



**उत्पाद मैनुअल
आई एस 15380 : 2023 के अनुसार
ढलित उच्च घनत्व फाइबर (एच डी एफ) के दिल्लेदार दरवाजे शटर के लिए**

दस्तावेज संख्या – पी एम/ आई एस 15380/2/ Aug 2023

भारतीय मानक ब्यूरो की स्कीम-1 (अनुरूपता मूल्यांकन) विनियम, 2018 के तहत यह उत्पाद मैनुअल प्रमाणीकरण के प्रचालन में रीति और पारिश्रिता की सुसंगतता सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों और लाइसेंसी द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस प्रमाणीकरण लाइसेंस/ प्रमाणपत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज का उपयोग किया जा सकता है।

**PRODUCT MANUAL FOR
MOULDED HIGH DENSITY FIBRE (HDF) PANELLED
DOOR SHUTTERS ACCORDING TO IS 15380 : 2023**

Document No.- PM/ IS 15380/2/Aug 2023

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.

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PRODUCT MANUAL FOR MOULDED HIGH DENSITY FIBRE (HDF) PANELLED DOOR SHUTTERS ACCORDING TO IS 15380 : 2023

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1.	Product	:	IS 15380 : 2023
	Title	:	Moulded High Density Fibre (HDF) Panelled Door Shutters
	No. of Amendments	:	01
2.	Sampling Guidelines:		
a)	Raw material	:	1) Timber – Clause 6.1 2) Moulded Panel Fibre Board Skin – Clause 6.2 3) Particle Boards as Core – Clause 6.3 4) Adhesive – IS 848 5) Alternative Materials – Clause 6.5
b)	Grouping guidelines	:	Please refer ANNEX – A
c)	Sample Size	:	2 Panel Doors
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 :		
	- Workmanship and finish (Clause 9), Dimensions and Squareness Test (Clause 11.1) - General Flatness test (Clause 11.2), Local Planeness test (Clause 11.3) - Impact indentation test (Clause 11.4), Flexure test (Clause 11.5) - Edge loading test (Clause 11.6), Shock resistance test (Clause 11.7) - Buckling test (Clause 11.8), Slamming test (Clause 11.9) - Misuse test (Clause 11.10)		
6.	Scope of the Licence	:	Please refer ANNEX – D

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ANNEX – A**Grouping Guidelines**

1. Moulded High Density Fibre (HDF) Panelled Door Shutters as per IS 15380 : 2023 are classified as given below:

- a) Types : Heavy Duty and Light Duty

- b) Grades: BWP / MR

a) Sizes

Modular (with Designation of Doors) - 8 DS 20/ 8 DS 21/ 9 DS 20/ 9 DS 21/ 10 DS 20/ 10 DS 21/12 DT 20/ 12 DT 21

(D - Door, S - Single shutter, T - Double leaf shutter)

Non-Modular - Other sizes, that is width and height, as agreed to between the manufacturer and the purchaser, may also be permitted provided they are in modules of 5 mm.

b) Thickness

The nominal thickness of the shutters shall be 25mm, 30 mm and 35 mm corresponding to each of the sizes given below:

Flush Door Designation	Thickness of Shutter (mm)
8 DS 20/ 8 DS 21	25 or 30
9 DS 20/ 9 DS 21	30
10 DS 20/ 10 DS 21	35
12 DT 20/ 12 DT 21	35

As agreed to between manufacturer and the purchaser, the other thickness may also be permitted; provided, the thickness of shutters in such cases shall be equal to or more than that specified against the nearest higher modular sizes. However, for sizes greater than 10 DS 21 and 12 DT 21, the thickness of such shutters shall be greater than 35 mm and shall be as agreed to between the manufacturer and the purchaser.

2. Considering the above, the following groups have been evolved for GoL/CSoL:

Group	Flush Door Designation
I	8 DS 20/8 DS 21
II	9 DS 20/9 DS 21
III	10 DS 20/10 DS 21
IV	12 DT 20/12 DT 21

