasks I investigated were:

- Could a blind user with basic assistive technology skills independently access a specific standard of interest?
- Could a blind user independently read the entire standard using assistive technology?
- Could a blind user independently navigate to a specific place in the standard and read the content in that place?
- Could a blind user independently do a full text search and find specific mentions of terms of interest?

I conducted these tests on a number of the same standards available on the Public.Resource.Org website and in the free reading sections of the websites of the National Fire Protection

Association (NFPA), the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), and the American Society for Testing and Materials (ASTM). I primarily used the Window-Eyes screen reading software to perform my tests, but I also confirmed some of my observations with the JAWS screen reading program (these are the two most commonly-used screen reading programs by people who are print disabled). In order to further confirm my observations, I was assisted by an engineer who is blind and who is a skilled daily user of screen reader software. This engineer used the JAWS screen reader to confirm that as an individual who is print disabled and a regular user of a screen reader program, he was unable to access the website and several specific standards that I had found to be inaccessible to people who are print disabled.

Overview and Summary of Opinions

Having reviewed the accessibility of the same standards content rendered by Public.Resource.Org and those of the free access options provided by the NFPA, ASHRAE and ASTM, it is my opinion that Public.Resource.Org currently provides the only accessible option for people/citizens with print disabilities to access these standards.

Based on my extensive experience with content accessibility, approaches for “free access” that make it impossible to copy text generally make it impossible for the assistive technology used by people with print disabilities, especially blind people, to read the text aloud, present it visually in more accessible manners, or make the text available in braille.

Technological mechanisms that are designed to stop copying generally have the unfortunate side effect of locking out people with print disabilities from the ability to read the material.

The versions of the standards on the NFPA, ASHRAE, and ASTM free reading websites are not available in a way that is accessible to blind users. First, the NFPA and ASTM websites require registration before a user can access free standards on their websites. Although a blind user may be able to register on the ASTM website, a person who is blind would not be able to independently gain access to the NFPA standards because the NFPA website uses a registration process that employs buttons without proper markings for the blind to perceive them with accessibility software. Second, the free reading websites for NFPA, ASHRAE, and ASTM each display their standards in separate windows that prevent assistive technology from perceiving the words in those windows, meaning that that blind people would not be able to tell the difference between the standards and a blank window. These websites do not allow the text of the standard to be read aloud by a screen reader; the navigation controls do not work with a screen reader, so blind people are unable to navigate to a specific location in the standard; and the text search function does not work with a screen reader.

In contrast, the versions of the standards on the Public.Resource.Org website are available in a way that is accessible to blind users. Firstly, the Public.Resource.Org website does not require a registration process before a user can access the files containing the standards; the files are directly available to users. Secondly, many of the standards on the Public.Resource.Org website are available in well-structured HTML, a highly accessible format that allows blind users similar quality of access as that enjoyed by a person without a disability accessing a print version of the standard (or a locked digital version). Although some standards are available only in PDF format on the Public.Resource.Org website, those documents are accessible through extra steps such as optical character recognition. To summarize, it is my opinion that the standards on the Public.Resource.Org website are accessible to the blind through screen reader software, whereas

the standards on the free reading portions of the NFPA, ASHRAE, and ASTM websites are not accessible to the blind through screen reader software. Furthermore, it is my opinion that people with other print disabilities, such as vision impairment, dyslexia, brain injury and physical disabilities, would find the standards on the Public.Resource.Org accessible with screen readers and other assistive technology, whereas the standards on the free reading portions of the NFPA, ASHRAE, and ASTM websites would not be accessible to the great majority of people with these types of print disabilities.

Testing the National Fire Protection Association Website's Accessibility

I performed my test of the NFPA, ASHRAE, and ASTM websites in two phases. The first phase was an investigation of whether a blind or visually impaired person can gain access to a standard on the NFPA website by going through a process of obtaining free access while using a screen reading program. On the NFPA website it appears that users must register and agree to terms of use before accessing any of the free standards on the website. The results of the test are that a blind user would not be able to independently sign up for a free account on the NFPA website because the registration process involves elements that cannot be perceived by screen reading software.

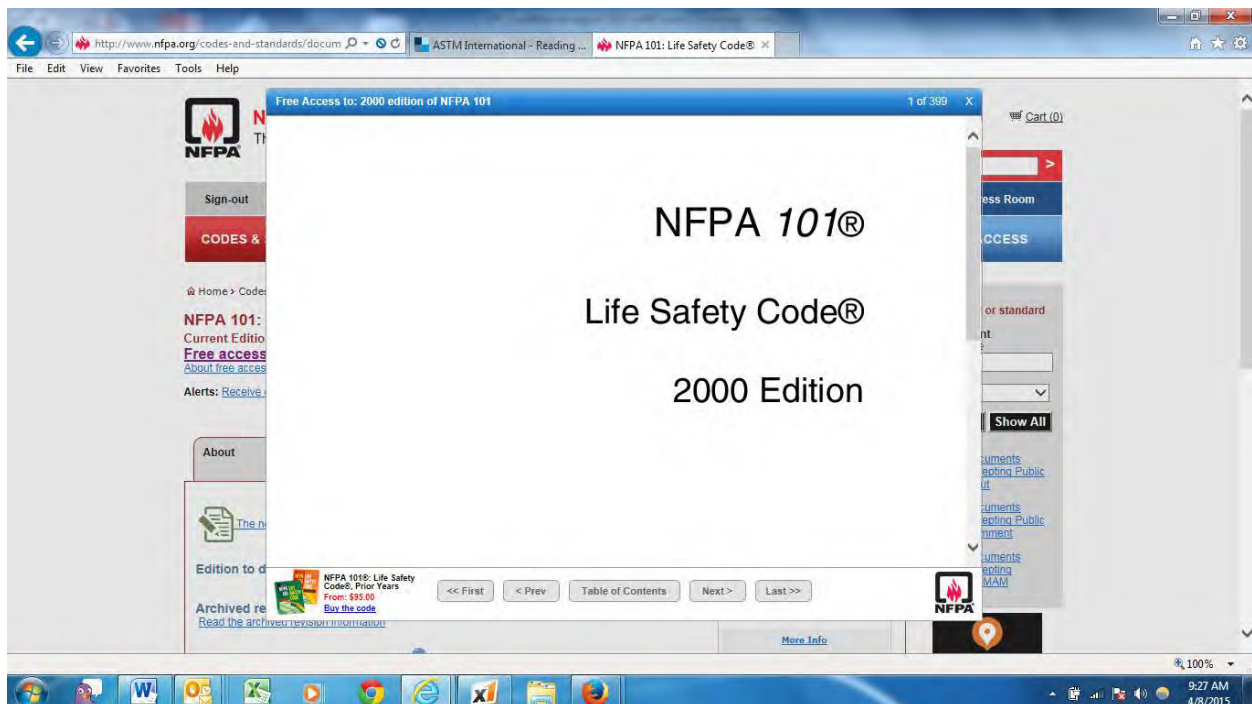
The accessibility standard in common use for websites is the Web Content Accessibility Guidelines (WCAG), published by the World Wide Web Consortium, the main standards body for technology related to the Web. A copy of the WCAG is **Exhibit C**. (As with other World Wide Web Consortium standards, the WCAG standard is freely available at no cost on the World Wide Web Consortium website, in HTML, as stated in the World Wide Web Consortium Document License, **Exhibit D**). The very first element in the WCAG standard specifies that

“information and user interface components must be presentable to users in ways they can perceive.” The key recommendation for how to address this need is to “provide text alternatives for any non-text content so that it can be changed into other forms people need, such as large print, braille, speech, symbols or simpler language.” The two easiest ways to meet this requirement are to present textual content as text and to add text labels to non-text content. For example, the text in a regular web page is highly accessible: the screen reader software can simply grab each word, sentence and paragraph and read it aloud (or make it larger, or provide it to a braille device). Screen readers understand web page structure, so links and headers are identified as such when they are read aloud. A visual button on a page can easily have a text label as part of the web page that identifies its function (for example, “I agree”). A screen reader encountering such a button on a web page would simply say aloud “Button, I agree,” and the screen reader provides a blind person with a way to activate the button using the keyboard (because blind people avoid using mice for obvious reasons).

These fundamental requirements for accessibility are the ones that the NFPA website fails to meet. Rather than cataloging the many parts of the WCAG accessibility standards the NFPA website fails to meet, I will focus on two key items. The first is that a blind person trying to sign up for a free access account needs the assistance of a sighted person to sign up. This is because, for instance, the NFPA website uses a visual button for the “I Agree” function on its registration page, and this visual button fails to have a text label, meaning that a blind person using a screen reader would not know what the button is for. A blind person who arrived at the point where he or she needed to assent to the terms and conditions after some effort would not be able to tell what to do, or which button to push, because there is no text equivalent attached to the “I AGREE” button. On the NFPA website, the screen reader knows that there are buttons but

can't tell what they do because there are no text labels on them, and the letters "I AGREE" are shown only as a picture of those words, which is not perceptible to a blind person.

The second phase of my test was to perform the functional tests on a specific standard, NFPA 101-2000. In this second phase of the test is also where the NFPA free access website fails to make the text accessible, and fails to meet the WCAG accessibility standard mentioned above. Rather than presenting the text in a standard webpage, which is the typical way to present information in a web browser, the NFPA site opens an image-only window. Rather than presenting the text of the standard as HTML text, it presents it as a picture of the text. See the screen shot below.

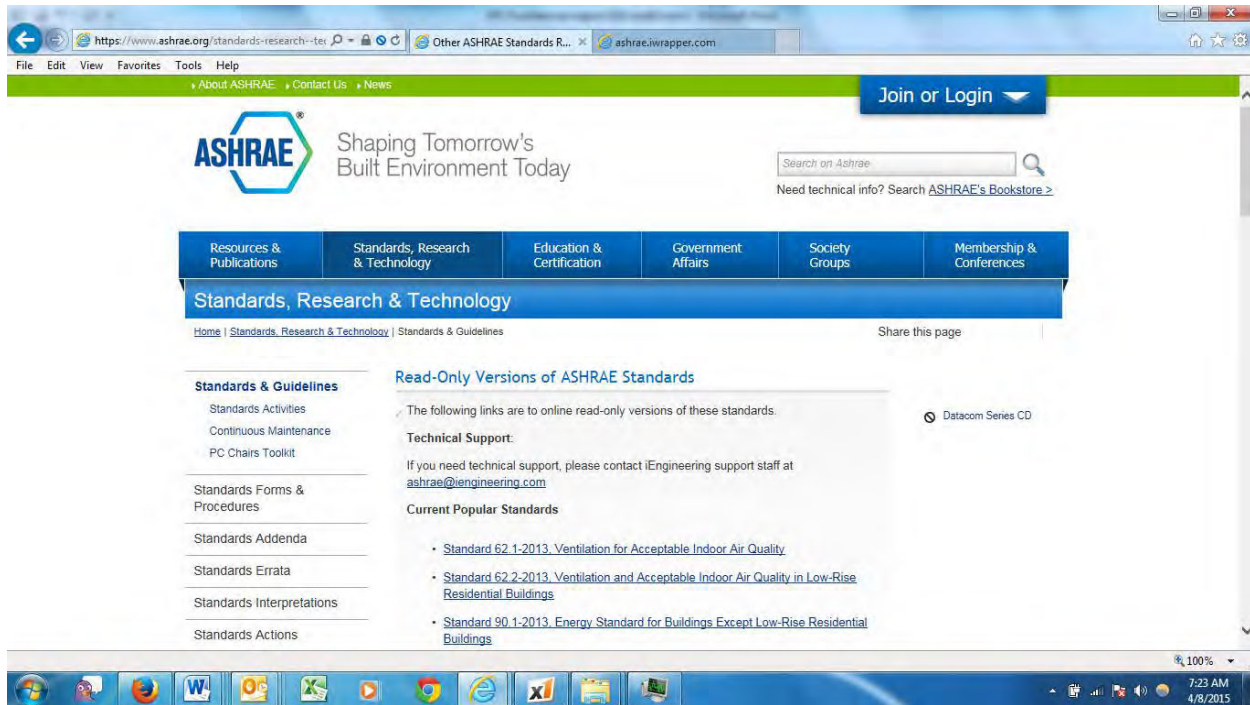


To a sighted person, both the text in a standard webpage and the text in an image-only window looks pretty similar: the words are visible. But, “under the hood,” so to speak, the use of an image prevents the browser from presenting the text on the screen as text. A browser ordinarily transmits text to a screen reader in a way that facilitates access for the visually

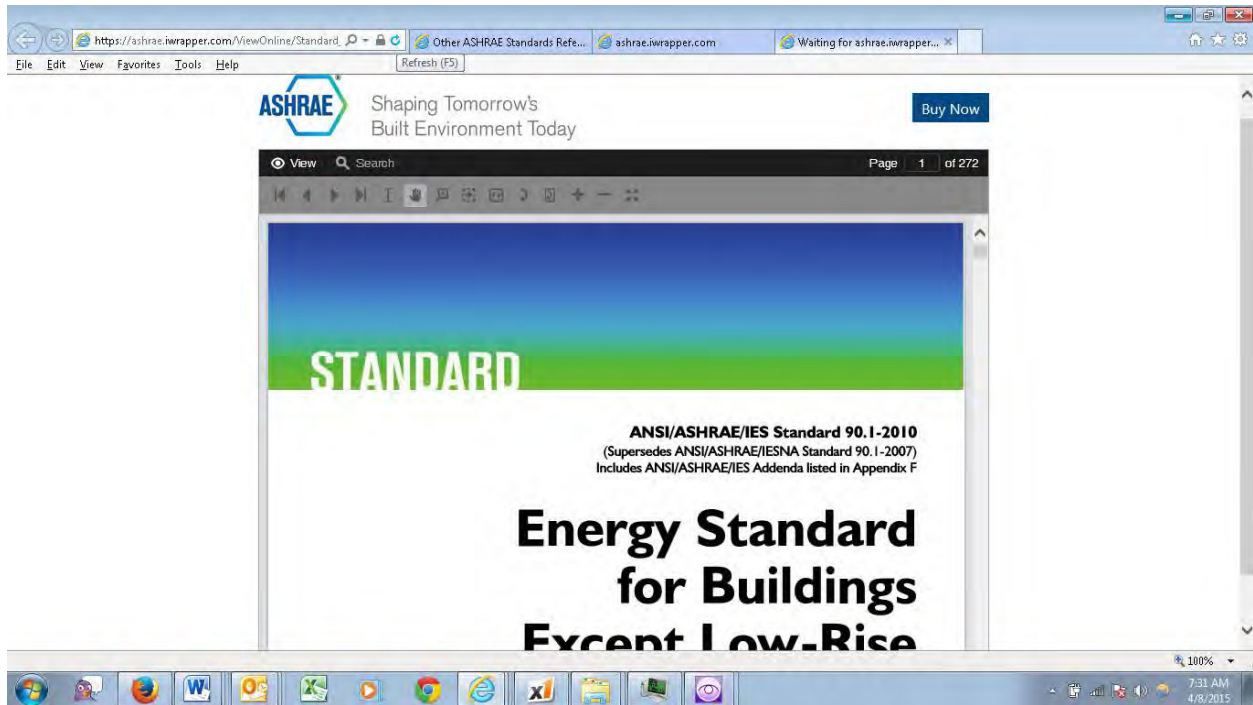
impaired. Instead, when NFPA's website presents text only within an image, the web browser processes it as an image, as if someone took a picture of a page and sent it as a photo rather than sending a text file. The screen reader cannot perceive the text in an image; all the screen reader can perceive is that there is a big picture on the screen. A screen reader stops working at this point: it does not know what is in the picture. And so even if a blind person were able to open a specific standard on the NFPA website, such as NFPA 101, he or she will not be able to perceive any of the content in the standard because the page appears blank to him or her. This means that on the NFPA free reading website a blind person cannot independently read the standard, go to a specific page within it, or search it for terms of interest.

Testing the American Society of Heating, Refrigerating and Air-Conditioning Engineers Website's Accessibility

Counsel suggested I investigate the accessibility of ASHRAE Standard 90.1-2010, Energy Standard for Buildings Except Low-Rise Residential Buildings (I-P). ASHRAE's website does not require a visitor to sign up for a free account before viewing certain standards, and so a blind user should be able to navigate to the place where online read-only versions of the standards reside, and then identify specific standards by number and description. Thus, the first of the four tasks, navigating to a specific standard, is a task that a blind person can perform independently on the ASHRAE website. See the screen shot below of this portion of the ASHRAE website with the listing of links to different standards.



However, once a specific standard is chosen, the standard is not perceptible to a blind person, for the same reason that I discussed earlier with respect to the NFPA website. See the screen shot below of the ASHRAE 90.1-2010 standard as displayed on the website. The text of the standard is inaccessible to a blind person, and therefore a blind person is unable to perform the functional accessibility tasks. First, the ASHRAE website presents the standard in a window that prevents screen reader software from reading aloud the text of the standard. Second, the navigation controls on the standards-display portion of the ASHRAE website do not work with a screen reader, so a blind person would be unable to navigate to a specific location in the standard. Lastly, although there is a text search function that works for a sighted person, I was unable to get that functionality to work with a screen reader. And, even if I could get the search function to work with a screen reader, a screen reader would still be unable to read aloud the actual content of the standard at that point, and so the exercise would be pointless for a blind person.

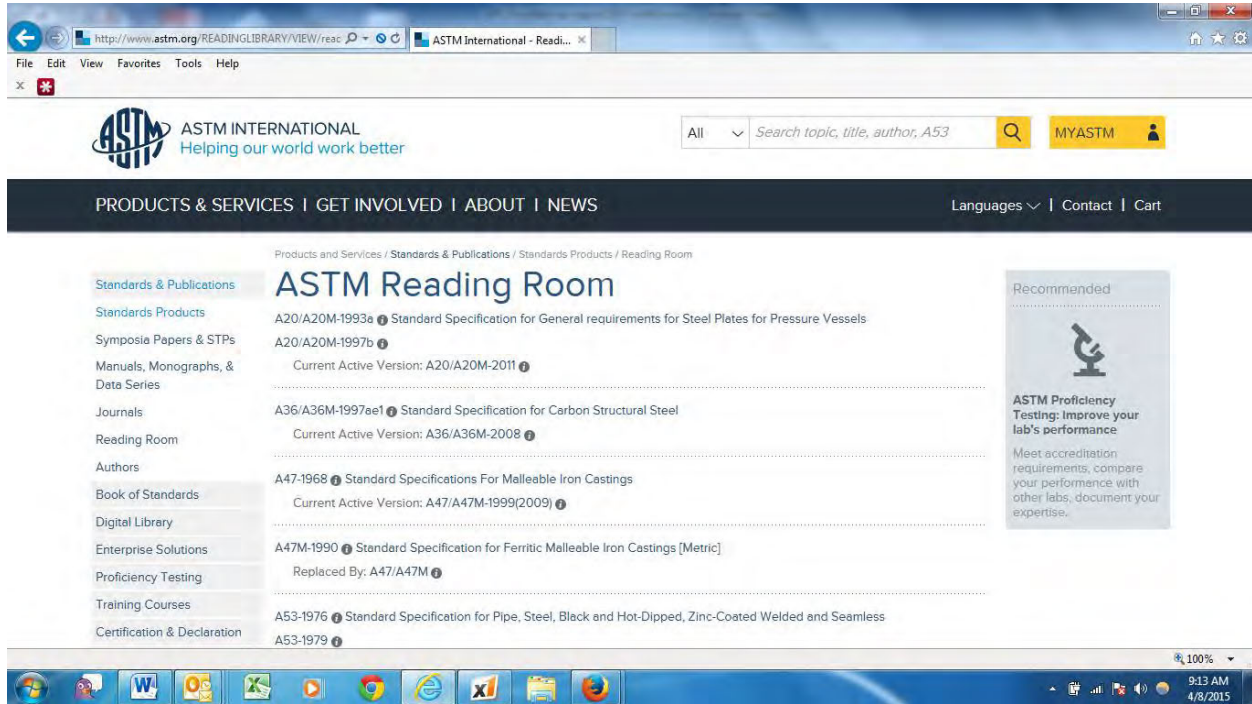


Because the ASHRAE website provides the content of the standard as an image, it is inaccessible to a blind person. As I mentioned above, the WCAG accessibility standard requires the text to be provided for any information delivered as an image, and the ASHRAE website fails to do so for the standard I tested. I also tested five other ASHRAE standards (ASHRAE 62.1-2013, 62.2-2013, 90.1-2013 (I-P), 90.2-2007, and 189.1-2014) on the ASHRAE website, and they all presented the same image-based interface to the standards, and are therefore inaccessible to blind people.

Testing the American Society for Testing and Materials Website's Accessibility

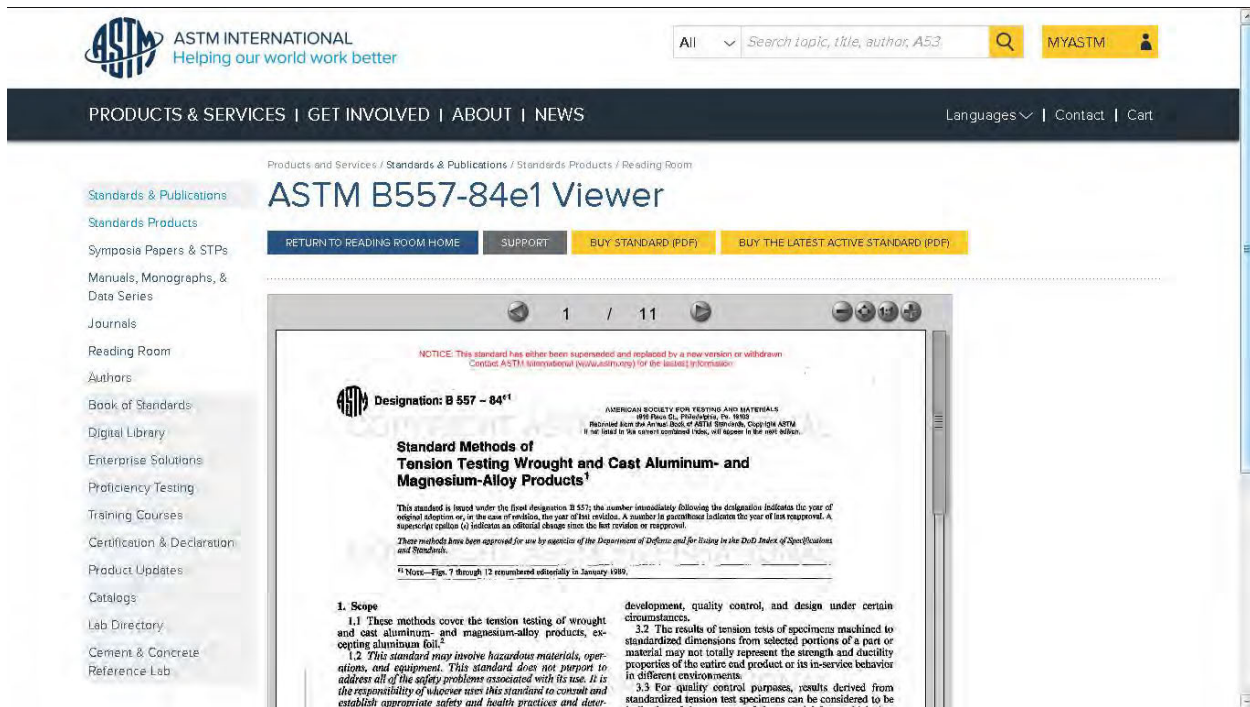
Counsel suggested I investigate the accessibility of Standard B557-84 Wrought and Cast Aluminum- and Magnesium-Alloy Products. The ASTM website requires visitors to sign up for a free account before viewing certain standards. The process of setting up a free account is accessible, and therefore a blind person should be able to independently gain access to the

ASTM Reading Room, where the standards are located. A blind user could navigate to the place where online read-only versions of the standards reside, and could identify specific standards by number and description. Thus the first of the four tasks, navigating to a specific standard, was a task that a blind person could perform independently. See the screen shot below of this portion of the ASTM website with the listing of links to different standards.



I was able to locate a version of the standard ASTM B557-84e1. When one selects the standard, a new window appears with an image-only viewer of the standard. For the same reason as I described earlier with respect to the NFPA and ASHRAE websites, this standard on the ASTM website is not perceptible to a blind person. First, the ASTM website presents the standard in a window that prevents screen reader software from reading aloud the text of the standard. Second, the navigation controls on the standards-displaying portion of the ASTM website do not work with a screen reader, so a blind person would be unable to navigate to a specific location in

the standard. I was not able to locate a text-searching function on the ASTM standard I examined.



