



उत्पाद मैनुअल
Textiles — Woven Roving Fabrics of
'E' and 'ECR' Glass Fibre —
Specification

IS 11273: 2023 के अनुसार

PRODUCT MANUAL
FOR Textiles — Woven Roving Fabrics of
'E' and 'ECR' Glass Fibre —
Specification
ACCORDING TO IS 11273: 2023

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 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.

1.	मानक संख्या IS No.	:	IS 11273: 2023
	शीर्षक Title	:	Textiles — Woven Roving Fabrics of 'E' and 'ECR' Glass Fibre —Specification
	संशोधनों की संख्या No. of amendments	:	0
2.	नमूना दिशानिर्देश Sampling Guidelines		

a)	कच्चा माल Raw material	:	Raw material shall conform to the requirement specified in clause 4.1 of IS 11273: 2023. Conformity of material to the requirement of the specification may be established through either of the following or a combination of the same (No testing is required if the material is ISI marked): Supplier test certificate/test report from BIS recognized lab/empanelled lab or any other lab having accreditation as per IS/ISO/IEC 17025 or in house testing/combination thereof. Note: This section indicates the requirements for raw material (if specified in the IS) for which compliance is to be established during Grant of Licence/Change in Scope of Licence/Factory Surveillance
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	<i>Please refer to Annex-A</i>
c)	नमूने का परिमाण Sample Quantity	:	<i>1 Roll</i> Note: This section indicates the quantity of the sample of the product and/or the raw material (if applicable), required to be sent to the laboratory for testing, for the purpose of Grant of Licence/Change in Scope of Licence/ Factory Surveillance (in case of market surveillance, effort may be made to procure the required quantity of product sample, as far as possible since raw material sample may not be available in market).
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer to Annex-B
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer to Annex-C
5.	एक दिन में संभावित परीक्षण Possible tests in a day		
	<i>All tests are possible to be carried out in a day except Cross breaking strength.</i> Note: This section is for the guidance of BIS Certification Officers/Technical Auditors of BIS Authorized Outside Surveillance Agencies (OSAs) during factory inspection to provide ready reference regarding the tests which can be witnessed during the inspection in the factory by the officer/auditor.		
6.	लाइसेंस का दायरा /Scope of the Licence:		
	"Licence is granted to use Standard Mark as per IS 11273: 2023 with the following scope:		
	Name of the product	Textiles — Woven Roving Fabrics of 'E' and 'ECR' Glass Fibre —Specification	
	Type of Glass	E/ECR	
	Type of Fabric.	A(200 gsm)/B(280 gsm)/C(360 gsm)/D(570 gsm)/E(610 gsm)/F(800 gsm)/G(860 gsm)/ Any other	

**BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9, BAHADUR SHAH ZAFAR
MARG, NEW DELHI-110002**

ANNEX-A

GROUPING GUIDELINES

1. Based on type of glass, there are 2 types defined in the ISS:

- a) Type 'E' Glass
- b) Type 'ECR' glass

2. Based on gsm, 7 types of fabric have been identified in Table 1 which have been reproduced below:

- a) Type A- 200 gsm
- b) Type B- 280 gsm
- c) Type C- 360 gsm
- d) Type D- 570 gsm
- e) Type E- 610 gsm
- f) Type F- 800 gsm
- g) Type G- 860 gsm

3. Considering the above, following grouping guidelines for GoL/ CSoL have been developed:

- a) Woven roving fabric of each glass type(E/ECR)to be tested separately to cover in the scope of licence.
- b) Sample of minimum and maximum gsm shall be tested to cover all gsm falling in the range (minimum - maximum) under the scope of licence.
- c) For any designation defined by the manufacturer apart from that mentioned in table 1, sample shall be tested separately.
- d) Scope of licence shall be restricted based on the manufacturing and testing facilities available.
- e) During operation of licence, samples of each variety covered in the scope of licence, shall be tested in rotation, to the extent possible

ANNEX – B

LIST OF TEST EQUIPMENTS

(INDICATIVE LIST, FOR GUIDANCE ONLY)

Sl. No.	Tests Used In With Clause Reference	Test Equipment/Chemical
1	Mass per unit Area, Cl 4.5 and Table 1, Sl. No. (i)	Cutting tool Specimen template 400 mm $\pm$ 1 mm $\times$ 250 mm $\pm$ 1 mm Weighing Balance (L.C. = 0.5g)
2	Yarn per 100mm, Cl 4.5 and Table 1, Sl. No. (ii)	Counting Glass or steel rule
3	Nominal linear density, Cl 4.5 and Table 1, Sl. No. (iii)	Cutting tool Weighing balance (L.C. = 0.005g)
4	Thickness, Cl 4.5 and Table 1, Sl. No. (iv)	Dead weight micrometer
5	Moisture content, Cl 4.5 and Table 1, Sl. No. (v)	Sample holder / Crucible Weighing Balance (L.C. = 0.005g) Desiccator Laboratory Oven (L.C. = 3°C)
6	Loss on Ignition, Cl 4.5 and Table 1, Sl. No. (vi)	Sample holder / Crucible Weighing Balance (L.C. = 0.005g) Desiccator Muffle furnace
7	Cross breaking strength Cl 4.6 and Table 2, Sl. No. (i)	PREPARATION OF TEST SPECIMENS OF GLASS REINFORCED POLYESTER RODS: Ventilated Oven capable of maintaining 105 °C $\pm$ 2 °C Resin conforming to IS 6746 Polished metal or glass plate Regenerated cellulose film or Polyethylene terephthalate film Tensile testing machine

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: woven roving fabric of same gsm manufactured under similar conditions of production using same raw material(E/ECR glass fibre rovings) in a day.

1.3.2

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

1.3.4 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/empanelled 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 - The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on each roll of woven roving fabric provided always that the material so marked conforms to each requirement of the specification.

3.1 Packing and Marking shall be done as per the Indian Standard.

3.2 **Additional Marking requirements:** The material shall also be marked with the following additional requirement on each roll of woven roving fabric:

a) “For BIS certification details please visit www.bis.gov.in”

4. 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
(ONLY FOR GUIDANCE PURPOSE)

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or)S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Methods Clause Reference			No. of Sample	Frequency	Remarks
4.5 and Table 1	Requirements for Woven Roving Fabric						
4.5 and Table 1, Sl. No. (i)	Mass per unit Area	Annex A	IS 11273	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.		
4.5 and Table 1, Sl. No. (ii)	Yarn per 100mm	Annex B		R			
4.5 and Table 1, Sl. No. (iii)	Nominal linear density	Annex C		R			
4.5 and Table 1, Sl. No. (iv)	Thickness	--	IS 17312	R			
4.5 and Table 1, Sl. No. (v)	Moisture content	Annex D	IS 11273	R	One	Each Control Unit	
4.5 and Table 1, Sl. No. (vi)	Loss on Ignition	Annex E					

4.6 and Table 2	Requirements for laminate					
4.6 and Table 2, Sl. No. (i)	Cross breaking strength	Annex F	IS 11273	S	One	Once in a month or whenever there is change in raw material, whichever is earlier.
4.7	Keeping Properties	--	IS 11273	--	One	Once in a year