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IS 207 (1964): Gate and Shutter Hooks and Eyes [PGD 31:
Bolts, Nuts and Fasteners Accessories]



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“Knowledge is such a treasure which cannot be stolen”

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IS : 207 - 1964
(Reaffirmed 1981)

Indian Standard

SPECIFICATION FOR GATE AND
SHUTTER HOOKS AND EYES

(*Revised*)

Fourth Reprint OCTOBER 1988

UDC 683.352:621.885

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

Indian Standard

SPECIFICATION FOR GATE AND SHUTTER HOOKS AND EYES

(Revised)

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(Continued on page 2)

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MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

IS : 207 - 1964

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Directorate General of Supplies & Disposals

Defence Production Organization (Ministry of
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Universal Screw Factory, Chheharta (Amritsar)

Indian Standard

SPECIFICATION FOR GATE AND SHUTTER HOOKS AND EYES

(Revised)

0. FOREWORD

0.1 This revised Indian Standard was adopted by the Indian Standards Institution on 10 March 1964, after the draft finalized by the Builder's Hardware Sectional Committee had been approved by the Building Division Council.

0.2 This standard was first issued in 1950 specifying the various dimensions and other requirements of hooks and eyes in fps system. In view of the adoption of the metric system of weights and measures by the Government of India, the need for revision of this standard with a view to metricizing it and bringing it in line with IS : 451-1961 Specification for Wood Screws (*Revised*) in regard to form of screw thread and other relevant requirements has long been felt both by the trade and consumers. This revision, therefore, specifies the various demensions and other requirements of hooks and eyes made of mild steel and brass in the metric units and the details of screw threads and other relevant requirements in accordance with IS : 451-1961.

0.3 The Sectional Committee responsible for the preparation of this standard has taken into consideration the views of producers, consumers and technologists and has related the standard to the manufacturing and trade practices followed in the country in this field. Due weightage has also been given to the need for international co-ordination among standards prevailing in different countries of the world.

0.4 Wherever a reference to any Indian Standard appears in this specification, it shall be taken as a reference to its latest version.

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 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.

0.6 This standard is intended chiefly to cover the technical provisions relating to gate and shutter hooks and eyes, and it does not cover all the necessary provisions of a contract.

1. SCOPE

1.1 This standard lays down the requirements for gate and shutter hooks and eyes which are commonly used on doors and windows for keeping them in position when kept open.

2. TYPES

2.1 Hooks and eyes shall be of the following types:

Type 1 — Mild steel and hard-drawn brass hooks and eyes (*see* Fig. 1),
and

Type 2 — Cast brass hooks and plates (*see* Fig. 2).

3. SIZES

3.1 The standard sizes of gate and shutter hooks and eyes shall be as follows:

<i>Type of Hook and Eye</i>	<i>Nominal Size</i>
Type 1	65, 75, 100, 125, 150, 200, 250 and 300 mm
Type 2	75, 100, 125, 150 and 200 mm

3.2 Gate and shutter hooks and eyes of sizes other than those specified under **3.1** may be supplied by mutual agreement between the purchaser and the supplier but the provisions laid down in this standard shall be generally followed.

4. MATERIAL

4.1 Mild Steel Wire — Mild steel wire used in the manufacture of mild steel hooks and eyes shall conform to IS : 1812-1961 Specification for Mild Steel Wire for Manufacture of Wood Screws.

4.2 Brass Wire

4.2.1 Brass wire used in the manufacture of brass hooks and eyes, when tested in accordance with* IS : 441-1955 Methods for Chemical

*Since withdrawn.

analysis of Brasses and Bronzes, shall have the following chemical composition:

<i>Constituent</i>	<i>Percent</i>
Copper	60 to 72
Zinc	28 to 40
Tin, <i>Max</i>	0.05
Iron, <i>Max</i>	0.1
Lead, <i>Max</i>	0.1
Total impurities including tin, iron, lead, etc, <i>Max</i>	0.8

4.2.2 Brass wire shall have a minimum ultimate tensile strength of 12.5 kg/mm² and a minimum elongation at break of 15 percent, when tested in accordance with*IS : 497-1953 Specification for Tensile Testing of Metals (Non-ferrous).

4.3 Cast Brass— Cast brass used in the manufacture of cast type hooks shall conform to Grade 3 of IS : 292-1961 Specification for Brass Ingots and Castings (*Revised*).

5. MANUFACTURE

5.1 Hooks, eyes and plates shall be well-made and free from defects. They shall be finished to the correct shape and dimensions so as to function properly when they are in use. Cast hooks and plates shall be free from casting and other defects.

