



PRODUCT MANUAL FOR PRELAMINATED CEMENT BONDED PARTICLE BOARDS ACCORDING TO IS 15786 : 2008

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 15786 : 2008
	Title	:	PRELAMINATED CEMENT BONDED PARTICLE BOARD
	No. of Amendments	:	NIL
2.	Sampling Guidelines		
a)	Raw material	:	a) Cement Bonded Particle Board – IS 14276 b) Impregnated Base Paper – Clause 5.2 of IS 15786 c) Impregnated overlay/underlay – Clause 5.3 of IS 15786 d) Finished foil – Clause 5.4 of IS 15786
b)	Grouping guidelines	:	Please refer ANNEX – A
c)	Sample Size	:	Prelaminated cement bonded particle boards - 2 Nos
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	:	
			a) Finish (Clause 7) b) Dimensions and Tolerances (Clause 8) c) Screw withdrawal test (Clause 10.9) d) Resistance to steam (Clause 10.11) e) Resistance to cigarette burn (Clause 10.13)
6.	Scope of the Licence	:	Please refer ANNEX – D

ANNEX A**Grouping Guidelines**

1. Prelaminated Cement Bonded Particle Boards as per IS 15786 : 2008 are classified as given below:

a) Based on surface abrasion characteristics:

Sl No	Type	Designation
1	I	PLCPB – 11
2	II	PLCPB – 12
3	III	PLCPB – 13

b) Dimensions :

(i) Length – 3050 mm and 2440 mm

(ii) Width – 1220 mm

(iii) Thickness – 6 mm, 8 mm, 10 mm, 12 mm, 16 mm, 20 mm, 25 mm, 30 mm, and 40 mm

(Any other dimension i.e. length, width and thickness as agreed to between the manufacturer and the purchaser is permitted)

c) Sanded boards/Unsanded Board

2. For considering GoL/CSoL the guidelines given below shall be followed:

One sample having the highest surface abrasion resistance and highest thickness shall be tested for all requirements in order to cover all the sizes (Length and Width) and thickness of prelaminated cement bonded particle boards upto and including the thickness tested.

3. The Firm shall declare the varieties of Prelaminated Cement Bonded Particle 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 license, BO shall ensure that all the varieties covered in the license 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*

S. No.	Tests used in with Clause Reference	Test Equipment
1.	Dimensions and tolerance (Clause 8)	Stainless Steel Scale Measuring Tape Vernier Caliper Micrometer Right Angle Straightness gauge
2.	Density (Clause 10.2)	Hot air oven Weighing balance
3.	Moisture content (Clause 10.3)	Hot air oven Weighing balance
4.	Water absorption (Clause 10.4)	Water bath Soluble sealant material such as wax
5.	Swelling in water (Clause 10.5)	Water bath Soluble sealant material such as wax Arrangement for measurement of change in length
6	Modulus of Rupture and Modulus of Elasticity (Clause 10.6)	Tensile testing machine with bend facility and with attachment for static bending test and with variable speed Extensometer/Dial gauge
7	Tensile strength perpendicular to surface (Clause 10.7)	Loading fixture for tension test perpendicular to surface
8	Tensile strength perpendicular to surface - Accelerated water resistance test (Clause 10.8)	Loading fixture for tension test perpendicular to surface Water bath
9	Screw withdrawal test (Clause 10.9)	Screws Tensile testing machine
10	Abrasion resistance (Clause 10.10)	Abrasion testing machine as per B-3.1 of IS 15786 Conditioning chamber to maintain temperature 27 ± 2 °C and humidity 65 ± 5 % R _H Calibration plates of rolled zinc sheet Abrasive paper strips Double sided adhesive tape
11	Resistance to steam (Clause 10.11)	Electric hot plate Glass conical flask Holding clamp
12	Crack resistance (Clause 10.12)	Oven

13	Resistance to cigarette burn (Clause 10.13)	Cigarette Stop watch
14	Resistance to Stain (Clause 10.14)	Staining material – Coffee / acetic acid Glass covers Fluorescent light
15	General test equipments	Stop watch Thermometer Air conditioner Drill machine Sample cutter Humidity chamber Weighing balance

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 equipments.

