PRODUCT MANUAL FOR MULTIPURPOSE DRY BATTERIES ACCORDING to IS 8144:2025

Document No.- PM/ IS 8144/ 3/ August 2025

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.

उत्पाद मैन्युअल आई एस 8144:2025 के अनुसार बहुप्रयोजी शुष्क बैटरियां के लिए

दस्तावेज़ संख्या – पी एम/आई एस 8144/3/ अगस्त 2025

भारतीय मानक ब्यूरो की स्कीम-I (अनुरूपता मूलयाांकन) विनियम, 2018 के तहत यह उत्पाद मैन्युअल प्रमाणीकरण के प्रचालन में रीति और पारिर्शिता की सुसंगतता सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों और लाइसेंसी द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस प्रमाणीकरण लाइसेंस/ प्रमाणपत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज़ का उपयोग किया जा सकता है ।

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1.	**Product**	:	IS 8144:2025
	Title	:	Multipurpose Dry Batteries
	No. of Amendments	:	Nil
2.	**Sampling Guidelines:**		
a)	**Raw material**	:	—
b)	**Grouping guidelines**	:	Please refer Annex - A
c)	**Sample Size**	:	30 nos. of batteries
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**	:	Checking of Dimensions, Terminals and Markings
6.	**Scope of the Licence :**		
	"Licence is granted to use Standard Mark as per IS 8144:2025 with the following scope:		
	Name of the product		Multipurpose Dry Batteries
	Type		R03, R6, R14, R20, 6F22
	Category		Standard (S) / High Power (P)

ANNEX A

Grouping Guidelines

1. Multipurpose Dry Batteries as per IS 8144: 2025 are classified based on the following:

    i. Type: R03, R6, R14, R 20, 6F22
    ii. Category: Standard (S) and High Power (P)

2. For considering GoL / CSoL, Multipurpose Dry Batteries of each type and each category shall be tested to cover that particular variety.

3. The Firm shall declare the type and category of batteries 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 types and sizes 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.	Dimensions - Cl. 5	Go - No Go Gauges Vernier Caliper
2.	Initial Life Test – Cl. 9.4 Delayed Life Test – Cl. 9.5 Leakage Test – Cl. 9.6 Delayed Life Test Under Dry Heat Conditions (High Temperature) – Cl. 9.7	Megger Dimmer stat Wheatstone Bridge Ammeter Voltmeter Timer Conditioning Chamber Discharge Test Equipment Life Test Equipment

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 that is 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:

For the guidance of manufacturers, the recommended definition of control unit is: *Batteries manufactured in a day under similar conditions of production for same designation* shall constitute a control unit.

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

1.3.2 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

2.1 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.

2.2 For the guidance of manufacturers, Table 1 of this manual provides 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.

2.3 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.

2.3.1 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.

2.4 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.

2.4.1 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.

2.5 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. PACKING AND MARKING

3.1 The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on the batteries and its packing either by printing, indentation or embossing, provided always that the material so marked conforms to each requirement of the specification.

3.2 Packing and Marking shall be done as per Cl. 8 of IS 8144: 2025.

3.3 Additional Marking requirements: The following additional marking requirement shall be marked on each of the packaging of the batteries "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**		
Cl.	**Requirement**	**Test Methods**			**No. of Sample**	**Frequency**	**Remarks**
		Clause	**Reference**				
5	Dimensions	5	IS 8144	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	Terminals	6 4.1.3.2	IS 8144 IS 6306	R			
8	Marking	8	IS 8144	R			
9.4	Initial Life Test	9.4 5.3 & 6	IS 8144 IS 6303	S	Nine	Once in three months for each type and each category	
9.5	Delayed Life Test	9.4 & 9.5 5.3 & 6	IS 8144 IS 6303	S	Nine		
9.6	Leakage Test	9.6 5.7	IS 8144 IS 6303	S	Nine		
9.7	Delayed Life Test Under Dry Heat Conditions (High Temperature)	9.7 Table 4	IS 8144 IS 6303	S	Nine		