

BLANK PAGE



Indian Standard SPECIFICATION FOR REBATED MORTICE LOCKS (VERTICAL TYPE)

First Reprint MARCH 1987 (Incorporating Amendment No. 1)

UDC 683.336:96



© Copyright 1987

INDIAN STANDARDS INSTITUTION MANAK BHAVAN, O BAHADUR SHAH ZAFAR MARG

NEW DELHI 110002

Limited.

Indian Standard SPECIFICATION FOR REBATED MORTICE LOCKS (VERTICAL TYPE)

Builder's Hardware Sectional Committee, BDC 15

Chairman

SHRI YUSUF MOWIEE

Representing

M. C. Mowjee & Company, Calcutta; and Builder's

Members

SHRI SAHIB SINGH (Alternate to Shri Yusuf Mowiee)

SHRI D. R. BAHL SHRI P. K. SETHI (Alternate)

SHRI J. P. BAJAJ

SHRI A. K. BHIMANI

SHRI H. C. SAMPAT (Alternate)

SHRI R. M. CHAUDHRI

SHRI J. K. ANAND (Alternate) CONTROLLER OF STORES.

EASTERN RAILWAY

SHRI P. K. DE

SHRI R. L. GEHLOTE

SHRI K. P. JAIN

SHRI V. S. KAMBOT SHRI I. R. KANSARA

SHRI V. S. KAMBOJ (Alternate)

SHRI S. C. KAPOOR

SHRI S. D. MATUMDAR SHRI AJOYENDU PAUL

DR A. V. R. RAO

SURVEYOR OF WORKS (I)

SHRI D. AIITHA SIMHA, Director (Civ Engg) Hardware Industries Association of India,

Calcutta

Engineer-in-Chief's Branch, Army Headquarters

Institution of Engineers (India), Calcutta

Manufacturing Company Vertex Bombay

Indian Aluminium Company Limited, Calcutta

Railway Board (Ministry of Railways)

De's Lock Industries, Calcutta

Indian Institute of Architects, Bombay

Engineering Association of India, Calcutta

Jayna Trading Corporation, Delhi

Arvind Industries, Jamnagar (Gujarat)

General of Supplies & Disposals Directorate (Ministry of Supply)

National Test House, Calcutta

Gobindo Sheet Metal Works Foundry. and

Calcutta

National Buildings Organization, New Delhi Central Public Works Department, New Delhi

Director General, ISI (Ex-officio Member)

Secretary

SHRI S. P. MAGGU

Senior Technical Assistant (Civ Engg), ISI

(Continued on page 2)

INDIAN STANDARDS INSTITUTION MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG

(Continued from page 1)

Locks and Latches Subcommittee, BDC 15:3

Bengal

Convener

Representing

SHRI J. R. SACHDEVA

Defence Production Organization (Ministry of Defence)

Directorate of Industries, Government of West

Members

SHRI K. C. MISRA (Alternate to Shri J. R. Sachdeva)

SHRI MAHABIR PRASAD AGARWAL SHRI R. C. BHATTACHARYYA

SHRI A. K. BHIMANI SHRI H. C. SAMPAT (Alternate)

SHRI P. K. DE SHRI S. F. DESAI

SHRI VINOD KUMAR JAIN

SHRI U. C. LALL

SHRI S. P. JHUNJHUNWALA (Alternate)
SHRI MOHAN SINGH
Easter

SHRI S. S. GANDHI (Alternate)

SHRI N. P. SATPATI

SHRI G. S. SUBBARAMAN

SHRI YUSUF MOWJEE SHRI SAHIB SINGH (Alternate) De's Lock Industries, Calcutta

Godrej & Boyce Mfg Co Pvt Ltd, Bombay

Gopal Metal and Wood Works, Aligarh

Vertex Manufacturing Co Ltd, Bombay

P.P. Products, Aligarh

Hemu Productions (India), Calcutta

Eastern Commercial & Industrial Enterprises Pvt Ltd, Bombay

Directorate Industries, Government of of Maharashtra

Directorate General of Supplies & Disposals (Ministry of Supply)

