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मानक

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Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 1116 (1994): Glass globes for hurricane lanterns [CHD
10: Glassware]



“ज्ञान से एक नये भारत का निर्माण”

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“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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IS 1116 : 1994
REAFFIRMED
2005

भारतीय मानक

हरिकेन लालटेन के लिए काँच के गोलक — विशिष्ट

(पहला पुनरीक्षण)

Indian Standard

**GLASS GLOBES FOR HURRICANE LANTERNS —
SPECIFICATION**

(First Revision)

UDC 666'175'7 : 621'326'75

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BUREAU OF INDIAN STANDARDS
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NEW DELHI 110002

February 1994

Price Group 3

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Glassware Sectional Committee had been approved by the Chemical Division Council.

This Indian Standard was first published in 1957, at the instance of the Tariff Commission and Development Wing, Ministry of Commerce and based on G/LAMP-25A 'Specification for hurricane lanterns, storm and weather proof', issued by Ministry of Works, Housing and Supply, Government of India and IND/GS/343 'Lanterns, hurricane, globes—clear, ruby and green', issued by Ministry of Defence, Government of India.

Semiautomatic machines are being used now in the manufacture of glass globes for hurricane lanterns. To cover the present trade practice and to align this standard with the defence requirements, this revision was taken up. The thickness of glass and weight have been reduced, and maximum absorption of light has been increased.

The composition of the Committee and the Subcommittee responsible for the formulation of this standard is given in Annex E.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

AMENDMENT NO. 1 JANUARY 2006
TO
IS 1116 : 1994 GLASS GLOBES FOR HURRICANE
LANTERNS — SPECIFICATION

(First Revision)

(Page 1, clause 2) — Substitute the following for the existing clause:

'2 REFERENCE

The standard listed below contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below :

IS No.

Title

1382 : 1981 Glossary of terms relating to glass and glassware (*first revision*)'

(Page 2, clause 6.2.3) — Substitute the following for the existing clause:

'6.2.3 BIS Certification Mark

Each glass globe may also be marked with the Standard Mark.

6.2.3.1 The use of the Standard Mark is governed by the provisions of *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.'

(CHD 10)

Indian Standard

GLASS GLOBES FOR HURRICANE LANTERNS — SPECIFICATION

(First Revision)

1 SCOPE

This standard covers the requirements and methods of sampling and test for glass globes for hurricane lanterns.

2 REFERENCE

The following Indian Standard is a necessary adjunct to this standard:

IS No.	Title
1382 : 1981	Glossary of terms relating to glass industry (<i>first revision</i>)

3 TERMINOLOGY

For the purpose of this standard, the definitions given in IS 1382 : 1981 and the following shall apply.

3.1 Body Diameter

Maximum diameter of the body.

3.2 Total Height

Overall height of the glass globes for lanterns.

3.3 Neck Collar Height

The height of the flat portion of the neck.

4 TYPES

The globes shall be of two types, namely, Type 1 for glass globes of spherical shape and Type 2 for glass globes of conical shape.

5 REQUIREMENTS

5.1 Dimensions and Mass

5.1.1 The shape and dimensions of the two types of globes shall be as given in Fig. 1 and 2 respectively. A bead may be permitted at the top of the globe provided that the total height of the globe and top neck collar height are maintained.

5.1.2 Nominal mass of the two types and the tolerance on mass shall be as follows:

Type	Nominal Weight (g)	Tolerance (g)
1	85	± 14
2	150	± 25

5.2 Resistance to Thermal Shock

5.2.1 The globes shall pass thermal shock test given in Annex A.

5.2.2 The globe shall also pass the chilling test given in Annex B.

5.3 Transmittance

5.3.1 The globes shall be transparent and show no apparent colour. They shall have a transmittance of 92 percent, *Min* of visible light when tested in accordance with Annex C.

5.3.2 In case coloured globes are required, their transmittance shall be as agreed to between the purchaser and the manufactures.

