IS 1823 (1980): Specification for floor door stoppers [CED 15: Builder Hardware]

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SPECIFICATION FOR FLOOR DOOR STOPPERS

(Third Revision)

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MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

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Indian Standard

SPECIFICATION FOR FLOOR DOOR STOPPERS

(Third Revision)

0. FOREWORD

0.1 This Indian Standard (Third Revision) was adopted by the Indian Standards Institution on 24 January 1980, after the draft finalized by the Builder's Hardware Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 The specification for floor door stoppers was first published in 1962 and revised in 1968, and the second revision was issued in 1974. In the third revision the improvement made by the industry in the manufacture of floor door stoppers have been incorporated. To satisfy the functional requirements better certain dimensions have been kept binding, and certain new dimensions have been introduced to ensure interchangeability. Some new material for the manufacture of body and cover plate have also been introduced.

0.3 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.

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1. SCOPE

1.1 This standard lays down the requirements for floor door stopper suitable for use with door shutters of 30, 35, 40 and 45 mm thickness.

2. MATERIALS

2.1 Materials used for the manufacture of various components of floor door stoppers shall conform to those given in Table 1.

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

3. DIMENSIONS AND TOLERANCES

3.1 The leading dimensions and tolerances thereon shall be as given in Table 2 read with Fig. 1.

NOTE — The shape of the floor door stopper is only illustrative but the dimensions and minimum requirements are binding.

TABLE 1 REQUIREMENTS FOR MATERIAL FOR FLOOR DOOR STOPPERS

(*Clause* 2.1)

SL NO.	PART	MATERIAL	SUITABLE GRADE IN INDIAN STANDARD
(1)	(2)	(3)	(4)
i)	Body or housing and cover plate	Aluminium alloy pressure die castings	IS Designation 4600 or 5230 of IS : 617-1975*
		Aluminium alloy sheets	IS Designation 52000 or 65032 of IS : 737-1974†
		Brass sheet	CuZn40 of IS : 410-1977‡
		Cast brass	Grade 3 of IS : 292-1961§
		Brass gravity die casting	CuZn40 of IS : 1264-1965‖
ii)	Spring	Phosphor bronze	Grade 1 of IS : 7608-1975¶
		Hard drawn steel wire	Grade 2 of IS : 4454 (Part I)-1975**
iii)	Tongue	Aluminium alloy pressure die casting	Grade 4600 or 52300 of IS : 617-1975*
		Cast brass	Grade 3 of IS : 292-1961§
		Nylon	Suitable grade
		Plastic	Suitable grade

*Specification for aluminium and aluminium alloy ingots and castings for general engineering purposes (*second revision*).

†Specification for wrought aluminium and aluminium alloys, sheet and strip (for general engineering purposes) (*second revision*).

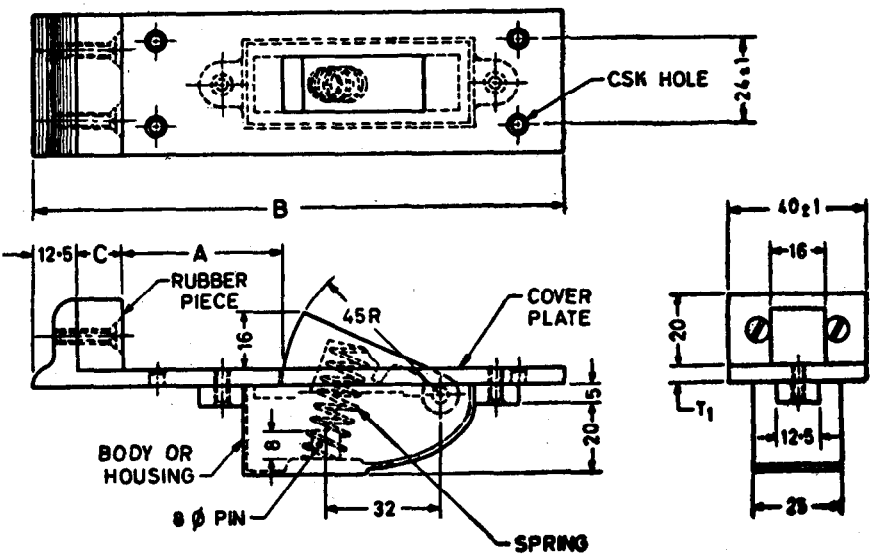
‡Specification for cold rolled brass sheet, strip and foil (*third revision*).