M. C. Mowjee & Co. Calcutta

Indian Standard SPECIFICATION FOR REBATED MORTICE LOCKS (VERTICAL TYPE)

0. FOREWORD

- **0.1** This Indian Standard was adopted by the Indian Standards Institution on 4 August 1972, after the draft finalized by the Builder's Hardware Sectional Committee had been approved by the Civil Engineering Division Council.
- 0.2 Mortice locks have become popular and are being used in all modern buildings specially where flush doors are provided. Certain situations demand the use of double leaf doors and ordinary mortice locks cannot serve the purpose because of the special rebate pattern involved. To cater to the specific problem of double leaf doors, rebated mortice locks have to be provided. It is with this end in view that this standard is being issued.
- 0.3 Wherever reference to mortice lock appears in the standard it shall mean a rebated mortice lock.
- **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 this country.
- 0.5 This standard contains clauses 2.2, 5.1.1, 7.1.2, 8.1, 9.1.1 and 10.1 which permit the purchaser to use his option for selection to suit his requirements and clauses 6.1 and 6.2 and Appendix A which require the purchaser to supply certain technical information at the time of placing orders.
- 0.6 This standard is one of a series of standards on builder's hardware.
- 0.7 While preparing this standard, the Sectional Committee took note of the acute scarcity of non-ferrous materials like copper, zinc and other alloys in the country and the need for conserving the use of the same in the national interest. However, in view of the demand for hardware items made of these materials in overseas markets, the Sectional Committee has retained them specifically to meet the requirements of export trade. For all indigenous use, it is recommended that hardware items made out of these materials should not be used.

0.8 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 the standard.

1. SCOPE

1.1 This standard lays down the requirements for rebated mortice locks suitable for use on double leaf doors with rebated meeting stiles.

2. SIZE

2.1 The sizes of mortice locks shall be as follows:

65 mm, 75 mm and 100 mm.

- 2.1.1 The size of the lock shall be denoted by the overall length of the body measured from the outside face of the fore end to the rear end (see Fig. 1). The measured length shall not vary more than \pm 3 mm from the length specified for the size.
- 2.2 Mortice locks of sizes other than those specified in 2.1 may be supplied by mutual agreement between the purchaser and the supplier.

3. MATERIAL

3.1 Material used for different component parts of the locks shall comply with the requirements given in Table 1 (see P 8, 9, 10 and 11).

4. SHAPE

4.1 The shape, design and mechanism of mortice locks and its component parts indicated in Fig. 1 are illustrative only. The manufacturer may make mortice locks of other shapes to suit his design.

5. DIMENSIONS

- 5.1 The leading dimensions of the mortice locks (suitable for double-leaf doors) shall be normally as given in Fig. 1.
- 5.1.1 It may be manufactured in other dimensions where so agreed to between the manufacturer and the purchaser.

^{*}Rules for rounding off numerical values (revised).

1-25 MIN THICK

All dimensions in millimetres. Fig. 1 Typical Design of Rebated Mortice Lock (Vertical Type) As in the Original Standard, this Page is Intentionally Left Blank

6. NON-INTERCHANGEABILITY

- 6.1. Two-Lever Locks The mortice locks shall be manufactured to have non-interchangeable keys in a batch consisting of a minimum of 24 locks. In case a non-interchageability in a higher number is required, it shall be so specified by the purchaser at the time of placing the order. A master-key may be supplied if required by the purchaser.
- 6.1.1 For the purpose of testing non-interchangeability, six locks from each batch of 24 locks shall be so selected that the wards of the keys differ from each other slightly. These locks shall then be tested for non-interchangeability. If key of any of the locks opens any other lock, amongst the six locks, the whole lot shall be rejected.
- 6.2 Locks with More Than Two Levers The mortice locks shall be manufactured to have non-interchangeable keys in a batch consisting of a minimum of 100 locks. In case, non-interchangeability in a higher number is required, it shall be so specified if required by the purchaser.
- 6.2.1 For the purpose of testing non-interchangeability 12 locks from each batch of 100 locks shall be so selected that the wards of the keys differ from each other slightly. These locks shall then be tested for non-interchangeability. If key of any one of the locks opens any other lock, amongst the 12 locks, the whole lot shall be rejected.