3. For Modular sizes, HDF Panelled Door Shutters of highest Size Designation from each group for each grade and Type shall be tested for all requirements to cover Shutters of all Size Designations in that group for the particular grade & Type tested.
4. For Non-modular sizes, HDF Panelled Door Shutters of highest height (with the permitted thickness) for each width, grade & Type shall be tested for all requirements to cover Shutters upto and including that Height (with the permitted thickness) for that particular width, grade & Type tested.
5. In case the manufacturer opts for ECO mark, the door shutters shall be manufactured from wood from sources other than natural forests, such as timber from industrial and social forestry plantations, shade trees from tea and coffee estates, etc, as specified in IS 2202 (Part 1) and such doors shutters shall conform to the requirements of quality and performance as specified in this standard as well as the requirements of ECO Mark for all the referred standards.
6. The Firm shall declare the varieties of HDF Panelled Door Shutters they intend to cover in the Licence. The Scope of Licence may be restricted based on the Manufacturing and Testing capabilities of the Manufacturer.
7. 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*

S. No.	Tests used in with Clause Reference	Test Equipment
1.	Timber and Adhesive (Clause 6.1 and 6.4)	- Moisture Meter - Stop Watch - Viscosity Cups B-4 Cup /B-6 Cup - Thermometer - Desiccators - IS Sieve - Air Conditioner - Dry /Wet Thermometer - Distilled Water - Electronic Balance - PH Meter - Enamelled Tray
	Moulded Panel Fibre board Skin (Clause 6.2)	- Test facilities as per Clause 6.2 of IS 15380:2023
	Particle Boards as Core (Clause 6.3)	- Test facilities as per IS 2380 (Part 17)
	Alternative Materials (Clause 6.5)	- Test facilities as per Clause 6.5 of IS 15380:2023
	Modulus of Rupture (Clause 6.2)	- Tensile testing machine with bend facility and with attachment for static bending test and with variable speed - Extensometer/Dial gauge
	Water absorption (Clause 6.2)	- Water bath - Soluble sealant material such as wax
	Swelling in water – General absorption (Clause 6.2)	- Water bath - Soluble sealant material such as wax - Arrangement for measurement of change in length
	Swelling in water – Surface absorption (Clause 6.2)	- Water bath - Soluble sealant material such as wax - Micrometer
	Internal Bond Strength (Clause 6.2) a) Dry state b) Wet state (3 h boiling)	- Loading fixture for tension test perpendicular to surface - Hot air oven - Water bath
	Immersion in boiling water at 100 ± 3 °C for 4 h	Loading fixture for tension test perpendicular to surface Water bath

	Formaldehyde Emission (Clause 6.2)	- Precision balance - Hot air oven - Extraction apparatus - Glassware – Volumetric flask / Precision burette/pipette/ Measuring cylinder - Reagents – Toulene/ Sulphuric acid/ Sodium thiosulfate/ Sodium hydroxide/Starch solution - 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
2.	Dimensions and Squareness test (Clause 11.1)	- Measuring Tape - Steel Scale - Micrometer - Vernier Caliper - Squareness Gauge - Straight Edge - Feeler Gauge
3.	General flatness test (Clause 11.2)	- General Flatness test assembly/fixture with Plump Bob - Feeler Gauge - Spirit Level
4.	Local planeness test (Clause 11.3)	- Local Planeness test assembly/fixture with Dial Gauge - Spirit Level - Filler Gauge
5.	Impact indentation test (Clause 11.4)	- Impact indentation test assembly/fixture with steel ball - Dial gauge - Ball stand
6.	Flexure test (Clause 11.5)	- Flexure test arrangement with Loads
7.	Edge loading test (Clause 11.6)	- Edge loading test arrangement with Loads - Depth gauge

8.	Shock resistance test (Clause 11.7)	- Shock resistance test arrangement - Leather ball
9	Buckling test (Clause 11.8)	- Buckling resistance test arrangement with Loads - Angle protector
10	Slamming test (Clause 11.9)	- Slamming Test assembly/fixture with Protractor, Stop watch - Hard wood strips
11	Misuse test (Clause 11.10)	- Misuse test assembly with angle protector, hard wood strip and loading arrangement
12	Varying humidity test (Clause 11.11)	- Temperature and humidity control cabinet
13	End immersion test (Clause 11.12)	- End emersion test arrangements - Door holding arrangement
14	Glue adhesion test (Clause 11.13)	- Glue Adhesion Test - Water Bath with temperature controller - Humidity Chamber with temperature controller
15	Screw withdrawal Resistance test (Clause 11.14)	- Tensile Testing Machine with fixture for screw withdrawal - Screws - Dial Gauge - Hot Air Oven temperature controller

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 15380 : 2023. The Standard Mark, as given in the Schedule of the licence, shall be legibly and indelibly marked on each door shutters provided always that the door shutters thus marked conforms to all the requirement of the specification. In addition, the licence no. CM/L-_____ and details of BIS website shall be marked on any of its edges as follows: “For details of BIS certification please visit www.bis.gov.in”.

