

इंटरनेट

मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“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”

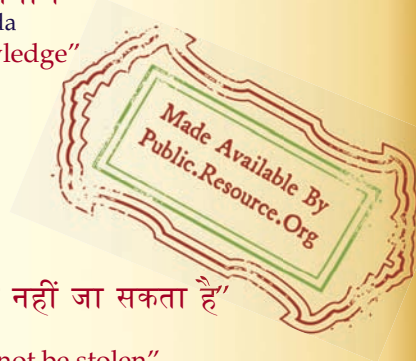
IS 2695 (1993): drawing filing equipment - Specification
[CED 35: Furniture]



“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”

BLANK PAGE



भारतीय मानक

ड्राइंग फाइलिंग उपस्कर — विशिष्ट

(दूसरा पुनरीक्षण)

Indian Standard

**SPECIFICATION FOR
DRAWING FILING EQUIPMENT**

(Second Revision)

UDC 684.455.5 : 744.82

© BIS 1993

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

FOREWORD

This Indian Standard (*Second Revision*) was adopted by the Bureau of Indian Standards, after the draft finalized by the Furniture Sectional Committee had been approved by the Civil Engineering Division Council.

This standard was first published in 1964 and subsequently revised in 1974. In this revision, the following changes have been effected:

- 1) Referred Indian Standards have been updated.
- 2) Inclusion of performance requirement of finish for steel and wood.

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.

The committee responsible for the preparation of this standard is given in Annex C.

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

SPECIFICATION FOR DRAWING FILING EQUIPMENT

(Second Revision)

1 SCOPE

1.1 This standard lays down dimensional and other requirements of drawing filing equipment, such as plan chests, vertical filing equipment, lateral filing equipment for small drawings and roll files for large drawings.

2 REFERENCES

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

3 TERMINOLOGY

3.0 For the purpose of this standard the following definitions shall apply.

3.1 Lateral Filing Equipment for Small Drawings

Filing equipment consisting of rails carrying pockets suspended by carrier bars which slide along the rails so that the pockets may be spread out to facilitate filing and removal of drawings. Drawings are contained in separate folders which slide into the pockets.

3.2 Plan Chests

Cabinets containing drawers which slide horizontally and hold the drawings in a horizontal position and consist of plinth or leg stand, drawer sections and a top.

3.3 Roll Files for Large Drawings

Cabinets or racks containing tubes or pigeon-holes in which rolled drawings may be filed horizontally. Cabinets consist of a plinth, sections containing tubes, or pigeon-holes and a top.

3.4 Vertical Filing Equipment**3.4.1 Suspension by Pins or Prongs**

Cabinets in which drawings may be filed by suspending them by their top edges from pins or prongs. The suspending edges of drawing sheets are stiffened by attaching a reinforcing strip in which holes are punched to receive the pins or prongs. Access for filing or removing drawing is provided from the top or from the front of the cabinet.

3.4.2 Suspension by Pressure

Equipment in which drawings may be filed by suspending them in space provided in the cabinets and holding them in position by pressure. Access for filing or removing drawings is provided from the top or from the front of the cabinet.

4 MATERIAL

4.1 Material used in the manufacture of drawing filing equipment shall conform to those given in **4.1.1** to **4.1.6**. Materials other than those specified in **4.1.1** to **4.1.6** may be used if so agreed between the purchaser and the manufacturer.

4.1.1 Wood

It shall conform to the requirements specified in 2 of IS 4116 : 1988.

4.1.2 Mild Steel Sheets

Mild steel sheets shall conform to Grade 0 of IS 1079 : 1988 or Grade 0 of IS 513 : 1986.

4.1.3 Mild Steel Angles

Mild steel for hot rolled angle sections shall conform to IS 1977 : 1975. Hot rolled mild steel angles shall conform to IS 808 : 1989. Angle and channel sections may also be cold formed from steel strip, conforming to IS 513 : 1986.

4.1.4 Electrodes

Electrodes for gas, arc and spot welding shall conform to IS 1278 : 1972, IS 814 : 1991 and IS 4972 : 1968 respectively.

4.1.5 Screws

Screws shall conform to IS 6760 : 1972 or IS 1365 : 1978.

4.1.6 Adhesives

Adhesives used for joining shall conform to IS 849 : 1957, IS 851 : 1978, IS 852 : 1969 or IS 4835 : 1979.

4.2 Pockets for lateral filing of drawings shall be made of durable material.

5 PLAN CHESTS

5.0 General

Plan chests are used for horizontal filing of drawings of sizes A0 and A1 (see Annex B, Fig. 1A and 1B).

5.1 Dimensions

5.1.1 Plan Chests

The overall height and depth (back to front) of plan chests shall be as follows:

- a) Overall height from floor including plinth or leg stand (see Note) 900 mm
- b) Overall width To suit the size of drawings being filed (see Annex B)
- c) Depth (back to front) 950 mm

NOTE — The plan chests may have maximum overall height of 1400 mm from floor including plinth or leg stand where the upper drawers are not to be used for frequent reference purposes.

5.1.2 Drawers

The internal dimensions of the drawers shall be as given in Table 1.

