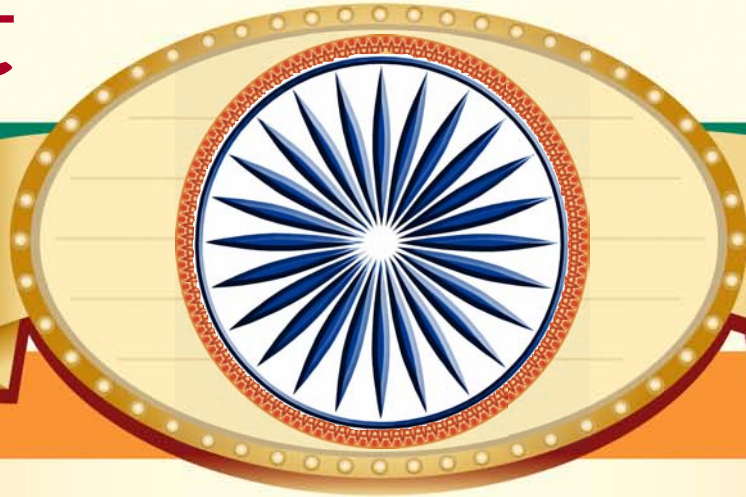


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मानक



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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

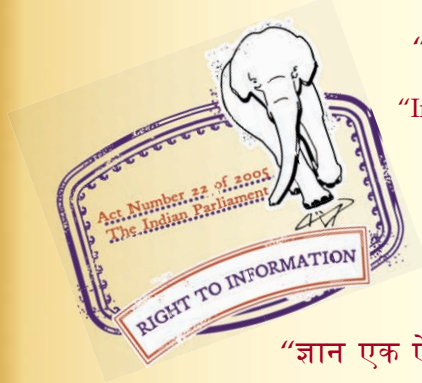
“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 3818 (1992): Continuous (Piano) hinges -Specification
[CED 15: Builder Hardware]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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IS 3818 : 1992

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भारतीय मानक
सतत (पियानो) कब्जे - विशिष्ट
(तीसरा पुनरीक्षण)

Indian Standard

CONTINUOUS (PIANO) HINGES —
SPECIFICATION
(*Third Revision*)

UDC 683.367

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

May 1992

Price Group 2

AMENDMENT NO. 1 OCTOBER 1993
TO
IS 3818 : 1992 CONTINUOUS (PLANO) HINGES —
SPECIFICATION

(Third Revision)

[*Page 1, Table 1, Sl No. (ii), col 3 (a) and (b)*] — Read 'wire' for 'sheet'.

(*Fig. 2*) — Read 'thickness of flap as '1.5 to 1.8'.

(*Clause 8*) — Substitute the following for the existing clause:

'The hinges shall be packed in polyethylene sheet or any other water-proof paper in bundle packages of 5, 10 or in multiples of 5.'

[*Clause 8.2 (d)*] — Read 'Quantity' for 'Quality'.

(CED 15)

Reprography Unit, BIS, New Delhi, India

FOREWORD

This Indian Standard (Third Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Builder's Hardware Sectional Committee had been approved by the Civil Engineering Division Council.

This standard was originally published in 1966 and revised in 1971. In this revision, following important changes have been incorporated:

- a) In material, one more material, that is, Grade D of IS 513 : 1986 'Cold-rolled low carbon steel sheets and strips (*third revision*)' has been added.
- b) One more type of hinges, that is, Type IV Continuous (Piano) hinges has been added.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

CONTINUOUS (PIANO) HINGES — SPECIFICATION

(*Third Revision*)

1 SCOPE

This standard lays down the requirements for continuous (piano) hinges.

2 REFERENCES

The Indian Standards listed in Annex A are necessary adjuncts to this standard.

3 MATERIALS

Materials used for the manufacture of continuous (piano) hinges shall comply with the requirements given in Table 1.

4 DIMENSIONS AND TOLERANCES

Dimensions of Types I, II, III and IV continuous (piano) hinges and permissible tolerances on the dimensions shall conform to those specified in Fig. 1, 2 and 3.