7. MANUFACTURE

7.1 Lock

- 7.1.1 Body The depth of the body shall not be more than 15 mm.
- 7.1.2 Rebated Fore End The case plate may itself form the rebated fore end. In case desired by the purchaser, in order to obtain a clean finish free from rivets, etc and to assist in decorating the rebate a rebated face plate may be provided. The rebated face plate shall be normally fitted to the body by suitable countersunk head machine screws conforming to IS:1365-1968* or by any other suitable device. In order to secure the rebated face plate threaded lugs shall be firmly attached to the case plate by either riveting or electric resistance welding or similar other suitable means.
- 7.1.2.1 In case of reversible mortice locks the rebated fore-end shall be so designed that the fore-end can be fixed in any direction by reversing its position through 180 degrees without causing any obstruction or deterioration in the working of the lock or the latch bolt. In case of reversible rebated mortice locks the size of latch and lock bolt in cross-section shall be similar to each other.

^{*}Specification for slotted countersunk head and slotted raised countersunk head screws (dia range 1.6 to 20 mm) (second revision).

TABLE 1 REQUIREMENTS FOR MATERIALS FOR COMPONENT PARTS OF MORTICE LOCKS

(Clauses 3.1, 7.1.6, 7.2.1 and 7.2.3)

St. No.	MATERIAL	COMPONENT	REQUIREMENTS FOR MATERIAL	Typical Example
(1)	(2)	(3)	(4)	(5)
(i)	Mild steel	Body, body cover, case plate, key, face plate, striking plate. lever, locking and latch bolt	Finished components shall satisfy the following bend test: The component part when cold shall withstand, without developing cracks being doubled over either by pressure or by blows from hammer until the internal radius is equal to the thickness or diameter of the component part and the sides are parallel	Grade O of 18: 1079-1968*
ii)	Malleable cast iron	Key and follower	_	Grade A or B of IS: 2108- 1962†
iii)	Cast brass	Body, body cover, locking bolt and latch bolt, case plate, face plate, striking plate	Cooper content shall be not less than 60 percent. Castings shall be free from blow holes, surface and other casting defects	Grade 3 of IS: 292-1961‡

iv)	Brass sheet	Body, body cover, case plate, face plate, lever and striking plate	The brass sheet shall meet the same bend test as specified for mild steel	Cast brass cast from melting sheet cuttings and brass utensils may be used. Grade CuZn 40 of IS: 410-1967§
v)	Extruded brass	Locking bolt and latch bolt	Copper contents shall not be less than 55 percent and tensile strength 35 kg/mm ² , Min	IS: 319-1968
vi)	Aluminium alloy castings	Body, body cover, follower and key		IS Designation A-5-M or A-6-M of IS: 617-1959¶
vii)	Aluminium alloy sheet	Body, body cover, case plate, striking plate, lever and face plate		IS Designation NS 4 or HS 20 of IS: 737-1965**
viii)	Extruded aluminium alloy	Locking bolt and latch bolt	Alan <u>-</u> Alan San San San San San San San San San S	IS Designation HE 30-WP of IS: 733-1967††

^{*}Specification for hot rolled carbon steel sheet and strip (second revision).

(Continued)

[†]Specification for blackheart malleable iron castings.

^{*}Specification for brass ingots and castings (revised).

[§]Specification for rolled brass plate, sheet, strip and foil (second revision).

