



**उत्पाद मानुयल
आई एस 16074:2013 के अनुसार
स्टील फ्लश दरवाजा शटर के लिए**

दस्तावेज़ संख्या- पी एम/आई एस 16074/1/अक्टूबर 2023

भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम की स्कीम-I के तहत यह उत्पाद मानुयल प्रमाणीकरण के प्रचलन में रीति और पारदर्शिता के सुसंगत सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों एवं लाइसेन्स धारियों द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस लाइसेन्स/प्रमाण पत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज़ का उपयोग किया जा सकता है।

**PRODUCT MANUAL FOR
STEEL FLUSH DOOR SHUTTERS
ACCORDING TO IS 16074: 2013**

Document No.- PM/IS 16074/1/Oct 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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1.	Product	:	IS 16074 : 2013
	Title	:	Steel Flush Door Shutters
	No. of Amendments	:	Nil
2.	Sampling Guidelines:		
a)	Raw material	:	Raw Materials specified as per clause 6 of IS 16074:2013
b)	Grouping guidelines	:	Please refer ANNEX- A
c)	Sample Size	:	3 Steel Flush Door shutters 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	:	Please refer ANNEX – D
6.	Scope of the Licence	:	Please refer ANNEX – E

BUREAU OF INDIAN STANDARDS
Manak Bhawan, 9, Bahadur Shah Zafar Marg,
New Delhi – 110002

ANNEX -A**Grouping Guidelines**

1. Steel Door Shutters as per IS 16074 :2013 are classified as given below:

a) **Type of Shutters:** The door shutters are classified based on the thickness of door skins as 'Heavy Duty' and 'Light Duty' shutters.

b) **Type of core**

Sl No	Type of core
i	Rigid Polyurethane Foam Core
ii	Honey Comb Kraft Paper Core
iii	Mineral Wool/Rock Wool Core/Polystyrene Core
iv	Hollow Steel Stiffened Core

c) **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 leaf shutter, T - Double leaf shutter)

Non-Modular - Sizes other than modular sizes, as agreed to between the manufacturer and the purchaser, may also be permitted; provided, the thickness of shutters in such cases shall be equal to that specified against the nearest higher modular size given at clause (d) below.

d) **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
9 DS 20/ 9 DS 21	30
10 DS 20/ 10 DS 21	35
12 DT 20/ 12 DT 21	35

e) For sizes greater than 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. For sizes other than modular sizes, the thickness of the shutters shall be any of those specified in Table 3 of IS 16074 but shall not be less than that specified for the nearest higher modular size of shutter given in Table 3

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. Each Type of shutter i.e Heavy or Light Duty shall be tested to cover that particular type of Shutter.
4. For Modular sizes, Steel Door Shutters of highest Size Designation from each group of each Type of Core, each Type of Door Skin Material shall be tested for all requirements to cover Shutters of all Size Designations in that group for that particular Type of Core and Type of Door Skin Material tested.
5. For Non-modular sizes, Steel Door Shutters of highest height (with the permitted thickness) for each width, Type of Core, Type of Door Skin Material shall be tested for all requirements to cover Shutters upto and including that Height (with the permitted thickness) for that particular Type of Core and Type of Door Skin Material tested.
6. The Firm shall declare the varieties of Steel Flush 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.	Dimensions and Squareness (Clause 12.1)	- Measuring Tape - Steel Scale - Micrometer - Vernier Calipers - Squareness Gauge - Straight Edge - Feeler Gauge
2.	General flatness test (Clause 12.2)	- General Flatness test assembly/fixture with Plump Bob - Feeler Gauge - Spirit Level
3	Local planeness test (Clause 12.3)	- Local Planeness test assembly/fixture with Dial Gauge - Spirit Level - Filler Gauge
4.	Impact indentation test (Clause 12.4)	- Impact indentation test assembly/fixture with steel ball - Dial gauge - Ball stand
5.	Flexure test (Clause 12.5)	- Flexure test arrangement with Loads
6.	Edge loading test (Clause 12.6)	- Edge loading test arrangement with Loads - Depth gauge
7.	Shock resistance test (Clause 12.7)	- Shock resistance test arrangement - Leather ball
8.	Buckling test (Clause 12.8)	- Buckling resistance test arrangement with Loads - Angle protector
9.	Slamming test (Clause 12.9)	- Slamming Test assembly/fixture with Protractor, Stop watch - Hard wood strips
10.	Misuse test (Clause 12.10)	- Misuse test assembly with angle protector, hard wood strip and loading arrangement

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 requirements of IS 16074: 2013. 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 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 – All steel door shutters of the same Type of shutter, Type of Door Skin Material, Same Type of core, and designation manufactured under similar conditions in a day shall be considered as 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 Standard and covered by the licence should be marked with Standard Mark. Each consignment of BIS certified Steel Door shutters confirming to IS 16074 :2013 shall be accompanied by a test certificate as given in Annex-1.