5.2 The screw thread and the gimlet point of hooks and eyes shall conform to the requirements laid down in IS : 451-1961 Specification for Wood Screws (*Revised*).

6. DIMENSIONS AND TOLERANCES

6.1 The leading dimensions of hooks, eyes and plates, and tolerances thereon shall conform to Tables I and II.

7. FINISH

7.1 Unless otherwise specified, the articles shall be finished bright.

8. INSPECTION

8.1 The purchaser or his representative shall, if desired, be granted facilities for inspection of finished goods prior to delivery.

*Since withdrawn.

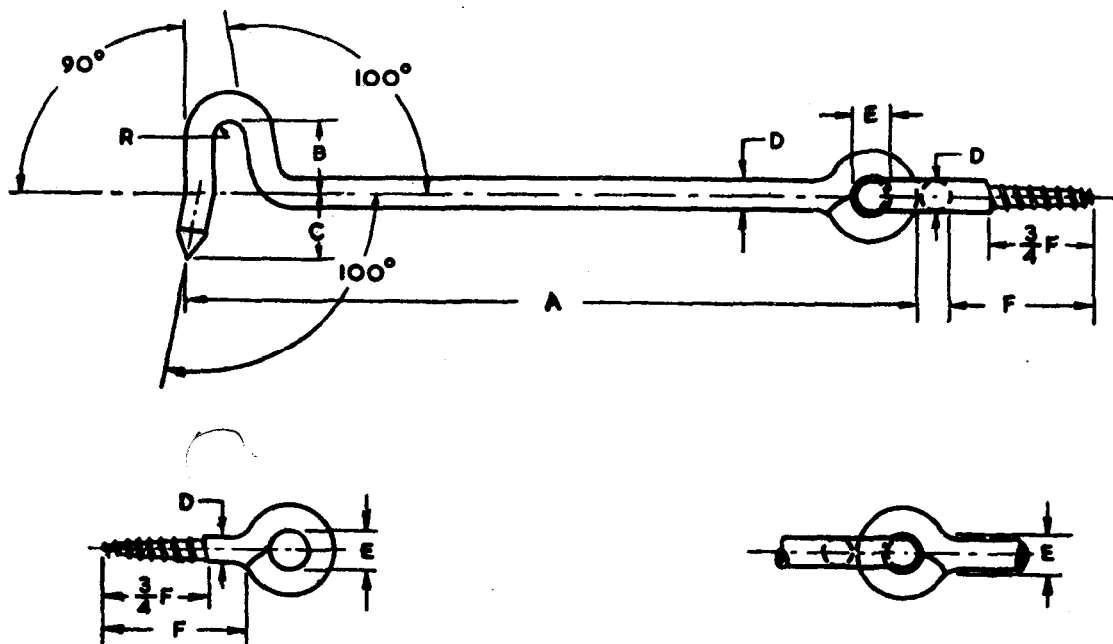


FIG. 1 MILD STEEL AND BRASS GATE AND SHUTTER HOOKS AND EYES

TABLE I DIMENSIONS OF MILD STEEL AND BRASS GATE AND SHUTTER HOOKS AND EYES

(Clause 6.1 and Fig. 1)

Size	A	B Approx	C Approx	D*		E (D*+1.5)	F Approx	R
				Screw Designation No.	Dia of Unthreaded Shank			
mm	mm	mm	mm		mm	mm	mm	mm
65	65 ± 2	10	9	8	4.17	5.7	14.0	2.2
75	75 ± 2	11	10	9	4.52	6.0	15.0	2.4
100	100 ± 2	13	12	11	5.23	6.7	17.5	2.8
125	125 ± 2	15	14	12	5.59	7.1	18.5	3.0
150	150 ± 2	15	14	12	5.59	7.1	18.5	3.0
200	200 ± 2	16	14	14	6.30	7.8	20.5	3.4
250	250 ± 2	17	15	14	6.30	7.8	20.5	3.4
300	300 ± 3	17	15	16	7.01	8.5	23.0	3.7

*Screw designation No. and dia of unthreaded shank conform to those given in IS : 451-1961 Specification for Wood Screws (Revised).