5 MANUFACTURE

5.1 Hinges shall be well made and the hole for the hinge pin shall be central and square to the knuckles.

5.2 Knuckles

The sides of the knuckles shall be straight and at right angle to the flap. The movement of hinge shall be free and easy and working shall not have any play or shake.

5.3 Pins

The hinge pin shall be of mild steel in the case of mild steel hinges. The hinge pin shall be of mild steel (galvanized) or aluminium alloy in the case of aluminium alloy hinges. The aluminium alloy hinge pin shall be hard anodized to a minimum thickness of 0.025 mm and sealed with oil wax or lanolin. The hinge pin shall fit in the knuckle firmly so as not to allow any play or shake and shall allow easy movement of hinge, but shall not cause looseness.

5.4 Screw Holes

All screw holes shall be clean and countersunk suitably for screws conforming to IS 6760 : 1972.

6 FINISH

Mild steel hinges shall be protected with anti-corrosive treatment, such as bright polished, chromium plated or oxidized finish. Aluminium hinges shall be anodized and the quality of anodized finish shall not be less than that of Grade AC 10 of IS 1868 : 1982.

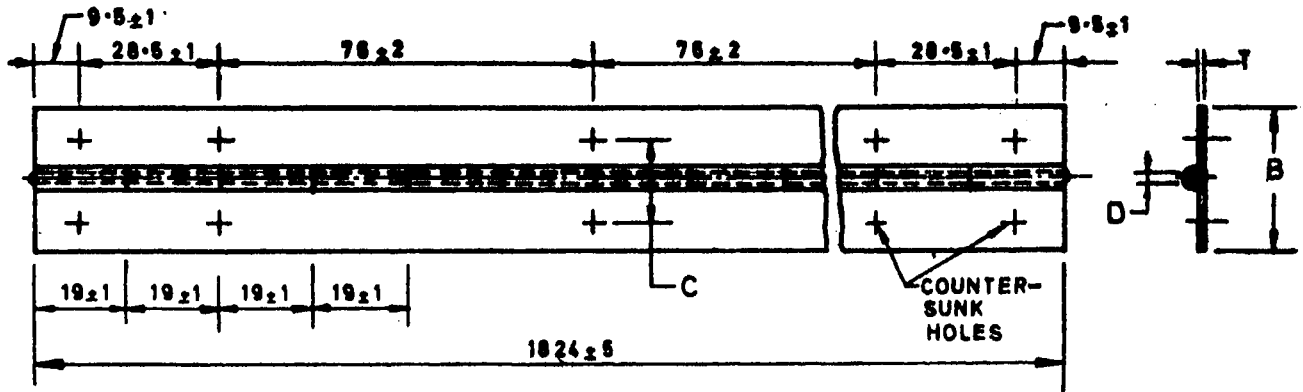
7 MARKING

7.1 Each hinges shall be clearly and permanently marked with indication of source of manufacture.

7.2 Each hinge may also be marked with the Standard Mark.

Table 1 Requirements of Materials for Continuous (Piano) Hinges

Sl No.	Name of Component	Material	Suitable Grade in Relevant Indian Standard
(1)	(2)	(3)	(4)
i)	Flap	a) Mild steel sheet b) Aluminium alloy sheet c) Cold rolled low carbon steel sheets	Grade 0 of IS 1079 : 1988 19 000 H2 or 31 000 H2 of IS 737 : 1986 Grade D of IS 513 : 1986
ii)	Pin	a) Mild steel sheet b) Aluminium alloy sheet	IS 280 : 1978 having minimum tensile strength of 400 MPa 64 430 WP of IS 739 : 1977



Nominal Size	B	C	Pin Dia, D	T	Csk Screw No.	Examples of Uses	Type
25	25 ± 1	15 ± 1.5	2.00	0.8 to 1.0	3	Light fixtures like Electrical Panels in Railway Coaches	I
30	30 ± 1	18 ± 1.5	2.00	0.8 to 1.0	3		
35	35 ± 1	20 ± 1.5	2.50	0.8 to 1.5	5	Cup Board and light flush doors	II
40	40 ± 1	22 ± 1.5	2.50	0.8 to 1.5	5		
50	50 ± 1	27 ± 1.5	2.80	0.8 to 1.5	5		

