



उत्पाद मैनुअल
भा. मा. 453: 1993 के अनुसार
दोहरे कार्य करने वाले स्प्रिंग कब्जों के लिए
दस्तावेज संख्या-पी एम/आई एस 453/1/दिसंबर 2022

भारतीय मानक ब्यूरो की स्कीम-I (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
DOUBLE-ACTING SPRING HINGES
ACCORDING to IS 453:1993

Document No.-PM/IS 453/1/ December 2022

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.

भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS
मानक भवन, ९, बहादुर शाह ज़फ़र मार्ग
Manak Bhawan, 9, Bahadur Shah Zafar Marg
नई दिल्ली- ११०००२
New Delhi – 110002



PRODUCT MANUAL FOR STEEL BACK FLAP HINGES ACCORDING TO IS 453: 1993

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1.	Product	:	IS 453: 1993
	Title	:	Double-Acting Spring Hinges
	No. of Amendments	:	One
2.	Sampling Guidelines:		
a)	Raw material	:	Mild Steel Sheets and Plates- Grade 0 of IS 1079 and shall meet to Cl. 4.1 of IS 453: 1993 Mild Steel Wire- Minimum 40Kgf/Cm² Tensile Strength conforming to 1/4H grade of IS 280 and shall comply to Cl. 4.2 of IS 453: 1993 Cast Brass- as per IS 292 Brass sheets- Alloy designation CuZn40 as per IS 410 Brass Rods- Minimum Cu content 60 % and Tensile Strength 40Kgf/Cm², conforming to IS 319 Steel Wire of spring- IS 4454-1 Phosphorus Bronze wire- Grade 1 of IS 7608
b)	Grouping guidelines	:	Please refer ANNEX –A
c)	Sample Size	:	6 Nos.
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	:	All tests
6.	Scope of the Licence:	:	Licence is granted to use Standard Mark as per IS 453:1993 with the following scope:
	Name of product	:	Double-Acting Spring Hinges
	Material	:	
	Sizes	:	Up to and including....mm

BUREAU OF INDIAN STANDARDS

Manak Bhawan, 9, Bahadur Shah Zafar Marg, New Delhi – 110002

ANNEX A

Grouping Guidelines

1. Double-Acting Spring Hinges as per IS 453: 1993 are classified in to different varieties based on following:

(A)Material used:

- Mild steel Double-Acting Spring Hinges
- Brass Double-Acting Spring Hinges

(B) Sizes: 100, 125, 150 mm

2. Considering the above, one sample from each type of material of Double-Acting Spring Hinges having minimum and maximum size shall be drawn to cover all the sizes and material of Hinges.

3. The Firm shall declare the varieties of Double-Acting Spring 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. During the operation of the Licence, BO shall ensure that all the material 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
	Cl. No.	Test	
1.	6, Fig.1, Fig.2	Dimensions	Vernier Caliper, Micrometer
2.	7	Thickness of Sheet	
3.	9	Performance test	Test fixtures with Test doors of appropriate weight, load gauge, protector, Counter

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 453: 1993. Additionally, material shall also be marked on each piece or package.

4. CONTROL UNIT- All Hinges of same material and Size, manufactured under similar conditions from same consignment of raw material in a day 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				
4	Raw Material	4.1 to 4.7	IS 453	S	One	Each Consignment	No further testing is required if material is received with test certificate or is ISI Marked. Material as per IS 1079, IS 280 and IS 4454-1 are under mandatory BIS Certification and manufacturer shall ensure that material used is ISI Marked and received with test certificate.
6	Dimensions	6, Fig.1, Fig.2	IS 453	R	One piece from each hour of production		--
7	Manufacture	7	IS 453	R	Firm should exercise adequate control so that whole production should meet the requirements		
8	Finish	8	IS 453	R			
9	Performance test	9	IS 453	R	One	Every 30 th Control Unit	

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.