5.1.3 Plinth height of chests shall be not less than 75 mm.

Table 1 Internal Dimensions of Drawers
(Clause 5.1.2)

All dimensions in millimetres.				
Drawing Size	Depth (Back to Front) Min	Width Min	Height	
			Min	Max
(1)	(2)	(3)	(4)	(5)
841 × 1189	900	1 250	25	100
594 × 841	650	900	25	100

5.2 Construction

5.2.1 The chests shall be rigidly constructed and provided a firm and adequately supported top surface which will not deflect under normal use and restrict the free movement of the drawers.

5.2.2 Drawers

5.2.2.1 General

The drawers shall open and close easily and smoothly when fully loaded. Each drawers shall be removable but shall be fitted with a stop to prevent inadvertent withdrawal. The stops shall be so positioned that the front of the hood is visible when the drawer is opened.

5.2.2.2 Suspension

- a) *Wooden drawers* — Wooden drawers shall be suspended in a such a way that they slide easily and smoothly when fully loaded (see Fig. 1A).
- b) *Steel drawers* — Steel drawers shall be suspended by channels or slides and when fully loaded, slide easily and smoothly on cantilever slides which may be provided to enable the drawers to be opened to the full extent (see Fig. 1B).

5.2.2.3 Handles

Suitable means, such as handles shall be provided to allow the drawers to be easily opened without injury to the fingers.

5.2.2.4 Dividers

When specified, the dividers may be fitted within the drawers to accommodate drawings of different sizes. The fixing of the dividers shall be such that the drawings do not slip under them or get damaged while they are being removed.

5.2.2.5 Card holder

Card holder of the largest size which can be accommodated shall be provided.

5.2.2.6 Locks

Locks, if necessary, may be provided.

5.2.3 Plinths and Leg Stands

The plinth or leg stands shall be flush with the back and sides and recessed at the front. Leg stands when provided shall be of a sufficiently large section in order not to damage the floor and shall be provided with rubber pads to prevent cabinets from slipping in normal use.

5.2.4 Top

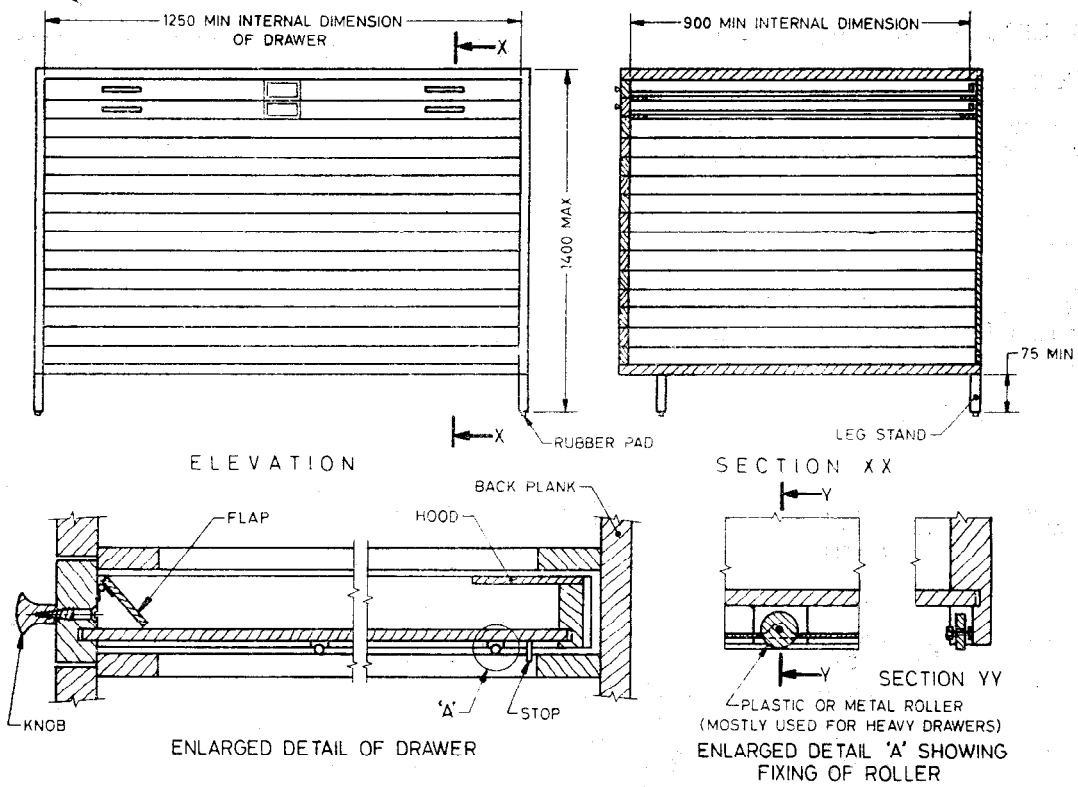
The top shall be flush with the sides and back, and all sharp corners shall be rounded.

5.2.5 Flaps and Hoods

A hinged or weighted flap shall be provided to prevent curling of the drawings, at the front of the drawer.

