



उत्पाद मैनुअल
कैबिनेट कब्जे ,
आईएस १८२९७ : २०२३ के अनुसार

PRODUCT MANUAL
CABINET HINGES,
ACCORDING TO IS 18297: 2023

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 18297 : 2023
	शीर्षक / Title	:	Cabinet Hinges
	संशोधनों की संख्या No. of amendments	:	2
2.	नमूनाकरण दिशानिर्देश / Sampling Guidelines		
a)	कच्चा माल Raw material	:	The materials used for manufacturing of cabinet hinges shall be as per grade/type/variety/class of material declared by the manufacturer. The materials used can be of steel or stainless steel or as per the declaration of manufacturer. <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	:	8 cabinet hinges sets. <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</i>

			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. <i>Note: Apart from the above, any other requirements/ parameters may also be declared as per the standard, as applicable.</i>
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	:	1. Overload tests a. Vertical Static overload test, b. Horizontal overload test. 2. Functional Tests. a. Operating forces, b. Static Closing force, c. Opening and Closing force, d. First vertical overload test, e. First horizontal static load test, f. Slam Shut test, g. Sagging test(Before Durability test) <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 18297 : 2023 with the following scope:			
Name of the product		Cabinet Hinges	
Type		Full Overlay/ Half Overlay/ Inset/ other types (declared by manufacturer)	
Size (hinge cup diameter)		26mm/35mm/40mm/ other sizes (declared by manufacturer)	
Length		30/50/75/100/125/150/175/200/ other sizes (declared by manufacturer)	
Test Level corresponding to Performance Category		Level 1/ Level 2/ Level 3	
Additional Features		● Self-Closing Hinge ● Self-Closing Integrated Damper Hinge ● Maximum Opening angle (less than 135° / more than 135°)	

ANNEX -A
Grouping Guidelines

1. Cabinet Hinges as per IS 18297:2023 are classified as given below:
 - a) Type : Full Overlay/ Half Overlay/ Inset/ other types (declared by manufacturer)
 - b) Size (hinge cup diameter) : 26mm/ 35mm/ 40mm/ other sizes (declared by manufacturer)
 - c) Length (mm) : 30/50/75/100/125/150/175/200/ other sizes (declared by manufacturer)
 - d) Test Level corresponding to Performance Category: Level 1/ Level 2/ Level 3
 - e) Additional Features : Self-Closing Hinge, Self-Closing Integrated Damper Hinge,
Maximum Opening angle (less than 135° / more than 135°)

NOTE: It may be noted that horizontal static overload test and second horizontal static load tests apply to hinges with an opening angle less than 135° only. Hence, in the scope of licence, the maximum opening angle is to be mentioned as less than 135° or more than 135° only and not the individual values.

2. Based on the above classifications, the following grouping guidelines shall be followed for considering GoL/CSoL:
 - a) Cabinet hinges of each variety [i.e. type, size (hinge cup diameter), test level and additional features] shall be tested to cover that particular variety [i.e. type, size (hinge cup diameter), test level and additional features].
 - b) Highest and lowest length of hinges from each variety (i.e. type, test level and additional features) shall be tested to cover all the intermediate lengths including the lengths tested, for that variety.
3. The Firm shall declare the varieties of hinges 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. For other types of cabinet hinges, the manufacturer shall submit its design along with the drawing. Each design of cabinet hinges shall be tested to cover that particular design.
5. Manufacturer shall declare the grade/type/variety/class of raw material (e.g. steel, stainless steel or any other material as per the relevant Indian Standard) used in the manufacturing of each type of hinge.
6. During the operation of the Licence, BO shall ensure that all the varieties covered in the Licence are tested in rotation, to the extent possible.

NOTE: Grant of licence under IS 18297:2023 is to be considered to such manufacturing units having at least one in-house manufacturing process before the final assembly stage of production.

