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उत्पाद मैन्युअल
सामान्य प्रयोजन के लिए प्लाईवुड,
आई एस 303 : 2024 के अनुसार

PRODUCT MANUAL FOR
PLYWOOD FOR GENERAL PURPOSE
ACCORDING TO IS 303 : 2024

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 303 : 2024
	शीर्षक **Title**	:	Plywood for General Purpose
	संशोधनों की संख्या **No. of amendments**	:	1
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**	:	Plywood – 1 sheet 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 (Clause 7), (ii) Dimensions (Clause 8), (iii) Workmanship and Finish (Clause 9), (iv) Moisture content (Clause 11.4) 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 303 : 2024 with the following scope:		
	Name of the product	Plywood for General Purpose	
	Grade	MR/ BWR/ BWP	
	Bending Class	F10/ F20/ F30/ F40/ F50	
	Type Based on Appearance	AA/ AB/ AC/ BB/ BC/ CC	
	Thickness (mm)	From _____ to ____	
	Formaldehyde Class	E_1/ E_2	
	Steady-State Formaldehyde Emission test (optional test) (Cl 11.7)	With/ without	

ANNEX-A
Grouping Guidelines

1. Plywood for General Purpose as per IS 303 : 2024 is classified as below:

Grade	MR, BWR and BWP
Bending Class	F10, F20, F30, F40, F50
Types based on appearance	highest → lowest AA, AB, AC, BB, BC, CC
Thickness (mm)	3,4,5,6,9,12,15,19,22 and 25 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	*E*1 / *E*2
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:

   a) Plywood 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 grades and formaldehyde classes for which firm intends to cover in the scope of licence, gets tested.

   b) Plywood of any thickness shall be tested to cover the entire range of thicknesses for which manufacturer has the infrastructure for manufacturing and testing. While drawing samples, it shall be ensured that different thicknesses of plywood are tested.

   c) Highest Type based on appearance, shall be tested to cover all lower Types including the Type tested. E.g. if plywood with AA surface quality is tested then AB, AC, BB, BC, CC type may also be covered. Similarly, if plywood with BB surface quality is tested then BC & CC may also be covered.

   d) One sample of plywood 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 Plywood for general purpose 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. The manufacturer shall declare the following :
   - Type of Synthetic resin (Cl 6.2 of IS 303:2024)
   - Type of preservative treatment (Cl 7.1.1 of IS 303:2024)
   - In case of Type C surface, the maximum number of categories of permissible defects, per m^2 (Cl 5.2 of IS 303:2024)

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

(INDICATIVE LIST, FOR GUIDANCE ONLY)

S. No.	Tests used in with Clause Reference	Test Equipment
1.	Adhesive (Clause 6.2)	Moisture Meter Hydrometer Thermometer IS Sieve Electronic Balance pH Meter, Enamelled Tray
2.	Dimensions (Clause 8)	Measuring Tape Steel Scale Micrometer Squareness Straight Edge Feeler Gauge
3.	Moisture content (Clause 11.4)	Hot Air Oven with fan & Temperature control Electronic Balance
4.	Water Resistance test (Clause 11.3.1)	Saw Cutter Vernier caliper Tensile testing machine Knife as per IS 1734 (Part 5) Stout Table Water Bath with temp control & pump
5.	Mycological Test (Clause 11.3.2)	Enameled Tray with Glass Sheet Fungus with spores Saw dust Arrangement to maintain temp at 27+/-2 deg C. Weighing balance Sucrose/ commercial malt extract
6.	Static Bending strength (Clause 11.5)	Tensile Testing Machine with load display, Sample cutter Attachment for MOR and MOE tests in tensile machine
7.	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
8.	General laboratory equipments	Humidity Chamber with thermometer & hygrometer Desiccator

		Air Conditioner Dry-Wet Thermometer Electric Hot Plate Chemicals and glassware Viscosity Cup

ANNEX C
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 theStandard 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 differenttests 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: All plywood 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 (Plywood Boards in which the arrangement of veneers is similar as regards thickness and species of timber on both sides of central ply shall be considered to be of similar construction).

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommendedlevels 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 requirementsof 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 housetesting 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.

2.3 For the guidance of manufacturers, Table 1 giving the recommended levels of control is givenbelow. 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 perIS/ISO/IEC 17025.

2.4 For MSME manufacturers, the requirement of maintaining a laboratory/in-house testingfacility for routine tests (indicated as "R" in Column 2 of Table 1) is also optional.

2.4.2 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 facilitiesor get testing done from BIS recognized/empaneled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.5 **Large Scale manufacturers shall maintain an in-house laboratory equipped at least withtest facilities for routine tests (indicated as "R" in Column 2 of Table 1)**, where different testsgiven 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.

2.5.2 Alternatively, in lieu of an in-house laboratory, large scale manufacturers can also utilize theprovisions 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.

2.6 **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.

2.6.1 Records shall be maintained for each control unit of plywood with the following details:

- Formaldehyde Class, grade, type of synthetic resin, type based on appearance, species of timber and thickness, number of ply

3 **PACKING AND MARKING** - The Standard Mark as given in the Schedule of the licence shall be legibly and indelibly marked on each plywood, provided always that the material so marked conforms to all requirements of the specification.

3.3 Marking shall be done as per Clause 13 of IS 303:2024.

3.4 **Additional Marking requirements**: Each plywood shall also be marked with the following detail:

a) "For BIS certification details please visit www.bis.gov.in"
b) In case of Type C surface, the maximum number of categories of permissible defects declared by manufacturer, per m^2

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**	**Levels of Control**		
Clause	**Requirement**	**Test Methods**			**No. of Sample**	**Frequency**	**Remarks**
		Clause	**Reference**				
5	Surface quality requirements and permissible defects	5 Table 1&2	IS 303	R	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	Manufacture	7	IS 303	R	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		
8	Dimensions & Tolerances	8	IS 303				
9	Workmanship and Finish	9	IS 303				
11.3.1	Water Resistance Test	11.3.1	IS 303	R	One	Each control unit	
11.3.2	Mycological test	11.3.2	IS 303	S	One sample in a month from each set of species of timber		
11.4	Moisture Content	11.4	IS 303	R	One	Each control unit	
11.5	Static Bending Strength	11.5	IS 303	R	One	Each control unit	
11.6	Formaldehyde content, *F*c, mg/100 gm for oven dry sample	11.6	IS 303 IS 13745	S	One	Once in a month	Each Formaldehyde Class produced during the period shall be tested
11.7	Steady-state Formaldehyde emission, *F*c mg/m^3 (optional test)	11.7	IS 14587 IS/ISO 12460-1	S	One	Once in a year	-