



उत्पाद मैनुअल
सामान्य प्रियजनों के लिए मध्यम घनत्व की लकड़ी और अन्य लिग्नोसेलुलोजिक
सामग्री के रेशा बोर्ड के लिए
आई एस 12406:2025 के अनुसार

PRODUCT MANUAL
MEDIUM DENSITY FIBRE BOARDS OF WOOD AND OTHER LIGNOCELLULOSIC
MATERIALS FOR GENERAL PURPOSE
ACCORDING TO IS 12406:2025

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 12406 : 2025
	शीर्षक Title	:	Medium Density Fibre Boards of Wood and other Lignocellulosic Materials for General Purpose
	संशोधनों की संख्या No. of amendments	:	Nil
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	Nil 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-A

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)
d)	परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर Parameters to be Declared in Test Request	-	Same as the scope of licence
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) Manufacture (Cl 6), (ii) Finish (Cl 7), (iii) Dimension and tolerance (Cl 8), (v) Screw withdrawal strength (face and edge) (Cl 9.1) 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 12406:2025 with the following scope:		
	Name of the product	Medium Density Fibre Boards of Wood and other Lignocellulosic Materials for General Purpose	
	Grade	- Regular (REG) Grade - Moisture Resistance (MR) Grade - High Moisture Resistance (HMR) Grade – General Purpose (GP) Grade - High Moisture Resistance (HMR) Grade – Furniture Purpose (FN) Grade	
	Formaldehyde Class	E ₁ / E ₂	
	Thickness (mm)	From __ to __	
	Steady-State Formaldehyde Emission test (optional test)	With/ without	

ANNEX A

Grouping Guidelines

1. Medium Density Fibre Boards of Wood and other Lignocellulosic Materials for General Purpose as per IS 12406:2025 is classified as below:

Grade	• Regular (REG) Grade • Moisture Resistance (MR) Grade • High Moisture Resistance (HMR) Grade – General Purpose (GP) Grade • High Moisture Resistance (HMR) Grade – Furniture Purpose (FN) Grade
Formaldehyde Class	E1/E2
Thickness (mm)	2.5,4,6,9,12,15,18,22,25,30,35,40,45 Any other thickness as agreed to between the manufacturer and the purchaser may also be used.
Steady-State Formaldehyde Emission test (optional test) (Table 8)	With/ without

2. Considering the above, the following grouping guidelines for GoL/ CSoL shall be followed:

- a) Board of each Grade shall be tested to cover that particular Grade in the scope of licence. While drawing samples, it shall be ensured that :
 - (i) All Formaldehyde Classes, which firm intends to cover in the scope of licence, are tested.
 - (ii) Lowest and Highest Thickness from the range as declared by the manufacturer are tested in order to cover the entire range of thicknesses.
- b) One sample of board shall be tested for the optional test, i.e. Steady-State Formaldehyde Emission test (Table 8) to cover the same in the scope of licence.

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 B

List of Test Equipment

(INDICATIVE LIST, FOR GUIDANCE ONLY)

S. No.	Tests used in with Clause Reference	Test Equipment
1.	Finish (Clause 7), Dimensions and tolerance (Clause 8)	- Stainless Steel Scale Measuring Tape Vernier Caliper Micrometer - Right Angle Straightness gauge
2.	Density (Table 3)	- Hot air oven Weighing balance
3.	Moisture content (Table 3)	- Hot air oven Weighing balance
4.	24 h thickness swelling (due to general absorption) (Table 5 to 7)	- Water bath - Test jig with dial gauge (fig 1 of IS 2380 (Part 17)) - Soluble sealant material such as wax
5.	Modulus of Rupture and Modulus of Elasticity (Table 4 to 7)	- Tensile testing machine with bend facility and with attachment for static bending test and with variable speed - Extensometer/Dial gauge
6.	Internal bond (Table 4 to 7)	- Loading fixture for tension test perpendicular to surface
7.	Internal bond (Table 5 to 7) a) Cyclic test	- Loading fixture for tension test perpendicular to surface Hot air oven - Water bath
	b) Boil test	- Loading fixture for tension test perpendicular to surface Water bath - Paper Towel - Drying Oven
8.	Screw withdrawal test (Table 4 to 7)	- Screws - Tensile testing machine
9.	Formaldehyde content Fc (Table 8)	- Precision balance Hot air oven Extraction apparatus Volumetric flask Precision burette Pipette - Measuring cylinder - Toulene Sulphuric acid - Sodium thiosulfate Sodium hydroxide