§Specification for brass ingots and castings (*revised*).

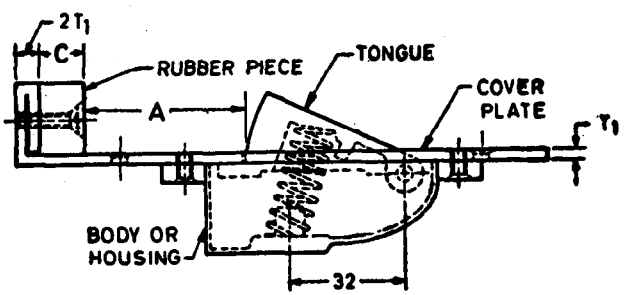
‖Specification for brass ingots for gravity die castings and brass gravity die castings (including naval brass) (*revised*).

¶Specification for phosphor bronze wires (for general engineering purposes).

**Specification for steel wires for cold formed springs : Part I Patented and cold drawn steel wires — unalloyed (*first revision*).



1A CAST TYPE



1B CAST BODY OR HOUSING WITH SHEET METAL COVER

All dimensions in millimetres.

FIG. 1 TYPICAL ILLUSTRATION OF FLOOR DOOR STOPPER

TABLE 2 DIMENSIONS AND TOLERANCES OF FLOOR DOOR STOPPERS

(*Clauses* 3.1, 4.2 and *Fig.* 1)

All dimensions in millimetres.

THICKNESS OF DOOR SHUTTER	*A*	*B*	*C* Min	*T1*		COUNTERSUNK WOOD SCREWS		
				Casting	Sheet	Screw Designation for Casting	Screw Designation for Sheet Metal	No. of Holes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
30	35	140	13	4·5	3	9	8	4
35	40	140	8	4·5	3	9	8	4
40	45	150	13	4·5	3	9	8	4
45	50	150	8	4·5	3	9	8	4
TOLERANCES	± 0·5	± 0·5	—	+ 0·3 − 0	+ 0·3 − 0	—	—	—

4. MANUFACTURE

4.1 The floor door stoppers shall be well made and shall be free from defects likely to prevent its correct fixing or affect adversely its reliability in use.

4.2 The body or housing of the door stopper shall be cast or manufactured in one piece and shall be fixed to the cover plate by means of brass or aluminium screws. The screws for fixing the cover plate to the body shall be countersunk head machined screws conforming to IS : 1365-1978*. The body and the cover plate shall be either of aluminium alloy casting or aluminium alloy sheet, or cast brass or brass sheet. There shall be four countersunk holes for fixing the door stoppers to the floor. The screw holes shall be suitable for countersunk head wood screws conforming to IS : 6760-1972† and of sizes as specified in Table 2.

*Specification for slotted countersunk head screws (*third revision*).

†Specification for slotted countersunk head wood screws.

4.3 The stoppers shall be provided with one wire spring which shall comply with the material specified in Table 2. The spring shall be fixed to a 8 mm diameter pin as shown in Fig. 1. The pin shall be either of brass or aluminium or mild steel.

4.4 The tongue shall preferably be of the same material as used for the body housing except when the tongue is made of nylon or plastics. The tongue which would be pressed while closing or opening of the door shall be connected to the lower part by means of a copper pin of suitable size as shown in Fig. 1.

4.5 On the extreme end, a rubber piece shall be attached to absorb shocks due to the pulling action of the door as shown in Fig. 1. The rubber used shall comply with the requirement given in Table 3. The rubber piece may be fixed to the cover plate by means of brass or mild steel screws.

TABLE 3 REQUIREMENTS FOR RUBBER FOR USE IN FLOOR DOOR STOPPERS

Sl No.	Particulars	Requirements	Resting Procedure
(1)	(2)	(3)	(4)
i)	Relative density, *Max*	1·3	IS : 3400 (Part IX)-1978*
ii)	Hardness	60 ± 5	IS : 3400 (Part II)-1965*
iii)	Ageing for 24 h at 100 ± 1°C	a) Change in initial hardness +5, −0	IS : 3400 (Part II)-1965* and
		b) Shall not develop brittleness or tackiness	IS : 3400 (Part IV)-1978*

*Methods of test for vulcanized rubbers:

Part IX Density (*first revision*).

