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Mazdoor Kisan Shakti Sangathan

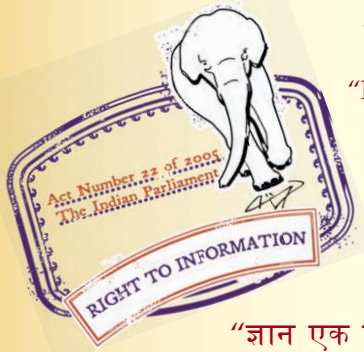
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“Step Out From the Old to the New”

IS 10019 (1981): Specification for mild steel stays and fasteners [CED 15: Builder Hardware]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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IS : 10019 - 1981

Indian Standard
SPECIFICATION FOR
MILD STEEL STAYS AND FASTENERS

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SPECIFICATION FOR MILD STEEL STAYS AND FASTENERS

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Indian Standard

SPECIFICATION FOR MILD STEEL STAYS AND FASTENERS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 31 August 1981, after the draft finalized by the Builder's Hardware Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 Window stays and fasteners pressed out of mild steel are being extensively used at present due to their low cost. They are manufactured in a variety of cross-sections and shapes. But the most popularly used steel stays and fasteners do either have a tubular cross-section or are manufactured from one piece sheet. This standard has been prepared with a view to laying down the requirement of such steel stays and fasteners, of the types that are commonly used in windows.

0.3 This standard contains clauses **4.1.1** and **7.1** which permit the purchaser to use his option for selection to suit his requirements.

0.4 In the formulation of this standard, due weightage has been given to international co-ordination among the standards and practices prevailing in different countries in addition to relating it to the practices in the field in India.

0.5 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*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

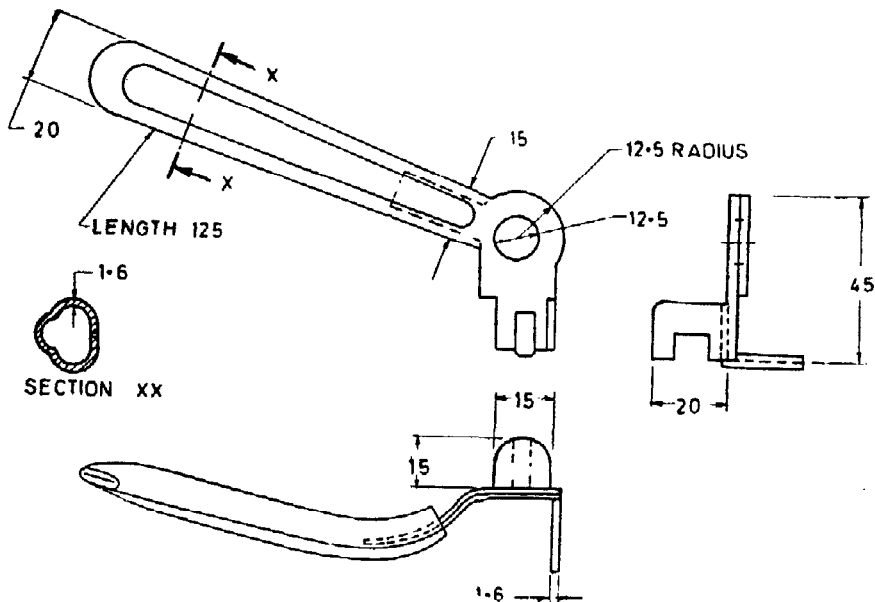
1.1 This standard lays down the requirements regarding materials, dimensions, manufacture and finish of stays and fasteners made of mild steel of the types that are commonly used in windows.

*Rules for rounding off numerical values (*revised*).

2. TYPES

2.1 The stays and fasteners shall be of the following types:

- a) Type 1 — Mild steel stays and fasteners having tubular cross-section (see Fig. 1A), and
- b) Type 2 — Mild steel stays and fasteners made out of one piece sheet (see Fig. 1B).



All dimensions in millimetres.

FIG. 1A TYPICAL CASEMENT HANDLE (L or R) TYPE 1

3. MATERIALS

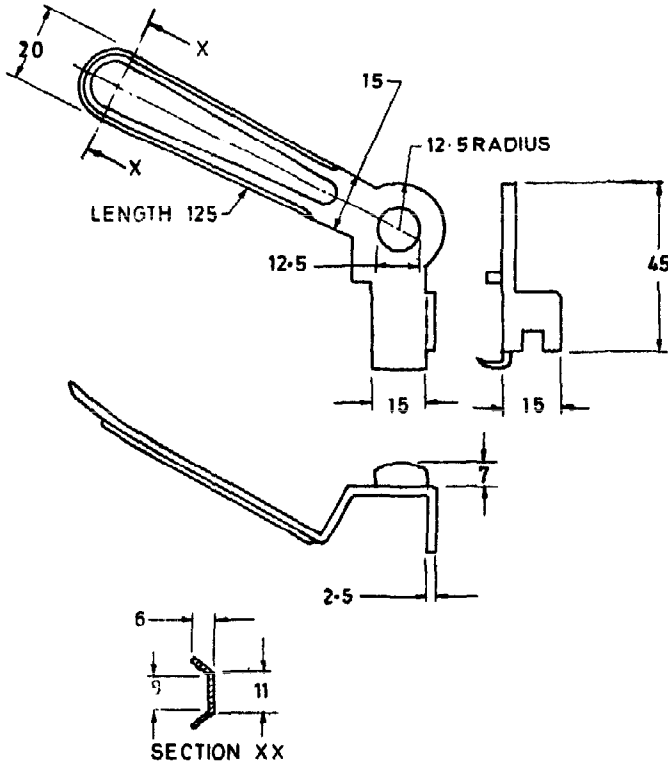
3.1 Materials for the manufacture of steel stays and fasteners shall comply with the requirements given in Table 1.