4. CONTROL UNIT – Moulded High Density Fibre (HDF) Panelled Door Shutters of same type, grade, size and construction manufactured in a day from same consignment/ kettle of adhesive, under similar conditions of manufacturing 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	Levels of Control		
Cl.	Requirement	Test Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
6.1	Timber	6.1.1, 6.1.2, 6.1.3, 6.1.4	IS 15380	R	Firm to have adequate in-process controls to check compliance of this parameter as per the requirements given in the Indian Standard. Appropriate records shall be maintained by the manufacturer for evidence of conformity		
6.2	Moulded Panel Fibre Board Skin	6.2, Table 2	IS 15380 IS 2380 (Part 3, 4 , 5, 16, 17) IS 13745	S	One	Each consignment	No further testing is required, if material received is ISI Marked and accompanied with the test certificate. For non-ISI marked materials, test report from BIS recognized lab is required.
6.3	Particle Boards as Core	6.3	IS 2380 (Part 17) IS 15380	S	One	Each consignment	
6.4	Adhesive	6.4	IS 15380 IS 848	S	One	Each Consignment or each kettle (if manufactured in-house)	
6.5	Alternative Materials	6.5	IS 14616 (LVL) IS 16171 (MDF) IS 12406 (HDF)	S	One	Each consignment	
7	Construction	7.1 to 7.6	IS 15380	R	Firm to have adequate in-process controls to check compliance of this parameter as per the requirements given in the Indian Standard. Appropriate records shall be maintained by the manufacturer for evidence of conformity		
8	Fittings	8.1	IS 15380				

9	Workmanship and finish	9.1, 9.2	IS 15380		
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10.1.1	Acceptance Tests						
a)	Dimensions and Squareness test	11.1	IS 15380 IS 4020 (Part 2)	R	Firm to have adequate in-process controls to check compliance of this parameter as per the requirements given in the Indian Standard. Appropriate records shall be maintained by the manufacturer for evidence of conformity		
b)	General flatness test	11.2	IS 15380 IS 4020 (Part 3)	R	Five	Each control unit	Sample shall be drawn at regular intervals. In case of failure, all shutters covered in control unit shall be tested and only those shutters which are conforming to the requirements shall be marked.
c)	Local planeness test	11.3	IS 15380 IS 4020 (Part 4)				
d)	End immersion test	11.12	IS 15380 IS 4020 (Part 13)	R	Two	Once in a week from each grade designation & 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.
e)	Glue adhesion test	11.13	IS 15380 IS 4020 (Part 15)	R	Two		
f)	Slamming test	11.9	IS 15380 IS 4020 (Part 10)	R	One		
10.1.2	Type tests						
a)	Impact indentation test	11.4	IS 15380 IS 4020 (Part 5)	S	One	Once in six months from shutters of each grade designation & type	These tests shall also be conducted for every change in construction. In case of failure, marking shall be stopped and reasons for
b)	Flexure test	11.5	IS 15380 IS 4020 (Part 6)	S	One	Once in a year from	

c)	Edge loading test	11.6	IS 15380 IS 4020 (Part 7)	S	One	shutters of each grade designation & type	failure shall be investigated. The marking shall be resumed only after two samples pass in the requirements in which failure occurred.
e)	Shock resistance test	11.7	IS 15380 IS 4020 (Part 8)	S	One		
d)	Buckling resistance	11.8	IS 15380 IS 4020 (Part 9)	S	One		
f)	Misuse Test	11.10	IS 15380 IS 4020 (Part 11)	S			
g)	Varying Humidity test	11.11	IS 15380 IS 4020 (Part 12)	S	One		
h)	Screw withdrawal resistance test	11.14	IS 15380 IS 4020 (Part 16)	S	One	Once in six months from shutters of each grade designation & type	

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 15380 : 2023 with the following scope:	
Name of the product	Moulded High Density Fibre (HDF) Panelled Door Shutters
Types	Heavy Duty / Light duty
Grades	BWP / MR
Size	- Modular sizes with designation of doors (8 DS 20/8 DS 21/9 DS 20/9 DS 21/10 DS 20/10 DS 21/12 DT 20/12 DT 21) and thickness - Non-Modular sizes with designation of doors and thickness