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 Methods			No. of Sample	Frequency	Remarks
		Clause	Reference				
6.1	Door Skins	6.1	IS 16074	S	Each consignment		The Raw materials shall be ISI marked and received along with manufacturers test certificate.
8.2	Rigid polyurethane Foam Core	8.2	IS 16074	S	Each consignment		No further testing is required, if material is accompanied with the test certificate.
8.2	Honey Comb Kraft Paper Core	8.2	IS 16074	S			
8.2	Mineral Wool / Rock Wool Core / Polystyrene Core	8.2	IS 16074	S			
8.2	Hollow Steel Stiffened Core	8.2	IS 16074	S			
10.3	Powder Coating	10.3	IS 16074 IS 13871	S			

8	Construction and Workmanship	8	IS 16074	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		
9	Fittings	9	IS 16074	R			
12.1	Dimensions and Squareness test	12.1	IS 16074 IS 4020 (Part 2)	R			
10.1, 10.2	Finish	10.1, 10.2	IS 16074 IS 1477 PART 1	R			
12.2	General flatness test	12.2	IS 16074 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.
12.3	Local planeness test	12.3	IS 16074 IS 4020 (Part 4)	R			
12.4	Impact indentation test	12.4	IS 16074 IS 4020 (Part 5)	S	One	Once in six months from shutters of each Variety	In case of failure, marking shall be stopped and reasons for failure shall be investigated. The markings shall be resumed only after two samples pass in the requirements in which failure occurred.
12.5	Flexure test	12.5	IS 16074 IS 4020 (Part 6)	S	One		
12.6	Edge loading test	12.6	IS 16074 IS 4020 (Part 7)	S	One		
12.7	Shock resistance test	12.7	IS 16074 IS 4020 (Part 8)	S	One		
12.8	Buckling Resistance Test	12.8	IS 16074 IS 4020 (Part 9)	S	One		
12.9	Slamming Test	12.9	IS 16074 IS 4020 (Part 10)	S	One		
12.10	Misuse test	12.10	IS 16074 IS 4020 (Part 11)	S	One		

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

XYZ COMPANY

STANDARD MARK

(Registered office address and works address)

TEST CERTIFICATE FOR STEEL DOOR SHUTTERS ACCORDING TO IS 16074 :2013

TEST CERTIFICATE No. _____ DATE _____

TO M/s _____

It is certified that the material described below fully conforms to IS 16074 : 2013 and tested in accordance with the Scheme of Inspection and Testing contained in the BIS Certification Marks Licence CM/L_____. The test results of acceptance test requirements are indicated below against the order No: .

(PLEASE REFER TO IS 16074 :2013 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

TEST RESULTS

Order No. & Date	Heavy Duty/light Duty	Type of Core	Type of Door Kin Material	Size	Date of Mfg/ batch No	REQUIREMENTS				REMARKS
						Dimensions and squareness	General flatness	Local planeness	Slamming test	

REMARK

SHIPPING ADVICE No.

SIGNATURE:
NAME &
DESIGNATION:FOR
XYZ COMPANY

ANNEX – D

Possible Tests in a Day

- (i) Fittings (Clause 9)
- (ii) Workmanship and finish (Clause 8.6)
- (iii) Dimension and Squareness (Clause 12.1)
- (iv) General flatness test (Clause 12.2)
- (v) Local planeness test (Clause 12.3)
- (vi) Impact indentation test (Clause 12.4)

ANNEX – E**Scope of the Licence**

“Licence is granted to use Standard Mark as per IS 16074 :2013 with the following scope:	
Name of the product	STEEL DOOR SHUTTERS
Type of Shutter	Light Duty / Heavy Duty
Type of Door Skin	Mild steel/Galvanized steel/Stainless Steel/ Pre-Painted Steel
Type of core	Rigid Polyurethane Foam Core/ Honey Comb Kraft paper Core/ Mineral Wool/Rock Wool/ Polystyrene Core/ Hollow Steel Stiffened Core
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