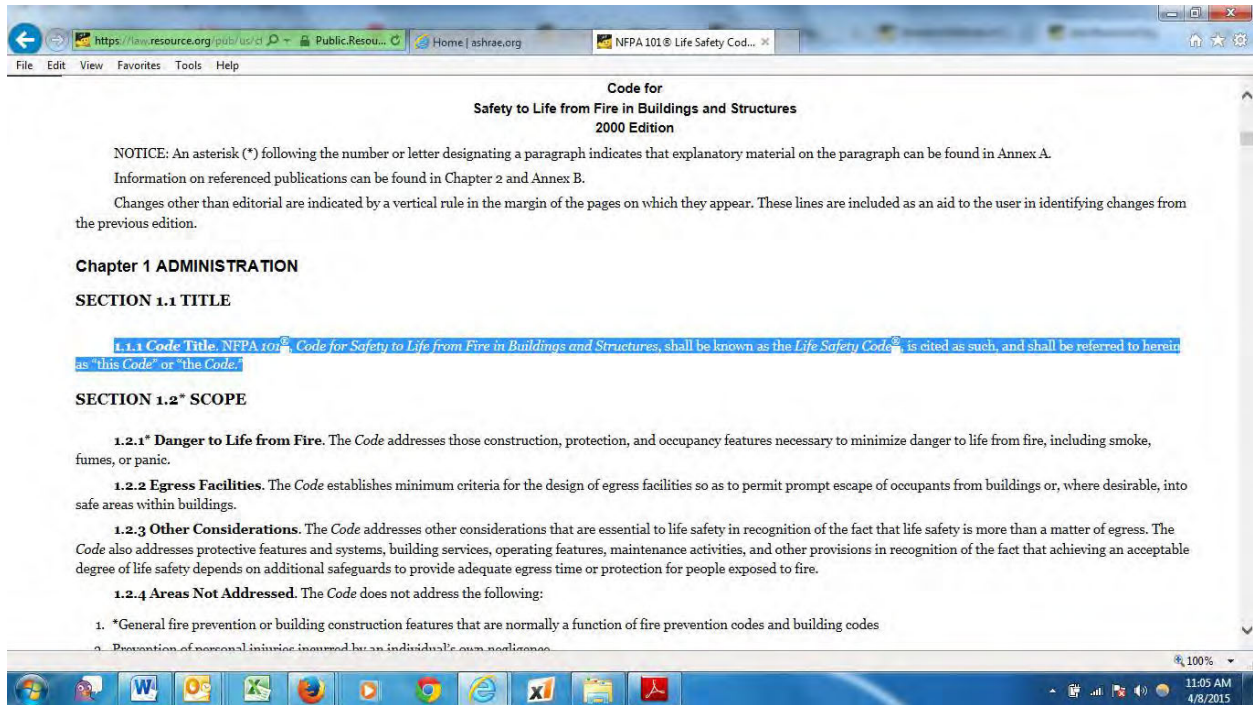
Because the content of the ASTM standard appears as an image in the ASTM Reading Room, it is inaccessible to the blind person. As I mentioned above, the WCAG accessibility standard requires the text to be provided for any information delivered as an image, and the ASTM website fails to do that for the standard I tested. I also tested the first standard listed on the website, ASTM A20/A20M-93a, and it presented the same image-based inaccessible interface to the standard, meaning that a blind person would not be able to perceive it.

Testing the Public.Resource.Org Website's Accessibility

After unsuccessfully trying to access the NFPA 101-2000, ASHRAE 90.1-2010 and ASTM B557-84 standards on the websites of the three standards organization as a blind user would, I went to the same standards on the Public.Resource.Org website and tried the same

tasks. I was able to successfully complete all of the accessibility tasks on all three of the standards on the Public.Resource.Org website.

The Public.Resource.Org website has no required sign-up procedure, so I did not need to test the accessibility of that process. It is possible to go directly to a specific standard either by using a direct weblink or by navigating the text-oriented website. For example, searching on the terms “NFPA 101 resource.org” shows the standard available directly from Google’s search engine in the top few links, in both PDF and HTML form. HTML is generally more accessible, so I selected that link and it directly opened up in my browser. The entire text of the standard was available, and I was able to read the standard using screen reading software, navigate to a specific place in the document using screen reading software, and search for key terms using screen reading software. My test therefore indicated that a blind person using a screen reader would be able to perform all of the functional tasks: reading the entire standard, navigating to a specific place in the standard, or searching on key terms. Because the text is provided as standard HTML, a blind person is able to listen to the text, or access it using a digital braille device. This kind of HTML content is also highly accessible to people with other print disabilities and the assistive technology they use to access print. For example, people with low vision or with dyslexia often use a screen reader to read text aloud.




I also found a version of the ASTM B557-84 standard on the Public.Resource.Org website as an HTML file. It was well-structured and highly accessible. Like the NFPA 101-2000 standard on the Public.Resource.Org website, this standard could be readily located and accessed by a blind person using a screen reader, and could then be perceived in its entirety using the screen reader.

I then examined the accessibility of more recent versions of the NFPA 101 standard located on the Public.Resource.Org website. These were available only in PDF formats, not HTML. I accessed the 2012 version of the NFPA 101 standard, and found that it was an image-based PDF. I also searched for the ASHRAE 90.1-2010 standard and found it in PDF form on the Public.Resource.Org website without needing to login to access it. It was also an image-based PDF. Image-based PDFs are generally not accessible to blind people. However, these files both came with the underlying text associated with the page images. It was possible for me to open the PDFs in a browser or Adobe Reader, do a Select All command (Control A on a PC),

a Copy command (Control C on a PC) and then switch to a text-oriented word processing program (Microsoft Word) and paste the text of the entire standard into a file there. The text appeared to be an automatic optical character recognition version of the standard, which meant there were some errors in the transcription. But, generally the accuracy was sufficient to perform the functional tasks: reading the entire standard, navigating to a specific place in the standard, or searching on key terms. It should be noted that this approach would not likely occur to a blind person opening an image PDF file, because the Adobe software does not announce that the underlying text was present. It is also possible for a blind person to independently perform optical character recognition on image-based PDFs themselves and access the text that way, and many advanced computer users that are blind would be aware that this is possible. Although performing optical character recognition on a PDF is not as optimal as having HTML text available to read immediately without conversion, this method by which PDFs can be made perceptible to the blind is still better than having no access, which is effectively what the NFPA, ASHRAE, and ASTM websites offer.

Dated: April 13, 2015



James R. Fruchterman

Exhibit A

James R. Fruchterman

Founder and CEO

Benetech

Education

- California Institute of Technology
B.S. Engineering, 1976-80
M.S. Applied Physics, 1978-80
- Stanford University, 1980-81
Ph.D. Studies in Electrical Engineering

Professional Experience

- CEO and Founder, 2015-present
President, CEO, Chairman, Founder, 2000-2014
Benetech (name changed from Arkenstone in 2000)
Palo Alto, California
- President, CEO, Chairman, Founder, 1989-2000
Arkenstone, Inc.
Moffett Field, California
- Director, 1989-present
Vice President Finance, CFO, 1989-2004
President & CEO, Founder, 1989-95
RAF Technology, Inc.
Palo Alto, California and Redmond, Washington
- Vice President, Marketing, 1987-89
Founder, Vice President, Finance, 1982-88
Calera Recognition Systems, Inc.
Santa Clara, California
- Prior engineering positions with:
 - Phoenix Engineering, Inc.
 - G.C.H., Inc.
 - IBM T.J. Watson Research Center
 - General Motors Company
 - NASA — Jet Propulsion Laboratory
 - Fermi National Accelerator Laboratory

Publications

- Technology Serving Humanity (chapter). In Schultz, R. (editor) [*Creating Good Work*](#), Palgrave Macmillan, February 2013
- [Guest Editor's Page](#), AFB Journal of Visual Impairment & Blindness, October-November 2012
- An Interview With Technology Guru George Kerscher, AFB Journal of Visual Impairment & Blindness, October-November 2012
- [For Love or Lucre](#), Stanford Social Innovation Review, Spring 2011
- [Developing Information Technology to Meet Social Needs](#). In *Innovations*, MIT Press, 2008
- Accessing Books and Documents, a chapter in the book, [*Assistive Technology for Vision-Impaired and Blind People*](#), Springer Verlag 2008
- [Everyone Deserves Access to Technology](#), OpEd in *The Sacramento Bee* by Jim Fruchterman and Gregg Vanderheiden, June 17, 2007
- Document Recognition Serving People With Disabilities, *Proc. SPIE 6500*, International Society for Optics and Photonics, 2007
- [Pattern Recognition Technology Helps Disabled People Access Books](#), *SPIE Newsroom*, International Society for Optics and Photonics, May 14, 2007
- [Nothing Ventured Nothing Gained, Addressing the Critical Gaps in Risk-Taking Capital for Social Enterprise](#), by Jed Emerson, Tim Freundlich and Jim Fruchterman, published by Oxford Said Business School, 2006
- [Build Great Companies, Then Help Build a Great World](#), OpEd in *The San Jose Mercury News*, November 13, 2006
- [Comments on Accessibility of Google Print and Google's Library Project](#), white paper, February 2005
- [Technology Benefiting Humanity](#), published in the Association for Computing Machines *Ubiquity* magazine, March 2004
- The Power of Technology Social Enterprises, published in the N-TEN forecast series, February 2004
- [In the Palm of Your Hand: A Vision of the Future of Technology for People with Visual Impairments](#), published in the American Foundation for the Blind's [*Journal of Vision Impairment and Blindness*](#), October 2003
- [The Chafee Amendment: Improving Access to Information](#), published in [*Information Technology and Disabilities*](#), a journal published by [Equal Access to Software and Information \(EASI\)](#), co-authored with Bookshare Senior Product Manager Alison Lingane, October 2003
- [The Soundproof Book: Exploration of Rights Conflict and Access to Commercial EBooks for People with Disabilities](#), published in [*First Monday*](#), co-authored with George Kerscher, the International Project Manager of [the DAISY Consortium](#), May 2002
- [Bookshare, Books without Barriers](#), at the [Closing the Gap](#) conference, Minneapolis, MN, October 2001

- Two presentations given at the IT Accessibility 2001 Conference, May 2001 at the National Institute of Standards and Technology
 - [I Dream of Software](#)
 - [The Business Case for Adaptive Technology](#)
- Humanizing the Voice of the Machine, with Prof. Mari Ostendorf (University of Washington), Annual Meeting of the American Association for the Advancement of the Machine, Boston, MA, February 2000
- [The Many Facets of Open Book: Ruby Edition](#), California State University, Northridge (CSUN), 15th Technology and Persons with Disabilities Conference, March 2000
- [Corporate Responsibility for Adaptive Technology](#), California State University, Northridge (CSUN), 14th Technology and Persons with Disabilities Conference, March 1999
- [Developing Partnerships for Assistive and Universally Designed Technology for Persons with Disabilities](#), Testimony before United States House of Representatives, Committee on Science, Subcommittee on Technology, August 4, 1998
- Access to Maps and Location Information through Virtual Reality Techniques and GPS Satellite Receivers, 3rd International Technical Aids Seminar, Tokyo, Japan, July 1994

Invited Talks

- [“Innovation in America: The Role of Technology,”](#) August 1, 2013, Testimony before U.S. House of Representatives, Judiciary Committee’s Subcommittee on Courts, Intellectual Property, and the Internet.
- [“Social Change at Scale – That’s Innovation!”](#) May 2012, TEDxSanJoseCA 2012, San Jose, CA.
- [“The Power of Failure, People and Karma Banking,”](#) May 20, 2012, Commencement speech, St. Mary's College, Moraga, CA.
- *“Raising the Floor,” October, 2011, Keynote Speech*, Association for Education and Rehabilitation of the Blind and Visually Impaired Conference, Cleveland OH.
- *Keynote speech, IEEE Sections Congress, August 2011, San Francisco, CA.*
- [“Making the Book Truly Accessible,”](#) Tools of Change Conference, New York, NY, 2011 Keynote Speech
- UBS-Ashoka Visionaris Award, Keynote Speech, Social Entrepreneur of the Year Award, Mexico City, Mexico, September, 2010
- A series of three invited speeches on Bookshare and accessible books, in Tokyo, Shizuoka and Osaka, Japan, February, 2009
- Keynote Speech, Social Enterprise World Forum, Edinburgh, Scotland, September, 2008
- *“Raising the Floor: Providing Accessible Technology and Content to Every Person with a Disability on the Planet,”* International Conference on Computers Helping People with Special Needs, Linz, Austria, July, 2008 Keynote Speech
- *“Raising the Floor,”* CSUN Conference on Technology and Persons with Disabilities, March, 2008 Keynote Speech

- Extensive speaking engagements to students about technology serving people with disabilities. Have done invited talks at:
 - Stanford University
 - University of California at Berkeley
 - Brigham Young University
 - University of the Pacific
 - Santa Clara University
 - California Institute of Technology
 - San Jose State
 - University of California at Santa Cruz
 - University of California at Davis
 - Loyola Marymount University
 - Pepperdine University
 - University of Washington
 - Columbia University
 - Harvard University
 - University of Geneva
 - Oxford University
- Inflection Point Opportunities in Social Investment, Closing Keynote for the UBS Philanthropy Forum, Lisbon, Portugal, July 2007
- It's Not Rocket Science: Building Social Enterprises, Keynote for the 7th Gathering of the Social Enterprise Alliance, Atlanta, Georgia, March 2006
- Opening Keynote for the Global Social Venture Competition, New York, April, 2006
- Keynote for the 7th IAPR Workshop on Document Analysis Systems, Nelson, New Zealand, February 2006
- [Building a Global Library for People with Print Disabilities](#), a speech for the World Summit on the Information Society, Tunis, Tunisia, November 2005
- Innovating Information Technologies to Protect Human Rights, a speech for the World Affairs Council of Northern California, February 2004
- Setting the 2004 Agenda: Technology, speaker at the World Economic Forum, Davos, Switzerland, January 2004
- Seizing Market Failure as an Investment Opportunity, Keynote for the Business for Social Responsibility Annual Conference, Los Angeles, November 2003.
- In the Palm of Your Hand, Keynote for the World Blind Union Asia Pacific conference, Singapore, November, 2003
- Technology and Human Rights, University of Peradeniya, Sri Lanka, November, 2003
- When Markets Fail, Who Responds? Discussion Leader at the World Economic Forum, Davos, Switzerland, January 2003
- Technology for Nonprofits, with Michael Gilbert, National Gathering for Social Entrepreneurs, Minneapolis, MN, December, 2002
- Bookshare: Large Scale, Web-Based Accessible Books, TechShare conference organized by

the Royal National Institute of the Blind, Birmingham, UK, November 2002

- Putting Technology to Work for Development, speech at the United Nations to the joint meeting of the World Technology Network and UNOPS, July 2002
- Bookshare: The Project for Creating Accessible Books through Computers, at the General Session of the [National Federation of the Blind](#) 2002 Annual Convention, July 2002
- Stanford Social Entrepreneurship Conference, January 2002
- [The Once and Future Web: Tenth Anniversary of the First U.S. Web Page](#) at the Stanford Linear Accelerator Laboratory, December 2001
- NetImpact Annual Conference at Kenan-Flagler Business School, November 2001
- American Council of the Blind Annual Convention, July 2001
- [Bringing Socially Beneficial Technology into the Service of Humanity](#), EE380 at Stanford University, April 2001
- Information Technology in the Service of Human Rights at the Computers, Freedom and Privacy Conference, March 2001
- Rank Prize Fund Symposium, Grasmere, England
- Guest Lecturer for CSUN program in disability leadership

Professional Associations

- Association for Computing Machinery
- Institute of Electrical and Electronics Engineers
- American Association for the Advancement of Science
- Social Enterprise Alliance

Awards and Public Service

- Head of Benetech Delegation, Diplomatic Conference to Conclude a Treaty to Facilitate Access to Published Works by Visually Impaired Persons and Persons with Print Disabilities, World Intellectual Property Organization, Marrakesh, Morocco (2013)
- Member, Global Agenda Council on Measuring Sustainability, World Economic Forum (2012-2014)
- Member of the Board of Directors, ZeroDivide, foundation investing in community enterprises that leverage technology to benefit people in low-income and other underserved communities (2007-2013)
- Commissioner, Federal Advisory Commission on Accessible Instructional Materials in Postsecondary Education for Students with Disabilities, 2010-2011
- Duke University, CASE Award for Enterprising Social Innovation, 2011
- Brigham Young University, Center for Economic Self-Reliance Social Innovator of the Year, 2009
- AT&T Technology Innovation Award from the Alliance for Technology Access, March

2008

- Strache Leadership Award from the California State University, Northridge, 2007
- John D. and Catherine T. MacArthur Foundation Fellowship, 2006
- Technical Advisory Committee Member, National Instructional Materials Accessibility Standard, U.S. Department of Education (2005-2008)
- Advisory Committee Member, National Instructional Materials Accessibility Center, U.S. Department of Education (2006-present)
- [Skoll Award for Social Entrepreneurship](#), 2004 and 2006
- Fast Company Social Capitalist Award: Top 20 Groups Changing the World, 2004
- Laureate, [The 2003 and 2001 Tech Museum Awards](#)
- [American Library Association Francis Joseph Campbell Award](#), 2003
- [Schwab Foundation Outstanding Social Entrepreneur of 2003 Award](#)
- Member, the Community Partnership Committee, which oversees a diversity and disability agreement with SBC, Inc.
- Runner-up, Yale-Goldman Sachs National Nonprofit Business Plan Competition, 2003
- American Foundation for the Blind Access Award, 2003
- [Robert S. Bray Award](#), The American Council of the Blind
- Winner, Education Category, 2002 Stockholm Challenge
- [Fast 50 Champion of Innovation](#) 2002
- Judge, 2002 [National Social Venture Competition](#)
- Member, Board of Directors of the [Social Enterprise Alliance](#) (2000-2010, chair 2008-2010)
- Member of the Advisory Board, Telecommunications Access Rehabilitation Engineering Research Center, a joint effort of the Trace R&D Center of the University of Wisconsin-Madison and the Technology Access Program of Gallaudet University, 2001
- Panelist, National Science Foundation Small Business Innovation Research Program, 1998, 2000, 2003
- Participant, 1998 NSF Workshop for Discussing Research Priorities and Evaluation Strategies in Speech Synthesis, August, 1998
- Member, Electronic Information and Technology Access Advisory Committee, a federal advisory committee responsible for drafting federal acquisition standards for accessibility under Section 508, 1998-1999
- Member, Telecommunications Access Advisory Committee, a federal advisory committee responsible for making recommendations to the U.S. Access Board and Federal Communications Commission on implementing portions of the 1996 Telecommunications Act, 1996-1997
- U.S. Patent Number 5,470,223: System and Method for Tracking a Pedestrian

- Finalist, 1996 Discover Magazine Awards for Technological Innovation
- 1996 Access Award, American Foundation for the Blind

Major Works and Areas of Expertise

- Founder and CEO of [Benetech](#), a highly innovative nonprofit company focused on using the power of technology to address social needs in areas such as disability, literacy, human rights and the environment.
- Founder of Arkenstone, Inc., a leading nonprofit organization providing adaptive technology for education and employment for people with disabilities and the largest maker of reading systems for people with blindness, vision impairment and learning disabilities. Developer of the Arkenstone Reader, the first affordable reading system for the blind. Designer of Open Book, the first talking Windows program for the blind. Co-inventor of Atlas Speaks, the first accessible map software for the blind, and of Strider, a talking GPS locator for the blind.
- Cofounder of [RAF Technology, Inc.](#), the nation's leading company in optical character recognition technology for processing forms in postal and medical applications. RAF's software is used to route the United States mail.
- Cofounder of Calera Recognition Systems, Inc., the first company to develop omnifont optical character recognition that works without user training.

Exhibit B

Documents, Facts, or Data Considered in Forming My Opinions:

- The ASHRAE website, at www.ashrae.org
- The ASTM website, at www.astm.org
- The NFPA website, at www.nfpa.org
- The Public.Resource.Org website, at www.public.resource.org
- World Wide Web Consortium's Web Content Accessibility Guidelines (WCAG) 2.0, at <http://www.w3.org/TR/WCAG20/>
- Window-Eyes screen reader software
- JAWS screen reader software
- I also consulted with a blind engineer (and skilled daily user of screen reader technology) to confirm the specific accessibility challenges I found in my tests

Exhibit C

[\[contents\]](#)

Web Content Accessibility Guidelines (WCAG) 2.0

W3C Recommendation 11 December 2008

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Jason White (until June 2005 while at University of Melbourne)

Please refer to the [errata](#) for this document, which may include normative corrections.

See also [translations](#).

This document is also available in non-normative formats, available from [Alternate Versions of Web Content Accessibility Guidelines 2.0](#).

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Abstract

Web Content Accessibility Guidelines (WCAG) 2.0 covers a wide range of recommendations for making Web content more accessible. Following these guidelines will make content accessible to a wider range of people with disabilities, including blindness and low vision, deafness and hearing loss, learning disabilities, cognitive limitations, limited movement, speech disabilities, photosensitivity and combinations of these. Following these guidelines will also often make your Web content more usable to users in general.

WCAG 2.0 success criteria are written as testable statements that are not technology-specific. Guidance about satisfying the success criteria in specific technologies, as well as general information about interpreting the success criteria, is provided in separate documents. See [Web Content Accessibility Guidelines \(WCAG\) Overview](#) for an introduction and links to WCAG technical and educational material.

WCAG 2.0 succeeds [Web Content Accessibility Guidelines 1.0 \[WCAG10\]](#), which was published as a W3C Recommendation May 1999. Although it is possible to conform either to WCAG 1.0 or to WCAG 2.0 (or both), the W3C recommends that new and updated content use WCAG 2.0. The W3C also recommends that Web accessibility policies reference WCAG 2.0.

Status of this Document

JA1658

This section describes the status of this document at the time of its publication. Other documents may supersede this

This is the Web Content Accessibility Guidelines (WCAG) 2.0 [W3C Recommendation](#) from the [Web Content Accessibility Guidelines Working Group](#).

This document has been reviewed by W3C Members, by software developers, and by other W3C groups and interested parties, and is endorsed by the Director as a W3C Recommendation. It is a stable document and may be used as reference material or cited from another document. W3C's role in making the Recommendation is to draw attention to the specification and to promote its widespread deployment. This enhances the functionality and interoperability of the Web.

WCAG 2.0 is supported by the associated non-normative documents, [Understanding WCAG 2.0](#) and [Techniques for WCAG 2.0](#). Although those documents do not have the formal status that WCAG 2.0 itself has, they provide information important to understanding and implementing WCAG.

The Working Group requests that any comments be made using the provided [online comment form](#). If this is not possible, comments can also be sent to public-comments-wcag20@w3.org. The [archives for the public comments list](#) are publicly available. Comments received on the WCAG 2.0 Recommendation cannot result in changes to this version of the guidelines, but may be addressed in errata or future versions of WCAG. The Working Group does not plan to make formal responses to comments. Archives of the [WCAG WG mailing list discussions](#) are publicly available, and future work undertaken by the Working Group may address comments received on this document.

This document has been produced as part of the W3C [Web Accessibility Initiative](#) (WAI). The goals of the WCAG Working Group are discussed in the [WCAG Working Group charter](#). The WCAG Working Group is part of the [WAI Technical Activity](#).

This document was produced by a group operating under the [5 February 2004 W3C Patent Policy](#). W3C maintains a [public list of any patent disclosures](#) made in connection with the deliverables of the group; that page also includes instructions for disclosing a patent. An individual who has actual knowledge of a patent which the individual believes contains [Essential Claim\(s\)](#) must disclose the information in accordance with [section 6 of the W3C Patent Policy](#).

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Introduction

This section is informative.

Web Content Accessibility Guidelines (WCAG) 2.0 defines how to make Web content more accessible to people with disabilities. Accessibility involves a wide range of disabilities, including visual, auditory, physical, speech, cognitive, language, learning, and neurological disabilities. Although these guidelines cover a wide range of issues, they are not able to address the needs of people with all types, degrees, and combinations of disability. These guidelines also make Web content more usable by older individuals with changing abilities due to aging and often improve usability for users in general.

WCAG 2.0 is developed through the [W3C process](#) in cooperation with individuals and organizations around the world, with a goal of providing a shared standard for Web content accessibility that meets the needs of individuals, organizations, and governments internationally. WCAG 2.0 builds on WCAG 1.0 [\[WCAG10\]](#) and is designed to apply broadly to different Web technologies now and in the future, and to be testable with a combination of automated testing and human evaluation. For an introduction to WCAG, see the [Web Content Accessibility Guidelines \(WCAG\) Overview](#).

Web accessibility depends not only on accessible content but also on accessible Web browsers and other user agents. Authoring tools also have an important role in Web accessibility. For an overview of how these components of Web development and interaction work together, see:

- [Essential Components of Web Accessibility](#)
- [User Agent Accessibility Guidelines \(UAAG\) Overview](#)
- [Authoring Tool Accessibility Guidelines \(ATAG\) Overview](#)

WCAG 2.0 Layers of Guidance

The individuals and organizations that use WCAG vary widely and include Web designers and developers, policy makers, purchasing agents, teachers, and students. In order to meet the varying needs of this audience, several layers of guidance are provided including overall *principles*, general *guidelines*, testable *success criteria* and a rich collection of *sufficient techniques*, *advisory techniques*, and *documented common failures* with examples, resource links and code.