^{||}Specification for free-cutting brass rods and sections (second revision).

Specification for aluminium and aluminium alloy ingots and castings for general engineering purposes (revised).

^{**}Specification for wrought aluminium and aluminium alloys, sheet and strip (for general engineering purposes) (revised).

^{††}Specification for wrought aluminium and aluminium alloys, bars, rods and sections (for general engineering purposes) (first revision).

TABLE 1 REQUIREMENTS FOR MATERIALS FOR COMPONENT PARTS OF MORTICE LOCKS - Contd

Sı. No.	MATERIAL	COMPONENT	Requirements for Material	Typical Example
(1)	(2)	(3)	(4)	(5)
ix)	Leaded tin bronze	Follower and key		Grade 2 of 1S: 318-1962*
x)	Zinc base alloy pressure die casting	Body, body cover, follower, face plate, striking plate, locking bolt and latch bolt		IS: 742-1966†
xi)	Phosphor bronze	Lever spring and latch spring	The wire used for springs shall comply with the test given below:	IS: 1385-1968‡
			The lever spring shall be fitted into the lever as specified under 7.1.6 and shall be pressed down so as to touch the top edge of the lever and released. This shall be repeated six times minimum. At the end of the test the spring shall regain its original position	

xii) Steel wire

Lever spring and latch spring

The wire used for springs shall comply with the test given below:

Grade 1 or Grade 2 of IS: 4454-1967§

The lever spring shall be fitted into the lever as specified under 7.1.6 and shall be pressed down so as to touch the top edge of the lever and released. This shall be repeated six times minimum. At the end of the test the spring shall regain its original position

xiii) Stainless steel

Key

Grade 15 Cr 13, 22 Cr 13 or 30 Cr 13 of IS:1570-1961||

^{*}Specification for leaded tin bronze ingots and castings (revised).

[†]Specification for zinc base alloy die castings (first revision).

¹Specification for phosphor bronze rods and bars, sheet and strip, and wire (first revision).

[§]Specification for steel wire, cold formed springs.

^{||}Specification for schedules for wrought steels for general engineering purposes.

- 7.1.2.2 In case dissimilar sections are used for the manufacture of latch bolts and lockbolts for the reasons of strength the locks shall be designed as either suitable for left-hand doors or right-hand doors and the same shall be clearly marked on each lock.
- 7.1.3 Locking Bolt The locking bolt shall be made out of a single metal or a combination of metals recommended for this part in Table 1. The bolts shall be of section not less than 12 × 16 mm for all sizes of locks. When steel locking bolt is provided, it shall be adequately protected against corrosion. In case of non-reversible locks the dimensions of locking bolt other than specified above may be used. In case of bolts made by casting the thickness of the bolt at no point in section shall be less than 4 mm. In case sheet steel is used in the manufacture of locking bolt the thickness of the steel sheet shall not be less than 1.6 mm.
- **7.1.4** Mechanism The locking mechanism shall be of ordinary lever type or any other type approved by the purchaser.
- 7.1.5 Levers Ordinary lever machanism (see Fig. 1) shall be provided with not less than two levers.
 - 7.1.5.1 False (dummy) leaves shall not be used.
- 7.1.6 Lever Spring Each lever shall be fitted with one spring which shall comply with the materials specified in Table 1. The lever spring fitted into the lever shall withstand the following test without showing any sign of permanent set:

The lever spring shall be pressed down so as to touch the top edge of the lever and released. This shall be repeated minimum six times.

