



उत्पाद मैनुअल

ब्लोकबोर्ड,

आईएस १६५९: २००४ के अनुसार

**PRODUCT MANUAL
BLOCK BOARDS
ACCORDING TO IS 1659: 2004**

यह उत्पाद नियमावली सभी क्षेत्रीय/शाखा कार्यालयों और लाइसेंसधारियों द्वारा विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम, 2018 की योजना-I के अंतर्गत प्रमाणन के संचालन में एकरूपता और पारदर्शिता सुनिश्चित करने के लिए संदर्भ सामग्री के रूप में उपयोग की जाएगी। बीआईएस प्रमाणन प्राप्त करने के इच्छुक भावी आवेदक भी इस दस्तावेज़ का उपयोग कर सकते हैं।

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 1659 : 2004
	शीर्षक / Title	:	Block Boards
	संशोधनों की संख्या No. of amendments	:	3
2.	नमूनाकरण दिशानिर्देश / Sampling Guidelines		
a)	कच्चा माल Raw material	:	Adhesive – IS 848 <i>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.</i>
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Please refer ANNEX – A
c)	नमूने का परिमाण Sample Quantity	:	One Block Board <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 (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)</i>
d)	परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर Parameters to be Declared in Test Request		Same as the scope of licence. <i>Note: Apart from the above, any other</i>

			requirements/ parameters may also be declared as per the standard, as applicable.
3.	परीक्षण उपकरण की सूची List of Test Equipment	:	Please refer ANNEX – B
4.	निरीक्षण एवं परीक्षण योजना Scheme of Inspection and Testing	:	Please refer ANNEX – C
5.	एक दिन में संभावित परीक्षण Possible tests in a day	:	i. Dimensions and tolerance ii. Defects iii. Adhesion of plies iv. Spot test v. Modulus of Rupture and Modulus of Elasticity. <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.</i>
6.	लाइसेंस का दायरा / Scope of the Licence:		
“License is granted to use Standard Mark as per IS 1659: 2004 with the following scope:			
Name of the product		Block Boards	
Grade		MR/ BWR/ BWP	
Type		Decorative type / Commercial type	
Bending Class		25, 40, 50	
Thickness (mm)		From _____ up to and including _____	
Formaldehyde Class		E1/ E2	
Steady-State Formaldehyde Emission test (optional test) (Cl 11.7)		With/ without	

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ANNEX -A **Grouping Guidelines**

1. Block Boards as per IS 1659 : 2004 is classified as below:

Grade	MR, BWR and BWP
Types	Decorative type / Commercial type
Bending Class	25, 40, 50
Thickness (mm)	12, 15, 19, 25, 30, 35, 40, 45 or 50 mm. Any other thickness as agreed to between the manufacturer and the purchaser. Firm is required to declare the range of thicknesses of plywood for which it intends to cover in the scope of licence.
Formaldehyde Class	E1 / E2
Steady-State Formaldehyde Emission test (optional test) (Cl 11.7)	with/ without

2. Considering the above, the following grouping guidelines for GoL/ CSoL shall be followed:
- Block Board of each Bending Class shall be tested to cover that particular Bending Class in the scope of licence. While drawing samples, it shall be ensured that all the types (Decorative/ Commercial), grades and formaldehyde classes for which firm intends to cover in the scope of licence, gets tested.
 - Block Board of any thickness shall be tested to cover the entire range of thicknesses for which manufacturer has the infrastructure for manufacturing and testing.
 - One sample of Block board shall be tested for the optional test, i.e. Steady-State Formaldehyde Emission test (Cl 11.7) to cover the same in the scope of licence.
3. The Firm shall declare the varieties of Block Board 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, 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 Equipments
(Indicative List, For Guidance Only)