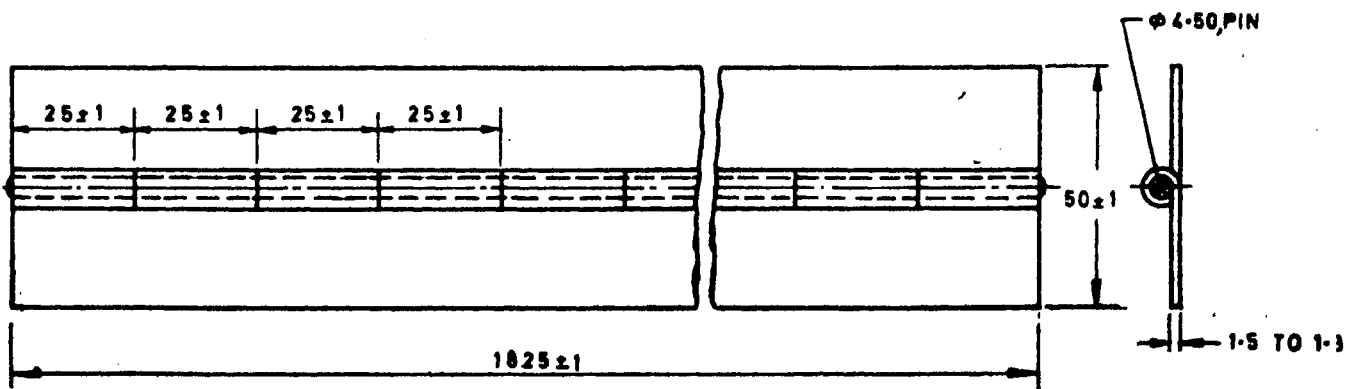
All dimensions in millimetres.

NOTES

- 1 Length other than this where required by the purchaser should be in multiples of 304.
- 2 The minimum distance of screw holes from the end of flap.

Nominal Size	Distance
25	2.0
30	3.5

FIG. 1 CONTINUOUS (PIANO) HINGES TYPES I AND II

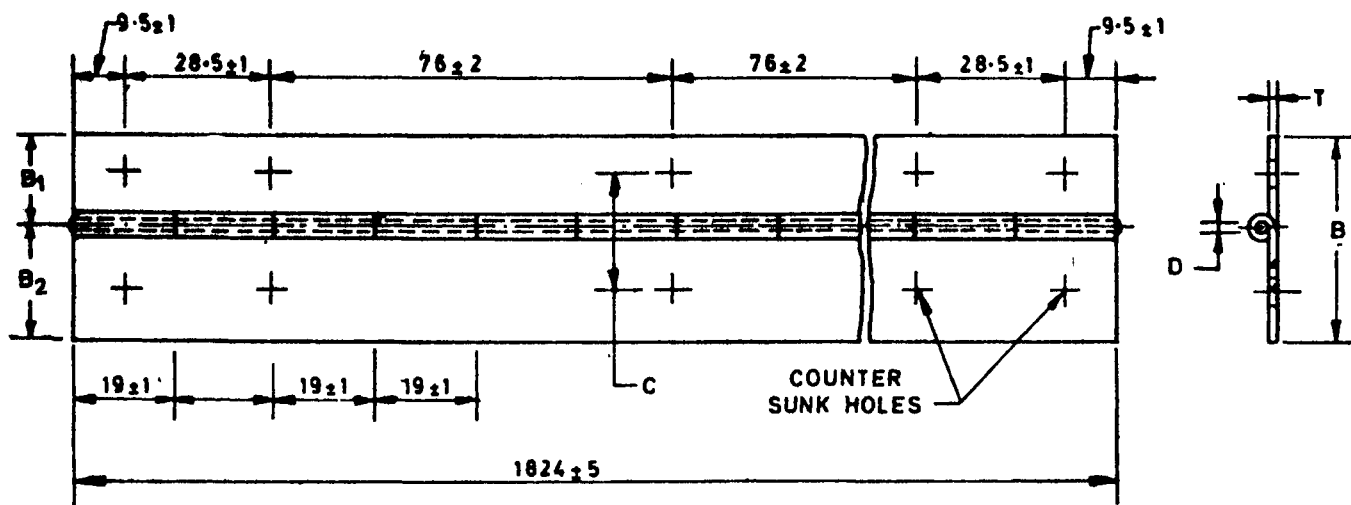


All dimensions in millimetres.