- 7.1.7 Guide Pin, Lever Pivot Pin and Lever Spring Fulcrum Pin The pins shall be suitably coated when used in conjunction with aluminium alloy body.
 - 7.1.8 Keys Each lock shall be provided with two keys.
- 7.1.8.1 The key shall function smoothly and without any appreciable friction in the lock. The keys shall be suitably tied to the lock so that they are not lost or interchanged in transit. Malleable cast iron keys shall be protected against corrosion.
- 7.1.8.2 The lock shall be capable of being opened with the key from both, inside and outside.
- 7.1.9 Screw The body cover shall be fitted to the body by countersunk head machine screws (see IS: 1365-1968*). Screws shall be of mild steel and protected against corrosion, where necessary. However the screws may be of aluminium alloy in the case of aluminium alloy bodies.

^{*}Specification for slotted countersunk head and slotted raised countersunk head screws (dia range 1 6 to 20 mm) (second revision).

7.2 Latch

- 7.2.1 Latch Bolt The latch bolt shall be of single metal or a combination of metals recommended for this part in Table 1. The bolt shall be reversible to enable the lock to be fixed on right-hand as well as on the left-hand door. The bolt shall be of section not less than 12 × 16 mm for all sizes of locks. Where steel is provided it shall be adequately protected against corrosion. In case of non-reversible locks the dimensions of casting of latch bolt other than specified above may be used. In case of bolts made of castings the thickness of the bolt in section at no point shall be less than 4 mm. In case sheet steel is used in the manufacture of latch bolt the thickness of the steel sheet shall not be less than 1.6 mm.
- 7.2.2 Follower It shall have a square hole at the centre to suit the spindle which operates the latch bolt. It shall be protected against corrosion when made from malleable iron.
- 7.2.3 Latch Spring Each latch bolt shall be fitted with one spring which shall be of materials as specified in Table 1. The latch spring shall withstand the test as given in 7.1.6 without showing any sign of permanent set.
- 7.2.4 Striking Plate The rebated striking plate shall have two rectangular slots to suit the locking bolt and the latch bolt. It shall have two countersunk holes for fixing it to the rebated end of the door shutter.

8. WORKMANSHIP AND FINISH

- 8.1 Brass body shall be finished smooth and polished. Aluminium alloy body may be anodized if required by the purchaser. The anodic coating shall not be inferior to grade AC 15 of IS: 1868-1968*. The rebated face plate and the striking plate may be polished, stained, chromium plated or oxidised. Steel body shall be given a suitable protective coating. Steel parts before painting shall be given the protective treatment in accordance with 8.1.1 and 8.1.2.
- **8.1.1** All dents, burrs and sharp edges shall be removed from the various components and they shall be pickled, scrubbed and rinsed to remove grease, rust, scale or any other foreign element.
- **8.1.2** After pickling, all the mild steel parts shall be given phosphating treatment in accordance with IS: 3618-1966† followed by a coat of suitable primer, such as red oxide.

Note — Putty shall be applied to all the surfaces requiring filling and shall conform to IS: 426-1961‡. Aluminium primer shall conform to IS: 2931-1964§.

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

[†]Specification for phosphate treatment of iron and steel for protection against corrosion. ‡Specification for paste filler for colour coats (revised).

[§]Specification for ready mixed paint, brushing, aluminium-zinc oxide composite primer.

- 8.1.3 Two coats of enamel paint shall then be applied as follows:
 - a) Undercoat, and
 - b) Finish coat with synthetic stoving enamel conforming to IS: 2932-1964* or IS: 2933-1964*.
- 8.1.3.1 The components shall thereafter be baked at a specified temperature in an oven heated uniformly. The finish shall be smooth and uniform with a hard and tough film of enamel strongly adhering to the surface. The finish shall be free from all visible defects and shall not chip, when tapped lightly with a pointed instrument.

