



उत्पाद मैनुअल
मध्यम घनत्व के पूर्व-लैमिनेटेड फाइबर बोर्ड के लिए
आई एस 14587:2023 के अनुसार

PRODUCT MANUAL
PRELAMINATED MEDIUM DENSITY FIBRE BOARD
ACCORDING TO IS 14587 : 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 14587 : 2023
	शीर्षक Title	:	Prelaminated Medium Density Fibre Board
	संशोधनों की संख्या No. of amendments	:	Nil
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	Please refer to Annex-A 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	:	Please refer to Annex-B

c)	नमूने का परिमाण Sample Quantity	:	One Board for all tests 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 (incase of market surveillance, effort may be made to procure therequired 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-C
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer to Annex-D
5.	एक दिन में संभावित परीक्षण Possible tests in a day		
	(i) Finish (Clause 7), (ii) Dimension and tolerance (Clause 8) 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 readyreference 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 14587:2023 with the following scope:		
	Name of the product	Prelaminated Medium Density Fibre Board	
	Grade	Grade 1/ Grade 2	
	Formaldehyde Class	E ₁ / E ₂	
	Type	Type 1/ Type 2/ Type 3/ Type 4	
	Thickness (mm)		

भारतीय मानक ब्यूरो
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 New Delhi – 110002

ANNEX- A

Details of Raw Materials

Raw Material	Mode of Establishing Compliance
Medium Density Fibre (MDF) Board	Shall be ISI marked/ supplier test certificate/test report from BIS recognized lab/ empanelledlab or in house testing/combination thereof, as per IS 12406
Impregnated base paper	supplier test certificate/test report from BIS recognized lab/ empaneled lab or any other lab having accreditation as per IS/ISO/IEC 17025 or in house testing/combination thereof, as per Clause 5.2 of IS 14587:2023
Impregnated overlay	supplier test certificate/test report from BIS recognized lab/ empaneled lab or any other lab having accreditation as per IS/ISO/IEC 17025 or in house testing/combination thereof, as per Clause 5.3 of IS 14587:2023

ANNEX B

Grouping Guidelines

1.
 - (a) Prelaminated Medium Density Fibre Board shall be of two grades, namely Grade 1 and Grade 2 corresponding to IS 12406.
 - (b) Based on the surface abrasion characteristics, each grade shall be further classified in four types, i.e. Type 1, Type 2, Type 3 & Type 4.
 - (c) Each Grade is further sub-classified based on formaldehyde emission value as Formaldehyde Class *E1* and Formaldehyde Class *E2*.
 - (d) Based on Thickness of board
2. Considering the above, the following grouping guidelines for GoL/ CSoL shall be followed:
 - a) One sample of each Type, Formaldehyde Class, for each Grade of board shall be tested for all requirements in order to cover that particular Type, Formaldehyde Class and Grade of board.
 - b) One sample of the Lowest and Highest Thickness of any of the above variety, shall be tested in order to cover all Thicknesses in that range.
3. The Firm shall declare the varieties of Boards 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, BOs shall ensure that all the varieties covered in the Licence are tested in rotation, to the extent possible.

ANNEX C

List of Test Equipment

(INDICATIVE LIST, FOR GUIDANCE ONLY)

S. No.	Tests used in with Clause Reference	Test Equipment
1.	Finish (Clause 7) and Dimensions and tolerance (Clause 8)	- Stainless Steel Scale - Measuring Tape - Vernier Caliper - Micrometer - Right Angle - Straightness gauge
2.	Density (Table 3 & 4)	- Hot air oven - Weighing balance
3.	Moisture content (Table 3 & 4)	- Hot air oven - Weighing balance
4.	Test for linear expansion (Swelling in water)- Due to general absorption (Table 3 & 4)	- Water bath - Soluble sealant material such as wax - Arrangement for measurement of change in length
5.	Modulus of Rupture and Modulus of Elasticity (Table 3 & 4)	- Tensile testing machine with bend facility and with attachment for static bending test and with variable speed - Extensometer/Dial gauge
6.	Internal bond (Table 3 & 4)	- Loading fixture for tension test perpendicular to surface
7.	Internal bond (Table 3 & 4) a) Cyclic test	- Loading fixture for tension test perpendicular to surface - Hot air oven - Water bath
	b) Accelerated water resistance test	- Loading fixture for tension test perpendicular to surface - Water bath - Paper Towel - Drying Oven
8.	Screw withdrawal test (Table 3 & 4)	- Screws - Tensile testing machine
9.	Formaldehyde content/Emission Fc (Table 3 & 4)	- Precision balance Hot air oven Extraction apparatus - Volumetric flask Precision burette Pipette - Measuring cylinder
10.		- Toulene - Sulphuric acid - Sodium thiosulfate - Sodium hydroxide - Starch solution

