



## PRODUCT MANUAL OF CONTINUOUS (PIANO) HINGES AS PER IS 3818: 1992

*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) Regulation, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/ certificate.*

1	<b>Product</b>	:	IS 3818: 1992
	<b>Title</b>	:	CONTINUOUS (PIANO) HINGES
	<b>No. of Amendments</b>	:	2
2	<b>Sampling Guidelines</b>		
a)	<b>Raw material</b>	:	As per clause 3, Table 1 of IS 3818: 1992
b)	<b>Grouping guidelines</b>	:	Please refer ANNEX-A
c)	<b>Sample size</b>	:	6 Pieces
3	<b>List of Equipment</b>	:	Please refer ANNEX-B
4	<b>Scheme of Inspection and Testing</b>	:	Please refer ANNEX-C
5	<b>Possible Test in a day:</b>		
	(i)	Dimensions and tolerance (Clause 4)	
	(ii)	Manufacture (Clause 5)	
	(iii)	Finish (Clause 6)	
6	<b>Scope of Licence:</b>		
	Licence is granted to use Standard Mark as per IS 3818: 1992 with the following scope:		
	<b>Name of the product</b>	Continuous (Piano) Hinges	
	<b>Type</b>	Type I/Type II/Type III/Type IV	
	<b>Nominal sizes</b>	Type I – 25 and 30, Type II – 35, 40 and 50, Type III – 50 and Type IV – 30 and 40	
	<b>Material used for manufacturing of hinges</b>	Mild Steel /Aluminium Alloy	

**ANNEX A****Grouping Guidelines**

1. Continuous (Piano) Hinges covered in IS 3818: 1992 are classified into various types as detailed given below:

a) Based on geometrical shape and width of these hinges:

<b>Type</b>	<b>Nominal size</b>	<b>Remark</b>
I	25	Length can be supplied based on agreement between purchaser and manufacturer
	30	
II	35	
	40	
	50	
III	50	
IV	30	Unequal flap width
	40	

b) Material used for manufacturing of hinges and finish:

- i) Mild steel – Anticorrosive treatment
- ii) Aluminium alloy – Anodized

2. Considering the above following grouping guidelines is developed for GoL/CSoL:

- a) One sample of the highest nominal size from any Type of hinges shall be tested to cover all Type of hinges for sizes upto and including the size tested.
- b) Separate sample of hinges with mild steel and aluminium alloy shall be tested to cover that material in the scope of the licence.

3. The Firm shall declare the varieties 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 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 requirements of Indian Standard.*

<b>SI. No</b>	<b>Tests used in with Clause reference</b>	<b>Test equipment</b>
1	Dimensions and tolerance (Clause 4)	<ul style="list-style-type: none"> <li>- Steel Scale</li> <li>- Vernier calliper</li> <li>- Micrometer</li> <li>- Csk screw no – 3, 5</li> </ul>
2	Finish (Clause 6)	- Coating Thickness Gauge
	For Anodized Aluminium hinges	Stripping method to be used as per IS 1868 <ul style="list-style-type: none"> <li>(a) Single Pan Balance</li> <li>(b) Glass Beaker</li> <li>(c) Phosphoric Acid</li> <li>(d) Chromic acid (AR quality)</li> <li>(e) Distilled Water</li> <li>(f) Stop watch</li> </ul>

*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.

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 3818: 1992. In addition, each box shall be marked with batch code/date of manufacture for traceability.

**4. CONTROL UNIT** – All hinges of same type and size produced from the same machine in two hours 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.

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 Methods			No. of Sample	Frequency	Remarks
		Clause	Reference				
3	Materials	3	IS 3818	S	One	Each type/ grade of material received in a consignment	No further testing is required if accompanied with the test certificate or ISI marked.
4	Dimensions and tolerance	4	IS 3818	R	Five	Each control unit	#
5	Manufacture	4	IS 3818	R	Each hinge	-	-
6	Finish	6	IS 3818 IS 1868	R	Each	-	However, in case of aluminium hinges, quality of anodized finished shall be tested at frequency one sample per batch anodized at one time

# At the beginning of production, 10 samples shall be tested and normal frequency shall be followed if all pieces are found conforming. In case of failure of samples, machine shall be reset and test 10 samples again and normal frequency shall be resumed only if all samples are found confirming. Production during that one hour before resetting of machine shall not be marked.

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 B.O. Head.