9. TESTS

- **9.1** The finally assembled lock shall withstand the tests specified in **9.1.1** to **9.1.6**.
- 9.1.1 The locking bolt shall be first locked in the forward position. A load of 40 kg minimum or as agreed to between the manufacturer and the purchaser shall be applied without shock in the direction perpendicular to securing face as well as on both the locking faces of protruding bolt in turn. Then the load shall be applied by means of a fixed steel board 3 mm thick by a rounded edge held in such a position that the centre line is approximately 3 mm from the fore-end. A typical arrangement for the purpose of this test is shown in Fig. 2.
- 9.1.2 When the spindle with handle is inserted into hole in the follower and turned, the latch bolt shall draw smoothly into the lock body and shall be within one millimetre from the face of the fore-end.
- 9.1.3 When the latch bolt is pressed into the lock body by pressure, the action shall be smooth and when fully pressed the latch bolt shall not project more than one millimetre from the face of the fore-end.
- 9.1.4 The latch bolt shall be subjected to 50 000 operations either manually or by mechanical means. At the end of the test the components should not show any undue movement from their normal position to cause impediment to the smooth working of the mechanism.
- 9.1.5 When a key is inserted in key hole from one side of the lock and turned to withdraw the locking bolt the action shall be smooth and without impediment. When the direction of turn is reversed to lock the locking bolt then also the action shall be smooth and without impediment. In the locked position the locking bolt shall project 12 mm from the face of the fore-end, although one millimetre free movement is permissible.

^{*}Specification for enamel, synthetic, exterior, Type 1, (a) undercoating, (b) finishing, colour as required.

[†]Specification for enamel exterior, Type 2, (a) undercoating, (b) finishing, colour as required.

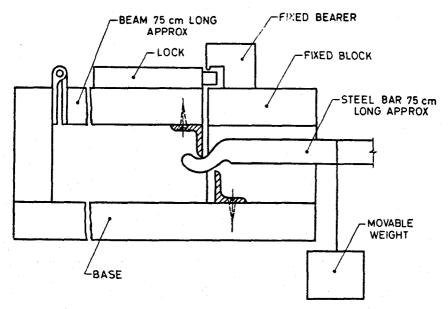


Fig. 2 Strength Test for Locking Bolt

In the withdrawn position the locking bolt shall not project more than one millimetre from the face of the fore-end. The locking bolt shall be worked by turning key in both the directions several times quickly, limiting the total number of turns to 50 000. The purpose of this test is to check up that the components do not move from their normal position to cause impediment to the smooth working of the mechanism. This test shall be repeated with the key inserted from the either side of the lock.

9.1.6 When the key is turned to lock the locking bolt at the same time applying a reasonable pressure by finger on it, after completion of the key rotation the locking bolt shall be positively locked in the forward position. This test shall be repeated with the key inserted from the other side of the lock.

10. INSPECTION AND CERTIFICATE OF COMPLIANCE

- 10.1 The purchaser or his representative shall be permitted to inspect locks in open condition before purchasing, if he so desires.
- 10.2 Each manufacturer shall furnish, on request a certificate stating that the mortice locks comply with the requirements of this standard.
- 10.2.1 The manufacturer's certificate shall be implied, if the lock bears the ISI Certification Mark (see 11.1.1).

11. MARKING

- 11.1 Each mortice lock shall be stamped with the following information:
 - a) Manufacturer's name or trade-mark,
 - b) Year of supply (if specified by the purchaser),
 - c) Size of mortice lock,
 - d) Number of levers, and
 - e) Country of origin.
- 11.1.1 The mortice lock 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. Presence of this 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 during production. This system, which is devised and supervised by ISI and operated by the producer, has the further safeguard that the products as actually marketed are continuously checked by ISI for conformity to the standard. 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.

11.2 The keys shall be stamped on the head with the serial number of the lock.

12. PACKING

- 12.1 Each mortice lock together with its keys shall be wrapped in a paper and packed in a cardboard box. Each cardboard box should be marked with the following information:
 - a) Manufacturer's name or trade-mark,
 - b) Quantity in the package,
 - c) Country of origin,
 - d) Year of manufacture,
 - e) Type of lock, and
 - f) Size of lock.