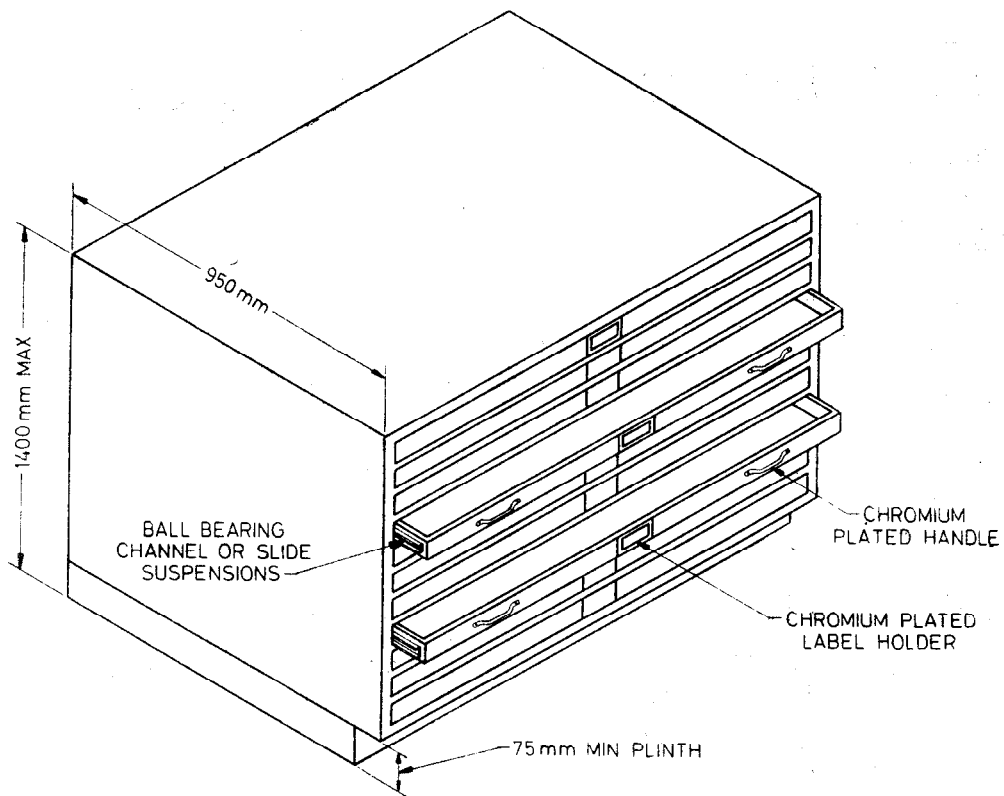
5.2.6 Hoods fixed to each drawer extending for not less than 100 mm from the back of the drawer shall be provided to prevent curling of the drawings (see Fig. 1A).

5.2.7 The plinth or leg stand, drawer section and top shall be secured to one another at the back and front.



All dimensions in millimetres.

1A Timber



1B Steel

FIG. 1 TYPICAL PLAN CHESTS FILING CABINET

6 VERTICAL FILING EQUIPMENT

6.0 General

Vertical files are used for filing drawings of sizes A0, A1, A2 and A3 (*see* Annex B and Fig. 2).

6.1 Dimensions

6.1.1 The dimensions of the cabinets for vertical filing of drawings shall be such that it is possible to accommodate drawings with ample clearance. Filing shall be arranged in the manner as given in Table 2.

Table 2 Vertical Filing

All dimensions in millimetres.		
Drawing Size	When Drawings are Suspended on Pins or Prongs	When Drawings are Held by Compression Pressure
(1)	(2)	(3)
841 × 1 189	Suspended from 1 189 edge	File with 1 189 edge horizontal
594 × 841	Suspended from 594 edge	File with 594 edge horizontal
420 × 594	Suspended from 420 or 594 edge	File with 420 or 594 edge horizontal
297 × 420	Suspended from 297 or 420 edge	File with 297 or 420 edge horizontal

6.1.2 Drawings of various sizes may be filed together in this type of equipment.

6.2 Construction

6.2.1 The construction of the units shall be such that the cabinet is stable when fully loaded and in all working positions.

6.2.2 Pins or prongs shall be of such a material that their shape and position are maintained under fully-loaded conditions and all the drawings are properly supported by them at all working positions.

6.2.2.1 Pins or prongs may be of single pattern (*see* Fig. 2 and Fig. 2A) or double pattern (*see* Fig. 2B).

6.2.3 The minimum space between the ends of the pins or prongs when positioned for filing or removing drawings shall be 40 mm.

6.2.3.1 Access shall be provided at the front of the cabinet to retrieve fallen drawings.

6.2.4 In case of front opening cabinets, stops and springs shall be provided to assist closing. A stop shall also be provided to limit the maximum amount of opening.

6.2.4.1 In lid opening cabinets, a device shall be fixed to guard against the inadvertent falling of the lid.

6.2.5 In drawer type of cabinets, the drawers shall open and close easily even when fully-loaded. Suitable means for closing and opening the cabinets shall be provided without injury to fingers.

6.3 A card holder of minimum size 100 × 50 mm shall be provided.

7 LATERAL FILING EQUIPMENT

7.0 General

It covers equipment for lateral filing of drawings of sizes A4 and A5 (*see* Annex B).

7.1 Dimensions

7.1.1 The maximum overall dimensions of three types of such filing cabinets shall be as given in Table 3.

NOTE — The minimum clearances required for the filing cabinets to be put into recesses or openings, where required, shall be as follows:

- | | |
|-----------------------------|-------|
| a) For top of cabinet | 20 mm |
| b) For each side of cabinet | 10 mm |
| c) For depth of cabinet | 5 mm |

Table 3 Maximum Overall Dimensions of Filing Cabinets

All dimensions in millimetres.				
Sl No.	Dimensions	Two-Drawer Type	Three-Drawer Type	Four-Drawer Type
(1)	(2)	(3)	(4)	(5)
i)	Overall height from finished floor level to top of the cabinet including pedestal	750	1 080	1 380
ii)	Depth from face to back	700	700	700
iii)	Width	470	470	470

7.1.2 Drawer Dimensions

The minimum clear internal dimensions of the drawers for all the three types shall be suitable for holding suspension holders (*see* 7.1.3) running on cradle strips having centre-to-centre distance of 385 mm, the height of the largest holder being 225 mm.

