



PRODUCT MANUAL FOR FIBRE HARDBOARDS ACCORDING TO IS 1658: 2006

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.

1.	Product	:	IS 1658: 2006
	Title	:	FIBRE HARDBOARDS
	No. of Amendments	:	NIL
2.	Sampling Guidelines:		
	Raw material	:	NA
	Grouping guidelines	:	Please refer ANNEX – A
	Sample Size	:	Hardboard - 1 full sheet for all tests.
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:		
	i) Workability and Finish (Clause 6) ii) Dimensions and Tolerances (Clause 7.1)		
6.	Scope of the Licence:		
	“Licence is granted to use Standard Mark as per IS 1658:2006 with the following scope:		
	Name of the product	FIBRE HARDBOARDS	
	Type	Medium / Standard / Tempered	
	Size	Length and Width - --- m x ---- m Thickness upto and including --- mm	
	Any other aspect required as per the Standard	ECO MARK (if applicable)	

ANNEX A**Grouping Guidelines**

1. Fibre Hardboards as per IS 1658:2006 is classified as below:

Classification	Dimensions		
	Length (m)	Width (m)	Thickness (mm)
Medium Hardboard	1.2, 1.83, 2.44,	1.22	6, 8, 10, 12
Standard Hardboard	3.00, 3.66, 4.26,		2.5, 3, 4, 5, 6, 7
Tempered Hardboard	4.85, 5.00		2.5, 3, 4, 5, 6

Any other dimensions (length, width and thickness) as agreed to between the manufacturer and the purchaser are also permitted in addition to the Standard dimensions.

2. For manufacturing fibre hardboard of higher thickness, manufacturing capacity and infrastructure required is more critical than hardboard with less thickness.

3. Considering the above following grouping guidelines is developed for GoL/CSoL:

- One sample of hardboard from each classification and of any size (length and width) with highest thickness shall be tested for all requirements to cover all fibre hardboard of that classification for thickness upto and including the thickness of sample tested.

4. The Firm shall declare the varieties of fibre hardboard they intend to cover in the Licence. The Scope of Licence may be restricted based on the Manufacturing and Testing capabilities of the Manufacturer.

5. 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	Measurement of Length, Width and Thickness (Clause 7.1)	Measuring tape
		Steel scale
		Micrometer or Similar Measuring Instrument having flat and parallel circular measurement surfaces of 16 ± 1 mm diameter and an operating force of 4 ± 1 N
2	Measurement of Edge Straightness and Squareness (Clause 7.2)	Straight edge (covering full length of board)
		Mechanical Square having arms 1000 ± 1 mm
3	Density (Clause 7.3)	Vernier Caliper/ Steel Scale)
		Micrometer
		Weighing Balance
4	Moisture Content (Clause 7.4)	Weighing Balance
		Hot air oven
5	Water Absorption (Clause 7.5)	Weighing Balance
		Temperature Controlled Water Bath to maintain temperature of 27 ± 2 °C
		Steel Scale
		Damp Cloth
6	Swelling in Thickness after immersion in water (Clause 7.6)	Micrometer
		Temperature Controlled Water Bath to maintain temperature of 27 ± 2 °C
		Steel Scale
		Clean Fresh Water of pH 7 ± 1
		Damp Cloth and Glass Sheet
7	Tensile Strength Perpendicular to the Plane of the Board (Internal Bond Strength). (Clause 10.4.5)	Vernier Caliper/ Steel Scale
		Tensile Testing Machine with Self-Aligning Fixtures.
		Suitable Adhesive for bonding test specimens to loading blocks
8	Modulus of Elasticity and Modulus of Rupture (Clause 10.4.6)	Vernier Caliper/ Steel Scale
		Micrometer
		Tensile Testing Machine with Self-Aligning Fixtures
		Horizontal Parallel Roller Supports with roller diameter 15 ± 0.5 mm

		Stop Watch
		Dial Gauge
9	Test Specimen Preparation	Sample cutting machine
		Conditioning temperature to maintain temperature of 27 ± 2 °C and humidity 65 ± 5 %

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

ANNEX C

Scheme of Inspection and Testing

1. LABORATORY - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

1.1 The manufacturer shall prepare a calibration plan for the test equipment.

2. TEST RECORDS – The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. LABELLING AND MARKING – As per the requirement of IS 1658: 2006.

4. CONTROL UNIT – All Fibre Hardboards of the same type and thickness manufactured continuously under similar conditions of manufacturing in a day shall constitute a control unit.

5. LEVELS OF CONTROL - The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

6. REJECTIONS – 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 Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
6	Workability and Finish	6	IS 1658	R	Each Finished Board	Only those boards which are satisfactory in all respects shall be marked.	
7.1	Length, Width and Thickness	Table 1, Annex A	IS 1658	R	Two	Each Control Unit In case of failure, each board shall be checked & those conforming shall be marked.	
7.2	Squareness and Edge Straightness	Table 1, Annex B	IS 1658	R	Two	Each Control Unit	
10.4.1	Density	Table 2, Annex C	IS 1658	R	One	Each Control Unit	
10.4.2	Moisture Content	Table 2, Annex D	IS 1658	R	One	Each Control Unit	
10.4.3	Water absorption	Table 2, Annex E	IS 1658	R	One	Each Control Unit	
10.4.4	Swelling in thickness after immersion in water	Table 2, Annex F	IS 1658	R	One	Each Control Unit	
10.4.5	Tensile Strength Perpendicular to the plane of board	Table 2, Annex G	IS 1658	R	One	Each Control Unit	
10.4.6	Modulus of Elasticity and Modulus of rupture	Table 2, Annex H	IS 1658	R	One	Each Control Unit	

Note-1: Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note-2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval by BO Head.