- **Principles** - At the top are four principles that provide the foundation for Web accessibility: *perceivable*, *operable*, *understandable*, and *robust*. See also [Understanding the Four Principles of Accessibility](#).
- **Guidelines** - Under the principles are guidelines. The 12 guidelines provide the basic goals that authors should work toward in order to make content more accessible to users with different disabilities. The guidelines are not testable, but provide the framework and overall objectives to help authors understand the success criteria and better implement the techniques.
- **Success Criteria** - For each guideline, testable success criteria are provided to allow WCAG 2.0 to be used where requirements and conformance testing are necessary such as in design specification, purchasing, regulation, and contractual agreements. In order to meet the needs of different groups and different situations, three levels of conformance are defined: A (lowest), AA, and AAA (highest). Additional information on WCAG levels can be found in [Understanding Levels of Conformance](#).
- **Sufficient and Advisory Techniques** - For each of the *guidelines* and *success criteria* in the WCAG 2.0 document itself, the working group has also documented a wide variety of *techniques*. The techniques are informative and fall into two categories: those that are *sufficient* for meeting the success criteria and those that are *advisory*. The advisory techniques go beyond what is required by the individual success criteria and allow authors to better address the guidelines. Some advisory techniques address accessibility barriers that are not covered by the testable success criteria. Where common failures are known, these are also documented. See also [Sufficient and Advisory](#)

All of these layers of guidance (principles, guidelines, success criteria, and sufficient and advisory techniques) work together to provide guidance on how to make content more accessible. Authors are encouraged to view and apply all layers that they are able to, including the advisory techniques, in order to best address the needs of the widest possible range of users.

Note that even content that conforms at the highest level (AAA) will not be accessible to individuals with all types, degrees, or combinations of disability, particularly in the cognitive language and learning areas. Authors are encouraged to consider the full range of techniques, including the advisory techniques, as well as to seek relevant advice about current best practice to ensure that Web content is accessible, as far as possible, to this community. [Metadata](#) may assist users in finding content most suitable for their needs.

WCAG 2.0 Supporting Documents

The WCAG 2.0 document is designed to meet the needs of those who need a stable, referenceable technical standard. Other documents, called supporting documents, are based on the WCAG 2.0 document and address other important purposes, including the ability to be updated to describe how WCAG would be applied with new technologies. Supporting documents include:

1. [How to Meet WCAG 2.0](#) - A customizable quick reference to WCAG 2.0 that includes all of the guidelines, success criteria, and techniques for authors to use as they are developing and evaluating Web content.
2. [Understanding WCAG 2.0](#) - A guide to understanding and implementing WCAG 2.0. There is a short "Understanding" document for each guideline and success criterion in WCAG 2.0 as well as key topics.
3. [Techniques for WCAG 2.0](#) - A collection of techniques and common failures, each in a separate document that includes a description, examples, code and tests.
4. [The WCAG 2.0 Documents](#) - A diagram and description of how the technical documents are related and linked.

See [Web Content Accessibility Guidelines \(WCAG\) Overview](#) for a description of the WCAG 2.0 supporting material, including education resources related to WCAG 2.0. Additional resources covering topics such as the business case for Web accessibility, planning implementation to improve the accessibility of Web sites, and accessibility policies are listed in [WAI Resources](#).

Important Terms in WCAG 2.0

WCAG 2.0 includes three important terms that are different from WCAG 1.0. Each of these is introduced briefly below and defined more fully in the glossary.

Web Page

It is important to note that, in this standard, the term "[Web page](#)" includes much more than static HTML pages. It also includes the increasingly dynamic Web pages that are emerging on the Web, including "pages" that can present entire virtual interactive communities. For example, the term "Web page" includes an immersive, interactive movie-like experience found at a single URI. For more information, see [Understanding "Web Page"](#).

Programmatically Determined

Several success criteria require that content (or certain aspects of content) can be "[programmatically determined](#)." This means that the content is delivered in such a way that [user agents](#), including [assistive technologies](#), can extract and present this information to users in different modalities. For more information, see [Understanding Programmatically Determined](#).

Accessibility Supported

Using a technology in a way that is accessibility supported means that it works with assistive technologies (AT) and the accessibility features of operating systems, browsers, and other user agents. Technology features can only be [relied upon](#) to conform to WCAG 2.0 success criteria if they are used in a way that is "[accessibility supported](#)". Technology features can be used in ways that are not accessibility supported (do not work with assistive technologies, etc.) as long as they are not relied upon to conform to any success criterion (i.e., the same information or functionality is also available another way that is supported).

The definition of "accessibility supported" is provided in the [Appendix A: Glossary](#) section of these guidelines. For more information, see [Understanding Accessibility Support](#).

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Principle 1: Perceivable - Information and user interface components must be presentable to users in ways they can perceive.

Guideline 1.1 Text Alternatives: Provide text alternatives for any non-text content so that it can be changed into other forms people need, such as large print, braille, speech, symbols or simpler language.

[Understanding Guideline 1.1](#)

1.1.1 Non-text Content: All non-text content that is presented to the user has a text alternative that serves the equivalent purpose, except for the situations listed below. (Level A)

[How to Meet 1.1.1](#)
[Understanding 1.1.1](#)

- **Controls, Input:** If non-text content is a control or accepts user input, then it has a name that describes its purpose. (Refer to [Guideline 4.1](#) for additional requirements for controls and content that accepts user input.)
- **Time-Based Media:** If non-text content is time-based media, then text alternatives at least provide descriptive identification of the non-text content. (Refer to [Guideline 1.2](#) for additional requirements for media.)
- **Test:** If non-text content is a test or exercise that would be invalid if presented in text, then text alternatives at least provide descriptive identification of the non-text content.
- **Sensory:** If non-text content is primarily intended to create a specific sensory experience, then text alternatives at least provide descriptive identification of the non-text content.
- **CAPTCHA:** If the purpose of non-text content is to confirm that content is being accessed by a person rather than a computer, then text alternatives that identify and describe the purpose of the non-text content are provided, and alternative forms of CAPTCHA using output modes for different types of sensory perception are provided to accommodate different disabilities.
- **Decoration, Formatting, Invisible:** If non-text content is pure decoration, is used only for visual formatting, or is not presented to users, then it is implemented in a way that it can be ignored by assistive technology.

Guideline 1.2 Time-based Media: Provide alternatives for time-based media.

[Understanding Guideline 1.2](#)

1.2.1 Audio-only and Video-only (Prerecorded): For prerecorded audio-only and prerecorded video-only media, the following are true, except when the audio or video is a media alternative for text and is clearly labeled as such: (Level A)

[How to Meet 1.2.1](#)
[Understanding 1.2.1](#)

- **Prerecorded Audio-only:** An alternative for time-based media is provided that presents equivalent information for prerecorded audio-only content.
- **Prerecorded Video-only:** Either an alternative for time-based media or an audio track is provided that presents equivalent information for prerecorded video-only content.

1.2.2 Captions (Prerecorded): Captions are provided for all prerecorded audio content in synchronized media, except when the media is a media alternative for text and is clearly labeled as such. (Level A)

[How to Meet 1.2.2](#)
[Understanding 1.2.2](#)

1.2.3 Audio Description or Media Alternative (Prerecorded): An alternative for time-based media or audio description of the prerecorded video content is provided for synchronized media, except when the media is a media alternative for text and is clearly labeled as such. (Level A)

[How to Meet 1.2.3](#)
[Understanding 1.2.3](#)

1.2.4 Captions (Live): Captions are provided for all live audio content in synchronized media. (Level AA)

[How to Meet 1.2.4](#)
[Understanding 1.2.4](#)

1.2.5 Audio Description (Prerecorded): Audio description is provided for all prerecorded video content in synchronized media. (Level AA)

[How to Meet 1.2.5](#)
[Understanding 1.2.5](#)

1.2.6 Sign Language (Prerecorded): Sign language interpretation is provided for all prerecorded audio content in synchronized media. (Level AAA)

[How to Meet 1.2.6](#)
[Understanding 1.2.6](#)

1.2.7 Extended Audio Description (Prerecorded): Where pauses in foreground audio are insufficient to allow audio descriptions to convey the sense of the video, extended audio description is provided for all prerecorded video content in synchronized media. (Level AAA)

[How to Meet 1.2.7](#)
[Understanding 1.2.7](#)

1.2.8 Media Alternative (Prerecorded): An alternative for time-based media is provided for all prerecorded synchronized media and for all prerecorded video-only media. (Level AAA)

[How to Meet 1.2.8](#)
[Understanding 1.2.8](#)

1.2.9 Audio-only (Live): An alternative for time-based media that presents equivalent information for live audio-only content is provided. (Level AAA)

[How to Meet 1.2.9](#)
[Understanding 1.2.9](#)

Guideline 1.3 Adaptable: Create content that can be presented in different ways (for example simpler layout) without losing information or structure.

[Understanding Guideline 1.3](#)

1.3.1 Info and Relationships: Information, structure, and relationships conveyed through presentation can be programmatically determined or are available in text. (Level A)

[How to Meet 1.3.1](#)
[Understanding 1.3.1](#)

1.3.2 Meaningful Sequence: When the sequence in which content is presented affects its meaning, a correct reading sequence can be programmatically determined. (Level A)

[How to Meet 1.3.2](#)
[Understanding 1.3.2](#)

1.3.3 Sensory Characteristics: Instructions provided for understanding and operating content do not rely solely on sensory characteristics of components such as shape, size, visual location, orientation, or sound. (Level A)

[How to Meet 1.3.3](#)
[Understanding 1.3.3](#)

Note: For requirements related to color, refer to [Guideline 1.4](#).

Guideline 1.4 Distinguishable: Make it easier for users to see and hear content including separating foreground from background.

[Understanding Guideline 1.4](#)

1.4.1 Use of Color: Color is not used as the only visual means of conveying information, indicating an action, prompting a response, or distinguishing a visual element. (Level A)

[How to Meet 1.4.1](#)
[Understanding 1.4.1](#)

Note: This success criterion addresses color perception specifically. Other forms of perception are covered in [Guideline 1.3](#) including programmatic access to color and other visual presentation coding.

1.4.2 Audio Control: If any audio on a Web page plays automatically for more than 3 seconds, either a mechanism is available to pause or stop the audio, or a mechanism is available to control audio volume independently from the overall system volume level. (Level A)

[How to Meet 1.4.2](#)
[Understanding 1.4.2](#)

Note: Since any content that does not meet this success criterion can interfere with a user's ability to use the whole page, all content on the Web page (whether or not it is used to meet other success criteria) must meet this success criterion. See [Conformance Requirement 5: Non-Interference](#).

1.4.3 Contrast (Minimum): The visual presentation of text and images of text has a contrast ratio of at least 4.5:1, except for the following: (Level AA)

[How to Meet 1.4.3](#)
[Understanding 1.4.3](#)

- **Large Text:** Large-scale text and images of large-scale text have a contrast ratio of at least 3:1;
- **Incidental:** Text or images of text that are part of an inactive user interface component, that are pure decoration, that are not visible to anyone, or that are part of a picture that contains significant other visual content, have no contrast requirement.
- **Logotypes:** Text that is part of a logo or brand name has no minimum contrast requirement.

1.4.4 Resize text: Except for captions and images of text, text can be resized without assistive technology up to 200 percent without loss of content or functionality. (Level AA)

[How to Meet 1.4.4](#)
[Understanding 1.4.4](#)

1.4.5 Images of Text: If the technologies being used can achieve the visual presentation, text is used to convey information rather than images of text except for the following: (Level AA)

[How to Meet 1.4.5](#)
[Understanding 1.4.5](#)

- **Customizable:** The image of text can be visually customized to the user's requirements;
- **Essential:** A particular presentation of text is essential to the information being conveyed.

Note: Logotypes (text that is part of a logo or brand name) are considered essential.

- **Large Text:** Large-scale text and images of large-scale text have a contrast ratio of at least 4.5:1;
- **Incidental:** Text or images of text that are part of an inactive user interface component, that are pure decoration, that are not visible to anyone, or that are part of a picture that contains significant other visual content, have no contrast requirement.
- **Logotypes:** Text that is part of a logo or brand name has no minimum contrast requirement.

[How to Meet 1.4.6](#)
[Understanding 1.4.6](#)

1.4.7 Low or No Background Audio: For prerecorded audio-only content that (1) contains primarily speech in the foreground, (2) is not an audio CAPTCHA or audio logo, and (3) is not vocalization intended to be primarily musical expression such as singing or rapping, at least one of the following is true: (Level AAA)

- **No Background:** The audio does not contain background sounds.
- **Turn Off:** The background sounds can be turned off.
- **20 dB:** The background sounds are at least 20 decibels lower than the foreground speech content, with the exception of occasional sounds that last for only one or two seconds.

Note: Per the definition of "decibel," background sound that meets this requirement will be approximately four times quieter than the foreground speech content.

[How to Meet 1.4.7](#)
[Understanding 1.4.7](#)

1.4.8 Visual Presentation: For the visual presentation of blocks of text, a mechanism is available to achieve the following: (Level AAA)

1. Foreground and background colors can be selected by the user.
2. Width is no more than 80 characters or glyphs (40 if CJK).
3. Text is not justified (aligned to both the left and the right margins).
4. Line spacing (leading) is at least space-and-a-half within paragraphs, and paragraph spacing is at least 1.5 times larger than the line spacing.
5. Text can be resized without assistive technology up to 200 percent in a way that does not require the user to scroll horizontally to read a line of text on a full-screen window.

[How to Meet 1.4.8](#)
[Understanding 1.4.8](#)

1.4.9 Images of Text (No Exception): Images of text are only used for pure decoration or where a particular presentation of text is essential to the information being conveyed. (Level AAA)

Note: Logotypes (text that is part of a logo or brand name) are considered essential.

[How to Meet 1.4.9](#)
[Understanding 1.4.9](#)

Principle 2: Operable - User interface components and navigation must be operable.

Guideline 2.1 Keyboard Accessible: Make all functionality available from a keyboard.

[Understanding Guideline 2.1](#)

2.1.1 Keyboard: All functionality of the content is operable through a keyboard interface without requiring specific timings for individual keystrokes, except where the underlying function requires input that depends on the path of the user's movement and not just the endpoints. (Level A)

[How to Meet 2.1.1](#)
[Understanding 2.1.1](#)

Note 1: This exception relates to the underlying function, not the input technique. For example, if using handwriting to enter text, the input technique (handwriting) requires path-dependent input but the underlying function (text input) does not.

Note 2: This does not forbid and should not discourage providing mouse input or other input methods in addition to keyboard operation.

Note: Since any content that does not meet this success criterion can interfere with a user's ability to use the whole page, all content on the Web page (whether it is used to meet other success criteria or not) must meet this success criterion. See [Conformance Requirement 5: Non-Interference](#).

2.1.3 Keyboard (No Exception): All functionality of the content is operable through a keyboard interface without requiring specific timings for individual keystrokes. (Level AAA)

[How to Meet 2.1.3](#)
[Understanding 2.1.3](#)

Guideline 2.2 Enough Time: Provide users enough time to read and use content.

[Understanding Guideline 2.2](#)

2.2.1 Timing Adjustable: For each time limit that is set by the content, at least one of the following is true: (Level A)

[How to Meet 2.2.1](#)
[Understanding 2.2.1](#)

- **Turn off:** The user is allowed to turn off the time limit before encountering it; or
- **Adjust:** The user is allowed to adjust the time limit before encountering it over a wide range that is at least ten times the length of the default setting; or
- **Extend:** The user is warned before time expires and given at least 20 seconds to extend the time limit with a simple action (for example, "press the space bar"), and the user is allowed to extend the time limit at least ten times; or
- **Real-time Exception:** The time limit is a required part of a real-time event (for example, an auction), and no alternative to the time limit is possible; or
- **Essential Exception:** The time limit is essential and extending it would invalidate the activity; or
- **20 Hour Exception:** The time limit is longer than 20 hours.

Note: This success criterion helps ensure that users can complete tasks without unexpected changes in content or context that are a result of a time limit. This success criterion should be considered in conjunction with [Success Criterion 3.2.1](#), which puts limits on changes of content or context as a result of user action.

2.2.2 Pause, Stop, Hide: For moving, blinking, scrolling, or auto-updating information, all of the following are true: (Level A)

[How to Meet 2.2.2](#)
[Understanding 2.2.2](#)

- **Moving, blinking, scrolling:** For any moving, blinking or scrolling information that (1) starts automatically, (2) lasts more than five seconds, and (3) is presented in parallel with other content, there is a mechanism for the user to pause, stop, or hide it unless the movement, blinking, or scrolling is part of an activity where it is essential; and
- **Auto-updating:** For any auto-updating information that (1) starts automatically and (2) is presented in parallel with other content, there is a mechanism for the user to pause, stop, or hide it or to control the frequency of the update unless the auto-updating is part of an activity where it is essential.

Note 1: For requirements related to flickering or flashing content, refer to [Guideline 2.3](#).

Note 2: Since any content that does not meet this success criterion can interfere with a user's ability to use the whole page, all content on the Web page (whether it is used to meet other success criteria or not) must meet this success criterion. See [Conformance Requirement 5: Non-Interference](#).

Note 3: Content that is updated periodically by software or that is streamed to the user agent is not required to preserve or present information that is generated or received between the initiation of the pause and resuming presentation. **JA 1666** This may not be technically possible, and in many situations could be misleading to do so.

Note 4: An animation that occurs as part of a preload phase or similar situation can be considered essential if interaction cannot occur during that phase for all users and if not indicating progress could confuse users or cause them to think that content was frozen or broken.

2.2.3 No Timing: Timing is not an essential part of the event or activity presented by the content, except for non-interactive synchronized media and real-time events. (Level AAA)

[How to Meet 2.2.3](#)
[Understanding 2.2.3](#)

2.2.4 Interruptions: Interruptions can be postponed or suppressed by the user, except interruptions involving an emergency. (Level AAA)

[How to Meet 2.2.4](#)
[Understanding 2.2.4](#)

2.2.5 Re-authenticating: When an authenticated session expires, the user can continue the activity without loss of data after re-authenticating. (Level AAA)

[How to Meet 2.2.5](#)
[Understanding 2.2.5](#)

Guideline 2.3 Seizures: Do not design content in a way that is known to cause seizures.

[Understanding Guideline 2.3](#)

2.3.1 Three Flashes or Below Threshold: Web pages do not contain anything that flashes more than three times in any one second period, or the flash is below the general flash and red flash thresholds. (Level A)

[How to Meet 2.3.1](#)
[Understanding 2.3.1](#)

Note: Since any content that does not meet this success criterion can interfere with a user's ability to use the whole page, all content on the Web page (whether it is used to meet other success criteria or not) must meet this success criterion. See [Conformance Requirement 5: Non-Interference](#).

2.3.2 Three Flashes: Web pages do not contain anything that flashes more than three times in any one second period. (Level AAA)

[How to Meet 2.3.2](#)
[Understanding 2.3.2](#)

Guideline 2.4 Navigable: Provide ways to help users navigate, find content, and determine where they are.

[Understanding Guideline 2.4](#)

2.4.1 Bypass Blocks: A mechanism is available to bypass blocks of content that are repeated on multiple Web pages. (Level A)

[How to Meet 2.4.1](#)
[Understanding 2.4.1](#)

2.4.2 Page Titled: Web pages have titles that describe topic or purpose. (Level A)

[How to Meet 2.4.2](#)
[Understanding 2.4.2](#)

2.4.3 Focus Order: If a Web page can be navigated sequentially and the navigation sequences affect meaning or operation, focusable components receive focus in an order that preserves meaning and operability. (Level A)

[How to Meet 2.4.3](#)
[Understanding 2.4.3](#)

2.4.4 Link Purpose (In Context): The purpose of each link can be determined from the link text alone or from the link text together with its programmatically determined link context, except where the purpose of the link would be ambiguous to users in general. (Level A)

[How to Meet 2.4.4](#)
[Understanding 2.4.4](#)

2.4.5 Multiple Ways: More than one way is available to locate a Web page within a set of Web pages except where the Web Page is the result of, or a step in, a process. (Level AA)

[How to Meet 2.4.5](#)
[Understanding 2.4.5](#)

2.4.7 Focus Visible: Any keyboard operable user interface has a mode of operation where the keyboard focus indicator is visible. (Level AA)

[How to Meet 2.4.6](#)
[Understanding 2.4.6](#)

[How to Meet 2.4.7](#)
[Understanding 2.4.7](#)

2.4.8 Location: Information about the user's location within a set of Web pages is available. (Level AAA)

[How to Meet 2.4.8](#)
[Understanding 2.4.8](#)

2.4.9 Link Purpose (Link Only): A mechanism is available to allow the purpose of each link to be identified from link text alone, except where the purpose of the link would be ambiguous to users in general. (Level AAA)

[How to Meet 2.4.9](#)
[Understanding 2.4.9](#)

2.4.10 Section Headings: Section headings are used to organize the content. (Level AAA)

[How to Meet 2.4.10](#)
[Understanding 2.4.10](#)

Note 1: "Heading" is used in its general sense and includes titles and other ways to add a heading to different types of content.

Note 2: This success criterion covers sections within writing, not user interface components. User Interface components are covered under [Success Criterion 4.1.2](#).

Principle 3: Understandable - Information and the operation of user interface must be understandable.

Guideline 3.1 Readable: Make text content readable and understandable.

[Understanding Guideline 3.1](#)

3.1.1 Language of Page: The default human language of each Web page can be programmatically determined. (Level A)

[How to Meet 3.1.1](#)
[Understanding 3.1.1](#)

3.1.2 Language of Parts: The human language of each passage or phrase in the content can be programmatically determined except for proper names, technical terms, words of indeterminate language, and words or phrases that have become part of the vernacular of the immediately surrounding text. (Level AA)

[How to Meet 3.1.2](#)
[Understanding 3.1.2](#)

3.1.3 Unusual Words: A mechanism is available for identifying specific definitions of words or phrases used in an unusual or restricted way, including idioms and jargon. (Level AAA)

[How to Meet 3.1.3](#)
[Understanding 3.1.3](#)

3.1.4 Abbreviations: A mechanism for identifying the expanded form or meaning of abbreviations is available. (Level AAA)

[How to Meet 3.1.4](#)
[Understanding 3.1.4](#)

3.1.5 Reading Level: When text requires reading ability more advanced than the lower secondary education level after removal of proper names and titles, supplemental content, or a version that does not require reading ability more advanced than the lower secondary education level, is available. (Level AAA)

[How to Meet 3.1.5](#)
[Understanding 3.1.5](#)

3.1.6 Pronunciation: A mechanism is available for identifying specific pronunciation of words where meaning of the words, in context, is ambiguous without knowing the pronunciation. (Level AAA)

[How to Meet 3.1.6](#)
[Understanding 3.1.6](#)

3.2.1 On Focus: When any component receives focus, it does not initiate a change of context. (Level A)

[How to Meet 3.2.1](#)
[Understanding 3.2.1](#)

3.2.2 On Input: Changing the setting of any user interface component does not automatically cause a change of context unless the user has been advised of the behavior before using the component. (Level A)

[How to Meet 3.2.2](#)
[Understanding 3.2.2](#)

3.2.3 Consistent Navigation: Navigational mechanisms that are repeated on multiple Web pages within a set of Web pages occur in the same relative order each time they are repeated, unless a change is initiated by the user. (Level AA)

[How to Meet 3.2.3](#)
[Understanding 3.2.3](#)

3.2.4 Consistent Identification: Components that have the same functionality within a set of Web pages are identified consistently. (Level AA)

[How to Meet 3.2.4](#)
[Understanding 3.2.4](#)

3.2.5 Change on Request: Changes of context are initiated only by user request or a mechanism is available to turn off such changes. (Level AAA)

[How to Meet 3.2.5](#)
[Understanding 3.2.5](#)

Guideline 3.3 Input Assistance: Help users avoid and correct mistakes.

[Understanding Guideline 3.3](#)

3.3.1 Error Identification: If an input error is automatically detected, the item that is in error is identified and the error is described to the user in text. (Level A)

[How to Meet 3.3.1](#)
[Understanding 3.3.1](#)

3.3.2 Labels or Instructions: Labels or instructions are provided when content requires user input. (Level A)

[How to Meet 3.3.2](#)
[Understanding 3.3.2](#)

3.3.3 Error Suggestion: If an input error is automatically detected and suggestions for correction are known, then the suggestions are provided to the user, unless it would jeopardize the security or purpose of the content. (Level AA)

[How to Meet 3.3.3](#)
[Understanding 3.3.3](#)

3.3.4 Error Prevention (Legal, Financial, Data): For Web pages that cause legal commitments or financial transactions for the user to occur, that modify or delete user-controllable data in data storage systems, or that submit user test responses, at least one of the following is true: (Level AA)

[How to Meet 3.3.4](#)
[Understanding 3.3.4](#)

1. **Reversible:** Submissions are reversible.
2. **Checked:** Data entered by the user is checked for input errors and the user is provided an opportunity to correct them.
3. **Confirmed:** A mechanism is available for reviewing, confirming, and correcting information before finalizing the submission.