7.1.3 The dimensions of the folders and suspension holders shall be as given in Table 4.

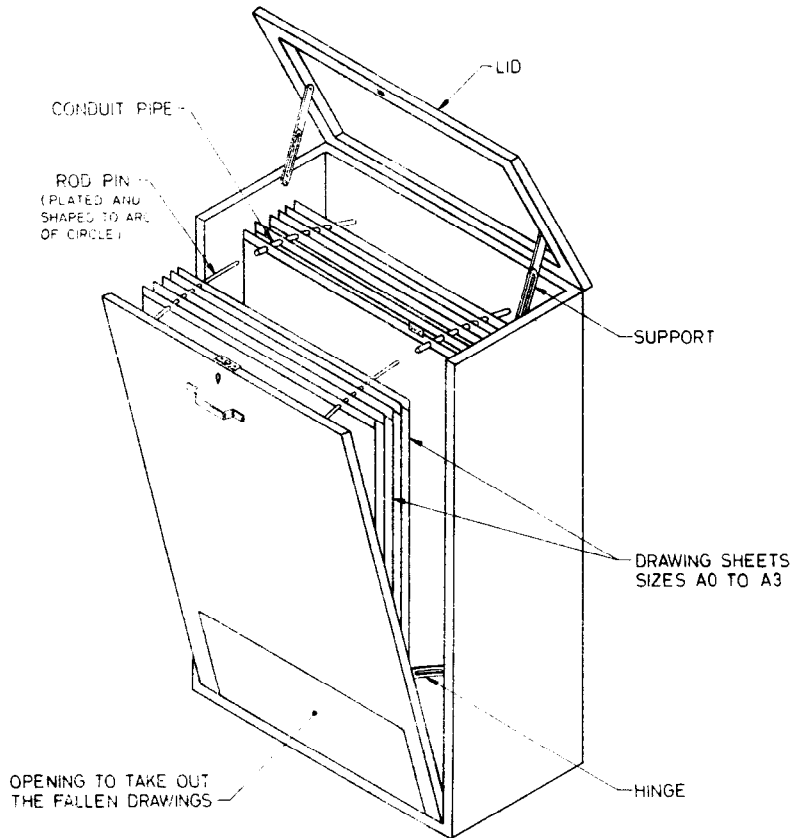
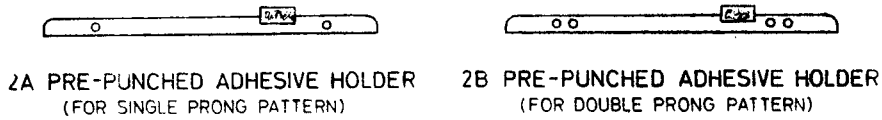


FIG. 2 TYPICAL VERTICAL PLAN FILING CABINET (SINGLE PRONG PATTERN)

Table 4 Dimensions of Folders and Suspension Holders
(Clause 7.1.3)

Drawing Size	All dimensions in millimeters.			
	Folder		Suspension Holder	
	Front Edge	Folder Edge	Distance from Underside of Cradle Strip to Fold	Folded Edge
(1)	(2)	(3)	(4)	(5)
210 × 297	215	310	230	325
148 × 210	155	220	170	240

7.1.4 The dimensions specified in 7.1.1 shall not vary by more than ± 5 mm.

7.2 Construction

The metal filing cabinets shall be fabricated in accordance with IS 3313 : 1983.

7.3 Housing of Equipment

7.3.1 When fitted into a cupboard or rack, it is recommended that the full length of the cradle strips be accessible for filing (see Fig. 3).