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

3. LABELLING AND MARKING – As per the requirements of IS 15786: 2008

4. CONTROL UNIT – All prelaminated cement bonded particle boards of the same thickness manufactured in a week under similar conditions using same type of lamination, subject to a maximum of 500 Boards 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.

5.1 All the production which conforms to the Indian Standards and covered by the licence should be marked with Standard Mark.

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	Recommended Levels of Control		
Clause	Requirement	Test Methods Clause Reference			No. of Sample	Frequency	Remarks
5.1	Cement Bonded Particle board	5.1	IS 15786 IS 14276	S	Two	Each Lot	No further testing is required if accompanied with test certificate or ISI Marked.
5.2	Impregnated base paper	5.2	IS 15786	S	One	Each roll	No further testing is required, if received with test certificate.
5.3	Impregnated overlay	5.3	IS 15786	S	One	Each roll	
5.4	Finished foil	5.4	IS 15786	S	One	Each roll	
7	Finish	7	IS 15786	-	Each board	-	-
8	Dimensions and Tolerances	8	IS 15786 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.

9.2 (a), 10.2 and Table 1	Density	10.2	IS 15786 IS 2380 (Part 3)	R	Two	Each control unit	##
9.2 (b), 10.3	Moisture content	10.3	IS 15786 IS 2380 (Part 3)	R	Two	Each control unit	
9.2 (c), 10.4 and Table 1	Water absorption a) 2 h and b) 24 h	10.4	IS 15786 IS 2380 (Part 16)	R	Two	Each control unit	
9.2 (d), 10.5 and Table 1	Swelling in water	10.5	IS 15786 IS 2380 (Part 17)	R	Two	Each control unit	
9.2 (e), 10.6 and Table 1	Modulus of rupture (MOR) and Modulus of elasticity (MOE)	10.6	IS 15786 IS 2380 (Part 4)	R	Two	Each control unit	##
9.2(f), 10.7, Table 1	Tensile strength perpendicular to surface	10.7	IS 15786 IS 2380(Part 5)	R	Two	Each control unit	##
9.2(g), 10.8, Table 1	Tensile strength perpendicular to surface after accelerated aging	10.8	IS 15786 IS 2380(Part 5)	R	Two	Each control unit	##
9.2(h), 10.9, Table 1	Screw withdrawal strength	10.9	IS 15786 IS 2380(Part 14)	R	Two	Each control unit	##
9.2(j), 10.10, Table 1	Resistance to abrasion	Annex B	IS 15786	R	Two	Each control unit	##
9.2(k) and 10.11	Resistance to steam	Annex C	IS 15786	R	Two	Each control unit	##
9.2(m) and 10.12	Resistance to crack	Annex D	IS 15786	R	Two	Each control unit	##

9.2(n) and 10.13	Resistance to cigarette burns	Annex E	IS 15786	R	Two	Each control unit	##
9.2(p) and 10.14	Resistance to stain	Annex F	IS 15786	R	Two	Each control unit	##

If both the samples fail, the control unit shall be rejected and shall not be marked. If one sample fails, then two additional samples shall be taken from the same control unit for retesting. If any retested sample fails, the control unit shall be rejected and shall not be marked.

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.

ANNEX-D
SCOPE OF THE LICENCE

“Licence is granted to use Standard Mark as per IS 15786 : 2008 with the following scope:	
Name of the product	PRELAMINATED CEMENT BONDED PARTICLE BOARD
Type /Designation	- Type I /PLCPB – 11 - Type II /PLCPB – 12 - Type III /PLCPB – 13
Size and Thickness	Length x Width Thickness