3.3.5 Help: Context-sensitive help is available. (Level AAA)

[How to Meet 3.3.5](#)
[Understanding 3.3.5](#)

3.3.6 Error Prevention (All): For Web pages that require the user to submit information, at least one of the following is true: (Level AAA)

[How to Meet 3.3.6](#)
[Understanding 3.3.6](#)

1. **Reversible:** Submissions are reversible.

2. **Checked:** Data entered by the user is checked for input errors and the user is provided an opportunity to correct them.

3. **Confirmed:** A mechanism is available for reviewing, confirming, and correcting information before finalizing the submission.

Principle 4: Robust - Content must be robust enough that it can be interpreted reliably by a wide variety of user agents, including assistive technologies.

Guideline 4.1 Compatible: Maximize compatibility with current and future user agents, including assistive technologies.

[Understanding Guideline 4.1](#)

4.1.1 Parsing: In content implemented using markup languages, elements have complete start and end tags, elements are nested according to their specifications, elements do not contain duplicate attributes, and any IDs are unique, except where the specifications allow these features. (Level A)

[How to Meet 4.1.1](#)
[Understanding 4.1.1](#)

Note: Start and end tags that are missing a critical character in their formation, such as a closing angle bracket or a mismatched attribute value quotation mark are not complete.

4.1.2 Name, Role, Value: For all user interface components (including but not limited to: form elements, links and components generated by scripts), the name and role can be programmatically determined; states, properties, and values that can be set by the user can be programmatically set; and notification of changes to these items is available to user agents, including assistive technologies. (Level A)

[How to Meet 4.1.2](#)
[Understanding 4.1.2](#)

Note: This success criterion is primarily for Web authors who develop or script their own user interface components. For example, standard HTML controls already meet this success criterion when used according to specification.

Conformance

This section is normative.

This section lists requirements for conformance to WCAG 2.0. It also gives information about how to make conformance claims, which are optional. Finally, it describes what it means to be accessibility supported, since only accessibility-supported ways of using technologies can be relied upon for conformance. [Understanding Conformance](#) includes further explanation of the accessibility-supported concept.

Conformance Requirements

In order for a Web page to conform to WCAG 2.0, all of the following conformance requirements must be satisfied:

1. Conformance Level: One of the following levels of conformance is met in full.

- **Level A:** For Level A conformance (the minimum level of conformance), the Web page satisfies all the Level A Success Criteria, or a conforming alternate version is provided.
- **Level AA:** For Level AA conformance, the Web page satisfies all the Level A and Level AA Success Criteria, or a Level AA conforming alternate version is provided.
- **Level AAA:** For Level AAA conformance, the Web page satisfies all the Level A, Level AA and Level AAA Success Criteria, or a Level AAA conforming alternate version is provided.

Note 1: Although conformance can only be achieved at the stated levels, authors are encouraged to report (in their claim) any progress toward meeting success criteria from all levels beyond the achieved level of conformance.

Note 2: It is not recommended that Level AAA conformance be required as a general policy for entire sites because it is not possible to satisfy all Level AAA Success Criteria for some content.

Note 1: For the purpose of determining conformance, alternatives to part of a page's content are considered part of the page when the alternatives can be obtained directly from the page, e.g., a long description or an alternative presentation of a video.

Note 2: Authors of Web pages that cannot conform due to content outside of the author's control may consider a [Statement of Partial Conformance](#).

3. Complete processes: When a Web page is one of a series of Web pages presenting a process (i.e., a sequence of steps that need to be completed in order to accomplish an activity), all Web pages in the process conform at the specified level or better. (Conformance is not possible at a particular level if any page in the process does not conform at that level or better.)

Example: An online store has a series of pages that are used to select and purchase products. All pages in the series from start to finish (checkout) conform in order for any page that is part of the process to conform.

4. Only Accessibility-Supported Ways of Using Technologies: Only accessibility-supported ways of using technologies are relied upon to satisfy the success criteria. Any information or functionality that is provided in a way that is not accessibility supported is also available in a way that is accessibility supported. (See [Understanding accessibility support](#).)

5. Non-Interference: If technologies are used in a way that is not accessibility supported, or if they are used in a non-conforming way, then they do not block the ability of users to access the rest of the page. In addition, the Web page as a whole continues to meet the conformance requirements under each of the following conditions:

1. when any technology that is not relied upon is turned on in a user agent,
2. when any technology that is not relied upon is turned off in a user agent, and
3. when any technology that is not relied upon is not supported by a user agent

In addition, the following success criteria apply to all content on the page, including content that is not otherwise relied upon to meet conformance, because failure to meet them could interfere with any use of the page:

- **1.4.2 - Audio Control,**
- **2.1.2 - No Keyboard Trap,**
- **2.3.1 - Three Flashes or Below Threshold,** and
- **2.2.2 - Pause, Stop, Hide.**

Note: If a page cannot conform (for example, a conformance test page or an example page), it cannot be included in the scope of conformance or in a conformance claim.

For more information, including examples, see [Understanding Conformance Requirements](#).

Conformance Claims (Optional)

Conformance is defined only for Web pages. However, a conformance claim may be made to cover one page, a series of pages, or multiple related Web pages.

Required Components of a Conformance Claim

Conformance claims are **not required**. Authors can conform to WCAG 2.0 without making a claim. However, if a conformance claim is made, then the conformance claim **must** include the following information:

1. **Date** of the claim
2. **Guidelines title, version and URI** "Web Content Accessibility Guidelines 2.0 at <http://www.w3.org/TR/2008/REC-WCAG20-20081211/>"
3. **Conformance level** satisfied: (Level A, AA or AAA)
4. **A concise description of the Web pages**, such as a list of URIs for which the claim is made, including whether subdomains are included in the claim.

Note 1: The Web pages may be described by list or by an expression that describes all of the URIs included in the claim.

Note 2: Web-based products that do not have a URI prior to installation on the customer's Web site may have a statement that the product would conform when installed.

5. A list of the Web content technologies **relied upon**.

Optional Components of a Conformance Claim

In addition to the required components of a conformance claim above, consider providing additional information to assist users. Recommended additional information includes:

- A list of success criteria beyond the level of conformance claimed that have been met. This information should be provided in a form that users can use, preferably machine-readable metadata.
- A list of the specific technologies that are "*used but not relied upon*."
- A list of user agents, including assistive technologies that were used to test the content.
- Information about any additional steps taken that go beyond the success criteria to enhance accessibility.
- A machine-readable metadata version of the list of specific technologies that are relied upon.
- A machine-readable metadata version of the conformance claim.

Note 1: Refer to [Understanding Conformance Claims](#) for more information and example conformance claims.

Note 2: Refer to [Understanding Metadata](#) for more information about the use of metadata in conformance claims.

Statement of Partial Conformance - Third Party Content

Sometimes, Web pages are created that will later have additional content added to them. For example, an email program, a blog, an article that allows users to add comments, or applications supporting user-contributed content. Another example would be a page, such as a portal or news site, composed of content aggregated from multiple contributors, or sites that automatically insert content from other sources over time, such as when advertisements are inserted dynamically.

In these cases, it is not possible to know at the time of original posting what the uncontrolled content of the pages will be. It is important to note that the uncontrolled content can affect the accessibility of the controlled content as well. Two options are available:

1. A determination of conformance can be made based on best knowledge. If a page of this type is monitored and repaired (non-conforming content is removed or brought into conformance) within two business days, then a determination or claim of conformance can be made since, except for errors in externally contributed content which are corrected or removed when encountered, the page conforms. No conformance claim can be made if it is not possible to monitor or correct non-conforming content;
OR
2. A "statement of partial conformance" may be made that the page does not conform, but could conform if certain parts were removed. The form of that statement would be, "This page does not conform, but would conform to WCAG 2.0 at level X if the following parts from uncontrolled sources were removed." In addition, the following would also be true of uncontrolled content that is described in the statement of partial conformance:
 - a. It is not content that is under the author's control.
 - b. It is described in a way that users can identify (e.g., they cannot be described as "all parts that we do not control" unless they are clearly marked as such.)

Statement of Partial Conformance - Language

A "statement of partial conformance due to language" may be made when the page does not conform, but would conform if accessibility support existed for (all of) the language(s) used on the page. The form of that statement would be, "This page does not conform, but would conform to WCAG 2.0 at level X if accessibility support existed for the following language(s):"

Appendix A: Glossary

This section is normative.

abbreviation

shortened form of a word, phrase, or name where the abbreviation has not become part of the language

Note 1: This includes initialisms and acronyms where:

1. **initialisms** are shortened forms of a name or phrase made from the initial letters of words or syllables contained in that name or phrase

Example 1: SNCF is a French initialism that contains the initial letters of the Société Nationale des Chemins de Fer, the French national railroad.

Example 2: ESP is an initialism for extrasensory perception.

2. **acronyms** are abbreviated forms made from the initial letters or parts of other words (in a name or phrase) which may be pronounced as a word

Example: NOAA is an acronym made from the initial letters of the National Oceanic and Atmospheric Administration in the United States.

Note 2: Some companies have adopted what used to be an initialism as their company name. In these cases, the new name of the company is the letters (for example, Ecma) and the word is no longer considered an abbreviation.

accessibility supported

supported by users' assistive technologies as well as the accessibility features in browsers and other user agents. To qualify as an accessibility-supported use of a Web content technology (or feature of a technology), both 1 and 2 must be satisfied for a Web content technology (or feature):

1. **The way that the Web content technology is used must be supported by users' assistive technology (AT).** This means that the way that the technology is used has been tested for interoperability with users' assistive technology in the human language(s) of the content,
AND
2. **The Web content technology must have accessibility-supported user agents that are available to users.** This means that at least one of the following four statements is true:
 - a. The technology is supported natively in widely-distributed user agents that are also accessibility supported (such as HTML and CSS);
OR
 - b. The technology is supported in a widely-distributed plug-in that is also accessibility supported;
OR
 - c. The content is available in a closed environment, such as a university or corporate network, where the user agent required by the technology and used by the organization is also accessibility supported;
OR
 - d. The user agent(s) that support the technology are accessibility supported and are available for download or purchase in a way that:
 - does not cost a person with a disability any more than a person without a disability **and**
 - is as easy to find and obtain for a person with a disability as it is for a person without disabilities.

Note 1: The WCAG Working group and the W3C do not specify which or how much support by assistive technologies there must be for a particular use of a Web technology in order for it to be classified as accessibility supported. (See [Level of Assistive Technology Support Needed for "Accessibility Support"](#).)

Note 2: Web technologies can be used in ways that are not accessibility supported as long as they are not relied upon and the page as a whole meets the conformance requirements, including [Conformance Requirement 4: Only Accessibility-Supported Ways of Using Technologies](#) and [Conformance Requirement 5: Non-Interference](#), are met.

Note 3: When a Web Technology is used in a way that is "accessibility supported," it does not imply that the entire technology or all uses of the technology are supported. Most technologies, including HTML, lack support for at least one feature or use. Pages conform to WCAG only if the uses of the technology that are accessibility supported can be relied upon to meet WCAG requirements.

Note 4: When citing Web content technologies that have multiple versions, the version(s) supported should be specified.

Note 5: One way for authors to locate uses of a technology that are accessibility supported would be to consult compilations of uses that are documented to be accessibility supported. (See [Understanding Accessibility-Supported Web Technology Uses](#).) Authors, companies, technology vendors, or others may document accessibility-supported ways of using Web content technologies. However, all ways of using technologies in the documentation would need to meet the definition of accessibility-supported Web content technologies above.

alternative for time-based media

document including correctly sequenced text descriptions of time-based visual and auditory information and providing a means for achieving the outcomes of any time-based interaction

Note: A screenplay used to create the synchronized media content would meet this definition only if it was corrected

ambiguous to users in general

the purpose cannot be determined from the link and all information of the Web page presented to the user simultaneously with the link (i.e., readers without disabilities would not know what a link would do until they activated it)

Example: The word guava in the following sentence "One of the notable exports is guava" is a link. The link could lead to a definition of guava, a chart listing the quantity of guava exported or a photograph of people harvesting guava. Until the link is activated, all readers are unsure and the person with a disability is not at any disadvantage.

ASCII art

picture created by a spatial arrangement of characters or glyphs (typically from the 95 printable characters defined by ASCII).

assistive technology (as used in this document)

hardware and/or software that acts as a user agent, or along with a mainstream user agent, to provide functionality to meet the requirements of users with disabilities that go beyond those offered by mainstream user agents

Note 1: functionality provided by assistive technology includes alternative presentations (e.g., as synthesized speech or magnified content), alternative input methods (e.g., voice), additional navigation or orientation mechanisms, and content transformations (e.g., to make tables more accessible).

Note 2: Assistive technologies often communicate data and messages with mainstream user agents by using and monitoring APIs.

Note 3: The distinction between mainstream user agents and assistive technologies is not absolute. Many mainstream user agents provide some features to assist individuals with disabilities. The basic difference is that mainstream user agents target broad and diverse audiences that usually include people with and without disabilities. Assistive technologies target narrowly defined populations of users with specific disabilities. The assistance provided by an assistive technology is more specific and appropriate to the needs of its target users. The mainstream user agent may provide important functionality to assistive technologies like retrieving Web content from program objects or parsing markup into identifiable bundles.

Example: Assistive technologies that are important in the context of this document include the following:

- screen magnifiers, and other visual reading assistants, which are used by people with visual, perceptual and physical print disabilities to change text font, size, spacing, color, synchronization with speech, etc. in order to improve the visual readability of rendered text and images;
- screen readers, which are used by people who are blind to read textual information through synthesized speech or braille;
- text-to-speech software, which is used by some people with cognitive, language, and learning disabilities to convert text into synthetic speech;
- speech recognition software, which may be used by people who have some physical disabilities;
- alternative keyboards, which are used by people with certain physical disabilities to simulate the keyboard (including alternate keyboards that use head pointers, single switches, sip/puff and other special input devices.);
- alternative pointing devices, which are used by people with certain physical disabilities to simulate mouse pointing and button activations.

audio

the technology of sound reproduction

Note: Audio can be created synthetically (including speech synthesis), recorded from real world sounds, or both.

audio description

narration added to the soundtrack to describe important visual details that cannot be understood from the main soundtrack alone

Note 1: Audio description of video provides information about actions, characters, scene changes, on-screen text, and other visual content.

Note 2: In standard audio description, narration is added during existing pauses in dialogue. (See also extended audio description.)

Note 3: Where all of the video information is already provided in existing audio, no additional audio description is necessary.

audio-only

a time-based presentation that contains only audio (no video and no interaction)

blinking

switch back and forth between two visual states in a way that is meant to draw attention

Note: See also flash. It is possible for something to be large enough and blink brightly enough at the right frequency to be also classified as a flash.

blocks of text

more than one sentence of text

CAPTCHA

initialism for "Completely Automated Public Turing test to tell Computers and Humans Apart"

Note 1: CAPTCHA tests often involve asking the user to type in text that is displayed in an obscured image or audio file.

Note 2: A Turing test is any system of tests designed to differentiate a human from a computer. It is named after famed computer scientist Alan Turing. The term was coined by researchers at Carnegie Mellon University.

[\[CAPTCHA\]](#)

captions

synchronized visual and/or text alternative for both speech and non-speech audio information needed to understand the media content

Note 1: Captions are similar to dialogue-only subtitles except captions convey not only the content of spoken dialogue, but also equivalents for non-dialogue audio information needed to understand the program content, including sound effects, music, laughter, speaker identification and location.

Note 2: Closed Captions are equivalents that can be turned on and off with some players.

Note 3: Open Captions are any captions that cannot be turned off. For example, if the captions are visual equivalent images of text embedded in video.

Note 4: Captions should not obscure or obstruct relevant information in the video.

Note 5: In some countries, captions are called subtitles.

Note 6: Audio descriptions can be, but do not need to be, captioned since they are descriptions of information that is already presented visually.

changes of context

major changes in the content of the Web page that, if made without user awareness, can disorient users who are not able to view the entire page simultaneously

Changes in context include changes of:

1. user agent;
2. viewport;
3. focus;
4. content that changes the meaning of the Web page.

Note: A change of content is not always a change of context. Changes in content, such as an expanding outline, dynamic menu, or a tab control do not necessarily change the context, unless they also change one of the above (e.g., focus).

Example: Opening a new window, moving focus to a different component, going to a new page (including anything that would look to a user as if they had moved to a new page) or significantly re-arranging the content of a page are examples of changes of context.

conformance

satisfying all the requirements of a given standard, guideline or specification

conforming alternate version

version that

1. conforms at the designated level, and
2. provides all of the same information and functionality in the same human language, and
3. is as up to date as the non-conforming content, and

- a. the conforming version can be reached from the non-conforming page via an accessibility-supported mechanism, or
- b. the non-conforming version can only be reached from the conforming version, or
- c. the non-conforming version can only be reached from a conforming page that also provides a mechanism to reach the conforming version

Note 1: In this definition, "can only be reached" means that there is some mechanism, such as a conditional redirect, that prevents a user from "reaching" (loading) the non-conforming page unless the user had just come from the conforming version.

Note 2: The alternate version does not need to be matched page for page with the original (e.g., the conforming alternate version may consist of multiple pages).

Note 3: If multiple language versions are available, then conforming alternate versions are required for each language offered.

Note 4: Alternate versions may be provided to accommodate different technology environments or user groups. Each version should be as conformant as possible. One version would need to be fully conformant in order to meet conformance requirement 1.

Note 5: The conforming alternative version does not need to reside within the scope of conformance, or even on the same Web site, as long as it is as freely available as the non-conforming version.

Note 6: Alternate versions should not be confused with supplementary content, which support the original page and enhance comprehension.

Note 7: Setting user preferences within the content to produce a conforming version is an acceptable mechanism for reaching another version as long as the method used to set the preferences is accessibility supported.

See [Understanding Conforming Alternate Versions](#)

content (Web content)

information and sensory experience to be communicated to the user by means of a user agent, including code or markup that defines the content's structure, presentation, and interactions

context-sensitive help

help text that provides information related to the function currently being performed

Note: Clear labels can act as context-sensitive help.

contrast ratio

$(L1 + 0.05) / (L2 + 0.05)$, where

- L1 is the relative luminance of the lighter of the colors, and
- L2 is the relative luminance of the darker of the colors.

Note 1: Contrast ratios can range from 1 to 21 (commonly written 1:1 to 21:1).

Note 2: Because authors do not have control over user settings as to how text is rendered (for example font smoothing or anti-aliasing), the contrast ratio for text can be evaluated with anti-aliasing turned off.

Note 3: For the purpose of Success Criteria 1.4.3 and 1.4.6, contrast is measured with respect to the specified background over which the text is rendered in normal usage. If no background color is specified, then white is assumed.

Note 4: Background color is the specified color of content over which the text is to be rendered in normal usage. It is a failure if no background color is specified when the text color is specified, because the user's default background color is unknown and cannot be evaluated for sufficient contrast. For the same reason, it is a failure if no text color is specified when a background color is specified.

Note 5: When there is a border around the letter, the border can add contrast and would be used in calculating the contrast between the letter and its background. A narrow border around the letter would be used as the letter. A wide border around the letter that fills in the inner details of the letters acts as a halo and would be considered background.

Note 6: WCAG conformance should be evaluated for color pairs specified in the content that an author would expect to appear adjacent in typical presentation. Authors need not consider unusual presentations, such as color changes made by the user agent, except where caused by authors' code.

correct reading sequence

JA1676

any sequence where words and paragraphs are presented in an order that does not change the meaning of the

a sudden, unexpected situation or occurrence that requires immediate action to preserve health, safety, or property

essential

if removed, would fundamentally change the information or functionality of the content, **and** information and functionality cannot be achieved in another way that would conform

extended audio description

audio description that is added to an audiovisual presentation by pausing the video so that there is time to add additional description

Note: This technique is only used when the sense of the video would be lost without the additional audio description and the pauses between dialogue/narration are too short.

flash

a pair of opposing changes in relative luminance that can cause seizures in some people if it is large enough and in the right frequency range

Note 1: See general flash and red flash thresholds for information about types of flash that are not allowed.

Note 2: See also blinking.

functionality

processes and outcomes achievable through user action

general flash and red flash thresholds

a flash or rapidly changing image sequence is below the threshold (i.e., content **passes**) if any of the following are true:

1. there are no more than three **general flashes** and / or no more than three **red flashes** within any one-second period; or
2. the combined area of flashes occurring concurrently occupies no more than a total of .006 steradians within any 10 degree visual field on the screen (25% of any 10 degree visual field on the screen) at typical viewing distance

where:

- A **general flash** is defined as a pair of opposing changes in relative luminance of 10% or more of the maximum relative luminance where the relative luminance of the darker image is below 0.80; and where "a pair of opposing changes" is an increase followed by a decrease, or a decrease followed by an increase, and
- A **red flash** is defined as any pair of opposing transitions involving a saturated red.

Exception: Flashing that is a fine, balanced, pattern such as white noise or an alternating checkerboard pattern with "squares" smaller than 0.1 degree (of visual field at typical viewing distance) on a side does not violate the thresholds.

Note 1: For general software or Web content, using a 341 x 256 pixel rectangle anywhere on the displayed screen area when the content is viewed at 1024 x 768 pixels will provide a good estimate of a 10 degree visual field for standard screen sizes and viewing distances (e.g., 15-17 inch screen at 22-26 inches). (Higher resolutions displays showing the same rendering of the content yield smaller and safer images so it is lower resolutions that are used to define the thresholds.)

Note 2: A transition is the change in relative luminance (or relative luminance/color for red flashing) between adjacent peaks and valleys in a plot of relative luminance (or relative luminance/color for red flashing) measurement against time. A flash consists of two opposing transitions.

Note 3: The current working definition in the field for "**pair of opposing transitions involving a saturated red**" is where, for either or both states involved in each transition, $R/(R + G + B) \geq 0.8$, and the change in the value of $(R-G-B) \times 320$ is > 20 (negative values of $(R-G-B) \times 320$ are set to zero) for both transitions. R, G, B values range from 0-1 as specified in "relative luminance" definition. [\[HARDING-BINNIE\]](#)

Note 4: Tools are available that will carry out analysis from video screen capture. However, no tool is necessary to evaluate for this condition if flashing is less than or equal to 3 flashes in any one second. Content automatically passes (see #1 and #2 above).

human language

language that is spoken, written or signed (through visual or tactile means) to communicate with humans

Note: See also sign language.

JA1677

idiom

Note: idioms cannot be translated directly, word for word, without losing their (cultural or language-dependent) meaning.

Example 1: In English, "spilling the beans" means "revealing a secret." However, "knocking over the beans" or "spilling the vegetables" does not mean the same thing.

Example 2: In Japanese, the phrase "さじを投げる" literally translates into "he throws a spoon," but it means that there is nothing he can do and finally he gives up.

Example 3: In Dutch, "Hij ging met de kippen op stok" literally translates into "He went to roost with the chickens," but it means that he went to bed early.

image of text

text that has been rendered in a non-text form (e.g., an image) in order to achieve a particular visual effect

Note: This does not include text that is part of a picture that contains significant other visual content.

Example: A person's name on a nametag in a photograph.

informative

for information purposes and not required for conformance

Note: Content required for conformance is referred to as "normative."

input error

information provided by the user that is not accepted

Note: This includes:

1. Information that is required by the Web page but omitted by the user
2. Information that is provided by the user but that falls outside the required data format or values

jargon

words used in a particular way by people in a particular field

Example: The word StickyKeys is jargon from the field of assistive technology/accessibility.

keyboard interface

interface used by software to obtain keystroke input

Note 1: A keyboard interface allows users to provide keystroke input to programs even if the native technology does not contain a keyboard.

Example: A touchscreen PDA has a keyboard interface built into its operating system as well as a connector for external keyboards. Applications on the PDA can use the interface to obtain keyboard input either from an external keyboard or from other applications that provide simulated keyboard output, such as handwriting interpreters or speech-to-text applications with "keyboard emulation" functionality.

Note 2: Operation of the application (or parts of the application) through a keyboard-operated mouse emulator, such as MouseKeys, does not qualify as operation through a keyboard interface because operation of the program is through its pointing device interface, not through its keyboard interface.

label

text or other component with a text alternative that is presented to a user to identify a component within Web content

Note 1: A label is presented to all users whereas the name may be hidden and only exposed by assistive technology. In many (but not all) cases the name and the label are the same.

Note 2: The term label is not limited to the label element in HTML.

large scale (text)

with at least 18 point or 14 point bold or font size that would yield equivalent size for Chinese, Japanese and Korean (CJK) fonts

Note 1: Fonts with extraordinarily thin strokes or unusual features and characteristics that reduce the familiarity of their letter forms are harder to read, especially at lower contrast levels.

Note 2: Font size is the size when the content is delivered. It does not include resizing that may be done by a user.

Note 3: The actual size of the character that a user sees is dependent both on the author-defined size and the user's display or user-agent settings. For many mainstream body text fonts, 14 and 18 point is roughly equivalent to 1.2 and

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 1.5 em or to 120% or 150% of the default size for body text (assuming that the body font is 100%), but authors would need to check this for the particular fonts in use. When fonts are defined in relative units, the actual point size is calculated by the user agent for display. The point size should be obtained from the user agent, or calculated based on font metrics as the user agent does, when evaluating this success criterion. Users who have low vision would be responsible for choosing appropriate settings.