7.3.2 The plinth shall be not less than 75 mm.

7.4 A card holder shall be fixed to each suspension holder with a minimum sight size of 50 × 10 mm.

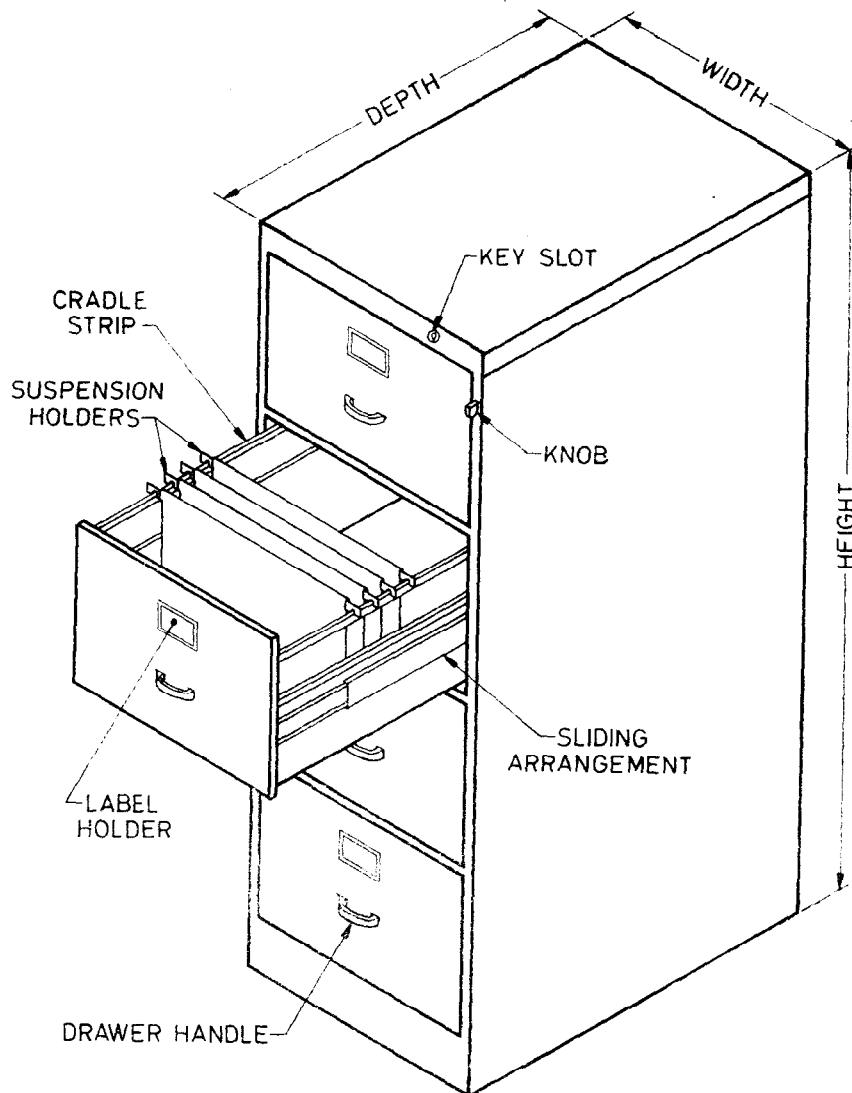


FIG. 3 TYPICAL SKETCH OF A FOUR-DRAWER TYPE METAL FILING CABINET

8 ROLL FILES FOR LARGE DRAWINGS

8.0 General

It covers equipment for filing drawings larger than those given in Annex B (see Fig. 4A and Fig. 4B).

8.1 Dimensions

8.1.1 The pigeon-holes shall be of circular or square section of such a size as will accommodate rolled drawings of 50 mm diameter. The depth of the pigeon-holes shall be 50 mm more than the length of the rolled drawings (see Fig. 4A). In case of brackets or hooks to accommodate 50 mm diameter rolled drawings the horizontal and vertical spacing between the hooks shall be not less than 700 and 100 mm respectively (see Fig. 4B).

8.1.2 Plinth shall be not less than 75 mm.

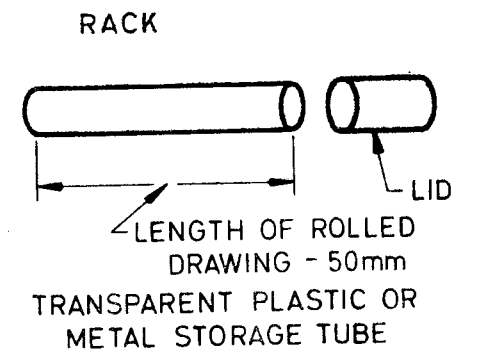
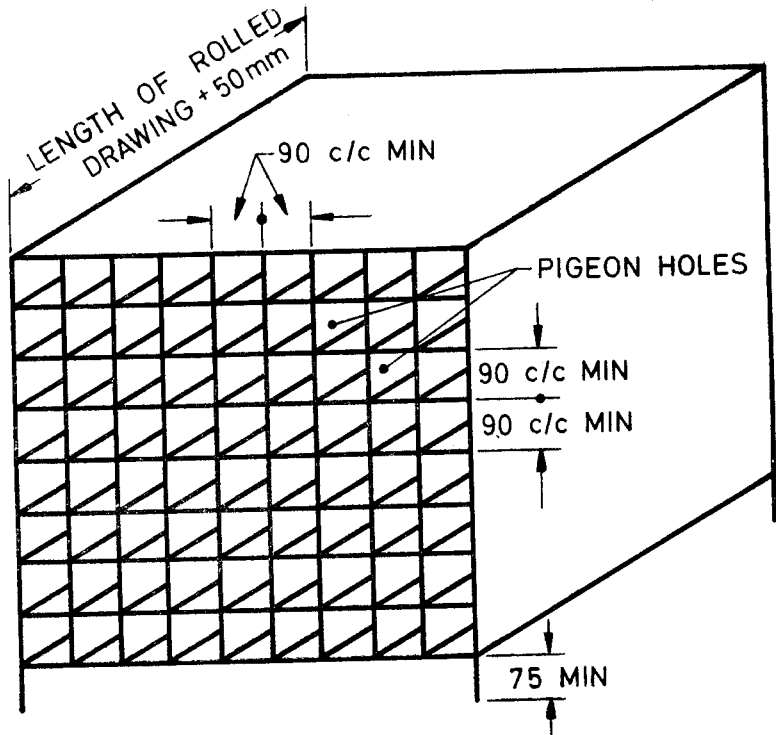
8.1.3 The tube length shall be 50 mm less than the length of the rolled drawing so that when the lid is removed, the rolled drawing will stick out 50 mm beyond the tube and can be easily pulled out.