NOTES

- 1 Can be supplied with/without holes subject to special agreement with indication of holes diameter, counter sinking, hole position and length.
- 2 For heavy duty purposes like engine bonnet covers in vehicles.

FIG. 2 CONTINUOUS (PIANO) HINGES TYPE III; 50 mm NOMINAL SIZE



Nominal Size	B	B ₁	B ₂	C	Pin Dia, D	T	Csk Screw No.	Examples of Use	Type
30	30 ± 1	12.5 ± 1	17.5 ± 1	18 ± 1.5	2.5	0.8 to 1.0	5	Cupboards shutters and light furniture	IV
40	40 ± 1	17.5 ± 1	22.5 ± 1	22 ± 1.5	2.5	0.8 to 1.5	5		

All dimensions in millimetres.

FIG. 3 CONTINUOUS (PIANO) HINGES TYPE IV

8 PACKING

8.1 The hinges shall be packed in polyethylene sheet in bundles of 10 or 12. The bundles shall be suitably packed in card-board boxes lined with weather-proof paper.

8.2 Each box shall bear a lable showing the following particulars:

- a) Indication of source of manufacture,

- b) Type of hinge,
- c) Size of hinge, and
- d) Quality of hinge.

9 SAMPLING AND CRITERIA FOR CONFORMITY

The method of drawing representative samples of the material and the criteria for conformity is given in Annex B.

ANNEX A

(Clause 2)

IS No.	Title	IS No.	Title
280 : 1978	Mild steel wire for general engineering purposes (<i>third revision</i>)	1079 : 1988	engineering purposes (<i>second revision</i>)
737 : 1986	Wrought aluminium and aluminium alloy sheet and strip for general engineering purposes (<i>second revision</i>)	1868 : 1982	Hot rolled carbon steel sheet and strip (<i>fourth revision</i>)
739 : 1977	Wrought aluminium and aluminium alloy wire for general	4905 : 1968	Anodic coatings on aluminium and its alloys (<i>second revision</i>)
		6760 : 1972	Methods for random sampling
			Slotted countersunk wood head screws

ANNEX B

(Clause 9)

SCALE OF SAMPLING AND CRITERIA FOR CONFORMITY

B-1 SCALE OF SAMPLING

B-1.1 Lot

In any consignment, all the continuous (piano) hinges of the same type, designation and manufactured from the identical material shall be grouped together to constitute a lot.

B-1.2 For ascertaining the conformity of material to the requirements of this specification, samples shall be tested from each lot separately.

B-1.3 The number of hinges to be selected from a lot shall depend on the size of the lot and shall be in accordance with column 1 and 2 of Table 2.

B-1.3.1 These hinges shall be selected at random from the lot. In order to ensure the randomness of selection, procedures given in IS 4905 : 1968 may be followed.

B-1.3.2 For this purpose, at least 10 percent of the packages subject to a minimum of three packages shall be selected and equal number of hinges shall be selected from each such package.

B-2 NUMBER OF TESTS AND CRITERIA FOR CONFORMITY

B-2.1 All the hinges selected according to B-1.3 shall be examined for dimensional requirements (*see 4*), manufacture (*see 5*) and finish (*see 6*). Any hinges which fails to satisfy one or more of these requirements shall be considered as defective.

B-2.2 The lot shall be declared as conforming to the requirements of this specification if the number of defectives found in the sample is less than or equal to the corresponding permissible number of defectives given in column 3 of Table 2.

Table 2 Scale of Sampling and Permissible Number of Defectives

Number of Hinges in the Lot	Sample Size	Permissible Number of Defective
(1)	(2)	(3)
Up to 150	13	0
151 to 300	20	1
301 to 500	32	2
501 to 1 000	50	3
1 001 and above	80	5

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Bureau of Indian Standard

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