Note 4: When using text without specifying the font size, the smallest font size used on major browsers for unspecified text would be a reasonable size to assume for the font. If a level 1 heading is rendered in 14pt bold or higher on major browsers, then it would be reasonable to assume it is large text. Relative scaling can be calculated from the default sizes in a similar fashion.

Note 5: The 18 and 14 point sizes for roman texts are taken from the minimum size for large print (14pt) and the larger standard font size (18pt). For other fonts such as CJK languages, the "equivalent" sizes would be the minimum large print size used for those languages and the next larger standard large print size.

legal commitments

transactions where the person incurs a legally binding obligation or benefit

Example: A marriage license, a stock trade (financial and legal), a will, a loan, adoption, signing up for the army, a contract of any type, etc.

link purpose

nature of the result obtained by activating a hyperlink

live

information captured from a real-world event and transmitted to the receiver with no more than a broadcast delay

Note 1: A broadcast delay is a short (usually automated) delay, for example used in order to give the broadcaster time to queue or censor the audio (or video) feed, but not sufficient to allow significant editing.

Note 2: If information is completely computer generated, it is not live.

lower secondary education level

the two or three year period of education that begins after completion of six years of school and ends nine years after the beginning of primary education

Note: This definition is based on the International Standard Classification of Education [\[UNESCO\]](#).

mechanism

process or technique for achieving a result

Note 1: The mechanism may be explicitly provided in the content, or may be relied upon to be provided by either the platform or by user agents, including assistive technologies.

Note 2: The mechanism needs to meet all success criteria for the conformance level claimed.

media alternative for text

media that presents no more information than is already presented in text (directly or via text alternatives)

Note: A media alternative for text is provided for those who benefit from alternate representations of text. Media alternatives for text may be audio-only, video-only (including sign-language video), or audio-video.

name

text by which software can identify a component within Web content to the user

Note 1: The name may be hidden and only exposed by assistive technology, whereas a label is presented to all users. In many (but not all) cases, the label and the name are the same.

Note 2: This is unrelated to the name attribute in HTML.

navigated sequentially

navigated in the order defined for advancing focus (from one element to the next) using a keyboard interface

non-text content

any content that is not a sequence of characters that can be programmatically determined or where the sequence is not expressing something in human language

Note: This includes ASCII Art (which is a pattern of characters), emoticons, leetspeak (which uses character substitution), and images representing text

normative

required for conformance

on a full-screen window

on the most common sized desktop/laptop display with the viewport maximized

Note: Since people generally keep their computers for several years, it is best not to rely on the latest desktop/laptop display resolutions but to consider the common desktop/laptop display resolutions over the course of several years when making this evaluation.

paused

stopped by user request and not resumed until requested by user

prerecorded

information that is not live

presentation

rendering of the content in a form to be perceived by users

primary education level

six year time period that begins between the ages of five and seven, possibly without any previous education

Note: This definition is based on the International Standard Classification of Education [\[UNESCO\]](#).

process

series of user actions where each action is required in order to complete an activity

Example 1: Successful use of a series of Web pages on a shopping site requires users to view alternative products, prices and offers, select products, submit an order, provide shipping information and provide payment information.

Example 2: An account registration page requires successful completion of a Turing test before the registration form can be accessed.

programmatically determined (programmatically determinable)

determined by software from author-supplied data provided in a way that different user agents, including assistive technologies, can extract and present this information to users in different modalities

Example 1: Determined in a markup language from elements and attributes that are accessed directly by commonly available assistive technology.

Example 2: Determined from technology-specific data structures in a non-markup language and exposed to assistive technology via an accessibility API that is supported by commonly available assistive technology.

programmatically determined link context

additional information that can be programmatically determined from relationships with a link, combined with the link text, and presented to users in different modalities

Example: In HTML, information that is programmatically determinable from a link in English includes text that is in the same paragraph, list, or table cell as the link or in a table header cell that is associated with the table cell that contains the link.

Note: Since screen readers interpret punctuation, they can also provide the context from the current sentence, when the focus is on a link in that sentence.

programmatically set

set by software using methods that are supported by user agents, including assistive technologies

pure decoration

serving only an aesthetic purpose, providing no information, and having no functionality

Note: Text is only purely decorative if the words can be rearranged or substituted without changing their purpose.

Example: The cover page of a dictionary has random words in very light text in the background.

real-time event

event that a) occurs at the same time as the viewing and b) is not completely generated by the content

Example 1: A Webcast of a live performance (occurs at the same time as the viewing and is not prerecorded).

Example 2: An on-line auction with people bidding (occurs at the same time as the viewing).

Example 3: Live humans interacting in a virtual world using avatars (is not completely generated by the content and occurs at the same time as the viewing).

relative luminance

the relative brightness of any point in a colorspace, normalized to 0 for darkest black and 1 for lightest white

Note 1: For the sRGB colorspace, the relative luminance of a color is defined as $L = 0.2126 * R + 0.7152 * G + 0.0722 * B$ where **R**, **G** and **B** are defined as:

- if $R_{sRGB} \leq 0.03928$ then $R = R_{sRGB}/12.92$ else $R = ((R_{sRGB}+0.055)/1.055) ^ 2.4$
- if $G_{sRGB} \leq 0.03928$ then $G = G_{sRGB}/12.92$ else $G = ((G_{sRGB}+0.055)/1.055) ^ 2.4$
- if $B_{sRGB} \leq 0.03928$ then $B = B_{sRGB}/12.92$ else $B = ((B_{sRGB}+0.055)/1.055) ^ 2.4$

and R_{sRGB} , G_{sRGB} , and B_{sRGB} are defined as:

- $R_{sRGB} = R_{8bit}/255$
- $G_{sRGB} = G_{8bit}/255$
- $B_{sRGB} = B_{8bit}/255$

The "^" character is the exponentiation operator. (Formula taken from [\[sRGB\]](#) and [\[IEC-4WD\]](#)).

Note 2: Almost all systems used today to view Web content assume sRGB encoding. Unless it is known that another color space will be used to process and display the content, authors should evaluate using sRGB colorspace. If using other color spaces, see [Understanding Success Criterion 1.4.3](#).

Note 3: If dithering occurs after delivery, then the source color value is used. For colors that are dithered at the source, the average values of the colors that are dithered should be used (average R, average G, and average B).

Note 4: Tools are available that automatically do the calculations when testing contrast and flash.

Note 5: A [MathML version of the relative luminance definition](#) is available.

relied upon (technologies that are)

the content would not conform if that technology is turned off or is not supported

role

text or number by which software can identify the function of a component within Web content

Example: A number that indicates whether an image functions as a hyperlink, command button, or check box.

same functionality

same result when used

Example: A submit "search" button on one Web page and a "find" button on another Web page may both have a field to enter a term and list topics in the Web site related to the term submitted. In this case, they would have the same functionality but would not be labeled consistently.

same relative order

same position relative to other items

Note: Items are considered to be in the same relative order even if other items are inserted or removed from the original order. For example, expanding navigation menus may insert an additional level of detail or a secondary navigation section may be inserted into the reading order.

satisfies a success criterion

the success criterion does not evaluate to 'false' when applied to the page

section

A self-contained portion of written content that deals with one or more related topics or thoughts

Note: A section may consist of one or more paragraphs and include graphics, tables, lists and sub-sections.

set of Web pages

collection of Web pages that share a common purpose and that are created by the same author, group or organization

Note: Different language versions would be considered different sets of Web pages.

sign language

a language using combinations of movements of the hands and arms, facial expressions, or body positions to convey meaning

sign language interpretation

translation of one language, generally a spoken language, into a sign language.
Note: True sign languages are independent languages that are unrelated to the spoken language(s) of the same country or region.

specific sensory experience

a sensory experience that is not purely decorative and does not primarily convey important information or perform a function

Example: Examples include a performance of a flute solo, works of visual art etc.

structure

1. The way the parts of a Web page are organized in relation to each other; and
2. The way a collection of Web pages is organized

supplemental content

additional content that illustrates or clarifies the primary content

Example 1: An audio version of a Web page.

Example 2: An illustration of a complex process.

Example 3: A paragraph summarizing the major outcomes and recommendations made in a research study.

synchronized media

audio or video synchronized with another format for presenting information and/or with time-based interactive components, unless the media is a media alternative for text that is clearly labeled as such

technology (Web content)

mechanism for encoding instructions to be rendered, played or executed by user agents

Note 1: As used in these guidelines "Web Technology" and the word "technology" (when used alone) both refer to Web Content Technologies.

Note 2: Web content technologies may include markup languages, data formats, or programming languages that authors may use alone or in combination to create end-user experiences that range from static Web pages to synchronized media presentations to dynamic Web applications.

Example: Some common examples of Web content technologies include HTML, CSS, SVG, PNG, PDF, Flash, and JavaScript.

text

sequence of characters that can be programmatically determined, where the sequence is expressing something in human language

text alternative

Text that is programmatically associated with non-text content or referred to from text that is programmatically associated with non-text content. Programmatically associated text is text whose location can be programmatically determined from the non-text content.

Example: An image of a chart is described in text in the paragraph after the chart. The short text alternative for the chart indicates that a description follows.

Note: Refer to [Understanding Text Alternatives](#) for more information.

used in an unusual or restricted way

words used in such a way that requires users to know exactly which definition to apply in order to understand the content correctly

Example: The term "gig" means something different if it occurs in a discussion of music concerts than it does in article about computer hard drive space, but the appropriate definition can be determined from context. By contrast, the word "text" is used in a very specific way in WCAG 2.0, so a definition is supplied in the glossary.

user agent

any software that retrieves and presents Web content for users

Example: Web browsers, media players, plug-ins, and other programs — including assistive technologies — that help in retrieving, rendering, and interacting with Web content.

user-controllable

data that is intended to be accessed by users

Example: Name and address fields for a user's account.

user interface component

a part of the content that is perceived by users as a single control for a distinct function

Note 1: Multiple user interface components may be implemented as a single programmatic element. Components here is not tied to programming techniques, but rather to what the user perceives as separate controls.

Note 2: User interface components include form elements and links as well as components generated by scripts.

Example: An applet has a "control" that can be used to move through content by line or page or random access. Since each of these would need to have a name and be settable independently, they would each be a "user interface component."

video

the technology of moving or sequenced pictures or images

Note: Video can be made up of animated or photographic images, or both.

video-only

a time-based presentation that contains only video (no audio and no interaction)

viewport

object in which the user agent presents content

Note 1: The user agent presents content through one or more viewports. Viewports include windows, frames, loudspeakers, and virtual magnifying glasses. A viewport may contain another viewport (e.g., nested frames). Interface components created by the user agent such as prompts, menus, and alerts are not viewports.

Note 2: This definition is based on [User Agent Accessibility Guidelines 1.0 Glossary](#).

visually customized

the font, size, color, and background can be set

Web page

a non-embedded resource obtained from a single URI using HTTP plus any other resources that are used in the rendering or intended to be rendered together with it by a user agent

Note 1: Although any "other resources" would be rendered together with the primary resource, they would not necessarily be rendered simultaneously with each other.

Note 2: For the purposes of conformance with these guidelines, a resource must be "non-embedded" within the scope of conformance to be considered a Web page.

Example 1: A Web resource including all embedded images and media.

Example 2: A Web mail program built using Asynchronous JavaScript and XML (AJAX). The program lives entirely at <http://example.com/mail>, but includes an inbox, a contacts area and a calendar. Links or buttons are provided that cause the inbox, contacts, or calendar to display, but do not change the URI of the page as a whole.

Example 3: A customizable portal site, where users can choose content to display from a set of different content modules.

Example 4: When you enter "<http://shopping.example.com/>" in your browser, you enter a movie-like interactive shopping environment where you visually move around in a store dragging products off of the shelves around you and into a visual shopping cart in front of you. Clicking on a product causes it to be demonstrated with a specification sheet floating alongside. This might be a single-page Web site or just one page within a Web site.

Appendix B: Acknowledgments

This section is informative.

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Additional information about participation in the [Web Content Accessibility Guidelines Working Group \(WCAG WG\)](#) can be found on the [Working Group home page](#).

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Appendix C: References

This section is informative.

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WCAG10

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Exhibit D

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ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM A106 / A106 M	2004b	Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service	A106/A106M-15
ASTM A184	1979	Standard Specification for Fabricated Deformed Steel Bar Mats for Concrete Reinforcement	A184/A184M - 06(2011)
ASTM A185	1979	Standard Specification for Welded Steel Wire Fabric for Concrete Reinforcement	ASTM A185/A185M-07
ASTM A203 / A203M	1997	Standard Specification for Pressure Vessel Plates, Alloy Steel, Nickel	A203/A203M - 12
ASTM A242	1979	Standard Specification for High-Strength Low-Alloy Structural Steel	A242/A242M - 13
ASTM A285	1978	Standard Specification for Pressure Vessel Plates, Carbon Steel, Low- and Intermediate- Tensile Strength	A285/A285M - 12
ASTM A307	1978e	Standard Specification for Carbon Steel Externally Threaded Standard Fasteners	A307 - 14
ASTM A325	1979	Standard Specification for High-Strength Bolts for Structural Steel Joints	A325 - 14
ASTM A333 / A333M	1994	Standard Specification for Seamless and Welded Steel Pipe for Low-Temperature Service	A333/A333M - 13

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM A36	1977ae	Standard Specification for Structural Steel	A36/A36M - 14
ASTM A36 / A36M	1997ae1	Standard Specification for Carbon Structural Steel	A36/A36M - 14
ASTM A369 / A369M	1992	Standard Specification for Carbon and Ferritic Alloy Steel Forged and Bored Pipe for High- Temperature Service	A369/A369M - 11
ASTM A370	1977e 2	Standard Methods and Definitions for Mechanical Testing of Steel Products	A370 - 15
ASTM A441	1979	Standard Specification for High-Strength Low-Alloy Structural Manganese Vanadium Steel	ASTM D441 - 07(2012)
ASTM A449	1978a	Standard Specification for Quenched and Tempered Steel Bolts and Studs	A449 - 14
ASTM A475	1978 (1984) e 1	Standard Specification for Zinc-Coated Steel Wire Strand	A475 - 03(2014)
ASTM A490	1979	Standard Specification for Quenched and Tempered Alloy Steel Bolts for Structural Steel Joints	A490 - 14a
ASTM A496	1978	Standard Specification for Deformed Steel Wire for Concrete Reinforcement	ASTM A496/A496M-07

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM A497	1979	Standard Specification for Welded Deformed Steel Wire Fabric for Concrete Reinforcement	ASTM A497/A497M-07
ASTM A500	1978	Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes	A500/A500M - 13
ASTM A501	1976	Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing	A501/A501M - 14
ASTM A502	1976	Standard Specification for Steel Structural Rivets	A502 - 03(2015)
ASTM A514	1977	Standard Specification for High-Yield Strength, Quenched and Tempered Alloy Steel Plate, Suitable for Welding	A514/A514M - 14
ASTM A516 / A516M	1990 (1996) e1	Standard Specification for Pressure Vessel Plates, Carbon Steel, for Moderate and Lower- Temperature Service	A516/A516M - 10(2015)
ASTM A520	1972 (1985)	Standard Specification for Supplementary Requirements for Seamless and Electric-Resistance-Welded Carbon Steel Tubular Products for High-Temperature Service Conforming to ISO Recommendations For Boiler Construction	Withdrawn Standard: ASTM A520-97 Developed by Subcommittee: A01.09 WITHDRAWN, NO REPLACEMENT

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM A522 / A522M	1995b	Standard Specification for Forged or Rolled 8 and 9 % Nickel Alloy Steel Flanges, Fittings, Valves, and Parts for Low-Temperature Service	A522/A522M - 14
ASTM A529	1975	Standard Specification for Structural Steel with 42,000PSI (290 Mpa) Minimum Yield Point (1/2 in. (12.7 mm) Maximum Thickness	A529/A529M - 14
ASTM A539	1990a	Standard Specification for Electric-Resistance-Welded Coiled Steel Tubing for Gas and Fuel Oil Lines	Withdrawn Standard: ASTM A539-99 Developed by Subcommittee: A01.09 D28WITHDRAWN, NO REPLACEMENT
ASTM A570	1979	Standard Specification for Hot-Rolled Carbon Steel Sheet and Strip, Structural Quality	Withdrawn Standard: ASTM A570/A570M-98 Developed by Subcommittee: A01.19 WITHDRAWN, REPLACED BY A1011/A1011M
ASTM A572	1979	Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Steels of Structural Quality	A572/A572M - 15
ASTM A588	1979a	Standard Specification for High-Strength Low-Alloy Structural Steel with 50, 000 psi Minimum Yield Point to 4 in. Thick	A588/A588M - 15

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM A611	1972 (1979)	Standard Specification for Steel, Cold-Rolled Sheet, Carbon, Structural	Withdrawn Standard: ASTM A611-97 Developed by Subcommittee: A01.19 WITHDRAWN, REPLACED BY A1008/A1008M
ASTM A615	1979	Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement	A615/A615M - 15ae1
ASTM A616	1979	Standard Specification for Rail-Steel Deformed and Plain Bars for Concrete Reinforcement	Withdrawn Standard: ASTM A616/A616M-96a Developed by Subcommittee: A01.05 WITHDRAWN, REPLACED BY A996/A996M
ASTM A617	1979	Standard Specification for Axle-Steel Deformed and Plain Bars for Concrete Reinforcement	Withdrawn Standard: ASTM A617/A617M-96a Developed by Subcommittee: A01.05 WITHDRAWN, REPLACED BY A996/A996M
ASTM A618	1974	Standard Specification for Hot-Formed Welded and Seamless High-Strength Low-Alloy Structural Tubing	A618/A618M - 04(2015)
ASTM A633	1979a	Standard Specification for Normalized High-Strength Low Alloy Structural Steel	A633/A633M - 13

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM A82	1979	Standard Specification for Cold-Drawn Steel Wire for Concrete Reinforcement	Withdrawn Standard: ASTM A82/A82M-07 Developed by Subcommittee: A01.05WITHDRAWN, REPLACED BY A1064/A1064M
ASTM B111	1995	Standard Specification for Copper and Copper-Alloy Seamless Condenser Tubes and Ferrule Stock	B111/B111M - 11
ASTM B122 / B 122M	1995	Standard Specification for Copper-Nickel-Tin Alloy, Copper-Nickel-Zinc Alloy (Nickel Silver), and Copper-Nickel Alloy Plate, Sheet, Strip and Rolled Bar	B122/B122M - 11
ASTM B124	1996	Standard Specification for Copper and Copper-Alloy Forging Rod, Bar, and Shapes	B124/B124M - 15
ASTM B152	1997a	Standard Specification for Copper Sheet, Strip, Plate, and Rolled Bar	B152/B152M - 13
ASTM B16	1992	Standard Specification for Free-Cutting Brass Rod, Bar and Shapes for Use in Screw Machines	ASTM B16 / B16M - 10(2015)
ASTM B193	1987	Standard Test Method for Resistivity of Electrical Conductor Materials	B193 - 02(2014)

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM B209	1996	Standard Specification for Aluminum and Aluminum Alloy Sheet and Plate	B209 - 14
ASTM B21	1996	Standard Specification for Naval Brass Rod, Bar, and Shapes	ASTM B21 / B21M - 14
ASTM B21	1983b	Standard Specification for Naval Brass Rod, Bar, and Shapes	ASTM B21 / B21M - 14
ASTM B224	1980e 1	Standard Classification of Coppers	B224 - 15
ASTM B280	1997	Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service	B280 - 13
ASTM B283	1996	Standard Specification for Copper and Copper-Alloy Die Forgings (Hot-Pressed)	B283/B283M - 14a
ASTM B315	1993	Standard Specification for Seamless Copper Alloy Pipe and Tube	B315 - 12
ASTM B42	1996	Standard Specification for Seamless Copper Pipe, Standard Sizes	B42 - 15a
ASTM B557	1984	Standard Methods of Tension Testing Wrought and Cast Aluminum and Magnesium-Alloy Products	B557 - 15
ASTM B580	1979	Standard Specification for Anodized Oxide Coatings on Aluminum	B580 - 79(2014)

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM B68	1995	Standard Specification for Seamless Copper Tube, Bright Annealed	B68/B68M - 11
ASTM B694	1986	Standard Specification for Copper, Copper Alloy, and Copper-Clad Stainless Steel Sheet and Strip for Electrical Cable Shielding	B694 - 13
ASTM B75	1997	Standard Specification for Seamless Copper Tube	B75/B75M - 11
ASTM B85	1984	Standard Specification for Aluminum-Alloy Die Castings	B85/B85M - 14
ASTM B858	1995	Standard Test Method for Determination of Susceptibility to Stress Corrosion Cracking in Copper Alloys Using an Ammonia Vapor Test	B858 - 06(2012)
ASTM B88	1996	Standard Specification for Seamless Copper Water Tube	B88 - 14
ASTM B96	1993	Standard Specification for Copper-Silicon Alloy Plate, Sheet, Strip, and Rolled Bar for General Purposes and Pressure Vessels	B96/B96M - 11
ASTM C150	1999a	Standard Specification for Portland Cement	C150/C150M - 15

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM C177	1997	Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded Hot-Plate Apparatus	C177 - 13
ASTM C236	1989 (1993) e 1	Standard Test Method for Steady-State Thermal Performance of Building Assemblies by Means of a Guarded Hot Box	Withdrawn Standard: ASTM C236-89(1993)e1 Developed by Subcommittee: C16.30 WITHDRAWN, REPLACED BY C1363
ASTM C330	1999	Standard Specification for Lightweight Aggregates for Structural Concrete	C330/C330M - 14
ASTM C5	1979 (1997)	Standard Specification for Quicklime for Structural Purposes	C5 - 10
ASTM C509	1984	Standard Specification for Cellular Elastomeric Preformed Gasket and Sealing Material	C509 - 06(2011)
ASTM C516	1980 (1996) e 1	Standard Specification for Vermiculite Loose Fill Thermal Insulation	C516 - 08(2013)e1
ASTM C518	1991	Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus	C518 - 15

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM C549	1981 (1995) e 1	Standard Specification for Perlite Loose Fill Insulation	C549 - 06(2012)
ASTM C564	1970 (1982)	Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings	C564 - 14
ASTM C720	1989 (1994) e 1	Standard Specification for Spray Applied Fibrous Insulation for Elevated Temperature	Withdrawn Standard: ASTM C720-89(1994)e1 Developed by Subcommittee: C16.23 WITHDRAWN, NO REPLACEMENT
ASTM D1072	1990 (1994) e 1	Standard Test Method for Total Sulfur in Fuel Gases	D1072 - 06(2012)
ASTM D1193	1977 (1983)	Standard Specification for Reagent Water	D1193 - 06(2011)
ASTM D1217	1993 (1998)	Standard Test Method for Density and Relative Density (Specific Gravity) of Liquids by Bingham Pycnometer	D1217 - 12
ASTM D1246	1995 (1999)	Standard Test Method for Bromide Ion in Water	D1246 - 10
ASTM D1253	1986 (1996)	Standard Test Method for Residual Chlorine in Water	D1253 - 14
ASTM D1266	1998	Standard Test Method for Sulfur in Petroleum Products (Lamp Method)	D1266 - 13

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM D129	1995	Standard Test Method for Sulfur in Petroleum Products (General Bomb Method)	D129 - 13
ASTM D1298	1999	Standard Test Method for Density, Relative Density (Specific Gravity), or API Gravity of Crude Petroleum and Liquid Petroleum Products by Hydrometer Method	D1298 - 12b
ASTM D1335	1967 (1972)	Standard Method of Test for Tuft Bind of Pile Floor Coverings	D1335 - 12
ASTM D1412	1993 (1997)	Standard Test Method for Equilibrium Moisture of Coal at 96 to 97 Percent Relative Humidity and 30 Degrees Celsius	D1412/D1412M - 15
ASTM D1415	1988 (1994)	Standard Practice for Rubber Property-International Hardness	D1415 - 06(2012)
ASTM D1480	1993 (1997)	Standard Test Method for Density and Relative Density (Specific Gravity) of Viscous Materials by Bingham Pycnometer	D1480 - 12
ASTM D1481	1993 (1997)	Standard Test Method for Density and Relative Density (Specific Gravity) of Viscous Materials by Lipkin Bicapillary Pycnometer	D1481 - 12
ASTM D1518	1985 (1998) e1	Standard Test Method for Thermal Transmittance of Textile Materials	D1518 - 14

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM D1535	1989	Standard Test Method for Specifying Color by the Munsell System	D1535 - 14
ASTM D1552	1995	Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method)	D1552 - 15
ASTM D1687	1992 (1996)	Standard Test Methods for Chromium in Water	D1687 - 12
ASTM D1688	1995	Standard Test Methods for Copper in Water	D1688 - 12
ASTM D1785	1986	Standard Specification for Poly (Vinyl Chloride)(PVC) Plastic Pipe, Schedules 40, 80, and 120	D1785 - 15
ASTM D1835	1997	Standard Specification for Liquefied Petroleum (LP) Gases	D1835 - 13
ASTM D1890	1996	Standard Test Method for Beta Particle Radioactivity of Water	D1890 - 15
ASTM D1943	1996	Standard Test Method for Alpha Particle Radioactivity of Water	D1943 - 05(2012)
ASTM D1945	1996	Standard Test Method for Analysis of Natural Gas By Gas Chromatography	D1945 - 14
ASTM D1946	1990 (1994) e1	Standard Practice for Analysis of Reformed Gas by Gas Chromatography	D1946 - 90(2011)