8.1.4 The lid for the tube shall be such that it completely covers the exposed portion of the rolled drawing in the tube.

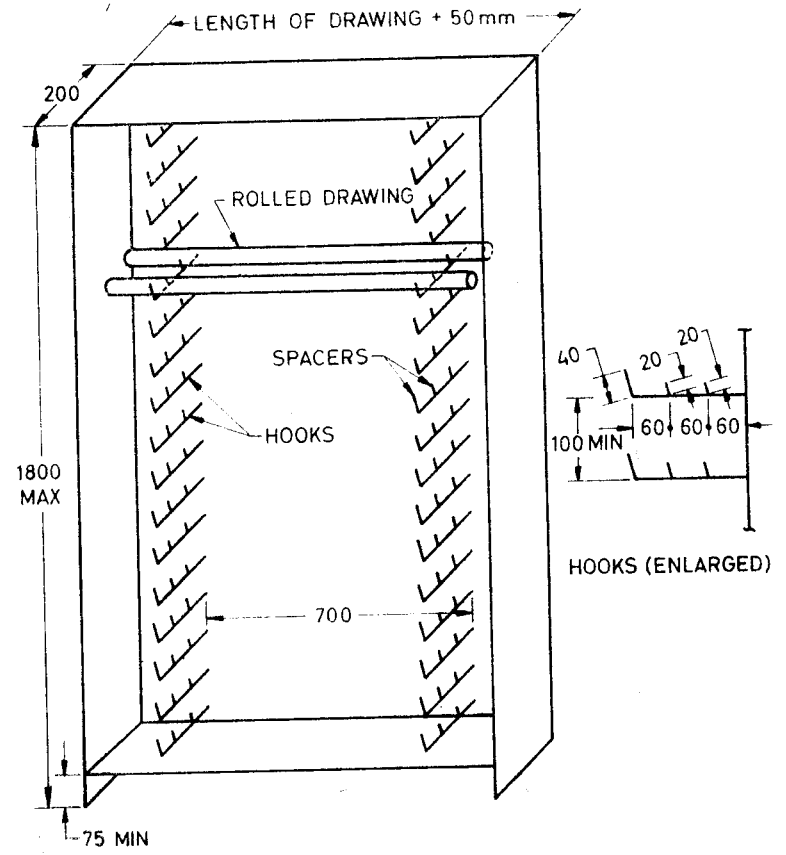
8.2 Construction

8.2.1 The cabinets or racks shall be rigidly constructed. In case of cabinets, the plinth, filing section and top shall be flush at sides, back and front.

NOTE — Suitable closing arrangement may be provided if so desired by the purchaser.



4A Rack with Pigeon-holes and Storage Tube



4B Rack with Hooks

All dimensions in millimetres.

FIG. 4 TYPICAL ROLL FILES FOR LARGE DRAWINGS

8.2.2 A card holder with a sight size 100 × 50 mm shall be provided at the front of each cabinet or rack.

8.2.2.1 In addition, the tube shall be fitted with devices to hold index cards to show the contents of the tube.

9 FINISH

9.1 Drawing filing equipment shall be finished as given in **9.1.1** and **9.1.2**.

9.1.1 Steel

9.1.1.1 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 elements.

9.1.1.2 After pickling, all the mild steel parts shall be given phosphating treatments 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 110 : 1983. Aluminium primer shall conform to IS 5660 : 1970.

9.1.1.3 Two coats of enamel paint shall then be applied as follows:

- a) Undercoat as per IS 149 : 1950,
- b) Finish coat with synthetic stoving enamel conforming to IS 2932 : 1974 or IS 2933 : 1975, and
- c) 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.

9.1.2 Powder coating as specified in IS 13871 : 1993 may be done on the mild steel components if required by the purchaser.

10 PERFORMANCE REQUIREMENT OF FINISH

10.1 Wood

It shall be as per **9** of IS 4116 : 1988.

10.2 Steel

10.2.1 Hardness Test

Test to be carried out as per IS 101 (Part 5/ Sec 1) : 1988.

10.2.2 Flexibility and Adhesion Test

Test to be carried out as per **2** of IS 101 (Part 5/ Sec 2) : 1988.

10.2.3 Impact Resistance Test

Test to be carried out as per IS 101 (Part 5/ Sec 3) : 1988.

10.2.4 Resistance to Humidity Under Continuous Condensation

Test to be carried out as per **2** of IS 101 (Part 6/Sec 1) : 1988.

11 PACKING

11.1 All the component parts shall be packed in such a way that no damage is caused to them during transit.

12 INFORMATION TO BE SUPPLIED BY THE PURCHASER

12.1 The purchaser shall supply the following information to the supplier along with the order:

- a) Type required;
- b) Colour of finish;
- c) The material, whether steel or wood; and
- d) Where alternative methods of construction and finish are specified, they shall be clearly stated in the order.