TABLE 1 REQUIREMENTS FOR MATERIALS

MATERIAL (1)	SUITABLE GRADE IN INDIAN STANDARD (2)
Mild steel sheets	Grade 0-1079 of IS : 1079-1973*
Mild steel bars	Grade Fe 310-0 of IS : 1977-1975†

*Specification for hot rolled carbon steel sheet and strip (*third revision*).

†Specification for structural steel (ordinary quality) (*second revision*).



All dimensions in millimetres.

FIG. 1B TYPICAL CASEMENT HANDLE (L or R) TYPE 2

4. SHAPE AND DIMENSION

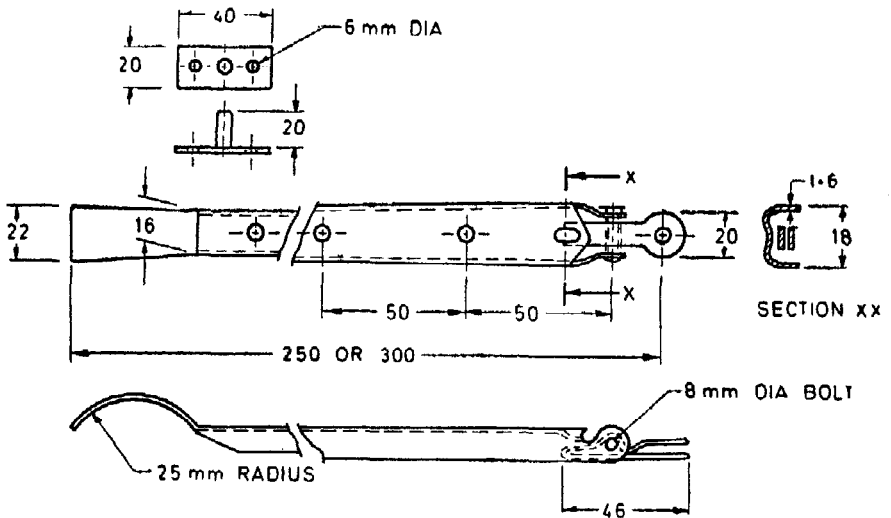
4.1 The shape and the essential dimensions of the steel stays and fasteners for windows shall be as given in Fig. 1A, 1B and 2.

4.1.1 The stays and fasteners may be supplied in other shapes and dimensions where so agreed to between the manufacturer and the purchaser.

NOTE — The shapes of the stays and fasteners are only illustrative, but the dimensions shown are minimum, and are binding.

5. TEST

5.1 **Test for Window Stays** — The stay shall be capable of holding the window shutter in three different positions so as to make angles of 30° , 60° and 90° with the window frame. Tolerances in such positions shall not exceed $\pm 5^\circ$.



All dimensions in millimetres.

FIG. 2 TYPICAL SKETCH OF WINDOW STAY

6. MANUFACTURE

6.1 The steel stays and fasteners shall be well made and free from defects. They shall be finished to correct shape and dimensions. All sharp edges and corners shall be removed and finished smooth. All screw holes shall be countersunk to suit the countersunk head of wood screws conforming to IS : 6760-1972*.

7. FINISH

7.1 Unless otherwise specified the steel stays and fasteners shall be either copper oxidized or a holding galvanised or electro-galvanised.

8. MARKING

8.1 Each steel stay and fastener shall be clearly and permanently marked with the name of the manufacturer or his trade mark, if any.

8.1.1 The stays and fasteners may also be marked with the ISI Certification Mark.

*Specification for slotted countersunk head wood screws.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

9. PACKING

9.1 The steel stays and fasteners shall be packed according to the usual trade practice in cardboard boxes or in any other approved packing. The boxes shall be labelled with the manufacturer's name or trade mark, type and description of contents, particulars of quantity, and size.

10. SCALE OF SAMPLING AND CRITERION FOR CONFORMITY

10.1 The method of selecting steel stays and fasteners and the criterion for conformity shall be as given in Appendix A.

APPENDIX A

(Clause 10.1)

SAMPLING AND CRITERION FOR CONFORMITY

A-1. LOT

A-1.1 In any consignment all the steel stays and fasteners of the same type, shape and size and manufactured from similar materials under identical conditions of manufacture shall be grouped together to constitute a lot.

A-2. SAMPLE SIZE

A-2.1 The number of stays and fasteners to be selected from a lot shall depend on the size of the lot and shall be in accordance with col 1 and 2 of Table 2.

TABLE 2 SCALE OF SAMPLING AND CRITERION FOR CONFORMITY

LOT SIZE	SAMPLE SIZE	PERMISSIBLE NO. OF DEFECTIVES
(1)	(2)	(3)
Up to 150	5	0
151 to 300	20	1
301 to 500	32	2
501 to 1000	50	3
1001 and above	80	5

A-2.1.1 These stays and fasteners shall be selected at random from at least 10 percent of the packages subject to a minimum of three packages, equal number of stays and fasteners being selected from each such package.

A-3. NUMBER OF TESTS

A-3.1 All the stays and fasteners, selected as in **A-2**, shall be checked for shape and size (*see 4*), defects in manufacture (*see 6*), finish (*see 7*) and tests (*see 5*). Any stay and fastener which fails to satisfy any one or more of the requirements shall be considered as defective.

A-4. CRITERION FOR CONFORMITY

A-4.1 A lot shall be considered as conforming to the requirement of this standard if the number of defective stays and fasteners among those tested does not exceed the corresponding number given in col 3 of Table 2.