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“पुराने को छोड़ नये के तरफ”

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IS 7761 (1983): steel book cases [CED 35: Furniture]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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IS : 7761 - 1983

Indian Standard
SPECIFICATION FOR
STEEL BOOK CASES
(*First Revision*)

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INDIAN STANDARDS INSTITUTION
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NEW DELHI 110002

Indian Standard

SPECIFICATION FOR STEEL BOOK CASES

(*First Revision*)

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Indian Standard

SPECIFICATION FOR STEEL BOOK CASES

(*First Revision*)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 30 December 1983, after the draft finalized by the Furniture Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 Sheet metal furniture is being made in the country for a number of years. However, the sizes, finish and function of these furniture items as made by various manufacturers require to be co-ordinated. With a view to rationalizing the sizes and specifying finishes consistent with a corrosion protection. This standard was first published in 1975. In this revision the grades of materials to be used in the components have been included.

0.3 This standard contains clause 8 which requires the purchaser to supply certain technical information at the time of placing orders.

0.4 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 covers the requirements for materials, size, construction and finish of steel book cases.

2. MATERIALS

2.1 Electrodes — The welding electrodes for gas, arc and spot welding shall conform to IS : 1278-1972†, IS : 814 (Part 2)-1974‡ and IS : 4972-1968§, respectively.

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

†Specification for filler rods and wires for gas welding (*second revision*).

‡Specification for covered electrodes for metal arc welding of structural steel: Part 2 For welding sheets (*fourth revision*).

§Specification for resistance spot welding electrodes.

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2.2 Mild Steel Rounds and Flats — Mild steel rounds and flats shall conform to grade Fe 310-0 (St 32-0) of IS : 1977-1975* and sections shall conform to IS : 1732-1971† and IS : 1731-1971‡.

2.3 Mild Steel Sheets — Mild sheets shall conform to grade 0 of IS : 513-1973§ or grade 0 of IS : 1079-1973||.

2.4 Screws — Screws shall conform to IS : 1365-1978¶ and IS : 1366-1968**.

3. DIMENSIONS AND TOLERANCES

3.1 Dimensions — The overall dimensions of steel book cases shall be as follows (see also Fig. 1):

Height	1 675 mm
Width	840 mm
Depth	305 mm

3.2 Tolerances — The overall dimensions specified in 3.1 shall not vary by more than ± 5 mm.

4. FABRICATION

4.1 Components — Steel book cases shall be assembled from the components as given in 4.2 to 4.10.

4.2 Sides — The sides shall be made from steel sheets not less than 1.0 mm thick and without any burrs or dents. The width of the sides shall correspond to the depth of the cabinets. The sides shall extend between the extreme surfaces of top and bottom.

4.3 Back — The back shall be made from steel sheets not less than 1.0 mm thick and without any burrs or dents. The width of the back sheet shall correspond to the width of the cabinet. The back shall extend between the extreme surfaces of top and bottom.

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

†Specification for dimensions for round and square steel bars for structural and general engineering purposes (*first revision*).

‡Specification for dimensions for steel flats for structural and general engineering purposes (*first revision*).

§Specification for cold rolled carbon steel sheets (*second revision*).

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

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

**Specification for slotted cheese head screws (dia range 1.6 to 20 mm) (*first revision*).

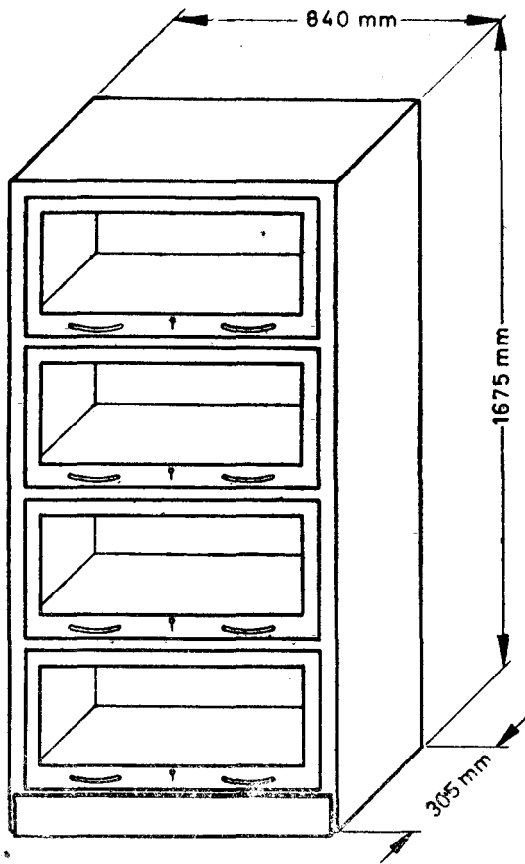


FIG. 1 A TYPICAL SKETCH OF STEEL BOOK CASE

4.4 Tops — This shall be made from steel sheet not less than 1.0 mm thick. The length of top shall cover the width of the cabinet and breadth shall cover the depth of the cabinet. The front of the top shall have round lipped flange.

4.5 Bottom — This shall be made from steel sheet not less than 1.0 mm thick. The length of bottom shall cover the width of cabinet and breadth shall cover the depth of the cabinet.

4.6 Fixed Shelves — The shelves shall be made from steel sheets not less than 1.0 mm thick. The shelves shall have lipped flanges 30 mm in width and

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15 mm in depth. Each shelf shall be welded to the sides and back by tack welding.

4.7 Sliding Glass Shutter — The shutter frame shall be made from mild steel sheets not less than 1.25 mm thick and the width of border frame shall be not more than 65 mm. Each shutter shall swivel along its axis when opened and shall slide in suitable guides, at the top for keeping the compartment open.