13 MARKING

13.1 All drawing filing equipment shall be marked suitably to identify the manufacturer.

13.2 They may also be marked with the Standard Mark.

ANNEX A
(Clause 2.1)

LIST OF REFERRED INDIAN STANDARDS

<i>IS No.</i>	<i>Title</i>	<i>IS No.</i>	<i>Title</i>
101	Methods of sampling and test for paints, varnishes and related products:	1064 : 1980	Paper sizes (<i>second revision</i>)
(Part 5/Sec 1) : 1988	Part 5 Mechanical test on paints, Section 1 Hardness tests (<i>third revision</i>)	1079 : 1988	Hot rolled carbon steel sheet and strip (<i>fourth revision</i>)
(Part 5/Sec 2) : 1988	Part 5 Mechanical test on paints, Section 2 Flexibility and adhesion tests (<i>third revision</i>)	1278 : 1972	Filler rods and wires for gas welding (<i>second revision</i>)
(Part 5/Sec 3) : 1988	Part 5 Mechanical test on paint, Section 3 Impact resistance (falling ball test) (<i>third revision</i>)	1365 : 1978	Slotted countersunk head screws (<i>third revision</i>)
(Part 6/Sec 1) : 1988	Part 6 Durability tests, Section 1 Resistance to humidity under conditions of condensation	1977 : 1975	Structural steel (ordinary quality) (<i>second revision</i>)
		2932 : 1974	Enamel, synthetic, exterior (a) undercoating, (b) finishing (<i>first revision</i>)
110 : 1983	Ready mixed paint, brushing, grey filler, for enamels for use over primers (<i>first revision</i>)	2933 : 1975	Enamel exterior (a) undercoating, (b) finishing (<i>first revision</i>)
149 : 1950	Ready mixed paint, spraying, undercoating, stoving, for enamels and general purposes colour as required	3313 : 1983	Specification for steel filing cabinets for general office purposes (<i>second revision</i>)
513 : 1986	Cold-rolled low carbon steel sheets and strips (<i>third revision</i>)	3618 : 1966	Phosphate treatment of iron and steel for protection against corrosion
808 : 1989	Dimensions for hot rolled steel beam, column channel and angle sections (<i>third revision</i>)	4116 : 1988	Specification for wooden shelving cabinets (adjustable type)
814 : 1991	Covered electrodes for metal arc welding of carbon and carbon manganese steel	4835 : 1979	Specification for polyvinyl acetate dispersion based adhesives for wood (<i>first revision</i>)
849 : 1957	Specification for cold setting casein glue for wood	4972 : 1968	Resistance spot welding electrodes
851 : 1978	Specification for synthetic resin adhesives for construction work (non-structural) in wood (<i>first revision</i>)	5660 : 1970	Ready mixed paint, brushing, aluminium-red oxide primer
		6760 : 1972	Slotted countersunk head wood screws
852 : 1969	Specification for animal glue for general wood-working purposes (<i>first revision</i>)	13871 : 1993	Specification for powder coatings

ANNEX B

[*Clauses 5.0, 5.1.1(b), 6.0, 7.0 and 8.0*]

SIZES OF DRAWING SHEETS

B-1 The sizes of trimmed and untrimmed drawing sheets of sizes A0 to A5 are given below:

<i>Designation</i>	<i>Trimmed Size</i>	<i>Untrimmed Size, Min mm</i>
A0	841 × 1 189	880 × 1 230
A1	594 × 841	625 × 880
A2	420 × 594	450 × 625
A3	297 × 420	330 × 450
A4	210 × 297	240 × 330
A5	148 × 210	165 × 240

NOTE — In arriving at the trimmed sizes of drawing paper, the following basic principles, which have been dealt with in IS 1064 : 1961 have been taken into consideration:

- a) Two successive sizes of the series are obtained by halving or doubling. Consequently, the surface areas of two successive sizes are in the ratio of 1 : 2.
- b) The formats or forms are geometrically similar to one another. The sides of each size being in the ratio of 1 : 1/2.
- c) The surface area of the basic size A0 is one square metre.

ANNEX B*(Foreword)***COMMITTEE COMPOSITION****Furniture Sectional Committee, CED 35**

