



**PRODUCT MANUAL FOR
LIGHTERS - SAFETY SPECIFICATION
ACCORDING to IS/ISO 9994:2005**

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/ISO 9994:2005
	Title	:	LIGHTERS - SAFETY
	No. of Amendments	:	1
2.	Sampling Guidelines:		
a)	Raw material	:	-
b)	Grouping guidelines	:	Please refer ANNEX – A
c)	Sample Size	:	10 Lighters
3.	List of Test Equipment	:	Please refer ANNEX – B
4.	Scheme of Inspection and Testing	:	Please refer ANNEX – C
5.	Possible Test in a day		Flame generation as per Clause 3.1
6.	Scope of the Licence :		
	Licence is granted to use Standard Mark as per IS/ISO 9994 with the following scope:		
	Name of the product	Lighters	
	Type	Fluid lighter / Gas lighters, Post mixing burner / Premixing burner, Refillable / Disposable , Adjustable / non-adjustable / automatically adjusting, Self-extinguishing / non -self-extinguishing	

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ANNEX A

Grouping Guidelines

1. As per IS /ISO 9994:2005 , Lighters are classified into different types as given below:
 - (a) Fluid lighter /Gas lighter
 - (b) Post mixing burner lighter /Premixing burner lighter
 - (c) Adjustable lighter /non-adjustable lighter /automatically adjusting pipe lighter
 - (d) Self-extinguishing lighter / non -self-extinguishing lighter
 - (e) Refillable lighter /Disposable lighter
2. For considering GoL/CSoL, each type of Lighter of any reservoir capacity shall be tested for all the requirements to cover lighters of all reservoir capacities of that particular type.
3. The Firm shall declare the varieties of Lighters intended to be covered 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 - BList of Test Equipments

Major test equipment required to test as per the Indian Standard

Sl.No	Tests used in with clause reference	Test Equipments
1.	Flame Generation (Clause 3.1)	(a) Rotary Actuator/ Push-button Actuator
2.	Flame heights (Clause 3.2)	(a) Vertically Supported non-flammable Board (b) Draught Free Chamber
3.	Flame extinction (Clause 3.5)	(c) Digital Thermometer (d) Stop watch (e) Measuring Scale OR (f) Flame Height measurement apparatus
4.	Resistance to spitting or sputtering and flaring (Clause 3.4)	(a) Digital Thermometer (b) Stop Watch (c) Measuring Scale (d) Protector or other arrangement for measurement of 45°.
5.	Volumetric Displacement (Clause 3.6)	(a) Weighing Balance (b) Drilling machine and drill bit (c) Syringe (d) Digital Thermometer (e) Stop Watch
6.	Compatibility with fuel (Clause 4.2)	(a) Container (b) Enclosures (c) Digital Thermometer (d) Weighing Balance (e) Hot Air Oven (f) Stop Watch
7.	Resistance to Fuel Loss (Clause 4.3)	(a) Stop Watch (b) Weighing Balance
8.	Resistance to Dropping (Clause 4.4)	(a) Concrete Surface (b) Freezer (c) Hot Air Oven (d) Weighing Balance (e) Height Gauge
9.	Resistance to Elevated Temperature (Clause 4.5)	(a) Hot Air Oven (b) Weighing Balance (c) Enclosures (d) Digital Thermometer

10.	Resistance to internal pressure (Clause 4.6)	(a) Pressure generating device (b) Pressure Gauge (c) Pressure regulating device
11.	Burning Behaviour (Clause 4.7)	(a) Stop Watch (b) Measuring Scale (c) Protector or other arrangement for measurement of 45°. (d) Flame Height measurement apparatus
12.	Resistance to Cyclic Burning (Clause 4.8)	(a) Digital Thermometer (b) Stop Watch
13.	Resistance to Continuous burning (Clause 4.9)	(a) Draught Free Chamber (b) Digital Thermometer (c) Stop Watch (d) Measuring Scale
14.	To maintain the ambient condition in Laboratory	(a) Air conditioner

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 requirements given in Clause 6 and Clause 7 of IS/ISO 9994:2005.

4.0 CONTROL UNIT – For the purpose of this scheme, all lighters of same type manufactured in one day shall constitute one control unit.

5. LEVELS OF CONTROL The Tests as indicated in column 1 of Table 1 and the levels of control in column 2 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		
CI.	Requirement	Test Methods			No. of samples	Frequency	Remarks
		Clause	Reference				
3	FUNCTIONAL REQUIREMENTS						
3.1	Flame generation	3.1	IS/ISO 9994	R	5 lighters	Each control unit	
3.2	Flame heights	5.2	IS/ISO 9994	R	2 lighters	Every 10 Control Units	
3.3	Flame- height adjustment	3.3	IS/ISO 9994	R			
3.4	Resistance to Spitting or Sputtering and flaring	5.3	IS/ISO 9994	R			
3.5	Flame extinction	5.4	IS/ISO 9994	R			
3.6	Volumetric Displacement	5.7	IS/ISO 9994	R			
4	STRUCTURAL – INTEGRITY REQUIREMENTS						
4.1	External Finish	4.1	IS/ISO 9994	R	Each lighter		
4.2	Compatibility with fuel	5.5	IS/ISO 9994	R	5 lighters	Once in three months	
4.3	Resistance to fuel loss	5.6	IS/ISO 9994	R	2 lighters	Every 10 Control Units	

4.4	Resistance to dropping	5.8	IS/ISO 9994	R	2 lighters	Every 10 Control Units	
4.5	Resistance to elevated temperature	5.9	IS/ISO 9994	R	2 lighters	Every 10 Control Units	
4.6	Resistance to internal pressure	5.10	IS/ISO 9994	R	2 lighters		
4.7	Burning behaviour	4.7	IS/ISO 9994	R	2 lighters		
4.8	Resistance to cyclic burning	5.11	IS/ISO 9994	R	2 lighters		
4.9	Resistance to continuous burning	5.12	IS/ISO 9994	R	2 lighters		

Note-1: Whether Test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note-2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval by BO Head.