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM D2013	1986 (1994)	Standard Method of Preparing Coal Samples for Analysis	D2013/D2013M - 12
ASTM D2015	1996	Standard Test Method for Gross Calorific Value of Coal and Coke by the Adiabatic Bomb Calorimeter	Withdrawn Standard: ASTM D2015-00 Developed by Subcommittee: D05.21 WITHDRAWN, NO REPLACEMENT
ASTM D2036	1998	Standard Test Method for Cyanides in Water	D2036 - 09(2015)
ASTM D2163	1991 (1996)	Standard Test Method for Analysis of Liquefied Petroleum (LP) Gases and Propane Concentrates by Gas Chromatography	D2163 - 14e1
ASTM D2216	1998	Standard Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass	D2216 - 10
ASTM D2234	1998	Standard Practice for Collection of a Gross Sample of Coal	D2234/D2234M - 10
ASTM D2247	1968 (1973)	Standard Method for Testing Coated Metal Specimens at 100 Percent Relative Humidity	D2247 - 11
ASTM D2460	1997	Standard Test Method for Alpha-Particle-Emitting Isotopes of Radium in Water	D2460 - 07(2013)

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM D2502	1992 (1996)	Standard Test Method for Estimation of Molecular Weight (Relative Molecular Mass) of Petroleum Oils from Viscosity Measurements	D2502 - 14
ASTM D2503	1992 (1997)	Standard Test Method for Relative Molecular Mass (Molecular Weight) of Hydrocarbons by Thermoelectric Measurement of Vapor Pressure	D2503 - 92(2012)
ASTM D2505	1988 (1998)	Standard Test Method for Ethylene, Other Hydrocarbons, and Carbon Dioxide in High-Purity Ethylene by Gas Chromatography	D2505 - 88(2015)
ASTM D257	1991	Standard Test Method for DC Resistance of Conductance of Insulating Materials	D257 - 14
ASTM D2597	1994 (1999)	Standard Test Method for Analysis of Demethanized Hydrocarbon Liquid Mixtures Containing Nitrogen and Carbon Dioxide by Gas Chromatography	D2597 - 10
ASTM D2622	1998	Standard Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-ray Fluorescence Spectrometry	D2622 - 10
ASTM D2724	1987 (1995)	Standard Test Methods for Bonded, Fused, and Laminated Apparel Fabrics	D2724 - 07(2015)

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM D2777	1998	Standard Practice for Determination of Precision and Bias of Applicable Test Methods of Committee D-19 on Water	D2777 - 13
ASTM D287	1992 (1995)	Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)	D287 - 12b
ASTM D2879	1997	Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope	D2879 - 10
ASTM D2908	1974	Standard Recommended Practice for Measuring Volatile Organic Matter in Water by Aqueous-Injection Gas Chromatography	D2908 - 91(2011)
ASTM D2986	1995a (1999)	Standard Practice for Evaluation of Air, Assay Media by the Monodisperse DOP (Diethyl Phthalate) Smoke Test	Withdrawn Standard: ASTM D2986-95a(1999) Developed by Subcommittee: D22.01 WITHDRAWN, NO REPLACEMENT
ASTM D3120	1996	Standard Test Method for Trace Quantities of Sulfur in Light Liquid Petroleum Hydrocarbons by Oxidative Microcoulometry	D3120 - 08(2014)

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM D3173	1987 (1996)	Standard Test Method for Moisture in the Analysis Sample of Coal and Coke	D3173 - 11
ASTM D3176	1989 (1997)	Standard Practice for Ultimate Analysis of Coal and Coke	D3176 - 15
ASTM D3177	1989 (1997)	Standard Test Methods for Total Sulfur in the Analysis Sample of Coal and Coke	Withdrawn Standard: ASTM D3177-02(2007) Developed by Subcommittee: D05.21 WITHDRAWN, REPLACED BY D4239
ASTM D3178	1989 (1997)	Standard Test Methods for Carbon and Hydrogen in the Analysis Sample of Coal and Coke	Withdrawn Standard: ASTM D3178-89(2002) Developed by Subcommittee: D05.21 WITHDRAWN, REPLACED BY D5373
ASTM D323	1958 (1968)	Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method)	D323 - 15a
ASTM D3236	1988 (1999)	Standard Test Method for Apparent Viscosity of Hot Melt Adhesives and Coating Materials	D3236 - 15
ASTM D3246	1996	Standard Test Method for Sulfur in Petroleum Gas by Oxidative Microcoulometry	D3246 - 15

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM D3286	1996	Standard Test Method for Gross Calorific Value of Coal and Coke by the Isoperibol Bomb Calorimeter	Withdrawn Standard: ASTM D3286-96 Developed by Subcommittee: D05.21 WITHDRAWN, REPLACED BY D5865
ASTM D3371	1995	Standard Test Method for Nitriles in Aqueous Solution by Gas-Liquid Chromatography	Withdrawn Standard: ASTM D3371-95 Developed by Subcommittee: D19.06 WITHDRAWN, NO REPLACEMENT
ASTM D3454	1997	Standard Test Method for Radium-226 in Water	D3454 - 11
ASTM D3588	1998	Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels	D3588 - 98(2011)
ASTM D3697	1992 (1996)	Standard Test Method for Antimony in Water	D3697 - 12
ASTM D388	1998a	Standard Classification of Coals by Rank	D388 - 15
ASTM D396	1998	Standard Specification for Fuel Oils	D396 - 15c
ASTM D4057	1995e 1	Standard Practice for Manual Sampling of Petroleum and Petroleum Products	D4057 - 12

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM D4084	1994	Standard Test Method for Analysis of Hydrogen Sulfide in Gaseous Fuels (Lead Acetate Reaction Rate Method)	D4084 - 07(2012)
ASTM D413	1982 (1993) e 1	Standard Test Method for Rubber Property- -Adhesion to Flexible Substrate	D413 - 98(2013)
ASTM D4177	1995	Standard Practice for Automatic Sampling of Petroleum and Petroleum Products	D4177 - 15a
ASTM D4239	1997e 1	Standard Test Methods for Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods	D4239 - 14e2
ASTM D4268	1993	Standard Test Method for Testing Fiber Ropes	Withdrawn Standard: ASTM D4268-93 Developed by Subcommittee: D13.16 WITHDRAWN, NO REPLACEMENT
ASTM D4294	1998	Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectrometry	D4294 - 10
ASTM D4329	1999	Standard Practice for Fluorescent UV Exposure of Plastics	D4329 - 13

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM E283	1991 (1999)	Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen	E283 - 04(2012)
ASTM E185	1982	Standard Practice for Conducting Surveillance Tests for Light-Water Cooled Nuclear Power Reactor Vessels	E185 - 15e1
ASTM D4891	1989 (1994) E 1	Standard Test Method for Heating Value of Gases in Natural Gas Range by Stoichiometric Combustion	D4891 - 13
ASTM D5489	1996a	Standard Guide for Care Symbols for Care Instructions Textile Products	D5489 - 14
ASTM E408	1971	Standard Methods of Test for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques	E408 - 13
ASTM D611	1982 (1998)	Standard Test Methods for Aniline Point and Mixed Aniline Point of Petroleum Products and Hydrocarbon Solvents	D611 - 12
ASTM D5373	1993 (1997)	Standard Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal and Coke	D5373 - 14e1

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM E606	1980	Standard Recommended Practice for Constant-Amplitude Low-Cycle Fatigue Testing	E606 / E606M - 12
ASTM E695	1979 (1997) e 1	Standard Method of Measuring Relative Resistance of Wall, Floor, and Roof Construction to Impact Loading	E695 - 03(2015)e1
ASTM D814	1995	Standard Test Method for Rubber Property- -Vapor Transmission of Volatile Liquids	D814 - 95(2014)
ASTM F478	1992 (1999)	Standard Specification for In-Service Care of Insulating Line Hose and Covers	F478 - 14a
ASTM D6216	1998	Standard Practice for Opacity Monitor Manufacturers to Certify Conformance with Design and Performance Specifications	D6216 - 12
ASTM D6228	1998	Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Flame Photometric Detection	D6228 - 10
ASTM E72	1980	Standard Methods of Conducting Strength Tests of Panels for Building Construction	E72 - 15
ASTM D6503	1999	Standard Test Method for Enterococci in Water Using Enterolert	D6503 - 14
ASTM F1122	1987 (1998)	Standard Specification for Quick Disconnect Couplings	F1122 - 04(2015)e1

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM F1155	1998	Standard Practice for Selection and Application of Piping System Materials	F1155 - 10(2015)
ASTM F1273	1991 (1996) e 1	Standard Specification for Tank Vent Flame Arresters	F1273 - 91(2013)
ASTM D975	1998b	Standard Specification for Diesel Fuel Oils	D975 - 15c
ASTM F631	1993	Standard Guide for Collecting Skimmer Performance Data in Controlled Environments	F631 - 15
ASTM F715	1995	Standard Test Methods for Coated Fabrics Used for Oil Spill Control and Storage	F715 - 07(2012)
ASTM F722	1982 (1988)	Standard Specification for Welded Joints for Shipboard Piping Systems	F722 - 82(2014)
ASTM D4986	1998	Standard Test Method for Horizontal Burning Characteristics of Cellular Polymeric Materials	D4986 - 10
ASTM D5673	1996	Standard Test Method for Elements in Water by Inductively Coupled Plasma-Mass Spectrometry	D5673 - 15
ASTM E154	1968 (1979) e 1	Standard Methods of Testing Materials for Use as Vapor Barriers Under Concrete Slabs and as Ground Cover in Crawl Spaces	E154/E154M - 08a(2013)e1

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM D5865	1998a	Standard Test Method for Gross Calorific Value of Coal and Coke	D5865 - 13
ASTM D665	1998e 1	Standard Test Method for Rust-Preventing Characteristics of Inhibited Mineral Oil in the Presence of Water	D665 - 14e1
ASTM D86	2007	Standard Test Method for Distillation of Petroleum Products at Atmospheric Pressure	D86 - 15
ASTM D5257	1997	Standard Test Method for Dissolved Hexavalent Chromium in Water by Ion Chromatography	D5257 - 11
ASTM E1337	1990 (1996)	Standard Test Method for Determining Longitudinal Peak Braking Coefficient of Paved Surfaces Using a Standard Reference Test Tire	E1337 - 90(2012)
ASTM E23	1982	Standard Test Methods for Notched Bar Impact Testing of Metallic Materials	E23 - 12c
ASTM D512	1989 (1999)	Standard Test Methods for Chloride Ion In Water	D512 - 12
ASTM D975	2007	Standard Specification for Diesel Fuel Oils	D975 - 15c
ASTM E29	1993a	Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications	E29 - 13

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM E29	1990	Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications	E29 - 13
ASTM D976	1991 (1995) e 1	Standard Test Methods for Calculated Cetane Index of Distillate Fuels	D976 - 06(2011)
ASTM E424	1971	Standard Methods of Test for Solar Energy Transmittance and Reflectance (Terrestrial) of Sheet Materials	E424 - 71(2015)
ASTM E11	1995	Standard Specification for Wire Cloth and Sieves for Testing Purposes	E11 - 15
ASTM E1625	1994	Standard Test Method for Determining Biodegradability of Organic Chemicals in Semi- Continuous Activated Sludge (SCAS)	Withdrawn Standard: ASTM E1625-94(2008) Developed by Subcommittee: E47.04 WITHDRAWN, NO REPLACEMENT
ASTM E168	1988	Standard Practices for General Techniques of Infrared Quantitative Analysis	Withdrawn Standard: ASTM E168-06 Developed by Subcommittee: E13.03 WITHDRAWN, NO REPLACEMENT

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM D4420	1994	Standard Test Method for Determination of Aromatics in Finished Gasoline by Gas Chromatography	Withdrawn Standard: ASTM D4420-94(1999)e1 Developed by Subcommittee: D02.04.0L WITHDRAWN, REPLACED BY D5580
ASTM D4809	1995	Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method)	D4809 - 13
ASTM E773	1997	Standard Test Method for Accelerated Weathering of Sealed Insulating Glass Units	Withdrawn Standard: ASTM E773-01 Developed by Subcommittee: E06.22 WITHDRAWN, NO REPLACEMENT
ASTM E774	1997	Standard Specifications for the Classification of the Durability of Sealed Insulating Glass Units	Withdrawn Standard: ASTM E774-97 Developed by Subcommittee: E06.22 WITHDRAWN, NO REPLACEMENT
ASTM E169	1987	Standard Practices for General Techniques of Ultraviolet-Visible Quantitative Analysis	E169 - 04(2014)
ASTM D6420	1999	Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry	D6420 - 99(2010)

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM E145	1994e 1	Standard Specification for Gravity-Convection and Forced- Ventilation Ovens	E145 - 94(2011)
ASTM E96	1995	Standard Test Methods for Water Vapor Transmission of Materials	E96/E96M - 15
ASTM E260	1996	Standard Practice for Packed Column Gas Chromatography	E260 - 96(2011)
ASTM F1006	1986 (1997)	Standard Specification for Entrainment Separators for Use in Marine Piping Applications	F1006 - 86(2014)e1
ASTM F1007	1986 (1996) e 1	Standard Specification for Pipe-Line Expansion Joints of the Packed Slip Type for Marine Application	F1007 - 86(2014)
ASTM E711	1987 (1992)	Standard Test Method for Gross Calorific Value of Refuse-Derived Fuel by the Bomb Calorimeter	Withdrawn Standard: ASTM E711-87(2004) Developed by Subcommittee: D34.03 WITHDRAWN, NO REPLACEMENT
ASTM F1020	1986 (1996) e 1	Standard Specification for Line-Blind Valves for Marine Applications	F1020 - 86(2011)
ASTM F1120	1987 (1998)	Standard Specification for Circular Metallic Bellows Type Expansion Joints for Piping Applications	F1120 - 87(2015)

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM E776	1987 (1992)	Standard Test Method for Forms of Chlorine in Refuse-Derived Fuel	E776 - 87(2009)
ASTM E1719	1997	Standard Test Method for Vapor Pressure of Liquids by Ebulliometry	E1719 - 12
ASTM F1123	1987 (1998)	Standard Specification for Non-Metallic Expansion Joints	F1123 - 87(2015)
ASTM F1139	1988 (1998)	Standard Specification for Steam Traps and Drains	F1139 - 88(2015)
ASTM E681	1985	Standard Test Method for Concentration Limits of Flammability of Chemicals	E681 - 09(2015)
ASTM F1172	1988 (1998)	Standard Specification for Fuel Oil Meters of the Volumetric Positive Displacement Type	F1172 - 88(2015)e1
ASTM F1173	1995	Standard Specification for Thermosetting Resin Fiberglass Pipe and Fittings to be Used for Marine Applications	F1173 - 01(2012)
ASTM E775	1987 (1992)	Standard Test Methods for Total Sulfur in the Analysis Sample of Refuse-Derived Fuel	E775 - 15

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM E885	1988	Standard Test Methods for Analyses of Metals in Refuse-Derived Fuel by Atomic Absorption Spectroscopy	Withdrawn Standard: ASTM E885-88(2004) Developed by Subcommittee: D34.03WITHDRAWN, NO REPLACEMENT
ASTM F1003	1986 (1992)	Standard Specification for Searchlights on Motor Lifeboats	F1003 - 02(2012)e1
ASTM F1199	1988 (1998)	Standard Specification for Cast (All Temperatures and Pressures) and Welded Pipe Line Strainers (150 psig and 150 Degrees F Maximum)	F1199 - 88(2015)
ASTM F1200	1988 (1998)	Standard Specification for Fabricated (Welded) Pipe Line Strainers (Above 150 psig and 150°F)	F1200 - 88(2010)
ASTM F1201	1988 (1998)	Standard Specification for Fluid Conditioner Fittings in Piping Applications Above Zero Degrees F	F1201 - 88(2010)
ASTM F1014	1992	Standard Specification for Flashlights on Vessels	F1014 - 02(2012)e1
ASTM F1121	1987 (1998)	Standard Specification for International Shore Connections for Marine Fire Applications	F1121 - 87(2015)

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM F1193	2006	Standard Practice for Quality, Manufacture, and Construction of Amusement Rides and Devices	F1193 - 14
ASTM F1196	1994	Standard Specification for Sliding Watertight Door Assemblies	F1196 - 00(2013)
ASTM F1471	1993	Standard Test Method for Air Cleaning Performance of a High-Efficiency Particulate Air-Filter System	F1471 - 09
ASTM F1197	1989 (1994) e 1	Standard Specification for Sliding Watertight Door Control Systems	F1197 - 00(2012)
ASTM F1548	1994	Standard Specification for the Performance of Fittings for Use with Gasketed Mechanical Couplings Used in Piping Applications	F1548 - 01(2012)
ASTM F1271	1990 (1995) e 1	Standard Specification for Impact Attenuation of Surfacing Materials Within the Use Zone of Playground Equipment	F1271 - 90(2012)
ASTM F1321	1992	Standard Guide for Conducting a Stability Test (Lightweight Survey and Inclining Experiment) to Determine Light Ship Displacement and Centers of Gravity of a Vessel	F1321 - 14

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM F1323	1998	Standard Specification for Shipboard Incinerators	F1323 - 14
ASTM F462	1979 (1999)	Standard Consumer Safety Specification for Slip-Resistant Bathing Facilities	F462 - 79(2007)
ASTM F1546 / F 1546M	1996	Standard Specification for Fire Hose Nozzles	F1546 - 96(2012)e1
ASTM F1950	1999	Standard Specification for Physical Information to be Transferred With Used Amusement Rides and Devices	Withdrawn Standard: ASTM F1950-99 Developed by Subcommittee: F24.20 WITHDRAWN, NO REPLACEMENT
ASTM F1951	1999	Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment	F1951 - 14
ASTM F682	1982a (1988)	Standard Specification for Wrought Carbon Steel Sleeve-Type Pipe Couplings	F682 - 82a(2014)
ASTM F1957	1999	Standard Test Method for Composite Foam Hardness Durometer Hardness	F1957 - 99(2011)
ASTM F631	1980 (1985)	Standard Method for Testing Full Scale Advancing Spill Removal Devices	F631 - 15
ASTM F715	1981 (1986)	Standard Methods of Testing Spill Control Barrier Membrane Materials	F715 - 07(2012)

ASTM Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ASTM F747	1997	Standard Terminology Relating to Amusement Rides and Devices	F747 - 15
ASTM F808	1983 (1988) e 1	Standard Guide for Collecting Skimmer Performance Data in Uncontrolled Environments	Withdrawn Standard: ASTM F808-83(1988) Developed by Subcommittee: F20.12 WITHDRAWN, NO REPLACEMENT
ASTM G151	1997	Standard Practice for Exposing Nonmetallic Materials in Accelerated Test Devices that Use Laboratory Light Sources	G151 - 10
ASTM G154	2000a	Standard Practice for Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials	G154 - 12a
ASTM G21	1990	Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi	G21 - 15

EXHIBIT 98

NFPA Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
NFPA 1	2003	Uniform Fire Code	2015
NFPA 1	2006	Uniform Fire Code	2015
NFPA 11	2005	Standard for Low Medium and High Expansion Foam	2016
NFPA 12	2005	Standard on Carbon Dioxide Extinguishing Systems	2015
NFPA 10	2002	Standard for Portable Fire Extinguishers (Title of work on certificate of registration is “National Fire Codes Vol. 1-12 and Master Index”)	2013
NFPA 13	2002	Installation of Sprinkler Systems (Title of work on certificate of registration is “National Fire Codes Vol. 1-12 and Master Index”)	2016
NFPA 25	2002	Inspection, Testing and Maintenance of Water-Based Fire Protection Systems (Title of work on certificate of registration is “National Fire Codes Vol. 1-12 and Master Index”)	2014
NFPA 30	2003	Flammable and Combustible Liquids Code	2015
NFPA 54	2006	National Fuel Gas Code	2015

NFPA Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
NFPA 58	2001	Liquefied Petroleum Gas Code (Title of work on certificate of registration is "National Fire Codes Vol 3")	2014
NFPA 58	2004	Liquefied Petroleum Gas Code	2014
NFPA 59	2004	Utility LP Gas Plant Code	2015
NFPA 70	1999	National Electrical Code	2014
NFPA 70	2005	National Electrical Code	2014
NFPA 70	2008	National Electrical Code	2014
NFPA 70	2011	National Electrical Code	2014
NFPA 70	2014	National Electrical Code	NA
NFPA 72	2002	National Fire Alarm Code	2016
NFPA 99	2005	Health Care Facilities Code	2015
NFPA 101	2000	Life Safety Code	2015
NFPA 101	2003	Life Safety Code	2015
NFPA 101	2006	Life Safety Code	2015
NFPA 704	2007	Standard System for the Identification of the Hazards of Materials for Emergency Response	2012

EXHIBIT 99

ASHRAE Editions Incorporated by Reference

No.	Edition	Title	Superseded by:
ANSI/ASHRAE/IES 90.1	2010	ANSI/ASHRAE/IESNA Standard 90 1-2010, Energy Standard for Buildings Except for Low- Rise Residential Buildings (I-P Edition)	2013
ANSI/ASHRAE/IESNA 90.1	2007	ANSI/ASHRAE/IESNA Standard 90 1-2007, Energy Standard for Buildings Except for Low- Rise Residential Buildings (I-P Edition)	2013
ANSI/ASHRAE/IESNA 90.1	2004	ANSI/ASHRAE/IESNA Standard 90 1-2004, Energy Standard for Buildings Except for Low- Rise Residential Buildings (I-P Edition)	2013
ASHRAE Handbook	1993	1993 ASHRAE Handbook: Fundamentals (I-P Edition)	2013

EXHIBIT 104



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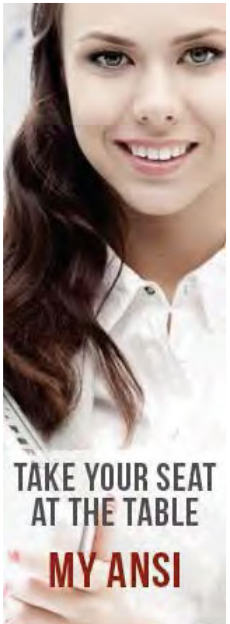
Capitol Hill Event to Feature Policy and Business Leader Insights on Voluntary Standards and Conformance

12/03/2015

The [American National Standards Institute](#) (ANSI) has teamed with the [National Association of Manufacturers](#) (NAM) to co-host an exclusive Shopfloor Series event on Capitol Hill entitled “*What Do Airplanes, Robots, Toys, Flat Screen TVs Amusement Parks & 3D Printing Have in Common?*” The event—on **December 4, 2015, from 12:00-1:30 p.m. EST**—will feature discussions between policy and business leaders who will highlight the importance of government participation in and the reliance on voluntary standards and conformance.

The session will be held in the Rayburn House Office Building 2123 and will be co-sponsored by [ASTM International](#) and [Underwriters Laboratories](#) (UL) and the [American Bar Association](#). Featured experts will include Jeff Weiss, senior advisor for standards and global regulatory policy at the U.S. Department of Commerce, as well as representatives from the Toy Industry Association (TIA), ANSI, ASTM International, the National Electrical Manufacturers Association (NEMA), and UL.

To view the event flyer [click here](#). To learn more or to RSVP, contact Scott Cooper, ANSI vice president of government relations (scooper@ansi.org; 202.331.3610).



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MY ANSI

STANDARDS
ARE OUR
BUSINESS



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EXHIBIT 106



ASTM INTERNATIONAL
Helping our world work better

Public Policy & Corporate Outreach

Virtual Officers' Training Week
September 2015

Presenter: Sarah Shoemaker

JA1729

ASTM International

About ASTM International

- Non-governmental, not-for-profit organization
- Develops voluntary, consensus standards
- Provides certification programs
- Does not provide accreditation services

ASTM's objectives

- Promote public health and safety, and the overall quality of life
- Contribute to the reliability of materials, products, systems and services
- Facilitate national, regional, and international commerce



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Role of Standards

Standards in the Public and Private Sector

- Impact global trade, innovation and competition
- Guide product design, development, market access
- Used by companies, research labs, government agencies

ASTM International Standards

- Voluntary consensus standards
- Regularly reviewed
- Meet World Trade Organization (WTO) principles for international standards



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Public Policy



ASTM in Washington, DC

Government Affairs

- Congress
- Federal government agencies

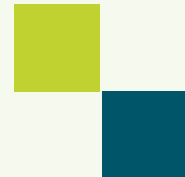
Stakeholder Outreach

- Companies
- Embassy officials based in Washington
- Industry associations
- International Non Governmental Organizations (NGOs)



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U.S. Standards System

Voluntary and led by the private sector **Requires cooperation among stakeholders**

- Standards organizations
- Industry, consumers, and users
- Government representatives
- Academia

Meets stakeholders' needs

- Protect safety, health, and environment
- Improve industry competitiveness
- Facilitate global trade and market access



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Support and Mandate for Government Participation

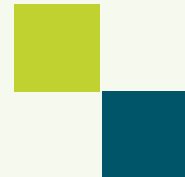
P.L. 104-113 National Technology Transfer and Advancement Act of 1995 (NTTAA)

–“...all Federal agencies and departments shall use technical standards that are developed or adopted by voluntary consensus standards bodies,and shall, ...participate with such bodies in the development of technical standards.”