<i>Chairman</i>	<i>Representing</i>
SHRI J. A. PANCHAL	National Institute of Designs, Ahmadabad
<i>Members</i>	
SHRI J. G. SEWAK (<i>Alternate to</i> Shri J. A. Panchal)	Small Scale Steel Furniture Manufacturers Association, New Delhi
SHRI J. C. BEHRI	Directorate General of Supplies and Disposals, New Delhi
SHRI S. C. CHADHA	All India Plastics Manufacturers Association, Bombay
SHRI RAJENDRA PRASAD (<i>Alternate</i>)	Furn Plastics Ltd, Nagpur
SHRI JAYANTILAL M. DALAL	Central Building Research Institute, Roorkee
SHRI GAUTAM MAHAJAN (<i>Alternate</i>)	Neolux India Pvt Ltd, Bombay
SHRI AJIT DESAI	Godrej and Boyce Mfg Co Ltd, Bombay
SHRI V. K. BHATT (<i>Alternate</i>)	Andaman Chamber of Commerce and Industry, Port Blair
DIRECTOR	Supreme Industries Ltd, New Delhi
SHRI V. K. AGGARWAL (<i>Alternate</i>)	Director of Education (Delhi Administration), Delhi
SHRI ANIL DOSHI	The Indian Plywood Mfg Co Pvt Ltd, Bombay
SHRI S. A. SHINDE (<i>Alternate</i>)	National Buildings Organization, New Delhi
SHRI I. P. FIGUERO	Engineer-in-Chief's Branch, Army Headquarters, New Delhi
SHRI H. H. JAMSHEDJI (<i>Alternate</i>)	Office of the Development Commissioner (SSI), New Delhi
SHRI S. P. GOENKA	Indian Tourism Development Corporation, New Delhi
SHRI HARISH KHAITAN (<i>Alternate</i>)	Chandan Metal Products Pvt Ltd, Vadodara
SHRI SANJEEV JAIN	Indian Institute of Technology, Bombay
SHRI R. M. KARKHANIS (<i>Alternate</i>)	School of Planning and Architecture, New Delhi
SHRI H. C. KULSHRESHTHA	Building Materials and Technology Promotion Council, New Delhi
SHRI S. S. BHATIA (<i>Alternate</i>)	Central Public Works Department, New Delhi
SHRI K. S. LAULY	Forest Research Institute, Dehra Dun
SHRI HEMAN C. VISSANJI (<i>Alternate</i>)	Indian Oil Corporation Ltd, New Delhi
SHRI M. M. MISTRY	Director General, BIS (<i>Ex-officio Member</i>)
SHRIMATI M. CHEEMA	
SHRI K. K. MISHRA (<i>Alternate</i>)	
SHRI V. D. NARANG	
SHRI L. R. PAHWA	
SHRI S. K. RAY (<i>Alternate</i>)	
SHRI V. N. PATEL	
SHRI P. A. PATEL (<i>Alternate</i>)	
SHRI P. RAJGOPALAN	
PROF V. P. RAORI	
SHRI O. P. RATRA	
SHRI M. K. RISHI	
SHRIMATI TRIPLI KHURANA (<i>Alternate</i>)	
SHRI S. N. SANYAL	
SHRI S. P. BADORI (<i>Alternate</i>)	
SHRI R. L. SHARMA	
SHRI UTPAL SEN (<i>Alternate</i>)	
SHRI Y. R. TANEJA, Director-in-Charge (Civ Engg)	

Member-Secretary

SHRI R. S. JUNEJA
Deputy Director (Civ Engg), BIS

Metal Furniture Subcommittee, CED 35 : 1

<i>Convener</i>	
SHRI M. R. AGNIHOTRI	School of Planning and Architecture, New Delhi
<i>Members</i>	
SHRI V. K. AGARWAL	Hindustan Aluminium Corporation Ltd, Bombay
SHRI AJAY KUMAR AGARWAL (<i>Alternate</i>)	National Buildings Organization, New Delhi
ASSISTANT DIRECTOR (PLASTIC)	Central Buildings Research Institute (CSIR), Roorkee
SHRI BHAGWAN DASS	Directorate General of Supplies and Disposals, New Delhi
SHRI S. C. CHADHA	Godrej and Boyce Mfg Co Pvt Ltd, Bombay
SHRI I. C. KHANNA (<i>Alternate</i>)	Industries, Energy and Labour Department, Government of Maharashtra
SHRI I. P. FIGUERO	Goodlass Nerolac Paints Ltd, Bombay
SHRIMATI MEDHA GODGIL	
SHRI P. S. KHANOLKAR	
SHRI J. RANGARAJAN (<i>Alternate</i>)	

(Continued on page 12)

(Continued from page 11)

Members

SHRI S. K. KINRA

DEPUTY DIRECTOR (MECH) (*Alternate*)
MANAGING DIRECTOR

SHRI SHIV KUMAR KAPARI (*Alternate*)

SHRI J. A. PANCHAL

SHRI J. G. SEWAK (*Alternate*)

SHRI V. N. PATEL

SHRI P. A. PATEL (*Alternate*)

SHRI H. K. RAKHRA

SHRI TILAK RAJ (*Alternate*)

Representing

Office of the Development Commissioner (Small Scale Industries),
New Delhi

Small Scale Steel Furniture Manufacturers Association (Regd),
New Delhi

National Institute of Design, Ahmadabad

Chandan Metal Products Pvt Ltd, Vadodara

Engineer-in-Chief's Branch, Army Headquarters, New Delhi

Standard Mark

The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* 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.

Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act, 1986* to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

Copyright

BIS has the copyright of all its publications. No part of these publications may be reproduced in any form without the prior permission in writing of BIS. This does not preclude the free use, in the course of implementing the standard, of necessary details, such as symbols and sizes, type or grade designations. Enquiries relating to copyright be addressed to the Director (Publications), BIS.

Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Handbook' and 'Standards Monthly Additions'. Comments on this Indian Standard may be sent to BIS giving the following reference:

Doc No. CED 35 (5229)

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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 :

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

Telephone

{ 331 01 31
{ 331 13 75

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

{ 37 84 99, 37 85 61
{ 37 86 26, 37 86 62

Northern : SCO 445-446, Sector 35-C, CHANDIGARH 160036

{ 53 38 43, 53 16 40
{ 53 23 84

Southern : C. I. T. Campus, IV Cross Road, MADRAS 600113

{ 235 02 16, 235 04 42
{ 235 15 19, 235 23 15

Western : Manakalaya, E9 MIDC, Marol, Andheri (East)
BOMBAY 400093

{ 632 92 95, 632 78 58
{ 632 78 91, 632 78 92

Branches : AHMADABAD. BANGALORE. BHOPAL. BHUBANESHWAR.
COIMBATORE. FARIDABAD. GHAZIABAD. GUWAHATI. HYDERABAD.
JAIPUR. KANPUR. LUCKNOW. PATNA. THIRUVANANTHAPURAM.