



**PRODUCT MANUAL FOR  
GAS TESTING FLAME SAFETY LAMPS  
ACCORDING TO IS 7577: 1986**

*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.	<b>Product</b>	:	IS 7577: 1986
	<b>Title</b>	:	Gas Testing Flame Safety Lamps
	<b>No. of Amendments</b>	:	1
2.	<b>Sampling Guidelines:</b>		
a)	<b>Raw material</b>	:	Not Applicable
b)	<b>Grouping guidelines</b>	:	One sample of any size for each Type and Design shall be tested to cover Flame Safety Lamps of all sizes in that variety (type and design)
c)	<b>Sample Size</b>	:	Lamp: 15 pieces Glass Cylinder: 50 pieces
3.	<b>List of Test Equipment</b>	:	Please refer ANNEX – A
4.	<b>Scheme of Inspection and Testing</b>	:	Please refer ANNEX – B
5.	<b>Possible tests in a day</b>	:	
6.	<b>Scope of the Licence:</b>		
	Licence is granted to use Standard Mark as per IS 7577: 1986 with the following scope:		
	Name of the product	Gas Testing Flame Safety Lamps	
	Size		
	Type		
	Design		

**ANNEX A****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	Construction, and Performance (Clause 3)	<ul style="list-style-type: none"> <li>i. Angle protractor</li> <li>ii. Clock</li> <li>iii. Flame adjusting arrangement</li> <li>iv. Micrometer</li> <li>v. Vernier caliper</li> <li>vi. Weighing balance</li> <li>vii. Wick</li> </ul>
2	Performance Test (Clause 3.1)	<ul style="list-style-type: none"> <li>i. Air Blower</li> <li>ii. Air Velocity Measuring Device</li> </ul>
3	Wind Test (Clause 3.2)	<ul style="list-style-type: none"> <li>iii. Flow Gas Testing Gallery</li> </ul>
4	Still Gas Test (Clause 3.3.1)	<ul style="list-style-type: none"> <li>iv. Flow Meter</li> </ul>
5	Flowing Gas Test (Clause 3.3.2)	<ul style="list-style-type: none"> <li>v. Gas Concentration Test Apparatus</li> <li>vi. Performance Test Apparatus</li> <li>vii. Still Gas Test Arrangements</li> <li>viii. Stop Watch</li> <li>ix. Test Gas (Methane)</li> <li>x. Vernier Caliper</li> </ul>
6	Strength Test (Clause 3.4)	<ul style="list-style-type: none"> <li>i. 25 N Lead Block of 75 mm Diameter</li> </ul>
7	Gas Cylinders Test (Clause 3.5)	<ul style="list-style-type: none"> <li>ii. 30 mm Thick Hard Wooden Board</li> <li>iii. 4.5 N Load Disc of 63 mm Diameter</li> </ul>
8	Surface Temperature (Clause 3.6)	<ul style="list-style-type: none"> <li>iv. Cooling Chamber</li> <li>v. Drop Test Apparatus</li> <li>vi. Hot Air Oven</li> <li>vii. Lead Block of 120 mm Diameter and 37 mm Thick</li> <li>viii. Steel Tape</li> <li>ix. Steel Wire</li> <li>x. Thermometer</li> <li>xi. Thickness Gauge</li> <li>xii. Vernier Caliper</li> </ul>

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

**ANNEX B**

**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 IS 7577: 1986.

**4. 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.

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

**5. 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**

<b>(1)</b>				<b>(2)</b>	<b>(3)</b>		
<b>Test Details</b>				<b>Test equipment requirement R: required (or) S: Sub-contracting permitted</b>	<b>Levels of Control</b>		
<b>Cl.</b>	<b>Requirement</b>	<b>Test Method</b>			<b>No. of Sample</b>	<b>Frequency</b>	<b>Remarks</b>
		<b>Clause</b>	<b>Reference</b>				
2	Construction, Workmanship and Performance	2.1 to 2.10, 2.12, 2.13	IS 7577	R	Each lamp	-	Please see Note 1 and Note 2.
	Lighting Duration	2.11	IS 7577	R	One sample of each size, type and design	Every 25 pieces or part thereof manufactured in a batch	In case of failure, two more samples are to be tested and if both samples pass, then only the batch is to be accepted.
<b>3</b>	<b>Tests</b>						
3.1	Performance Test	3.1	IS 7577	R	One sample of each size, type and design	Every 6 months	Please refer Note 3
3.2	Wind Test	3.2	IS 7577	R	Each Lamp	-	-
<b>3.3</b>	<b>Safety Tests</b>						
3.3.1	Still Gas Test	3.3.1	IS 7577	R	One sample of each size, type and design	Every 100 pieces or part thereof manufactured in a week	Please refer Note 4
3.3.2	Flowing Gas Test	3.3.2	IS 7577	R			
<b>3.4</b>	<b>Strength Test</b>						
3.4.1	Lamp Assembly	3.4.1.1 3.4.1.2 3.4.1.3	IS 7577 IS 7577 IS 7577	R	One sample of each size, type and design	Every 500 pieces or part thereof manufactured in 3 months	Please refer Note 3
3.4.2	On Gasket	3.4.2	IS 7577	R	One sample of each size, type and design	Every 25 pieces or part thereof manufactured in a batch	In case of failure, two more samples are to be tested and if both passes, then only the batch is to be accepted.

<b>3.5 Gas Cylinder Tests</b>							
3.5.3	Strength Test (Type test)	3.5.1, 3.5.3	IS 7577	R	20	Lot of 1000 pieces in a consignment	This test is to be carried out if the glass cylinders are procured from outside.
3.5.4	Temperature Test (Type test)	3.5.1, 3.5.4	IS 7577	R	20		
3.5.2	Visual examination	3.5.2	IS 7577	-	Each piece	-	-
3.5.3	Strength Test (Routine test)	3.5.2, 3.5.3	IS 7577	R	As per the sampling plan given in Table 2 of IS 7577		This test to be carried out if the glass cylinders are manufactured inhouse.
3.5.4	Temperature Test (Routine test)	3.5.2, 3.5.4	IS 7577	R			
3.6	Surface Temperature	3.6	IS 7577	R	One sample of each size, type and design	25 pieces or part thereof manufactured in a batch	This test can be performed in conjunction with the test for checking lighting duration.

Note- 1: If any lamp fails in any of the requirements, the lamp shall not be marked. The lamp may be suitably repaired and the defects rectified. Such repaired lamps when tested again shall conform to all the requirements of the specification.

Note-2: For gauzes, the dimensional requirements (such as wire diameter, aperture and radiation area) shall be checked on one sample in every consignment received. In case of non-compliance, the consignment shall be rejected.

Note-3: In case a sample fails in performance test and/or strength test on lamp assembly, the marking of that type and design shall be stopped. The cause of failure shall be investigated and necessary improvements shall be made in the design. Two pieces from the improved production shall be tested for this requirement. Marking may be resumed if both the samples pass the requirements of this test.

Note-4: In case a sample fails in any of the requirements of safety test, all the lamps of the lot shall be subjected to this test and the lamps failing in this requirement shall not be marked. Every lamp subsequently manufactured shall be tested for this requirement. Original frequency may be restored after five consecutive samples have passed this test.

Note-5: Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note-6: The control unit and levels of control as decided by the Bureau are obligatory, to which the licensee shall comply with.