13. SAMPLING

13.1 The method of selecting samples of mortice locks shall be as given in Appendix B.

APPENDIX A

(Clause 0.5)

INFORMATION TO BE SUPPLIED BY THE PURCHASER WHEN PLACING AN ORDER FOR SUPPLY OF MORTICE LOCKS

- A-1. The purchaser shall furnish information to the manufacturer or the supplier in regard to the following points:
 - a) Whether the door is opening inside or outside (of a person facing the door when standing outside the room);
 - b) Whether the door is with right or left overlap (of a person facing the door when standing outside the room);
 - e) Width of stile, if any;
 - d) Width of horizontal lockrail, if any;
 - e) Thickness of stile, lockrail, if provided, or thickness of shutter itself;
 - f) Depth of rebate; and
 - g) Angle of rebate.

Note — All locks are usually fitted to the overlapping shutter.

APPENDIX B

(Clause 13.1)

SAMPLING OF MORTICE LOCKS

B-1. SCALE OF SAMPLING

- **B-1.1 Lot** In any consignment, all the mortice locks of the same type, size and manufactured from the same material shall be grouped together to constitute a lot.
- **B-1.2 Sample Size** The number of mortice locks to be selected from a lot shall depend upon the size of the lot and shall be in accordance with col 1 and 2 of Table 2.
- **B-1.2.1** Mortice locks for the sample shall be selected at random from at least 10 percent of the packages subject to a minimum of three packages, equal number of mortice locks being selected from each such package.

TABLE 2 SCALE OF SAMPLING AND PERMISSIBLE NUMBER OF DEFECTIVE MORTICE LOCKS

(Clause B-1.2)

Lot Size	SAMPLE SIZE	Permissible Number of Defective Mortice Locks
(1)	(2)	(3)
Up to 200	15	0
201 ,, 300	20	1
301 ,, 500	30	2
501 ,, 800	40	2
801 and above	50	3

B-2. TESTS

P-2.1 All the mortice locks selected as in **B-1.2** shall be inspected for dimensional requirements (see Fig. 1) and finish and workmanship (see 3) and for compliance with tests specified in 9. Any mortice lock which fails to satisfy any one or more of the requirements for the characteristics shall be considered as defective mortice lock.

INDIAN STANDARDS INSTITUTION

Headquarters	2						
			1	100	300	100	1000

rieadquarters:	
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, A BOMBAY 400093	ndheri (East). 6 32 92 95
†Eastern: 1/14 C. I. T. Scheme VII M, V. I. Maniktola, CALCUTTA 700054	P. Road, 36 24 99
Northern: SCO 445-446, Sector 35-C CHANDIGARH 160036	{2 18 43 3 16 41
Southern : C. I. T. Campus, MADRAS 6001	
	41 25 19 41 29 16
Branch Offices :	(41 23 10
	CO 00 40
Pushpak,' Nurmohamed Shaikh Marg, Khanp AHMADABAD 380001	our, {2 63 48 2 63 49
'F' Block, Unity Bldg, Narasimharaja Square BANGALORE 560002	22 48 05
Gangotri Complex, 5th Floor, Bhadbhada Ro BHOPAL 462003	oad, T. T. Nagar, 6 27 16
Plot No. 82/83, Lewis Road, BHUBANESHV	VAR 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 Static HYDERABAD 500001	on Road), 22 10 83
R14 Yudhister Marg, C Scheme, JAIPUR 30	2005 {6 34 71 6 98 32
117/418B Sarvodaya Nagar, KANPUR 2080	
Patliputra Industrial Estate, PATNA 800013	6 23 05
Hantex Bldg (2nd Floor), Rly Station Road TRIVANDRUM 695001	52 27
Inspection Office (With Sale Point):	

*Sales Office in Bombay is at Novelty Chambers, Grant Road, Bombay 400007	89 65 28
†Sales Office in Calcutta is at 5 Chowringhee Approach, P. O. Princep Street, Calcutta 700072	27 88 00

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