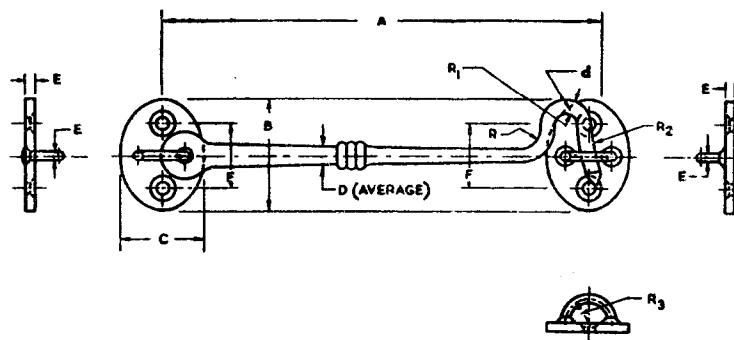


FIG. 2 CAST BRASS HOOKS AND PLATES

TABLE II DIMENSIONS OF CAST BRASS HOOKS AND PLATES

(Clause 6.1 and Fig. 2)

SIZE	A	B	C	D (AVERAGE)	d	E	F	R	R ₁	R ₂	R ₃	SCREW HOLES FOR WOOD SCREW No.
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
75	75±2	30±1	20±1	4.0±0.5	2.5±0.5	2.5±0.5	16±1	4±0.5	2.5±0.5	32±1	5.0±0.5	6
100	100±2	35±1	25±1	5.0±0.5	3.5±0.5	2.5±0.5	20±1	5±0.5	2.5±0.5	35±1	6.5±0.5	8
125	125±2	40±1	30±1	6.5±0.5	5.0±0.5	3.5±0.5	22±1	6±0.5	3.5±0.5	40±1	8.0±0.5	8
150	150±2	40±1	30±1	6.5±0.5	5.0±0.5	3.5±0.5	22±1	7±0.5	3.5±0.5	40±1	8.0±0.5	8
200	200±2	45±1	35±1	8.0±0.5	6.5±0.5	5.0±0.5	25±1	8±0.5	4.0±0.5	42±1	11.0±0.5	10

9. PACKING

9.1 Gate and shutter hooks and eyes shall be packed in cardboard boxes in quantities as given below:

<i>Size</i>	<i>Number of Mild Steel Hooks and Eyes in One Packet</i>	<i>Number of Brass Hooks and Eyes in One Packet</i>
mm		
65	100	50
75	50	50
100	50	25
125	50	25
150	25	25
200	25	25
250	25	25
300	25	25

10. MARKING

10.1 Each box shall be labelled with the manufacturer's name or trade-mark, particulars of quantity, description of contents and size of the article.

10.1.1 The box may also be marked with the Standard Mark.

NOTE — The use of the Standard Mark is governed by the provisions of the Bureau of Indian Standards Act, 1936 and the Rules and Regulations made thereunder. The Standard 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 BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

11. SCALE OF SAMPLING AND CRITERION FOR CONFORMITY

11.1 Lot — In any consignment, all the hooks and eyes of the same type and size manufactured at the same time shall be grouped together to constitute a lot.

11.2 Lot Size and Sample Size — The number of hooks and eyes to be selected from the lot shall depend on the size of the lot and shall be in accordance with col 1 and 2 of Table III.

11.2.1 Hooks and eyes for testing shall be selected at random from at least 10 percent of the packages subject to a minimum of three packages, equal number of hooks and eyes being selected from each such package.

TABLE III SCALE OF SAMPLING AND CRITERION FOR ACCEPTANCE

(Clauses 11.2 and 11.4)

LOT SIZE	SAMPLE SIZE	PERMISSIBLE NO. OF DEFECTIVES
(1)	(2)	(3)
Up to 200	15	0
201 „ 300	20	1
301 „ 500	30	2
501 „ 800	40	2
801 and above	55	3

NOTE—The sampling plan given here is such that lots with 1.5 percent or less defective will be accepted most of the times.

11.3 Number of Tests—All the hooks and eyes selected as in 11.2 shall be checked for defects in manufacture (*see 5*), dimensional requirements (*see 6*) and finish (*see 7*). Any hook or eye which fails to satisfy any one or more of the requirements for the characteristics shall be considered as a defective.

11.4 Criterion for Conformity—The lot shall be considered as conforming to the requirements of this standard if the number of defective hooks and eyes among those inspected does not exceed the corresponding number given in col 3 of Table III. Otherwise it shall be considered as not conforming to the requirements of the standard.

11.4.1 For conformity to the requirements of the material the manufacturer shall provide a certificate of compliance to the requirements of the corresponding Indian Standards (*see 4*).