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U.S. Legal and Policy Framework

National Technology Transfer and Advancement Act of 1995 (NTTAA)

- Requires federal government agencies to use standards developed by voluntary consensus standards organization when possible
- Encourages federal government agencies to participate in standards development organizations

OMB Circular No. A-119

- Reinforces goals of National Technology Transfer and Advancement Act
- Discourages federal agencies from using government-unique standards



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U.S. Government Use of Voluntary Consensus Standards

Procurement and Contracts with the Federal Government

- Standards are furnished to ensure that materials and services are obtained in an effective manner and in compliance with the provisions of applicable Federal statutes and executive orders

Regulation that incorporates standard by reference

- An agency may adopt a voluntary standard (without changes) by incorporating the standard in a regulation by listing (or referencing) the standard by title.
- This approach eliminates the cost to the agency of creating a new standard

Regulation based on existing standard

- An agency reviews an existing standard and makes changes to match its goal or need.
- Agency conducts rulemaking process to solicit public opinion and stakeholder input



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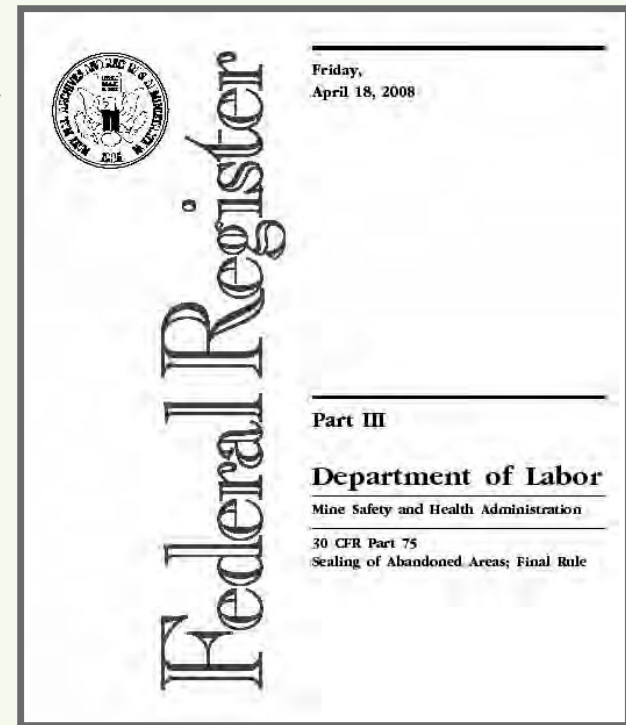
Federal Agencies & ASTM Standards

U.S. Code of Federal Regulations (CFR)

- 6,500 voluntary consensus standards incorporated by reference in federal law
- About 3,000 ASTM standards listed in CFR for regulations and procurement

U.S. Federal Register

- Public notification of standards adoptions
- Instructions for public comments



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Top 10 Regulatory SDOs in US

Standards Developing Organization	Acronym	Number
American Society for Testing and Materials	ASTM	2566
U.S. Environmental Protection Agency	EPA	1471
American Public Health Association	APHA	816
American Society of Mechanical Engineers	ASME	768
American National Standards Institute	ANSI	677
National Fire Protection Association	NFPA	589
International Maritime Organization	IMO	579
Society of Automotive Engineers	SAE	437
Reprographic Technologies		351
National Highway Traffic Safety Administration, U.S. Department of Transportation	DOT/NHTSA	344



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Congress & ASTM Standards in Law

One Hundred Tenth Congress of the United States of America

AT THE SECOND SESSION

*Begun and held at the City of Washington on Thursday,
the third day of January, two thousand and eight*

An Act

To establish consumer product safety standards and other safety requirements for children's products and to reauthorize and modernize the Consumer Product Safety Commission.

*Be it enacted by the Senate and House of Representatives of
the United States of America in Congress assembled,*

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the “Consumer Product Safety Improvement Act of 2008”.

(b) TABLE OF CONTENTS.—The table of contents for this Act is as follows:



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Statutes and Law

- Consumer Product Safety Act (CPSA)
- Consumer Product Safety Improvement Act (CPSIA)
- Virginia Graeme Baker Pool and Spa Safety Act

Regulations and Mandatory Standards

- 15 CFR 1150 Marking of Toys, Look-Alike and Imitation Firearms
- 16 CFR 1500 Hazardous Substances Act Regulations



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ASTM Assists in Transparency in Rulemaking

The screenshot shows the ASTM International website's Reading Room. The header includes the ASTM logo, the tagline "Helping our world work better", a search bar with a dropdown menu set to "All", and a "SIGN IN" button. Below the header is a navigation bar with links for "PRODUCTS & SERVICES", "GET INVOLVED", "ABOUT", "NEWS", "Languages", "Contact", and "Cart". The main content area is titled "Reading Room" and includes a sidebar with a list of links: "Standards & Publications", "All Standards & Publications", "Standards Products", "Symposia Papers & STPs", "Manuals, Monographs, & Data Series", "Journals", "Reading Room", "Authors", "Book of Standards", "Product Updates", "Catalogs", "Digital Library", "Enterprise Solutions", "Proficiency Testing", "Training Courses", "Certification & Declaration", "Lab Directory", "Cement & Concrete", and "Reference Lab". The main text area describes the Reading Room as a service for viewing and reading ASTM safety standards incorporated in United States regulations. It includes a caution about the versions and year-dates of standards and a link to "service@astm.org". A yellow button labeled "OPEN READING ROOM" is visible. On the right, there is a "Recommended" section featuring a microscope icon and a link to "Test Methods and Testing Programs".

ASTM standards
IBR are provided in
a read only format
to the general public
in the reading room.



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U.S. Government Membership in ASTM

Agency Name	Members
Department of Agriculture	40
Department of Commerce (incl. NIST)	165
Consumer Product Safety Commission	44
Department of Defense	257
Department of Energy	178
Environmental Protection Agency	79
Federal Aviation Administration	55
Department of Health and Human Services (incl. FDA)	120
Housing and Urban Development	3

Agency Name	Members
Department of Interior	3
Department of Justice	11
NASA	37
Nuclear Regulatory Commission	7
Occupational Safety & Health Administration	5
Department of Transportation	34
Department of Veterans Affairs	1



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ASTM Initiatives with U.S. Government

Ensure reference to current standards

- Regular review of the *Code of Federal Regulations* and *Congressional Record*
- Coordinate technical committee communications to policymakers

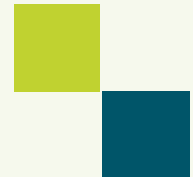
Understand procurement and regulatory standards needs

- Review of Regulatory Plan and Agenda
- Encourage government liaison with and participation in committee activities



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Proven Partnership

[Chairman Kaye's Congressional Testimony](#)



- Sworn in as the 10th Chairman of the U.S. Consumer Product Safety Commission (CPSC) on July 30, 2014. President Barack Obama nominated Mr. Kaye on March 31, 2014, and he was confirmed by the U.S. Senate on July 28, 2014, to a term that expires in October 2020
Elliot F. Kaye



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II. Corporate Outreach



ASTM Engages Decision-Makers

Raise awareness of standards and ASTM

- Standards facilitate trade and boost GDP
- No WTO list of international bodies

Identify opportunities for collaboration on issues of mutual interest

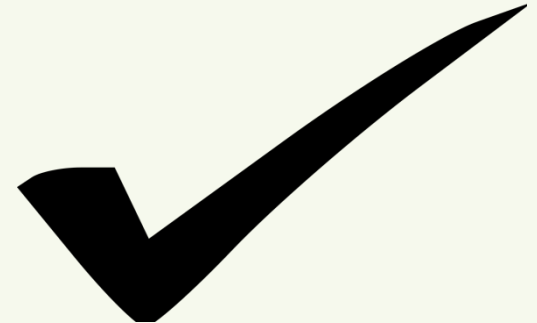
- Reduce internal company specifications

Seek industry feedback on activities and challenges

- ASTM supports industry needs to choose the best standard, regardless of the source

Ensure ASTM is meeting stakeholder needs

- Satisfy regulations and laws
- Facilitate global trade



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ASTM Standards Impact the Global Economy

ASTM standards meet World Trade Organization (WTO) criteria for “international standards”

- No WTO list of international bodies
- WTO recognizes multiple approaches to international standardization

ASTM makes it easy to participate in international standards development

- Technology drives efficiency



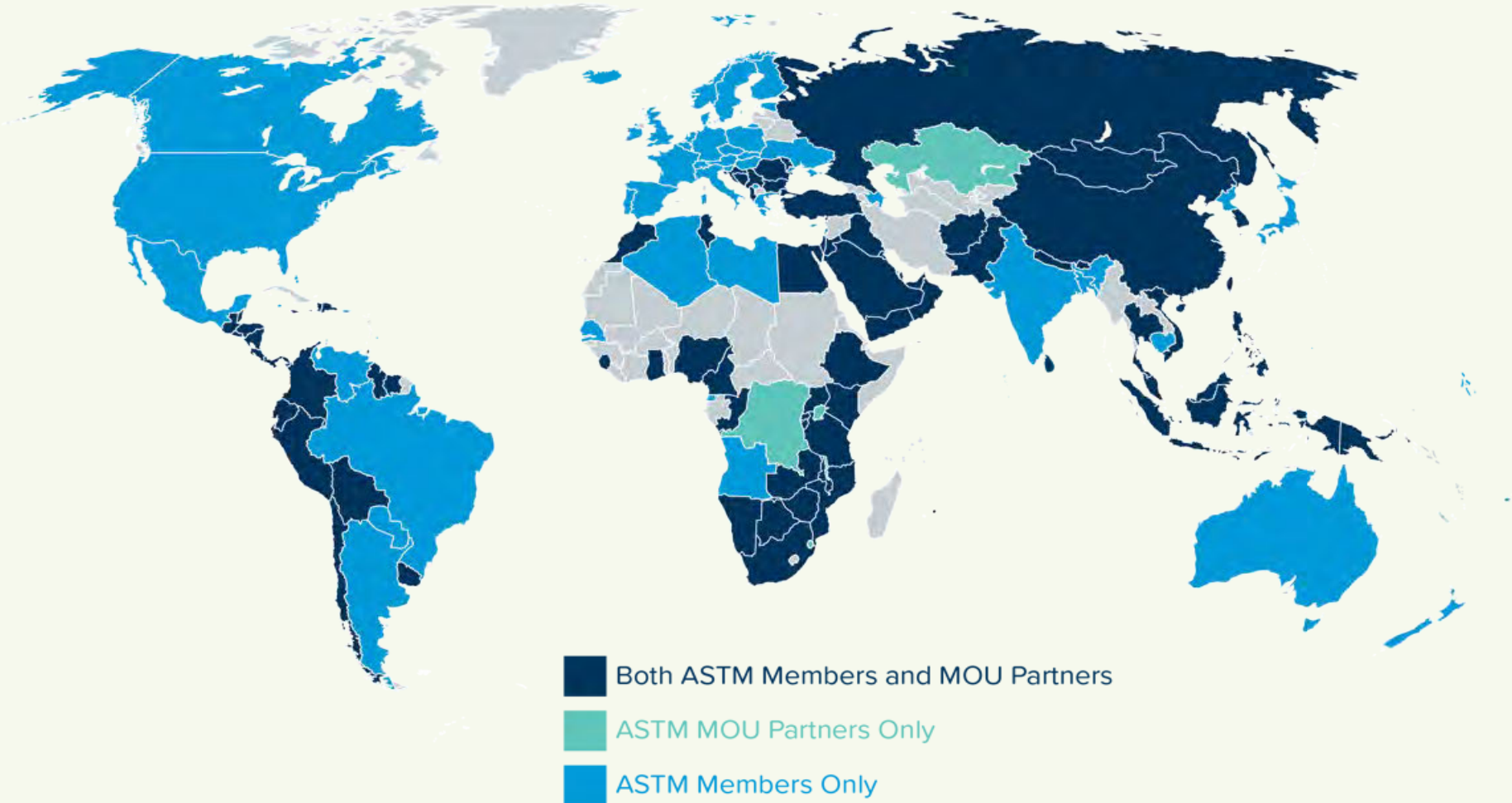
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JA1748

ASTM's Global Reach



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ASTM complies with WTO principles for international standards development

WTO / TBT Principles

Transparency
Openness
Impartiality and consensus
Effectiveness and relevance
Coherence
Consideration of developing
nations

ASTM Principles

Transparency
Openness
Impartiality and consensus
Effectiveness and relevance
Coherence
Consideration of developing
nations



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Moving Forward

- ASTM seeks to enhance our level of cooperation and work with government and standards officials and industry to:
- Promote a global marketplace that is open, efficient, free of costly duplication, free of technical barriers, and free of national or regional limitations
- Produce high-quality and market relevant standards that advance R&D, product manufacturing, testing, quality assurance, marketing, and trade for both companies and SMEs
- Advance the ability of industries to choose the standards which best meet their needs
- Our global approach to standards development and use can help the world to work better through improved products, increased trade, and greater prosperity for the future.



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III. Questions and Discussion

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Washington, DC 20036 USA



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EXHIBIT 123



Errata

NFPA 70®

National Electrical Code®

2011 Edition

Reference: Various

Errata No.: 70-11-1

The National Electrical Code Correlating Committee notes the following errors in the 2011 edition of NFPA 70, *National Electrical Code*.

How to Use this Errata Sheet

This is a list of errata to the first printing of the 2011 *NEC®*. A first printing is indicated by the numeral 1 as the last digit in the line of number appearing at the bottom of the first page.

1. Page 70-36 **110.14(C)(1):** Revise 310.15(B)(6) to 310.15(B)(7)
2. Page 70-78 **Figure 230.1:** Revise “Source” to “Serving Utility” and 230.49 to 230.32
3. Page 70-86 **230.90 Exception No. 5:** Revise 310.15(B)(6) to 310.15(B)(7)
4. Page 70-102 **Table 250.3:** Revise 300.50(B) to 300.50(C)
5. Page 70-116 **250.68(C)(2)(b):** Revise to read : “By bonding the structural metal frame to one or more of the grounding electrodes, as specified in 250.52(A)(5) or (A)(7) that comply with 250.53(A)(2).”
6. Page 70-129 **250.180:** Revise 250.190 to 250.191
7. Page 70-139 **300.5(C) Exception No. 2:** Revise 330.10(11) to 330.10(A)(11)
8. Page 70-148 **310.10(E) Exception No. 2 (d):** Revise Table 310.13(D) to Table 310.104(D)
9. Page 70-148 **310.10(F):** Remove deletion bullet and add second paragraph to read : “Cables rated above 2000 volts shall be shielded.”
10. Page 70-154 **Table 310.15(B)(16):** Add double asterisk to 18 AWG and 16 AWG copper
11. Page 70-178 **314.16(C)(1):** Revise 314.16(C)(2) to 314.16(C)(3)
12. Page 70-240 **392.18(E):** Revise 392.10(D) to 392.18(D)

13. Page 70-282 **410.36(A)**: Revise 314.27(A)(A)(2) to 314.27(A)(2)
14. Page 70-287 **410.130(D)**: Revise Part XIII to Part XII
15. Page 70-288 **410.140(D)**: Revise Part XIV to Part XIII
16. Page 70-327 **430.75(A) Exception No. 1 (a)**: Revise Part XI to Part XII
17. Page 70-397 **504.70 Exception**: Revise 501.15(F)(3) to 501.17
18. Page 70-435 **Figure 516.3(C)(1)**: Revise 3050 m to 3050 mm
19. Page 70-435 **Figure 516.3(C)(2)**: Revise 3050 m to 3050 mm in two locations
20. Page 70-562 **645.10(B)(5)**: Revise 645.5(D)(2) or (D)(3) to 645.5(E)(2) or (E)(3)
21. Page 70-572 **670.3(B)**: Revise 670.4(B) to 670.4(C)
22. Page 70-583 **680.25(B)(1)**: Revise 250.30(A)(8) to 250.30(A)(3)
23. Page 70-708 **840.47**: Revise section number from 830.47 to 840.47

Issue Date: April 8, 2011

(Note: Electronic products and pamphlet reprints may have this errata incorporated. For current information about the NFPA Codes and Standards, including this errata, please see www.nfpa.org/codelist)

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NATIONAL FIRE PROTECTION ASSOCIATION

EXHIBIT 124



Errata

NFPA 70®

National Electrical Code®

2011 Edition

Reference: Various
Errata No.: 70-11-2

The National Electrical Code Correlating Committee notes the following errors in the 2011 edition of NFPA 70, *National Electrical Code*.

How to Use this Errata Sheet

This is a list of errata to the first printing of the 2011 *NEC®*. A first printing is indicated by the numeral 1 as the last digit in the line of numbers appearing at the bottom of the first page.

1. Page 70-176: **Table 312.6(B), Note 3:** Change reference from 310.14 to 310.106(B).
2. Page 70-190: **324.42(B):** Change the reference in the last line from 800.133(A)(1)(c), Exception No. 2. to 800.133(A)(1)(d), Exception No. 2.
3. Page 70-233: **382.10(A):** Revise last two references from 406.4(D)(3)(b) & 406.4(D)(3)(c).to 406.4(D)(2)(b) & 406.4(D)(2)(c).
4. Page 70-234: **382.42(B):** Change cross reference from 800.133(A)(1)(c) Exception No. 2. to 800.133(A)(1)(d) Exception No. 2.
5. Page 70-282: **410.36(A):** Correct the second cross reference from 314.27(A)(A)(2) to 314.27(A)(2).
6. Page 70-342: **440.8:** Correct cross reference from 430.87 Exception to 430.87, Exception No. 1.
7. Page 70-348: **450.3(B), Exception:** Change cross reference to 430.72(C)(1) through (C)(5).
8. Page 70-815: Change running head to “Informative Annex E”.

Issue Date: January 24, 2012

(Note: Electronic products and pamphlet reprints may have this errata incorporated. For current information about the NFPA Codes and Standards, including this errata, please see www.nfpa.org/codelist)

EXHIBIT 125

AN INTRODUCTION TO THE NFPA STANDARDS DEVELOPMENT PROCESS



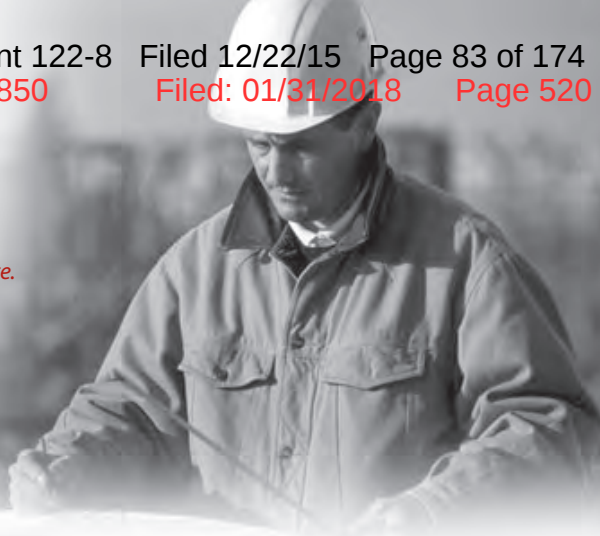
JA1760



Safety Is Everybody's Business

Disasters can occur anywhere, and they often occur when we least expect them. NFPA® codes and standards are there to provide us with ways to prevent their occurrence, manage their impact, and protect us. One of the most notable features about NFPA's Standards Development Process is that it is a full, open, consensus-based process. "Full consensus" means that anybody can participate and expect fair and equal treatment. This is because safety is everybody's business.

NFPA's unique standards development process incorporates a balance of interests, ensuring that all affected parties have a voice.



A Uniquely Open Process

Today's NFPA® codes and standards trace their origins to the nineteenth century development of automatic sprinkler systems. From the beginning, sprinklers performed well as extinguishing devices; however, they originally were installed in so many different ways that their reliability was uncertain.

In 1895, a small group of concerned citizens representing sprinkler and fire insurance interests gathered in Boston, Massachusetts, to discuss the different approaches. They knew that nine radically different standards for pipe sizing and sprinkler spacing could be found within 100 miles of the city. This installation nightmare had to be resolved. The group eventually created a standard for the uniform installation of sprinklers. This standard, which eventually became NFPA 13, *Standard for the Installation of Sprinkler Systems*, prompted the creation of NFPA as an organization and was NFPA's first safety document. Today NFPA develops some 300 safety codes and standards that deal with a range of subjects related to fire, electrical, chemical, building, and life safety.

NFPA codes and standards can be found in use throughout the world. Whether it's in a computer room in the Pentagon, a research station in Antarctica, a power plant in the Middle East, the space shuttle, the hometown drycleaner or perhaps a historical library in Scotland, NFPA codes and standards are used to provide safety to life and protection of property.

What the Process can do for you

Who Is NFPA?

Founded in 1896, NFPA grew out of that first meeting on sprinkler standards. The *Bylaws* of the Association that were first established in 1896 embody the spirit of the codes and standards development process. Article 2 of these bylaws states in part:

"The purposes of the Association shall be to promote the science and improve the methods of fire protection and prevention, electrical safety and other related safety goals; to obtain and circulate information and promote education and research on these subjects; and to secure the cooperation of its members and the public in establishing proper safeguards against loss of life and property."

The NFPA mission today is accomplished by advocating consensus codes and standards, research, training, and education for safety related issues. NFPA's *National Fire Codes*® are administered by more than 250 Technical Committees comprised of approximately 8,000 volunteers and are adopted and used throughout the world. NFPA is a nonprofit membership organization with more than 70,000 members from over 100 nations, all working together to fulfill the Association's mission.

What type of people are NFPA members? NFPA membership is comprised of architects and engineers (22%); business and industry (5%); health care facilities (12%); fire service (20%); insurance (3%); federal, state, and local government (9%); safety equipment manufacturers and distributors (12%); trade and professional associations (6%); and other fields and disciplines (11%).

The Making of an NFPA Code or Standard

The NFPA Board of Directors has general charge of all of the activities of the NFPA. The Board of Directors issues all of the rules and regulations that govern the development of NFPA codes and standards. The Board also appoints a 13-person Standards Council to oversee the Association's standards development activities, administer the rules and regulations, and serve as an appeals body.

Members of the Standards Council are thoroughly familiar with the standards development functions of the Association and are selected from a broad range of interests. Appointed by and reporting to the Standards Council are the more than 250 Technical Committees and Panels that serve as the primary consensus bodies responsible for developing and revising NFPA codes and standards. In addition to acting on their own proposed changes, these Technical Committees and Panels act on proposed changes to NFPA documents that can be submitted by any interested party.

To conduct their work, Committees and Panels are organized into projects with an assigned scope of activities. Depending on the scope, a project may develop one code or standard or a group of related codes and standards, and the project may consist of a single Technical Committee or multiple Committees and Panels coordinated by a Correlating Committee that oversees the project to resolve conflicts and ensure consistency.

Rules and Participants

The primary rules governing the processing of NFPA codes and standards are the *NFPA Regulations Governing the Development of NFPA Standards*.

Other applicable NFPA rules include the *Bylaws*, the *Technical Meeting Convention Rules*, the *Guide for the Conduct of Participants in the NFPA Standards Development Process*, and the *Regulations Governing Petitions to the Board of Directors from Decisions of the Standards Council*. All rules and regulations are available on request from NFPA or can be downloaded from NFPA's website at www.nfpa.org/regs. This pamphlet is intended to give general information on NFPA's standards development process. All participants, however, should refer to the actual rules and regulations for a full understanding of this process and for the rules that govern participation.

Participants in NFPA's standards development process are as follows:

- *Interested parties including the general public*
- *Technical Committees, Panels, Correlating Committees*
- *NFPA Membership*
- *Standards Council*
- *NFPA Board of Directors*

For more than one hundred years, NFPA has kept in step with the needs of the safety community, serving as an authoritative source for information, education, and timely research worldwide.

Starting a New Project

Anyone can submit a request for a project to develop a new code or standard in accordance with NFPA Regulations, provided the necessary information is submitted on the New Project Initiation Form (www.nfpa.org/newprojectidea). The Standards Council reviews all requests and, if appropriate, directs that a notice be published in *NFPA News*, and on the NFPA website (www.nfpa.org). This notice asks for:

- *input or need on the proposed project;*
- *information on organizations that may be involved in the subject matter;*
- *a listing of available resource material; and*
- *an indication of who is willing to participate in the project if it is approved.*

The Standards Council reviews all input and information it receives about the proposed new project and, if the Standards Council determines the proposed project should proceed, it either assigns the project to an existing Technical Committee or Panel, or establishes a new one.

