उत्पाद मैन्युअल

क्षणदीप-विशिष्ट

के लिए

IS 2083: 2024 के अनुसार
PRODUCT MANUAL
For Flashlight- Specification
According To
IS 2083: 2024

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो) अनुरूपता मूल्यांकन (विनियम, 2018 की योजना -I के तहत प्रमाणन के संचालन में एकरूपता और पारदर्शिता के लिए इस उत्पाद मैनुअल का उपयोग सभी क्षेत्रीय / शाखा कार्यालयों और लाइसेंसधारियों द्वारा संदर्भ सामग्री के रूप में किया जाएगा। दस्तावेज़ का उपयोग बीआईएस प्रमाणन प्राप्त करने के इच्छुक संभावित आवेदकों द्वारा भी किया जा सकता है।

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

1.	**IS No.**	:	IS 2083: 2024
	Title	**:**	FLASHLIGHT- SPECIFICATION
	No. of Amendments	:	1
2.	**Sampling Guidelines**		
a)	**Raw Materials**	:	Clause 4 of IS 2083: 2024
b)	**Grouping Guidelines**	:	Please refer ANNEX - A
c)	**Sample Size**	:	12 No.
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**	:	Please refer ANNEX –D
6.	**Scope of the License**	:	Please refer ANNEX –**E**

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ANNEX-A

GROUPING GUIDELINES

1) Manufacturer shall declare the parameters defined in scope of licence for each model(s).

2) For grant of licence/change in scope of licence, each model of each type of Flashlight is to be tested.

3) However, change in aesthetics, i.e. colour, visual design etc. may not be treated as different model.

4) The Firm shall declare the model(s) of each type(s) of Flashlight(s) they intend to cover in the Licence. The Scope of Licence may be restricted based on the Manufacturing capability and testing facilities of the Manufacturer**.**

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

ANNEX-B
List of Test Equipment

Indicative list of major test equipment required to test as per the Indian Standard

Sl. No.	Tests used in with Clause Reference	Test Equipment
1.	Checking of dimensions, Cl.6	Vernier Calipers, Micrometer
2.	Checking of markings, Cl.7	Cotton cloths, Stopwatch, Hexane
3.	Test for finish, Cl. 9	Laser/ Ultrasonic Thickness Guage/Coulometric thickness tester, Snap Gauges
4.	Test for mechanical assembly, Cl.10	Force gauge, Steel Scale, Stop watch, Digital Torque Tester
5.	Drop test, Cl.11	Seasoned deodar wood board, Steel Scale
6.	Dry Heat Tests, Cl.12.1	Hot Air Oven
7.	Damp Heat (Accelerated) Test, Cl.12.2	Humidity Chamber, IR Tester/Megger, AC/DC High Voltage Tester
8.	Dry Cold Test Optional, Cl.12.3	Climatic Test chamber, Hot & Cold Cycling Chamber
9.	Life test for switch, Cl.13	Switch Testing Machine, Endurance Test Jig
10.	Insulation resistance test, Cl.14	Insulation Resistance Tester/Megger
11.	Test for contact resistance of the switch, Cl.15	Digital Multimeter, DC Power supply
12.	Light distribution test, Cl.16	Steel Scale
13.	Lumen depreciation test for led flashlight, Cl.17	Goniophotometer system with standard spectral lamp
14.	Circuit current of led flashlight, Cl.18	Power Meter, Digital Multimeter
15.	Test for charging current in built-in rechargeable battery-operated flashlights, Cl.19	Digital Multimeter, Battery Charging & Discharging test setup
16.	Photobiological Safety, Cl.20	Spectroradiometers, Integrating Sphere Systems, Goniophotometers, Irradiance and Radiance Probes
17.	Test for Ingress Protection, Cl.21	Dust Chamber (IP 5X & IP 6X), Oscillatory tube (IP X3 & IP X4), Acrylic Body Rotameter (IP X6), Test sieve
18.	Over charge protection in rechargeable flashlights with built-in charger/separate charger/ solar charger, Cl.22	Digital Multimeter, Battery Charging & Discharging test setup
19.	Endurance test for rechargeable flashlights, Cl.23	Thermal enclosure, Power source (AC or DC)
20.	Thermal test, Cl.24	Digital Multimeter, Battery Charging & discharging test setup, Data Logger, Endurance Test Chamber

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

ANNEX C

Scheme of Inspection and Testing

1. QUALITY ASSURANCE PLAN

1.1 It is expected that manufacturers (licensees/applicants) will implement a Quality Assurance Plan i.e. a plan of regular testing and in-process controls, designed to ensure that the product bearing the Standard Mark conforms to all requirements of the Indian Standard.

1.2 The manufacturers shall define a Quality Assurance Plan defining the control unit (i.e. lot/batch etc.) and the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and submit the same to BIS Branch Office for information. The manufacturer shall comply with the same and maintain test records in accordance with para 2.4.

1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is: *Quantity of Flashlights with same model name/number produced in a day shall constitute a control unit.*

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in Table 1.

1.3.3 The manufacturer shall ensure inspection and testing as per the Quality Assurance Plan submitted by them on the whole production of the factory which is covered by this plan. Alternatively, the manufacturer has the option of adherence to the quality plan as per levels of control recommended in column 3 of Table 1.