4.8 Lock — The lock shall conform to IS : 729-1979*. The lock shall not be less than 6-lever lock with duplicate keys of non-corrosive material.

4.8.1 Non-interchangeability — No lock shall be opened by any other than its own specific key. For this purpose, there shall not be same lever combination for any two locks. A given combination of levers of locks once used shall not be used again unless the thickness of levers and their number or radius of sweep of steps or the increment in steps is altered.

4.9 Handles — The handle shall be made from cast brass conforming to IS : 292-1961† or zinc base alloy casting conforming to IS : 742-1981‡.

4.10 Glass — Four plain transparent glass sheets, not less than 3 mm thick, shall be fitted on each book case with shutter frame packing screwed at the back side border of glass. The glass sheet shall conform to IS : 1761-1960§.

5. ASSEMBLY

5.1 The various components shall be assembled by means of welding or bolting. The sides and back shall be jointed in such a manner which would provide reasonable protection against dust and insect from entering the book cases.

5.2 The method for gas, arc and spot welding shall conform to IS : 1323-1966||, IS : 816-1969¶ and IS : 819-1957** respectively.

6. FINISH

6.1 Sheet Metal Components

6.1.1 All dents, burrs and sharp edges shall be removed from the various components. The components shall be individually pickled, scrubbed and rinsed to remove grease, rust, scale or any other foreign element.

*Specification for drawer locks, cupboard locks and box locks (*third revision*).

†Specification for brass ingots and castings (*first revision*).

‡Specification for zinc base alloy die castings (*second revision*).

§Specification for transparent sheet glass for glazing and framing purposes.

||Code of practice for oxy-acetylene welding for structural work in mild steel (*first revision*)

¶Code of practice for use of metal arc welding for general construction in mild steel (*first revision*).

**Code of practice for resistance spot welding for light assemblies in mild steel,

6.1.2 Immediately after pickling, all the mild steel parts shall be given phosphating treatment conforming to class C of IS : 3618-1966*. The process for application of phosphate coating shall be in accordance with IS : 6005-1970†.

NOTE — Putty shall be applied to all the surfaces requiring filling and shall conform to IS : 110-1968‡. Aluminium primer shall conform to IS : 5660-1970§.

6.1.3 Coat/coats of enamel paint shall then be applied as follows:

Finish coat with enamels conforming to IS : 151-1950||, IS : 2932-1974¶ or IS : 2933-1975**.

6.2 All other components shall be finished in colour as agreed to between the purchaser and the manufacturer.

7. PERFORMANCE REQUIREMENTS OF FINISH

7.1 Scratch Hardness Test — A sample of mild steel plate 150 × 50 mm in size and thickness 0.315 mm finished as described in 6 shall be subjected to scratch hardness test in accordance with 15.1 of IS : 101-1964††. A scratch, showing the bare metal shall not be produced on the test sample.

7.2 Pressure Test — Samples prepared from mild steel plates of thickness 0.315 mm and finished as described in 6 shall be subjected to pressure test in accordance with 15.2 of IS : 101-1964††. The metal surface shall not be rendered visible when the test pieces are separated after the test.

7.3 Flexibility and Adhesion Test — A sample of mild steel plate 150 × 50 mm in size and thickness 0.315 mm finished as described in 6 shall be subjected to flexibility and adhesion test in accordance with 16 of IS : 101-1964††. The paint film on the test piece shall not show damage, detachment or cracking when examined under ×10 magnification.

7.4 Stripping Test — A sample of mild steel plate 150 × 50 mm in size and thickness 0.315 mm finish as described in 6 shall be subjected to stripping test in accordance with 17 of IS : 101-1964††. The scratch produced after the test shall be free from jagged edges.

*Specification for phosphate treatment of iron and steel, for protection against corrosion.

†Code of practice for phosphating of iron and steel.

‡Specification for ready mixed paint, brushing, grey filler for enamels for use over primers (*first revision*).

§Specification for ready mixed paint, brushing, aluminium red oxide primer.

||Specification for ready mixed paint, spraying, finishing, stoving enamel for general purposes, colour as required.

¶Specification for enamel, synthetic, exterior (a) undercoating (b) finishing (*first revision*).

**Specification for enamel, exterior (a) undercoating (b) finishing (*first revision*).

††Methods of test for ready mixed paints and enamels (*second revision*).

7.5 Test for Protection Against Corrosion Under Conditions of Condensation — A mild steel panel of size 150×100 mm and thickness 1.25 mm finished as described in 6 shall be subjected to test for protection against corrosion under conditions of condensation in accordance with 18 of IS : 101-1964*. The metal surface shall show no signs of corrosion after the test.

8. INFORMATION TO BE SUPPLIED BY THE PURCHASER

8.1 The purchaser shall supply the following information to the supplier alongwith the order:

- a) Colour of finish; and
- b) Where alternative methods of construction and finish are specified, they shall be clearly stated in the order.

9. PACKING

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

10. MARKING

10.1 All steel book cases shall be marked with suitable mark identifying the manufacturer. Marking on key shall include the maker's name and identification number, which shall not be same as the numbers of key steps. Marking on lock shall have the identification number as that of the keys.

10.1.1 The steel book cases 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.

*Methods of test for ready mixed paints and enamels (*second revision*).

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

Quantity	Unit	Symbol
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

Quantity	Unit	Symbol
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

Quantity	Unit	Symbol	Definition
Force	newton	N	1 N = 1 kg.m/s ²
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m ²
Frequency	hertz	Hz	1 Hz = 1 c/s (s ⁻¹)
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m ²

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