BUREAU OF INDIAN STANDARDS

Headquarters :

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

Telephones : 3 31 01 31, 3 31 13 75

Telegrams : Manaksanstha
(Common to all Offices)

Regional Offices :

Telephone

*Western ; Manakalaya, E9 MIDC, Marol, Andheri (East), 6 32 92 95
BOMBAY 400093

†Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, 36 24 99
Maniktola, CALCUTTA 700054

Northern : SCO 445-446, Sector 35-C { 2 18 43
CHANDIGARH 160036 { 3 16 41

Southern : C. I. T. Campus, MADRAS 600113 { 41 24 42
{ 41 25 19
{ 41 29 16

Branch Offices :

Pushpak, Nurmohamed Shaikh Marg, Khanpur, { 2 63 48
AHMADABAD 380001 { 2 63 49

'F' Block, Unity Bldg, Narasimharaja Square, 22 48 05
BANGALORE 560002

Gangotri Complex, 5th Floor, Bhadbhada Road, T. T. Nagar, 6 27 16
BHOPAL 462003

Plot No. 82/83, Lewis Road, BHUBANESHWAR 751002 5 36 27

53/5 Ward No. 29, R. G. Barua Road, —
5th Byelane, GUWAHATI 781003

5-8-56C L. N. Gupta Marg, (Nampally Station Road), 22 10 83
HYDERABAD 500001

R14 Yudhister Marg, C Scheme, JAIPUR 302005 { 6 34 71
{ 6 98 32

117/418B Sarvodaya Nagar, KANPUR 208005 { 21 68 76
{ 21 82 92

Patliputra Industrial Estate, PATNA 800013 6 23 05

Hantex Bldg (2nd Floor), Rly Station Road, 52 27
TRIVANDRUM 695001

Inspection Office (With Sale Point):

Institution of Engineers (India) Building, 1332 Shivaji Nagar, 5 24 35
PUNE 410005

*Sales Office in Bombay is at Novelty Chambers, Grant Road, 89 65 28
Bombay 400007

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

Reprography Unit, BIS, New Delhi, India

AMENDMENT NO. 1 APRIL 1982

TO

IS:207-1964 SPECIFICATION FOR GATE AND SHUTTER
HOOKS AND EYES

(Revised)

Alterations

(Page 4, clause 4.1) - Substitute the following
for the existing clause:

'4.1 Steel Wire - Mild Steel wire used in the manufacture of hooks and eyes shall conform to IS:1812-1973 Specification for Carbon Steel Wire for Manufacture of Wood Screws (first revision).'

(Page 4, clause 4.2.1, lines 2 and 3) - Substitute 'IS:3685-1966 Methods of Chemical Analysis of Brasses' for 'IS:441-1955 Method for Chemical Analysis of Brasses and Bronzes'.

(Page 5, clause 4.2.2) - Substitute the following
for the existing clause:

'4.2.2 Brass wire shall have a minimum ultimate tensile strength of 425 MPa ($\approx 42.5 \text{ kg/mm}^2$) and a minimum elongation at break of 15 percent, when tested in accordance with IS:2656-1964 Method for Tensile Testing of Copper and Copper Alloy Wire.'

(Page 5, clause 5.2, lines 2 and 3) - Substitute 'IS:451-1972 Technical Supply Conditions for Wood Screws (second revision)' for 'IS:451-1961 Specification for Wood Screws (revised)'.
'

(EDC 27)

AMENDMENT NO. 2 DECEMBER 2002
TO
IS 207 : 1964 SPECIFICATION FOR GATE AND
SHUTTER HOOKS AND EYES

(*Revised*)

[*Clause 4.1 (see also Amendment No. 1)*] — Substitute the following for the existing clause:

'4.1 Steel Wire — Steel wire used in the manufacture of hooks and eyes shall conform to IS 1812 : 1982 Specification for Carbon Steel Wire for Manufacture of Wood Screws (*Second Revision*).'

[*Page 5, clause 4.2.2 (see also Amendment No. 1)*] — Substitute the following for the existing clause:

'4.2.2 Brass wire shall have a minimum ultimate tensile strength of 425 MPa and a minimum elongation at break of 15 percent, when tested in accordance with IS 1608: 1995 Mechanical Testing of Metals — Tensile Testing (*Second Revision*).'

(*Page 5, clause 4.3, line 2*) — Substitute 'IS 292 : 1983 Specification for Leaded Brass Ingots and Castings (*Second Revision*)' for 'IS 292 : 1961 'Specification for Brass Ingots and Castings (*Revised*)'.

[*Clause 5.2 (see also Amendment No. 1)*] — Substitute 'IS 451: 1999 Technical Supply Conditions for Wood Screws (*Third Revision*)' for 'IS 451 : 1961 'Technical Supply Conditions for Wood Screws (*Second Revision*)'.

(*Page 7, Table 1, footnote*) — Substitute 'IS 451 : 1999 'Technical Supply Conditions for Wood Screws (*Third Revision*)' for 'IS 451 : 1961 'Specification for Wood Screws (*Revised*)'.

(BP 33)