1.4 However, all manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard.

2. ENSURING COMPLIANCE THROUGH TESTING-

It is expected that manufacturers (licensees/applicants) will establish a suitably equipped and staffed in house laboratory (In house testing facility) for testing at least those parameters of the Indian Standard which require routine testing for ensuring quality of the product. This includes in-process controls as may be defined and put in place by the manufacturer and testing parameters/requirements which can only be performed in the factory.

2.1 For the guidance of manufacturers, Table 1 giving the recommended levels of control is given below. Column 2 of Table 1 indicates routine tests where test equipment is required in house as "R" or other tests which can be subcontracted as "S". Subcontracting is permitted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.2 For MSME manufacturers, the requirement of maintaining a laboratory/in-house testing facility for routine tests (indicated as "R" in Column 2 of Table 1) is also optional.

2.2.1 MSME manufacturers may utilize common cluster based facilities as per guidelines for the utilization of cluster based test facilities by MSMEs or the provisions of Sharing of testing facilities or get testing done from BIS recognized/empaneled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.3 Large Scale manufacturers shall maintain an in-house laboratory equipped at least with test facilities for routine tests (indicated as "R" in Column 2 of Table 1), where different tests given in the specification shall be carried out in accordance with the method given in the specification. They shall also implement a calibration plan for the in-house test equipment.

2.3.1 Alternatively, in lieu of an in-house laboratory, large scale manufacturers can also utilize the provisions of Sharing of testing facilities as per the Guidelines for Grant of Licence available on BIS website www.bis.gov.in. (Under Conformity Assessment>Product Certification Process). Even for subcontracted tests, provisions for sharing of testing facilities can be utilized.

2.4 TEST RECORDS- The manufacturers maintaining an in-house laboratory or utilizing common cluster based facilities or shared test facilities shall maintain test records for the tests carried out to establish conformity. For the tests being subcontracted to BIS recognized/empaneled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025, test reports issued by the laboratories shall be available for inspection by BIS.

3. MARKING - The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on each Flashlight and also on its packaging (wherever applicable) provided always that the material so marked conforms to each requirement of the specification.

3.1 Packing and Marking shall be done as per Cl. 7 of IS 2083: 2024.

3.2 Additional Marking requirements: The following additional marking requirement shall be marked on each of the packaging of the Flashlights.
"For BIS certification details please visit www.bis.gov.in"

4. HYGIENIC CONDITIONS (if applicable) – NA.

5. REJECTION - All the production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the Standard Mark. 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**		**REMARKS**
Clause	**Requirement**	**Test Method**			**No. of Sample**	**Frequency**	
		Clause	Reference				
4	Material and Construction	4			Each consignment of components received		Further testing is not required if supplied with BIS Standard Mark or with Test certificate, which ever applicable
5	Test for Finish	9	IS 2083	R	Firm to have adequate in-process controls to check compliance of this parameter as per the tolerances given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity.		
6	Checking of dimensions	6	IS 2083	R			
7	Checking of markings	7	IS 2083				
13.3	Functional test for switch	13.3	IS 2083	R	one	Each Control Unit	
14	Insulation resistance test	14.1	IS 2083	R	one	Each Control Unit	
16	Light distribution test	16	IS 2083	R	one	Each Control Unit	
18	Circuit current of LED flashlight	18	IS 2083	R	one	Each Control Unit	
19	Test for charging current in built-in rechargeable battery-operated flashlights	19	IS 2083	R	one	Each Control Unit	
10	Test for mechanical assembly	10	IS 2083	S	one	Once in a month	Each model produced in a month shall be covered
11	Drop test	11	IS 2083	S	one	Once in a month	

12	Climatic tests	12	IS 2083	S	one	Once in 6 months	Each model produced in 6 months shall be covered
13	Life test for switch	13	IS 2083	S	one	Once in 6 months	
14	Insulation resistance test	14.2	IS 2083	S	one	Once in 6 months	
15	Test for contact resistance of the switch	15	IS 2083	S	one	Once in 6 months	
17	Lumen depreciation test for led flashlight	17	IS 2083	S	one	Once in a year	Each model produced in a year shall be covered
20	Photobiological safety	20	IS 2083	S	one	Once in a year	
21	Test for ingress protection (optional)	21	IS 2083	S	one	Once in a year	
22	Over charge in rechargeable flashlights with built-in charger /separate charger/solar charger	22	IS 2083	S	one	Once in 6 months	Each model produced in 6 month shall be covered
23	Endurance test for rechargeable flashlights	23	IS 2083	S	one	Once in 6 months	
24	Thermal test	24	IS 2083	S	one	Once in 6 months	

ANNEX-D

Possible Test in a Day

(i) Checking of construction (Cl 4)
(ii) Checking of dimensions (Cl 6)
(iii) Checking of markings (Cl 7)
(iv) Drop test (Cl 11)
(v) Functional test for switch (Cl 13.3)
(vi) Light distribution test (Cl 16)
(vii) Circuit current of LED flashlight (Cl 18)
(viii) Test for charging current in built-in rechargeable battery-operated Flashlights (Cl 19)
(ix) Over charge in rechargeable flashlights with built-in charger/separate charger/solar charger (Cl 22)

ANNEX-E

Scope of License

“Licence is granted to use Standard Mark as per **IS 2083 : 2024** with the following scope:	
Name of the product	FLASHLIGHT
Material of enclosure	Plastic/ metallic
Light Source	LED/Non-LED
Battery type	Primary/secondary
Chargers	With adapter/ with USB cable/with pin insertion
Photovoltaic Source	
Power Ratings	
Input Ratings	
Degree of protection	