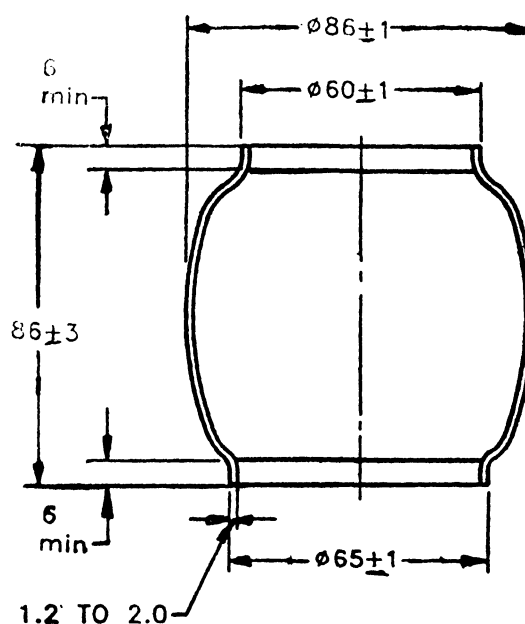
5.4 Manufacture

5.4.1 The globe shall be symmetrical on their long axis. The top and the base shall be reasonably round, with a planity of not more than 0.4 mm. The body shall be of uniform thickness.

5.5 Workmanship and Finish

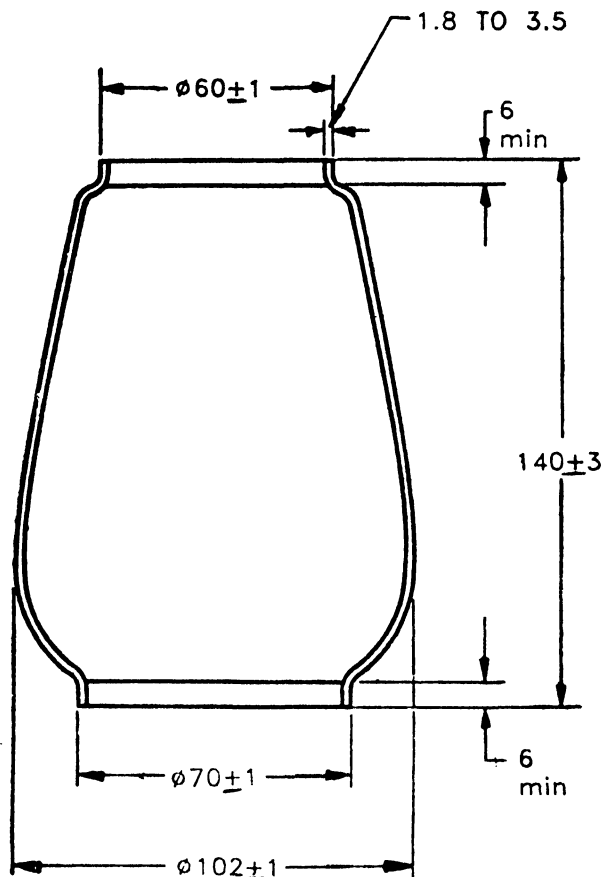
5.5.1 Bubbles

- a) Open bubbles or bubbles which can be burst with finger nail on any part of the globe is not acceptable.



All dimensions in millimetres.

FIG. 1 GLASS GLOBE, TYPE 1



All dimensions in millimetres.
FIG. 2 GLASS GLOBE, TYPE 2

b) Closed bubbles of the following sizes may be allowed:

Bubble Size (Diameter) mm	Max No. Allowed
Less than 0.5	5 per cm ² of surface
0.5 to 1	4 per cm ² of surface
More than 1 to 2	2 per cm ² of surface

The bubbles may be checked with unaided eye/magnifying glass.

5.5.2 Cords and Striae

Glass globes shall be free from such cords and striae which obscure transmission of light.

5.5.3 Stones

Glass globes shall be free from metallic particles or stones not fully covered by glass. A maximum of two stones fully covered with glass may be allowed in a globe.

