उत्पाद मैन्युअल

भा. मा. 5187: 1972 के अनुसार

फ्लश बोल्ट के लिए

दस्तावेज़ संख्या–पी एम/आई एस 5187/1/जनवरी 2023

भारतीय मानक ब्यूरो की स्कीम–I (अनुरूपता मूल्यांकन) विनियम, 2018 के तहत यह उत्पाद मैन्युअल प्रमाणीकरण के प्रचालन में रीति औरपारिर्शिता की सुसंगतता सुनिश्चित करनेके 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 FLUSH BOLTS ACCORDING to IS 5187:1972

Document No.-PM/IS 5187/1/ January 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 5187: 1972
	Title	:	Flush Bolts
	No. of Amendments	:	One
2.	**Sampling Guidelines:**		
a)	**Raw material**	:	**Cast Brass for Body, Plate and Bolt- as per IS 292** **Cast Aluminum Alloy for Body and Plate - as per IS 617** **Extruded Aluminum Alloy for Body, plate and Bolt- as per IS 733** **Extruded Brass for Bolt - as per IS 319** **Steel strip for Spring- as per IS 2507** Note: Manufacturers should check for the latest applicable cross referred Indian Standards on raw material and test methods with BIS
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 5187:1972 with the following scope:
	Name of product	**:**	Flush Bolt
	Material of Body	**:**	Cast Brass/ Cast Aluminum Alloy/ Extruded Aluminum Alloy
	Type	**:**	Type 1/Type 2
	Sizes	**:**	Up to and including….mm

ANNEX A

Grouping Guidelines

1. Flush Bolts as per IS 5187: 1972 are classified in to different varieties based on following:

A. Material of Body: Cast Brass/ Cast Aluminum Alloy/ Extruded Aluminum Alloy

B. **Type and Size:**

Type of Flush Bolt	**Sizes**
Type 1	100 mm, 150 mm, 200 mm
Type 2	100 mm, 150 mm, 200 mm, 250 mm, 300 mm

Further, as per Cl. 3.2 of IS 5187, Flush Bolts may be supplied in sizes and shapes other than those specified in the Standard as agreed between the manufacturer and the purchaser

2. Considering the above, one sample each of the smallest and highest size from each type of Flush Bolt shall be tested to cover all sizes in the size-range offered for that particular type of Flush bolts. In addition to the sizes drawn for independent testing as per above guidelines, factory test report of all other sizes intended to be covered in scope shall also be submitted.

3. Separate sample shall be drawn for each body material intended to be covered in the scope.

4. The Firm shall declare the varieties of Flush Bolts they intend to cover in the Licence. The Scope of Licence may be restricted based on the Manufacturing and testing capabilities of the Manufacturer.

5. 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
	Cl. No.	Test	
1.	4.2, Fig.1	Manufacture and Construction	Protector
2.	5	Dimensions	Vernier caliper, Micrometer
3.	6.1	Tests for anodizing on Aluminum Bolts	Chemicals with reagents or Eddy current tester or other test equipment as per IS 1868 for coating thickness, Salt spray chamber for corrosion resistance test, other apparatus for abrasion resistance, resistance to crazing, fastness to light, Light reflection as per IS 5523, Apparatus for Electric potential breakdown (as per IS 6910) and continuity tests (as per IS 8375)

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 5187: 1972. Additionally, type and Size shall also be marked on each piece or package.

4. CONTROL UNIT- All Flush Bolts of same material of components, Type 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.

5.2 Manufacturers should check for the latest applicable cross referred Indian Standards on raw material and test methods with BIS.

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**				
2.1	Raw Material	2.1	IS 5187	S	One	Each Consignment	No further testing is required if material is received with test certificate or is ISI Marked.
4	Manufacture and Construction	4.1, 4.2	IS 5187	R	Firm should exercise adequate control so that whole production should meet the requirements		
5	Dimensions	5.1, 5.2, Table 2, Table 3, Fig.1	IS 5187	R	One piece from each hour of production		--
6	Workmanship and Finish	6.1	IS 5187	R	Firm should exercise adequate control so that whole production should meet the requirements		
6.1	***Anodizing test for Aluminum Body Flush Bolts***						
	Thickness	6.1 9	IS 5187 IS 1868	R	One	Once in 3 months for each variety manufactured	
	Quality of sealing	6.1 10	IS 5187 IS 1868	S	One	Once in 3 months for each variety manufactured	
	Colour and appearance	6.1 11	IS 5187 IS 1868	R	One	Once in 3 months for each variety manufactured	

	Corrosion resistance	6.1 12	IS 5187 IS 1868	R	One	Once in 3 months for each variety manufactured	
	Abrasion resistance, If required by purchaser	6.1 13	IS 5187 IS 1868	R	As per the requirement of purchaser		
	Resistance to crazing by deformation	6.1 14	IS 5187 IS 1868	R	One	Once in 3 months for each variety manufactured	
	Fastness to light	6.1 15	IS 5187 IS 1868	S	One	Once in 3 months for each variety manufactured	
	Light reflection properties	6.1 16	IS 5187 IS 1868	S	One	Once in 3 months for each variety manufactured	
	Electrical Breakdown potential, if required by purchaser	6.1 17	IS 5187 IS 1868	S	As per the requirement of purchaser		

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.