ANNEX- B**List of Test Equipments***(Indicative List, For Guidance Only)*

Sl. No.	Tests used in with Clause Reference	Test Equipment
1.	General (Cl 7.1.5)	- Testing equipment (as per Cl 7.1.5) - Standard door and Masses (table 3 & fig 4) - Standard test frame (fig.3 & table 2) - Arrangement to maintain Relative Humidity 60- 70% and temperature at 25-29° C (in case hygroscopic plastic material is used)
2.	Over load test - Vertical static overload test (Cl 7.2.1)	- Test jig (as per Fig 5) - Steel scale, - angle protractor, - Stopwatch/timer - Mass – 20/30
3.	Over load test - Horizontal static overload test (Cl 7.2.2)	- Test jig (as per Fig 6) - Arrangement to apply horizontal load of 60/80 N - Steel scale, - angle protractor, - Stopwatch/timer
4.	Functional tests (Cl 7.3)	
5.	Operating Forces (Cl 7.3.1)	- Test set up as per fig.7 - Means to measure opening and closing force - Steel scale
6.	First vertical static load test (Cl 7.3.2)	- Test jig (as per Fig 5), - Steel scale, - angle protractor, - Stopwatch/timer, - Mass – 10/15/20 kg
7.	First Horizontal static load test (Cl 7.3.3)	- Test jig (as per Fig 6) - Arrangement to apply horizontal load of 25/30/40 N - Steel scale, - angle protractor, - Stopwatch/timer
8.	Slam Shut test (Cl 7.3.4)	- Test set up as per Fig 8, - steel scale, - angle protractor - Masses - 1kg, 2kg, 3kg, 4kg and 100gms.
9.	Determination of Reference Point for the door sagging (Cl 7.3.5)	- Test set up as per Fig 9

10.	Durability Test, (Cl.7.3.6)	- Test set up for Durability test as per Fig 10 with provision of automatic door closing and opening along with automatic cycle counter with timer. - masses of 1kg, - angle protractor
11.	Deflection Test(sagging test), (Cl 7.3.7)	- Test set up as per Fig 9 - Deflection gauges
12.	Second vertical static load, (Cl.7.3.8)	- Test jig (as per Fig 5) - Steel scale, - angle protractor, - Stopwatch/timer - Mass – 10/15/20 kg
13.	Second Horizontal static load, (Cl.7.3.9)	- Test jig (as per Fig 6) - Arrangement to apply horizontal load of 25/30/40 N - Steel scale, - angle protractor, - Stopwatch/timer
14.	Corrosion Resistance (Cl.7.4) Salt Spray Test	- Spray Cabinet, - Means of supplying and controlling heat, - Means for spraying the salt solution, - weighing balance, - PH meter, - Sodium chloride

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 cabinet hinges of the same type, performance category, size, length, material and additional description manufactured 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 cabinet hinge provided always that the material so marked conforms to all requirements of the specification.

3.1 Marking on each cabinet hinge shall be done as per Cl. 8 of IS 18297: 2023

3.2 **Additional Marking requirements:** Each cabinet hinge 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	Materials	5	IS 18297	One	Each consignment	No further testing required if accompanied with test certificate or ISI marked
6	Manufacture	6	IS 18297	Firm to have adequate in-process controls to check compliance of this parameter. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
Overload Tests -						
7.2.1	Vertical Static Overload Test	7.2.1	IS 18297	One	Each Control unit	
7.2.2	Horizontal Static Overload Test	7.2.2	IS 18297	One	Each Control unit	
Functional Tests -						
7.3.1	Operating Forces	7.3.1	IS 18297	One	Each Control unit	
7.3.2	First vertical static load test	7.3.2	IS 18297	One	Each Control unit	
7.3.3	First Horizontal static load test	7.3.3	IS 18297	One	Each Control unit	
7.3.4	Slam Shut Test	7.3.4	IS 18297	One	Each Control unit	
7.3.5	Determination of Reference Point for the Door Sagging	7.3.5	IS 18297	One	Once in Six months	All the varieties produced during the period shall be tested
7.3.6	Durability Test	7.3.6	IS 18297			
7.3.7	Deflection (Sagging Test)	7.3.7	IS 18297			
7.3.8	Second Vertical Static Load	7.3.8	IS 18297			
7.3.9	Second Horizontal Static Load Test	7.3.9	IS 18297			
7.4	Corrosion Resistance (Salt Spray Test)	-	IS 5528			
7.5	Finish	7.5	IS 18297	Firm to have adequate in-process controls to check compliance of this parameter. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		