5.5.4 Adhered Glass

A piece of glass or small foreign particle welded to the globe surface which cannot be removed without causing a chip or crack, the maximum acceptable size shall be 0.75 mm and maximum number of such defects shall not exceed three.

5.5.5 Defects in Blowing

Glass globes shall be as free as possible from deformities shape and such other defects as mould mark, scratches and depressions.

5.5.6 Finishing

The globes shall have a smooth finish and shall be free from cracks.

5.5.7 Annealing

Glass globes shall be reasonably free from strains. The strain may be checked by a polariscope.

6 PACKING AND MARKING

6.1 Packing

Glass globes shall be packed as agreed to between the purchaser and the supplier in such a way that there is no damage to the globes.

6.2 Marking

6.2.1 Each globe shall be legibly and indelibly marked with an indication of source of manufacture.

6.2.2 A label showing:

- a) Batch number,
- b) Lot number,
- c) Date of manufacture, and
- d) Type of globe.

6.2.3 The use of the Standard Mark is governed by the provisions of Bureau of Indian Standards Act, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

7 SAMPLING AND CRITERIA FOR CONFORMITY

The sampling and judging the criteria for conformity shall be done in accordance with Annex D.

ANNEX A

(Clause 5.2.1)

THERMAL SHOCK TEST

A-1 PROCEDURE

The globes shall be heated in an oven to 120°C for atleast 20 minutes. They shall then be

rapidly removed and immediately sprayed on the side with a finely divided spray of water at room temperature. The globes shall not develop cracks.

ANNEX B

(Clause 5.2.2)

CHILLING TEST

B-1 PROCEDURE

The globes shall be well cleaned and kept immersed for 5 minutes in boiling distilled water in a closed vessel having a small steam vent. They shall be kept suspended in water so that

they do not come in contact with the walls of the container. They shall then be removed and immediately dipped in cold water having a temperature of 0°C to 1°C. On completion of the test, the globes shall not show any sign of crack, breakage, fading in colour or other damage.

ANNEX C

(Clause 5.3.1)

LIGHT TRANSMISSION TEST

C-1 PROCEDURE

Two sub-standard lamps of approximately the same luminous intensity shall be mounted on the standard photometer bench which is used for determining the horizontal luminous intensity of lanterns. One of the two sub-standard lamps shall be completely covered with the glass globe and its luminous intensity measured against the

other sub-standard lamp. The transmission of the second lamp, expressed as percentage of original luminous intensity, shall be taken as the light transmission of glass globe.

C-1.1 This test shall be carried out before and after the thermal shock test (*see* Annex A). There shall not be any variation in the two readings for absorption of light.

ANNEX D

(Clause 7)

METHODS OF SAMPLING AND CRITERIA FOR CONFORMITY

D-1 METHODS OF SAMPLING

D-1.1 For the purpose of sampling, all packages containing glass globes belonging to one batch of manufacture shall be grouped together to constitute a lot.

D-1.2 Depending on the lot size (*see* col 1 of Table 1) a number of packages shall be selected randomly from the lot in accordance with col 2 of Table 1 for drawing samples for test. An equal number of glass globes shall then be at random selected from each of the selected packages so as to make a total number of globes same as specified in the appropriate column of Table 1 (*see* col 3). This total number of globes shall constitute a sample.

D-2 CRITERIA FOR CONFORMITY

All the globes so selected in the sample shall be subjected to requirements given in clause 5. A

globe failing to meet any one or more requirements shall be termed as defective. The lot shall be considered conforming to the requirements of this standard if the number of defective globes is less than or equal to the corresponding acceptance number given in Table 1, otherwise not.

Table 1 Number of Samples for Tests
(Clause D-1.2)

Lot Size (No. of Packages)	Sample Size (No. of Packages)	No. of Globes and Acceptance Number	
		No. of Globes	Acceptance Number
(1)	(2)	(3)	(4)
Up to 8	2	4	0
9-15	3	6	0
16-25	5	10	0
26-50	8	16	1
51-100	13	26	2
101 and above	20	40	3

ANNEX E
(Foreword)

COMMITTEE COMPOSITION

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