Sl. No.	Tests used in with Clause Reference	Test Equipment
1.	Dimensions and Tolerance (Clause 7)	a) Measuring Tape b) Steel Scale c) Micro Meter d) Vernier Caliper e) Squareness Gauge f) Straight Edge
2.	Dimensional changes caused by humidity (Clause 9.2.1)	a) Humidity and Temperature control cabinets with indicator/measuring equipment b) Steel scale/Tape
3.	Resistance to water (Clause 9.2.2)	a) Water bath b) Temperature controlled oven c) Knife d) Stout Table
4.	Adhesion of plies (Clause 9.2.3)	a) Knife b) Stout Table
5.	Mycological Test (Clause 9.2.4)	a) Flat rectangular dish (enamelled iron/glass/ porcelain) with cover b) Saw dust c) Sucrose d) Spore of fungi e) Temperature controlled oven
6.	Modulus of rupture and modulus of elasticity (Clause 9.2.5)	a) Tensile Testing Machine with load display, b) Sample cutter c) Attachment for MOR and MOE tests in tensile machine
7.	Spot test (Clause 9.2.6)	Chemicals for detection of copper, chromium, Arsenic, Borax : Chrome Azurol-S, Sodium acetate, Diphenyl carbazide, Isopropyl alcohol, Distilled water. Ammonium molybdate/ Benzidine hydrochloride, Acetic acid/Stannous chloride Turmeric powder, Ethyl alcohol/ HCL, Salicylic acid.
8.	Formaldehyde content test (perforator method) (Clause 10.12)	Toluene, Iodine standard solution, Sulphuric acid, Sodium thiosulphate Sodium hydroxide Starch Acetylacetone Ammonium Acetate Weighing balance

		Drying oven Extraction Apparatus as per fig.1 of IS 13745
9.	Adhesive testing (Clause 5.2)	a) pH Meter b) IS Sieve
10.	General laboratory equipment	Humidity Chamber with thermometer & hygrometer Desiccator Air Conditioner Dry-Wet Thermometer Electric Hot Plate Chemicals and glassware Viscosity Cup

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

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 sub-contracting/ 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 Block boards of similar construction, grade and type pressed under similar conditions continuously with same mix of adhesive in one press 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.

1.4 However, all manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard.

2. ENSURING COMPLIANCE THROUGH TESTING

The 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 Block Board provided always that the material so marked conforms to all requirements of the specification.

3.1 Marking on each Block Board shall be done as per Cl. 11 of IS 303: 2024

3.2 **Additional Marking requirements:** Each block board shall also be marked with the following additional requirement on each packing:

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)				(3)		
Test Details				Levels of Control		
Cl.	Requirement	Test Methods		No. of Sample	Frequency	Remarks
		Clause	Reference			
5.1	Timber	5.1.1	IS 1659	One	Each lot received	Record of each lot of timber received shall be maintained
5.1	Face veneers for decorative type of block boards	5.1.2	IS 1659	One	Each lot received	
5.2	Adhesives	5.2	IS 1659	One	Each lot	No testing is required, if accompanied with test certificate or ISI marked.
6.1	Preservative treatment	6.1	IS 1659	All	-	-
6.2	Core	6.2	IS 1659	All	-	-
6.3	Cross band and faces	6.3	IS 1659	All	-	-
7	Dimensions & Tolerances	7.1 to 7.3 8.1.4, 8.1.5 Annex-D, Annex-E	IS 1659	5	For each size from each control unit	Samples shall be drawn at regular interval to cover entire production. In case of failure of any sample, entire production shall be checked and only conforming product shall be marked.
8.1.3	Defects	8.1.3	IS 1659	All	-	-
9.2.1	Dimensional changes caused by humidity	9.2.1 Annex F		One	Once in a week from each grade and type	In case of failure of sample, twice the number of samples from next two control units shall be tested and control units shall be accepted on passing of retested samples. Original frequency for testing may be resumed on passing of both control units.
9.2.2	Resistance to water	9.2.2 Annex- G		One	Each control unit	In case of failure of sample, twice the number of samples from same control unit shall
9.2.3	Adhesion of plies	9.2.3		One	Each control unit	

		Annex- H				be tested and control unit shall be accepted if retested sample passes the test.
9.2.4	Mycological test	9.2.4 Annex- J		One sample in a month from each type		#
9.2.5	Modulus of Rupture and Modulus of Elasticity	9.2.5 Annex K		One	Each control unit	In case of failure of sample, twice the number of samples from same control unit shall be tested and control unit shall be accepted if retested sample passes the test.
9.2.6	Spot test	9.2.6 Annex L		One	Each control unit	
9.2.7	Formaldehyde content, Fc, mg/100 gm for oven dry sample	9.2.7	IS 1659 IS 13745	One	Once in a month	Each Formaldehyde Class produced during the period shall be tested
9.2.8	Steady-state Formaldehyde emission, Fc mg/m3 (optional test)	9.2.8	IS 1659 IS/ISO 12460-1	One	Once in a year	

Samples may be drawn in such a manner that all thickness of Block boards manufactured are tested over a period of time. In case of failure of sample in mycological test, a thorough check shall be made about the type of glue used and type of preservative added to the glue.