The mission of the nonprofit NFPA is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes and standards, research, training and education.



Establishing a Consensus Body

In the NFPA standards development process, NFPA Technical Committees and Panels serve as the principal consensus bodies responsible for developing and updating all NFPA codes and standards. Committees and Panels are appointed by the Standards Council and typically consist of no more than thirty voting members representing a balance of interests. NFPA membership is not required in order to participate on an NFPA Technical Committee, and appointment is based on such factors as technical expertise, professional standing, commitment to public safety, and the ability to bring to the table the point of view of a category of interested people or groups. Each Technical Committee is constituted so as to contain a balance of affected interests, with no more than one-third of the Committee from the same interest category. The categories generally used by the Standards Council to classify Committee members are summarized below. The Committee must reach a consensus in order to take action on an item.

Classification of Committee Members



Insurance



Consumer



Enforcing
Authority



Labor



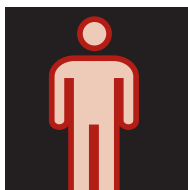
Installer/
Maintainer



Manufacturer



Applied Research/
Testing Laboratory



User



Special
Expert

The Standards Development Process

The NFPA process encourages public participation in the development of its codes and standards. All NFPA codes and standards (also referred to here as NFPA “Standards”) are revised and updated every three to five years in revision cycles that begin twice each year and that normally take approximately two years to complete. Each revision cycle proceeds according to a published schedule that includes final dates for all major events in the process. The process contains four basic steps as follows:

1. Input Stage;
2. Comment Stage;
3. Association Technical Meeting;
4. Council Appeals and Issuance of Standard.

Standards Development Process Facts:

- *Standards are updated every three to five years.*
- *Approximately 8,000 volunteers serve on NFPA Technical Committees.*
- *Technical Committees and Panels represent a variety of balanced interests.*
- *Approximately 250 different Technical Committees and Panels are responsible for document development.*



STEP 1 - Input Stage

Public Input. As soon as the current edition is published, the development of the revised edition begins. A new or revised NFPA Standard enters one of two revision cycles available each year (annual or fall cycle). The revision cycle begins with the acceptance of Public Input, the public notice asking for any interested party to submit input on an existing Standard or a committee-approved new draft Standard. The Call for Public Input is published in *NFPA News*, the *U.S. Federal Register*, the American National Standards Institute's *Standards Action*, on NFPA's website, and other publications. The electronic submission system is available on NFPA's website on the document's information page at www.nfpa.org/document# (example: www.nfpa.org/101). After the Public Input closing date, the Committee or Panel has a period after the closing date to hold their First Draft Meeting.

First Draft Meeting. After the Public Input closing date, the Technical Committee or Panel holds their First Draft Meeting where the Committee revises the Standard. The Committee considers and provides a response to all Public Input. The Committee will use the input in order to help develop First Revisions to the Standard which results in a complete and fully integrated draft known as the First Draft. The First Draft has initial agreement by the Committee based on a simple majority vote during the Meeting to establish a consensus. The final position of the Committee is established by a ballot.

Committee Ballot on First Draft. The First Revisions developed at the First Draft Meeting are balloted; this means that the text the Committee wants revised in the Standard is on the ballot for approval by the Committee. Committee-approved revisions are called First Revisions, and each must be approved by two-thirds of the Committee to appear in the First Draft. Any First Revisions that do not pass the ballot appear in the First Draft Report as Committee Inputs.

First Draft Report Posted. The First Draft Report is posted on the NFPA website. The First Draft Report serves as documentation of the Input Stage and is published for public review and comment. The First Draft Report consists of the First Draft, Public Input, Committee Input, Committee and Correlating Committee Statements, Correlating Input, Correlating Notes, and Ballot Statements. The Report also contains a list of Technical Committee and Correlating Committee Members. The public reviews the First Draft Report in order to submit Public Comments on the First Draft, leading to the next stage of the process.

STEP 2 - Comment Stage

Public Comment. Once the First Draft Report becomes available, there is a public comment period during which anyone may submit a Public Comment on the First Draft. Any objections or further related changes to the content of the First Draft must be submitted at the Comment stage. After the Public Comment closing date, the Committee has a period of time to hold their Second Draft Meeting.

No Public Comments Received-Consent Document. Where no Public Comments are received and the Committee agrees that no Second Revisions are needed, the document does not continue through the Comment Stage and is sent directly to the Standards Council for issuance. Such documents are referred to as Consent Standards. When Public Comments are received and/or the Committee has additional revisions, a Second Draft Meeting is held and the Comment Stage continues.

Second Draft Meeting. After the Public Comment closing date, the Technical Committee or Panel holds their Second Draft Meeting. The Committee starts with the First Draft and makes any additional revisions to the draft Standard. All the Public Comments are considered, and the Committee provides an action and response to each Public Comment. The Committee will use the Public Comments in order to help develop Second Revisions to the Standard which results in a complete and fully integrated draft known as the Second Draft. Like the First Draft, the Second Draft has initial agreement by the Committee based on a simple majority vote during the Meeting to establish a consensus. The final position of the Committee is established by a ballot.

Committee Ballot on Second Draft. The Second Revisions developed at the Second Draft Meeting are balloted; this means that the text the Committee wants revised in the Standard is on the ballot for approval by the Committee. Committee-approved revisions are called Second Revisions, and each must be approved by two-thirds of the Committee to appear in the Second Draft. Any Second Revisions that do not pass the ballot appear in the Second Draft Report as Committee Comments.

Second Draft Report Posted. The Second Draft Report is posted on the NFPA website. The Second Draft Report serves as documentation of the Comment Stage and is published for public review. It consists of the Second Draft, Public Comments with corresponding Committee Actions and Committee Statements, Correlating Notes and their respective Committee Statements, Committee Comments, Correlating Revisions, and Ballot Statements. The Report also contains a list of Technical Committee and Correlating Committee Members. The public reviews the Report in order to decide if they want to submit a NITMAM (see Step 3).

STEP 3 - Association Technical Meeting

Following the completion of the Input and Comment stages, there is further opportunity for debate and discussion of issues through the Association Technical Meeting (Technical Meeting) that takes place at the NFPA Conference & Expo® each June.

Notice of Intent to Make a Motion (NITMAM). Where authorized, anyone who is not satisfied with the work of the Committee can submit a NITMAM. A NITMAM is an amending motion that will be heard by the NFPA Membership for consideration and debate at the Association Technical Meeting; these motions are attempts to change the resulting final Standard from what the Committee submitted for consideration as the Second Draft. Those Standards with no NITMAMs move directly to Standards Council for issuance (see Step 4). The Association Technical Meeting provides an opportunity for the NFPA membership to amend the Technical Committee Reports (i.e., the Committee's or Panel's work) on each proposed new or revised Standard.

Before making an authorized motion at an Association Technical Meeting, the intended maker of the motion must file, in advance of the session, and within the published deadline, a NITMAM. A Motions Committee appointed by the Standards Council then reviews all notices and certifies all proper amending motions. The Motions Committee can also, in consultation with the makers of the motions, clarify the intent of the motions and, in certain circumstances, combine motions that are dependent on each other so that they can be made in one single motion. A Motions Committee report is published in advance of the Association Technical Meeting listing all certified motions. Only Certified Amending Motions, together with certain allowable Follow-Up Motions (that is, motions that have become necessary as a result of previous successful amending motions) are permitted at the Association Technical Meeting.

The specific rules for the types of amending motions that can be made and who can make them are set forth in NFPA's rules, which should always be consulted by those wishing to bring an issue before the membership at an Association Technical Meeting.

What Amending Motions are Allowed. The motions allowed by NFPA rules provide the opportunity to propose amendments to the text of a proposed Standard based on published Second Revisions, Public Comments, and Committee Comments. Allowable motions include motions to accept Public and Committee Comments in whole or in part, to reject a Second Revision (change accepted by the Committee) in whole or in part and can include the related portions of First Revisions. In addition, under certain specified instances, motions can be made to return an entire NFPA Standard to the Committee. This means the Standard will not be issued at this time and will be returned to the Committee to continue its work.

Who Can Make Amending Motions. Those authorized to make motions are also regulated by NFPA rules. In the case of a motion to Accept a Public Comment or an Identifiable Part of a Public Comment, the maker of the motion is limited by NFPA rules to the original submitter of the Comment or his or her duly authorized representative. In all other cases, anyone can make these motions. For a complete explanation, NFPA rules should be consulted.

Action on Motions at the Association Technical Meeting. In order to actually make a Certified Amending Motion at the Association Technical Meeting, the maker of the motion or his or her designated representative must sign in at least one hour before the Technical Meeting begins. In this way a final list of motions can be set in advance of the Technical Meeting. The presiding officer in charge of the Technical Meeting opens the floor to motions on the Standard from the final list of Certified Amending Motions as sequenced by the Motions Committee followed by any permissible Follow-Up Motions. Debate and voting on each motion proceeds in accordance with NFPA rules. NFPA membership is not required in order to make or speak to a motion, but voting is limited to NFPA members who have joined at least 180 days prior to the session and have registered for the Technical Meeting. At the close of debate on each motion, voting takes place, and the motion requires a majority vote to carry. In order to amend a Technical Committee Report, successful amending motions must be confirmed by the responsible Technical Committee or Panel, which conducts a written ballot on all successful amending motions following the meeting and prior to the Standard being forwarded to the Standards Council for issuance.

STEP 4 - Council Appeals and Issuance of Standard

One of the primary responsibilities of the NFPA Standards Council, as the overseer of the NFPA standards development process, is to act as the official issuer of all NFPA codes and standards.

Consent Standards. Some Standards receive no controversial proposed changes, and therefore, no NITMAMs are filed. In some cases, NITMAMs are submitted on Standards up for revision, but none of the NITMAMs are certified as proper by the Motions Committee. In both these cases where no NITMAMs are submitted or no NITMAMs are certified as proper for a specific Standard, the Standard is not placed on the agenda for the Association Technical Meeting, but is instead sent directly to the Standards Council for issuance. Such Standards are referred to as Consent Standards.

Issuance of Standards. When the Standards Council convenes to issue an NFPA Standard it also hears any appeals related to the Standard. Appeals are an important part of assuring that all NFPA rules have been followed and that due process and fairness have been upheld throughout the standards development process. The Council considers appeals both in writing and through the conduct of hearings at which all interested parties can participate. It decides appeals based on the entire record of the process as well as all submissions on the appeal. After deciding all appeals related to a Standard before it, the Council, if appropriate, proceeds to issue the Standard as an official NFPA Standard. Subject only to limited review by the NFPA Board of Directors, the decision of the Standards Council is final, and the new NFPA Standard becomes effective twenty days after Standards Council issuance.

Sequence of Events for the Standards Development Process

As soon as the current edition is published, a Standard is open for Public Input.

Step 1 – Input Stage

- Input accepted from the public or other committees for consideration to develop the First Draft
- Committee holds First Draft Meeting to revise Standard (23 weeks)
Committee(s) with Correlating Committee (10 weeks)
- Committee ballots on First Draft (12 weeks)
Committee(s) with Correlating Committee (11 weeks)
- Correlating Committee First Draft Meeting (9 weeks)
- Correlating Committee ballots on First Draft (5 weeks)
- First Draft Report posted

Step 2 – Comment Stage

- Public Comments accepted on First Draft (10 weeks)
- If Standard does not receive Public Comments and the Committee does not wish to further revise the Standard, the Standard becomes a Consent Standard and is sent directly to the Standards Council for issuance (see Step 4)
- Committee holds Second Draft Meeting (21 weeks)
Committee(s) with Correlating Committee (7 weeks)
- Committee ballots on Second Draft (11 weeks)
Committee(s) with Correlating Committee (10 weeks)
- Correlating Committee First Draft Meeting (9 weeks)
- Correlating Committee ballots on First Draft (8 weeks)
- Second Draft Report posted

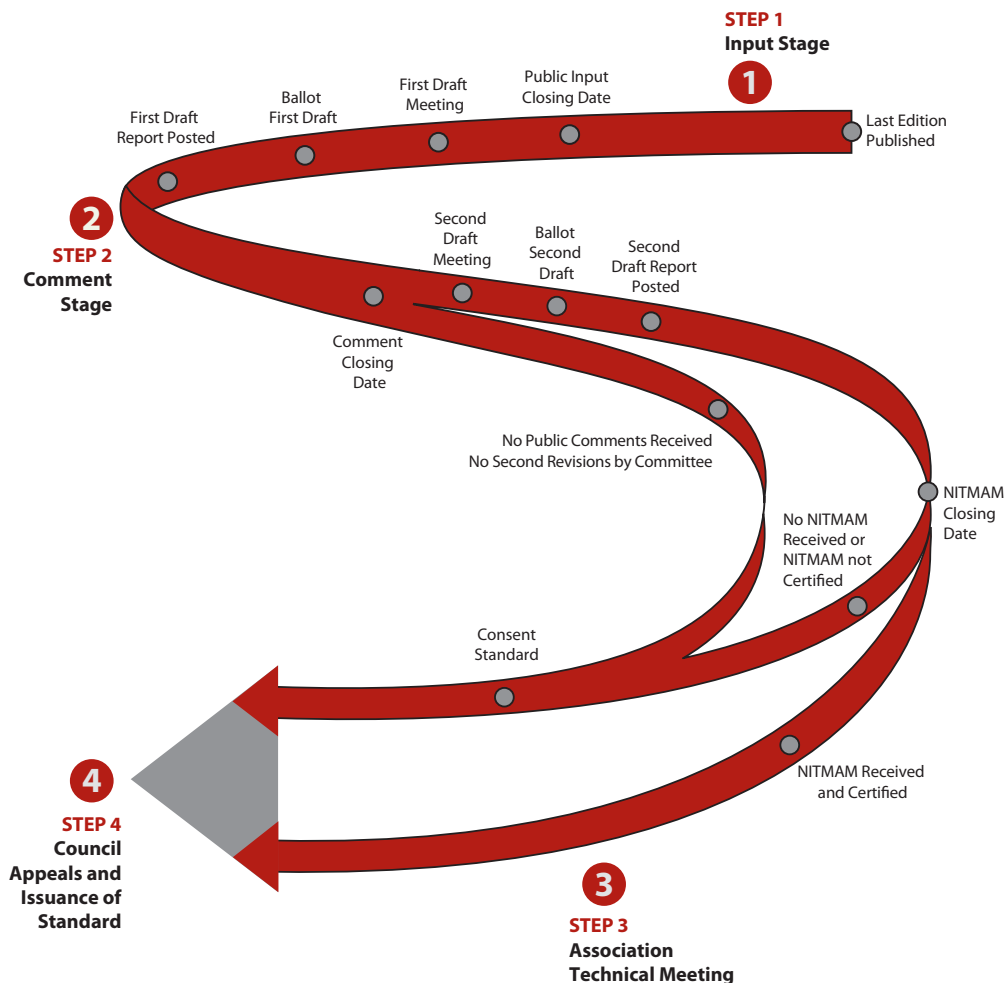
Step 3 – Association Technical Meeting

- Notice of Intent to Make a Motion (NITMAM) accepted (5 weeks)
- NITMAMs are reviewed and valid motions are certified for presentation at the Association Technical Meeting
- Consent Standard bypasses Association Technical Meeting and proceeds directly to the Standards Council for issuance
- NFPA membership meets each June at the Association Technical Meeting and acts on Standards with “Certified Amending Motions” (certified NITMAMs)
- Committee(s) and Panel(s) vote on any successful amendments to the Technical Committee Reports made by the NFPA membership at the Association Technical Meeting

Step 4 – Council Appeals and Issuance of Standard

- Notification of intent to file an appeal to the Standards Council on Association action must be filed within 20 days of the Association Technical Meeting
- Standards Council decides, based on all evidence, whether or not to issue the Standard or to take other action

The Standards Development Process



Notes on Sequence of Events for the Standards Development Process:

- Time periods are approximate; refer to published schedules for actual dates.
- It takes approximately 101 weeks for Annual revision cycle documents receiving certified amending motions.
- It takes approximately 141 weeks for Fall revision cycle documents receiving certified amending motions.

Resources

NFPA Offers Resources to Support its Standards Development Process and Improve Public Safety

NFPA documents are constantly evolving based on extensive public input and the dedicated involvement of highly qualified committee and panel volunteers. NFPA Technical Committees and others work to keep their documents current with the latest knowledge and technologies. In addition to the time and resources contributed by the thousands of dedicated volunteers, the Association helps facilitate the work of the Technical Committees and otherwise promotes NFPA's public safety mission with these important resources:

1. Statistical Data: The Fire Analysis and Research Division's One-Stop-Data-Shop (OSDS) produces a large range of annual reports and special studies on the aspects of the nation's fire problems. The data from the OSDS may be requested by Technical Committee Chairs or Staff Liaisons regarding a specific fire hazard or safety issue. National estimates of specific fire problems are generally compiled from the NFPA survey with details from the United States Fire Administration's National Fire Incident Reporting System (NFIRS). Various other data resources are also used as appropriate.

2. Event Analysis: In order to provide new information and learn lessons that can assist NFPA Technical Committees and others, the NFPA Fire Investigations Department conducts on-site investigations of disasters or near-disasters occurring all around the world. The department's reports analyze significant events (e.g., fires or explosions) focusing on how NFPA codes and standards were utilized and how NFPA codes and standards might have provided additional protection in cases where the documents were not followed.

3. Research: The Fire Protection Research Foundation (FPRF) is an important resource for the NFPA codes and standards making process. The FPRF conducts independent research on specific topics of relevance to NFPA's technical committee and code-making panel projects. Research reports are published and are utilized by Technical Committees as a resource for pertinent up-to-date information. From time to time, Committees will directly seek specific research to be done regarding the subject covered by their document. The FPRF will determine whether or not the specific study has been done before, and if it has not, they can facilitate obtaining the needed information from research, testing, consulting, or other sources. Some of these projects are completed using the FPRF/NFPA Code Fund, which is supported each year by a financial contribution from NFPA. Any representative from the Technical Committees can submit ideas to the Code Fund. The submitted project ideas are reviewed on an annual basis.

4. Empowerment Through Education: The NFPA Public Education Division is the source of fire and other hazard information to reduce residential fire deaths, injury, and property loss. The division focuses on three objectives:

- Position the NFPA Public Education Division as the primary source for fire and life safety information.
- Continuously improve strategies to train the fire service how best to reach high-risk populations.
- Increase awareness of and involvement in Fire Prevention Week.

Activities within the division include reaching out to local fire departments and schools through fire safety campaign kits and an annual Scholastic project, networking with state/provincial fire safety educators, providing fire safety information on nfpa.org and fun activities on sparky.org, advancing various training opportunities at the NFPA Conference & Expo, producing the monthly Safety Source e-newsletter, and maintaining technically correct fire safety messaging through the Educational Messages Advisory Committee. High-risk outreach activities engaging the very old, very young, urban and rural poor, and people with disabilities are an integral part of NFPA's public education efforts. These activities include outreach to urban communities, older adults, people with disabilities and Latino populations. NFPA's public education programs include the Learn Not to Burn® Preschool Program and Remembering When™: A Fire and Falls Prevention Program.

NFPA is the official sponsor of Fire Prevention Week each year to increase public awareness of the importance of fire safety education. Fire Prevention week is held throughout the U.S. and Canada during the week of October 9, to commemorate the anniversary of the Great Chicago Fire. For more than 85 years, NFPA has established the theme and developed the proclamation signed by the President of the United States each year. NFPA also devotes resources to a campaign of theme-related products and materials to help communities promote local programs related to Fire Prevention Week.

5. Literature Archives: The Charles S. Morgan Technical Library is one of the main resources used by Technical Committees to obtain both current and archival information pertinent to NFPA codes or standards. Library staff can assist committee members in tracing changes to codes, providing previous substantiation and supporting documents, and researching the origins of an article or paragraph. The library contains a large fire science collection, with more than 28,000 books, technical reports, videos, journals, and non-NFPA codes. Unique to the collection are Proceedings from NFPA and NBFU annual meetings, papers presented at NFPA annual meetings, original NFPA and NBFU standards going back to 1896, older technical committee reports and comments, and copies of NFPA publications.

6. Annual Conference: NFPA's Conference & Expo takes place each June and is one of the premier events of its kind. The Conference & Expo entails both the NFPA Annual Meeting and the Association Technical Meeting where NFPA proposed codes and standards are brought to the NFPA membership for debate and voting. It also features guest speakers and hundreds of educational programs as well as the country's largest exposition on fire and life safety products and services.

7. Worldwide Communications: NFPA Public Affairs Department oversees the corporate communications activities of the Association and coordinates public awareness and media inquiries, especially following highly publicized fire incidents and other disasters when the news media and others look to NFPA for information.

8. Technology Features: One of today's most important communication tools is the NFPA website, which provides direct support for the standards development process including the electronic submission system of public input and comments. To view document and committee specific information for a relevant NFPA code or standard, go to the document information pages on our website at: www.nfpa.org/document# (example: www.nfpa.org/101).

9. Community Partnerships: To better serve the safety community, other constituents, and its members, NFPA has established Regional Offices throughout North America and an International Operations Division which has offices in Asia, Europe, and Latin America. The primary objective of these offices is to assist constituents with the adoption and formal recognition for the use of NFPA codes and standards. NFPA endeavors to reach every audience with necessary safety information and publishes a wide range of handbooks, reference books, textbooks, videos, field guides, and training manuals.

10. Technical Questions: NFPA's 35+ person Technical and Engineering Staff serve as the staff liaisons to the NFPA Technical Committees that develop the codes and standards. These staff members are available to NFPA members and public sector officials to answer questions about the codes and standards. Each year, the staff handles tens of thousands of inquiries. For more information about submitting your questions, go to the "Technical Questions" tab on the document information pages.

11. Higher Learning: The Professional Development Department conducts specialized training seminars and workshops on NFPA codes and standards and other safety-related subjects. These popular sessions are offered to the general public but are often held for a particular audience. Training seminars and workshops occur regularly around the world and provide the latest information on the application of NFPA codes and standards as well as other state-of-the-art safety related technologies.

12. Certification: NFPA's Certification Department presently offers four recognized certification programs designed to document the minimum competency of and professional recognition to those individuals within the specified field of practice. Based on NFPA codes, standards, and technical publications, the programs are: Certified Fire Protection Specialist, Certified Fire Inspector I and II, and Certified Fire Plan Examiner. Information for each of the programs is available at www.nfpa.org/certification.

The Life Safety Code® and National Electrical Code® are in use in all 50 states in the U.S. and in numerous other countries.

How NFPA Codes and Standards are Used

NFPA codes and standards are widely adopted and used as a basis for safety regulation by government agencies as well as for private use and guidance by insurance companies, industry, and professionals and others in the areas of fire, electrical, building, and life safety. For example, NFPA aviation documents are referenced by airports throughout the world. As a further example, in the United States scores of NFPA codes and standards have been referenced by the federal government's Occupational Safety and Health Administration, the Veterans Administration, the Department of Health and Human Services, the Department of Defense, and other federal agencies.

NFPA develops "full consensus" codes and standards — codes and standards built on a foundation of maximum participation and substantial agreement by a broad range of interests. This philosophy has led to the production of reasonable, usable codes and standards that promote public safety, yet do not stifle design or development. NFPA prides itself in supporting a flexible system that depends largely on volunteers and therefore produces timely, high quality, consensus based safety codes and standards at no cost to taxpayers. Safety is everybody's business. Everyone deserves to be heard when it comes to safety. That's why, after more than 100 years, the NFPA codes and standards process has evolved into one of the fairest and most effective technical document development systems the world has ever seen.

Further Information

For further information on the NFPA standards development process, please visit the NFPA homepage at www.nfpa.org or consult the current edition of the *NFPA Standards Directory*. The homepage and the *Standards Directory* contain the *Regulations Governing the Development of NFPA Standards*, updated schedules for processing documents for the Annual and Fall revision cycles, the *Guide for the Conduct of Participants in the NFPA Standards Development Process*, and other important standards development related information.

To obtain general information regarding the standards development process, contact:

NFPA Codes & Standards Administration Department

One Batterymarch Park
Quincy, MA 02169-7471 USA
Phone: 617-770-3000 (until 5:00 PM EST)
Fax: 617-770-3500
email: stds_admin@nfpa.org

Other general information on the NFPA can be obtained by contacting:

NFPA Headquarters:

One Batterymarch Park, Quincy, MA 02169-7471 USA
Phone: 617-770-3000 (until 5:00 PM EST) Fax: 617-770-0700
<http://www.nfpa.org>

**NFPA Customer Contact Center for
Service/Sales/Membership/Technical Questions:**
custserv@nfpa.org

U.S. & Canada

Phone: 800-344-3555 (8:30-5:00 PM EST)
Fax: 800-593-6372

Outside U.S. & Canada

Phone: 508-895-8300
Fax: 508-895-8301

NFPA International Department Departamento Internacional:

In Spanish / en español
Phone: 617-984-7700 Fax: 617-984-7777
global@nfpa.org

An international nonprofit membership organization established in 1896 and dedicated to reducing the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes and standards, research, training, and education.

Publishers of the National Fire Codes*, including the National Electrical Code* and the Life Safety Code*.