		- Test chamber as per clause 6.1 of IS/ISO 12460-1 - Equipments for monitoring test conditions - Air sampling system Washing bottles Silica absorber - Gas flow valve Gas flow meter Spectrophotometer - Water bath Volumetric flask Bulb pipette Micro burette Flasks - Weighing balance Acetyl-acetone solution - Ammonium acetate solution Iodine solution - Sodium thiosulphate solution Sodium hydroxide solution Sulphuric acid - Starch solution
11.	Adhesive test	- Hot water bath Hot air oven - Knife as per IS 1734 (Part 5) pH meter
12.	General test equipments	- Stop watch Thermometer - Air conditioner - Drill machine - Sample cutter - Humidity chamber - Weighing balance
13.	Abrasion resistance (Table 3 & 4)	- Abrasion testing machine - Conditioning chamber (27 ± 2 °C and 65 ± 5 RH) Calibration plates of rolled zinc sheet - Abrasive paper strips - Double sided adhesive tape
14.	Resistance to steam/ water vapours (Table 3 & 4)	- Electric hot palte - Glass conical flaskHolding clamp
15.	Resistance to Crack (Table 3 & 4)	- Oven
16.	Resistance to a cigarette burn (Table 3 & 4)	- Cigarette, lighter/matches - Stop watch - Water or suitable solvent of LR grade
17.	Resistance to Stain (Table 3 & 4)	- Watch Glass - Coffee - Acetic acid - Water, suitable wetting agent - Denaturated spirit - White fluorescent light with luxmeter - Protractor

ANNEX D

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 : Prelaminated Medium Density Fibre Boards of the same Type, Grade, Formaldehyde Class, Thickness, manufactured with the same batch of adhesive compound in one day subject to a maximum 1000 boards 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/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 legibly and indelibly marked on each board provided always that the material so marked conforms to each requirement of the specification.

3.1 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 <insert the place where marking can be done>:

- a) “For BIS certification details please visit www.bis.gov.in”
- b) *Any other requirement not specified in the Indian Standard*

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	Recommended Levels of Control		
Clause	Requirement	Test Methods			No. of Sample	Frequency	Remarks
		Clause	Reference				
5.1	Medium density fibre board	5.1	IS 14587	S	One	Each consignment	No further testing is required if accompanied with test certificate or ISI Marked.
5.2	Impregnated base paper	5.2	IS 14587	S	One	Each consignment	No further testing is required, if received with test certificate.
5.3	Impregnated overlay	5.3	IS 14587	S	One	Each consignment	
7	Finish	7	IS 14587	R	Each board	-	-
8	Dimensions and Tolerances	8	IS 14587 IS 2380 (Part 2)	R	Three	Every hour production	In case of failure in dimensions, all Boards manufactured during the hour shall be checked and only those conforming shall be marked.
9	Density and variation from mean density	9, Table 3(i & ii) & 4 (i & ii)	IS 14587 IS 2380 (Part 3)	R	Two	Each control unit	
9	Moisture content and Variation from mean moisture content	9, Table 3(iii & iv) & 4 (iii & iv)	IS 14587 IS 2380 (Part 3)	R	Two	Each control unit	
9	Linear expansion Due to general absorption after 24 h soaking	9, Table 3 (v) & 4 (v)	IS 14587 IS 2380 (Part 17)	R	Two	Each control unit	
9	Modulus of Rupture and Modulus of Elasticity	9, Table 3 (viii & ix) & 4 (viii & ix)	IS 14587 IS 2380 (Part 4)	R	Two	Each control unit	

9	Internal bond strength	9, Table 3 (vi) & 4 (vi)	IS 14587 IS 2380(Part 5)	R	Two	Each control unit	
9	Internal bond strength - a) After cyclic test	9, Table 3 (vii) & 4 (vii)	IS 14587 IS 2380(Part 5)	S	Two	Once in three months for each type, grade and sub-classification.	
	b) After accelerated water resistance test			R	Two	Every alternate control unit	
9	Screw withdrawal test a) Face b) Edge	9, Table 3 (x) & 4 (x)	IS 14587 IS 2380(Part 14)	R	Two	Each control unit	
9	Formaldehyde content, <i>F_c</i> , mg/100 gm for oven dry board	9, Table 3 (xi) & 4 (xi)	IS 14587 IS 13745	R	Two	Each control unit	
9	Steady-state Formaldehyde emission, <i>F_c</i> , mg/m ³ (optional test)	9, Table 3 (xii) & 4 (xii)	IS 14587 IS/ISO 12460-1	S	-	-	-
9	Abrasion Resistance	9, Table 3 (xiii) & 4 (xiii) Annex C	IS 14587	R	Two	Each control unit	
9	Resistance to steam/ water vapours	9, Table 3 (xiv) & 4 (xiv) Annex D	IS 14587		Two	Each control unit	
9	Resistance to crack	9, Table 3 (xv) & 4 (xv) Annex E	IS 14587		Two	Each control unit	
9	Resistance to cigarette burns	9, Table 3 (xvi) & 4 (xvi) Annex F	IS 14587		Two	Each control unit	
9	Resistance to stain	9, Table 3 (xvii) & 4 (xvii) Annex G	IS 14587		Two	Each control unit	