



**PRODUCT MANUAL FOR
TUNGSTEN FILAMENT MISCELLANEOUS ELECTRIC LAMP
ACCORDING TO IS 6701: 1985**

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

1.	Product	:	IS 6701:1985
	Title	:	Tungsten Filament Miscellaneous Electric Lamp
	No. of Amendments	:	2
2.	Sampling Guidelines:		
a)	Raw material	:	1. Glass Shell - IS 1112 (Pt 1) & IS 1112 (Pt 2) 2. Cap Dimensions - IS 9206
b)	Grouping guidelines	:	Please refer ANNEX-A
c)	Sample Size	:	40 nos (10 additional samples may be drawn to accommodate accidental breakage)
3.	List of Test Equipment	:	Please refer ANNEX –B
4.	Scheme of Inspection and Testing	:	Please refer ANNEX –C
5.	Possible tests in a day :	:	Please refer ANNEX –D
6.	Scope of the Licence :		
	“Licence is granted to use Standard Mark as per IS 6701:1985 with the following scope:		
	Name of the product	Tungsten Filament Miscellaneous Electric Lamp	
	Type	Navigation Lamp / Road Traffic Control Electric Light Signal Lamp/ Night Lamp / Flood Light Lamp / Decorative Lamp	
	Rating	Rated Voltage ____ V; Rated Wattage ____ W	
	Type of Cap		
	Finish		

ANNEX – A**Grouping Guidelines**

1. Tungsten Filament Miscellaneous Electric Lamp as per IS 6701:1985 are classified as follows:

Lamp Type/ Reference	Rated Voltage	Rated Wattage	Cap Type	Bulb Finish
Navigation Lamp (N)	110 V, 230 V, 240 V, 250 V	40 W, 60 W	Bayonet Cap (B-22/ 25 x 26) <i>or</i> Edison Screw Cap (E-27/ 27)	Clear
Road Traffic Control Electric Light Signal Lamp (RS)	230 V, 240 V 250 V	40 W, 60 W		Clear
Night Lamp (NL)	230 V, 240 V 250 V	15 W (max)		Frosted /Coloured (Inside coated) natural colour / Clear
Decorative Lamp (DL)	230 V, 240 V 250 V	15 W (max)		Frosted/ Coloured (Inside coated) natural colour / Clear
Flood Light Lamp (F)	230 V, 240 V 250 V	40 W, 60 W, 75 W, 100 W, 150 W		Front frosted internal aluminium coated – for 40 W, 60W Internal Reflector Type - for 75 W, 100 W & 150 W

2. For considering GoL/CSoL, the guidelines given below shall be followed:

- i) Samples of each lamp type shall be tested separately.
- ii) For each lamp type, sample of highest wattage and any voltage (230/ 240/ 250 V) shall be tested to cover all voltages and wattages in the range. However, for Navigation Lamp having rated voltage of 110V, separate sample shall be tested.
- iii) At least one sample of each cap type shall be tested to cover both in the scope.
- iv) At least one sample of each type of lamp finish shall be tested to cover all the finishes in the scope.

3. The Firm shall declare the varieties of Lamps they intend to cover in the Licence. The Scope of Licence may be restricted based on the Manufacturing and Testing capabilities of the Manufacturer.

4. During the operation of the Licence, BO shall ensure that all the varieties covered in the Licence are tested in rotation, to the extent possible.

ANNEX B**List of Test Equipment***Major test equipment required to test as per the Indian Standard*

Sl. No.	Tests used in with Clause Reference	Test Equipment
1	Glass Shell (Cl 3.1)	- Vernier Caliper - Ball ended Micrometer
2	Dimension of Lamps (Cl 3.2)	- Vernier Caliper - Go / No-Go Gauge
3	Dimension of Caps (Cl 3.3.1)	- Vernier Caliper
4	Insulation resistance of Bayonet Cap (Cl 3.3.3)	- Megger
5	Torsion Test (Cl 3.3.2)	- Holder as per Appendix G of ISS - Torque Testing Machine
6	Initial Watt & Initial Lumen (Cl 6.2.1)	- Spherical Photometric Integrator
7	Life Test (Cl 6.2.2 & Appendix F)	- Life Test Set up with Timer / Clock

The above list is indicative only and may not be treated as exhaustive.

ANNEX C

Scheme of Inspection And Testing

1. LABORATORY - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

1.1 The manufacturer shall prepare a calibration plan for the test equipments.

2. TEST RECORDS – The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. LABELLING AND MARKING – As per the requirement of clause no 5 of IS 6701:1985.

4. CONTROL UNIT – Lamps identical in photometric and electrical ratings, manufactured under similar conditions per shift shall constitute a control unit.

5. LEVELS OF CONTROL - The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

5.1 All the production which conforms to the Indian Standards and covered by the licence should be marked with Standard Mark.

6. REJECTIONS – Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

TABLE 1

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
3.1	Glass Shell	3.1	IS 1112 (Part 1 & 2)	R	35 Lamps to be tested at random from the lot	Once a week for each combination of photometric & electric ratings	In case of a failure, the marking for that rating shall be suspended and the cause for failure identified & necessary improvement shall be made. The marking shall only be resumed when samples from the improved lot pass.
3.2	Dimensions of Lamp	Appendix A	IS 6701	R			
3.3.1	Dimension of Caps	3.3.1	IS 9206	R			
3.3.3	Insulation resistance of Bayonet Cap	3.3.3	IS 6701	R			
3.4	Solder	3.4	IS 6701	R			
3.3.2	Torsion Test	Appendix A	IS 6701	R			
6.2.1 & 7.3	Initial Watt & Initial Lumen	6 & Appendix C	IS 6701	R	*25 Lamps selected passing the inspection tests	Each Control Unit	-
6.2.2 & 7.4	Life Performance & Specific Failure during Life Test	6.2 & Appendix F	IS 6701	R	*20 Lamps selected from those which have passed rating test	Once in 3 months for each combination of photometric & electric ratings	-

*In case of Lamps of wattage 75 and above, the number of samples shall be as per clause 4 of ISS.

Note-1: Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note-2: The control unit and levels of control as decided by the Bureau are obligatory, to which the licensee shall comply with.

ANNEX- D

Possible Tests in a day

- (i) Dimension of lamp (Cl 3.2)
- (ii) Torsion Test (Cl 3.3.2)
- (iii) Insulation resistance of Bayonet Cap (Cl 3.3.3)
- (iv) Initial Watt & Initial Lumen (Cl 6.2.1)