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उत्पाद मैनुअल
आई एस 3312:2021 के अनुसार
इस्पात की अलमारी (समायोज्य प्रकार) के लिए

दस्तावेज़ संख्या - पी एम/ आई एस 3312/ 2/ फ़रवरी 2021

भारतीय मानक ब्यूरो की स्कीम-I (अनुरूपता मूल्यांकन) विनियम , 2018 के तहत यह उत्पाद मैनुअल प्रमाणीकरण के प्रचालन में रीति और पारिशिता 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 दस्तावेज़ का उपयोग किया जा सकता है ।

PRODUCT MANUAL FOR
STEEL SHELVING CABINETS (ADJUSTABLE
TYPE) ACCORDING TO IS 3312: 2021

Document No.- PM/ IS 3312/ 2/ Feb 2021

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 3312: 2021
	Title	:	Steel Shelving Cabinets (Adjustable Type)
	No. of Amendments	:	Nil
2.	Sampling Guidelines:		
a)	Raw material	:	As per Clause 3 of IS 3312: 2021
b)	Grouping guidelines	:	Shelving Cabinet of each size i.e. Small and Large shall be tested separately to cover that variety in the Scope of Licence.
c)	Sample Size	:	• 1 Steel shelving cabinet with shelves and Screws- 16 nos. for Dimensions, Fabrication, Assembly and Finish tests (except tests for phosphating treatment as per Cl 9.1.2). • 5 pcs – 150 mm × 150 mm and 5 pcs – 50 mm × 100 mm - Phosphated steel panels & 5 pcs – 150 mm × 150 mm and 5 pcs – 50 mm × 100 mm - Painted (after phosphating) Steel panels– for phosphating treatment test as per Cl 9.1.2. • 10 pcs – 150 mm × 50 mm × 0.315 mm and 2 pcs – 150 mm × 100 mm × 1.25 mm - Painted mild steel panels – for “Performance requirements of finish” tests as per Cl 10. Additional accessories as per clause 7 of IS 3312 – 1 each (if provided)
3.	List of Test Equipment	:	Please refer ANNEX – A
4.	Scheme of Inspection and Testing	:	Please refer ANNEX-B
5.	Possible tests in a day:		
	Dimensions and tolerances (Clause 4), Fabrication (Clause 5), Assembly (Clause 6), Additional accessories (Clause 7), Loading (Clause 8), Finish (Clause 9), Performance requirement of finish (Clause 10 except clause 10.5)		
6.	Scope of the Licence:		
	“Licence is granted to use Standard Mark as per IS 3312: 2021 with the following scope:		
	Name of the product	Steel Shelving Cabinets (Adjustable Type)	
	Sizes	Large/ Small	

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ANNEX- A
List of Test Equipment

Major test equipment required to test as per the Indian Standard

Sl. No.	Tests used in with Clause Reference	Test Equipment
1	Dimensions and Tolerance (Cl 4), Fabrication (Cl 5) and Assembly (Cl 6)	- Micrometer - Vernier caliper - Measuring tape - Steel scale
2	Finish (Cl 8)	- Steel Wool - Blunt Knife - Sharp Blade - Sodium Chloride - Weighing Balance - Permanent Marker - Trichloroethylene Vapour/ clean mineral spirits - Dessicator and arrangement for drying - Conc. Hydrochloric Acid - Antimony Trioxide - Stripping Bath with temperature control and Sensor (or Thermometer) - Stop Watch - Soft Wet Brush - Clean absorbent material (lambs wool) - Closed vessel with layer of water at bottom
3	Scratch Hardness Test (Cl 9.1) and Stripping Test (Cl 9.4)	- Mechanized/ Hand Operated Scratch Hardness Test Apparatus - Needle - Slotted Weights - Provision of drying test panels - Conditioning Chamber - 30X Magnification lens - Steel Scale
4	Pressure Test (Cl 9.2)	- Pressure Test Apparatus [fig 8 of IS 101 (Pt 5/ Sec 1)] - Steel Ball - Plunger Arrangement - Weight on plunger (1.81 kg) - Provision of cutting test pieces - Vernier Caliper

5	Flexibility and Adhesion test (Cl 9.3)	- Bend Test apparatus - Cylindrical Mandrels of various diameters - 10X Magnifying Glass with light source - Coating Thickness Gauge - Vernier Caliper - Micrometer - Protractor - Humidity Chamber - Provision of drying test panels
6	Test for Protection against Corrosion under conditions of condensation (Cl 9.5)	- Corrosion Cabinet [as per Cl 2.1.2 of IS 101 (Part 6/ Sec 1)] - Thermometer - Suitable protective composition with melting point > 50°C (preferably 3 parts by weight of paraffin wax & 1 part by weight of Carnabua wax)
7	Panel Conditioning	- Humidity Chamber
8	Lab Temperature Maintenance	- Air Conditioner
9	Lab condition monitoring	- Thermo Hygrometer
10	Panel Painting	- Spray Gun with Compressor

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

ANNEX B

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 3312:2021.

4.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 2.0 above.

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

5. 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				
3	Materials			S	One	Each Consignment	Raw material/Components which are covered under mandatory certification of BIS shall be ISI marked and received along with manufacturers test certificate. For other raw materials/ components, no further testing is required, if material received with test certificate or ISI Marked
	Aluminium Tubes	3.1	IS 3312				
	Electrodes	3.2					
	Mild Steel Sheets	3.3					
	Mild Steel Rounds and Flats	3.4					
	Screws	3.5					
	Locks	5.9					
	Hanging Rod (as applicable)	7 (a)					
	Enamels	9.1.3					
	Putty	9.1.2 (Note)					
	Aluminium Primer						
4	Dimensions	4	IS 3312	R	Each Cabinet	-	-
5	Fabrication	5	IS 3312	R	Each Cabinet	-	-
6	Assembly	6	IS 3312	R	Each Cabinet	-	-
7	Additional accessories (If provided)	7	IS 3312	R	Each cabinet	-	-
8	Loading	8, Table 3	IS 3312	R	Each cabinet	-	-

9	Finish						
9.1.1, 9.1.3	Steel Sheet Components	9.1.1, 9.1.3	IS 3312	R	One	From each batch of materials/ components treated at the same time	
9.1.2	Phosphating Treatment						
	Freedom from Defects	6.1	IS 3618	R	One	From each batch of materials/ components treated at the same time	
	Visual Tests	6.2	IS 3618	R	One		
	Test for Weight of Coating	6.3	IS 3618	R	One		
	Test for Corrosive Residues	6.4	IS 3618	S	One	Once in six months	-
	Test for Resistance to Corrosion	6.5	IS 3618	S	One	Once in six months	-
10	Performance Requirements of Finish						
10.1	Scratch hardness test	10.1	IS 3312	R	One	Once in a week	If any sample fails in any of the requirements, corrective actions shall be taken and next five batches shall be tested for that requirement. Original frequency may be restored only on conformity of samples from these batches.
10.2	Pressure Test	10.2	IS 3312	R	One	Once in a week	
10.3	Flexibility and Adhesion Test	10.3	IS 3312	R	One	Once in a week	
10.4	Stripping Test	10.4	IS 3312	R	One	Once in a week	
10.5	Test for Protection Against Corrosion Under Conditions of Condensation	10.5	IS 3312	S	One	Once in six months	-

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.