Part II Hardness.

Part IV Accelerated ageing (*first revision*).

5. WORKMANSHIP AND FINISH

5.1 Door stoppers shall be free from flaws and defects of all kinds. All burrs and sharp edges shall be removed. It shall be free from surface and casting defects. Aluminium door stopper shall be anodized and the anodic coating shall not be less than Grade AC 10 of IS : 1868-1968*. Brass stoppers shall be finished smooth. Stoppers may also be chromium or nickel plated, anodized or oxidized, if so desired by the purchaser.

5.2 The exterior of the door stopper shall be in flush with the floor and shall be finished bright or satin.

6. MARKING

6.1 Each door stopper shall be clearly and permanently marked with the following information:

a) ' Name of the manufacturer or trade-mark, and

b) Size of shutter for which it is suitable.

6.2 The door stoppers may also be marked with the ISI Certification Mark.

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.

7. PACKING

7.1 Each door stopper shall be suitably wrapped in craft paper or polyethylene paper to avoid ingress of moisture during storage. It shall further be packed in cardboard boxes.

7.2 Each cardboard box shall be marked with the following:

a) Manufacturers' name or trade-mark,

b) Size of shutter to which the stopper is suitable, and

c) Quantity in the package.

*Specification for anodic coatings on aluminium (*first revision*).

8. SAMPLING AND CRITERION FOR CONFORMITY

8.1 The method of sampling and criterion for conformity shall be as given in Appendix A.

APPENDIX A

(*Clause* 8.1)

SAMPLING OF FLOOR DOOR STOPPERS

A-1. SCALE OF SAMPLING

A-1.1 Lot—In any consignment all the floor door stoppers of same shape, size and manufactured from similar materials under identical condition shall be grouped together to constitute a lot.

A-1.2 The number of floor door stoppers 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 4.

A-1.3 These stoppers shall be selected at random from at least 10 percent of the randomly selected packages subject to a maximum of three, equal number of stoppers being selected from each such package.

TABLE 4 SCALE OF SAMPLING AND CRITERION FOR CONFORMITY

(*Clauses* A-1.2 *and* A-3.1)

LOT SIZE	SAMPLE SIZE	PERMISSIBLE NUMBER OF DEFECTIVE FLOOR DOOR STOPPERS
(1)	(2)	(3)
Up to 100	5	0
101 to 300	20	1
301 to 500	32	2
501 to 1 000	50	3
1 001 and above	80	5

A-2. NUMBER OF TESTS

A-2.1 All the floor door stoppers selected as in **A-1.2** shall be checked for dimensional requirements, materials, manufacture and finish. Any floor door stopper which fails to satisfy any one or more of these requirements shall be considered as a defective door stopper.

A-3. CRITERION FOR CONFORMITY

A-3.1 A lot shall be considered as conforming to the requirements of this standard if the number of defective floor door stoppers among those tested does not exceed the corresponding number given in col 3 of Table 4; otherwise it shall be considered as not conforming to the requirements of this standard.

BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002

Telephones: 331 01 31, 331 13 75 Telegrams: Manaksanstha
(Common to all Offices)

Regional Offices:	*Telephone*
Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002	331 01 31 331 13 75
*Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, Maniktola, CALCUTTA 700054	36 24 99
Northern : SCO 445-446, Sector 35-C, CHANDIGARH 160036	2 18 43 3 16 41
Southern : C. I. T. Campus, MADRAS 600113	41 24 42 41 25 19 41 29 16
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T.C. No. 14/1421, University P.O., Palayam TRIVANDRUM 695035	6 21 04 6 21 17

Inspection Offices (With Sale Point):

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Institution of Engineers (India) Building, 1332 Shivaji Nagar, PUNE 411005	5 24 35

*Sales Office in Calcutta is at 5 Chowringhee Approach, P. O. Princep Street, Calcutta 700072 — 27 68 00

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