		- Starch solution
	Formaldehyde Emission Fc (Table 8)	- 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
10.	General test equipments	- Stop watch - Thermometer - Air conditioner - Drill machine and Sample cutter - Humidity chamber - Weighing balance

ANNEX C

SCHEME OF INSPECTION AND TESTING

1. QUALITY ASSURANCE PLAN

1.1 It is expected that during operation of BIS licence, manufacturers will implement a Quality Assurance Plan (QAP) 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 (QAP) defining the control unit (i.e. lot/batch etc.), the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and declare the arrangement for testing i.e. whether in-house or subcontracting/sharing for each applicable test and submit the same to BIS Branch Office for information. The manufacturer shall comply with the QAP and maintain test records in accordance with para 2.1.

1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is : All MDF boards of same grade, formaldehyde class and dimensions manufactured 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**. Manufacturer has the discretion of declaring their own levels of control or accept the levels of control given in this document.

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.

2. ENSURING COMPLIANCE THROUGH TESTING- manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard for which they may have in-house test facilities. However, there is no obligation to maintain in-house laboratory. Licensee may use alternative arrangements for tests of the production as per the declared QAP. Various alternatives are available for operation of BIS certification as given below and the relevant guidelines for availing such relaxations by the manufacturers, as amended from time to time, are to be referred :

- i) Shared testing resources like common facility,
- ii) Cluster based testing facility,
- iii) Sub-contracting to outside laboratories which may either be:
 - a) BIS recognised/empanelled laboratories, or
 - b) Any accredited laboratory as per ISO/IEC 17025

2.1 TEST RECORDS- The manufacturers shall maintain test records for the tests carried out (either in-house or at a sub-contracted or at shared test facility) to establish conformity of the product to the Standard for operation of licence. For the tests being subcontracted or conducted at a shared test facility, test results issued by the laboratories or test facilities, shall be made 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 MDF board provided always that the material so marked conforms to each requirement of the specification.

3.1 Marking shall be done as per Clause No 11 of IS 12406:2025.

3.2 **Additional Marking requirements:** Additionally, the following shall also be marked on product or package :

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

4. REJECTION - 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

(Recommended Levels of Control by BIS- for Guidance Only)

(1)				(2)		
Test Details				Recommended Levels of Control		
Clause	Requirement	Test Methods Clause Reference		No. of Sample	Frequency	Remarks
6	Manufacture	6	IS 12406	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.		
7	Finish	7	IS 12406			
8	Dimensions and Tolerances	8.1 to 8.4	IS 12406 IS 2380 (Part 2)			
9.1	Density and variation from mean density	Table 3	IS 12406 IS 2380 (Part 3)	One	Each Control Unit	-
	Moisture Content	Table 3	IS 12406 IS 2380 (Part 3)	One	Each Control Unit	-
	Modulus of Rupture (MoR)	Table 4 to 7	IS 12406 IS 2380 (Part 4)	One	Each Control Unit	-
	Modulus of Elasticity (MoE)	Table 4 to 7	IS 12406 IS 2380 (Part 4)	One	Each Control Unit	-
	Internal Bond Strength	Table 4 to 7	IS 12406 IS 2380 (Part 5)	One	Each Control Unit	-
	Screw Withdrawal Strength	Table 4 to 7	IS 12406 IS 2380 (Part 14)	One	Each Control Unit	-
	24 h thickness swelling (due to general absorption)	Table 5 to 7	IS 12406 IS 2380 (Part 17)	One	Each Control Unit	-
	Moisture Resistance : Option 1 : Cycle test (Internal bond strength), Or, Option 2 : Boil test (Internal bond strength) (Applicable for the MDF boards of	Table 5 to 7	IS 12406 IS 2380 (Part 5)	One	Once in a month	One sample of both MR and HMR grades produced during the period shall be tested

	<i>MR and HMR grades only)</i>					
9.1	Formaldehyde content/ Emission F_c	Table 8	IS 12406 IS 13745	One	Once in a month	Each Formaldehyde Class produced during the period shall be tested.
	Steady-state formaldehyde emission, F_c , mg/m ³ (optional test)	Table 8	IS 12406 IS/ISO 12460-1	One	Once in a year	