

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 3498 (1993): Metal table (office type)-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

धातु की मेज (कार्यालय टाईप) — विशिष्ट
(तीसरा पुनरीक्षण)

Indian Standard

METAL TABLE (OFFICE TYPE) — SPECIFICATION
(Third Revision)

UDC 684.442.044 : 651.2

© BIS 1993

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

FOREWORD

This Indian Standard (Third 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 specification for metal tables (office type) was first published in 1966 and subsequently revised in 1975 and 1983. In this revision, the following changes have been effected:

- a) Referred Indian Standards have been updated.
- b) Table tops made of wood and other lignocellulosic material based products have been deleted as they are already covered in IS 8126 : 1993 'Specification for composite office tables'.

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 formulation of this standard is given at Annex B.

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***METAL TABLE (OFFICE TYPE) — SPECIFICATION**
*(Third Revision)***1 SCOPE**

This standard covers requirements of materials, construction and finish of office type metal tables.

2 REFERENCES

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

3 MATERIALS**3.1 Electrodes**

Electrodes for gas, arc and spot welding shall conform to IS 1278 : 1972, IS 814 : 1991 and IS 4972 : 1986 respectively.

3.2 Aluminium Sheets

Aluminium sheets shall conform to alloy designation 31000, 31500, 40800 or 52000 in H2 condition of IS 737 : 1986.

3.3 Aluminium Tubes

Aluminium tubes shall conform to designation 62400, 63400 or 65032 of IS 1285 : 1975.

3.4 Mild Steel Rounds and Flats

Mild steel flats and rounds shall conform to grade Fe 310-0 (Se-32-0) of IS 1977 : 1975 and sections shall conform to IS 1730 : 1989 and IS 1732 : 1989 respectively.

3.5 Mild Steel Sheets

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

3.6 Mild Steel Tubes

Mild steel tubes shall conform to IS 7138 : 1973.

3.7 Screws

Screws shall conform to IS 1365 : 1978.

3.8 Steel Wire

Steel wire where used shall be steel wire for springs conforming to Grade 1 of IS 4454 (Part 1) : 1981.

4 DIMENSIONS

The dimensions of tables and table tops shall conform to IS 3663 : 1991.

5 FABRICATION**5.0 Components**

Metal tables shall be assembled from the components given in 5.1 to 5.13.

5.1 Top

The top shall be made from mild steel sheet not less than 1 mm thick or aluminium sheet not less than 1.6 mm thick and fabricated to take up beading in it. The top shall be properly stiffened with channels and stiffeners and shall have rounded corners.

5.2 Pull-Out Slide

This is a slide with forward action. The pull-out slide shall be made from metal sheet not less than 1.0 mm thick and shall have lipped flanges in the front and sides.

5.3 Drawer Box

The drawer box shall be made from metal sheet not less than 0.8 mm thick and shall be tack welded. This shall be an enclosed box from all sides, properly stiffened with stiffeners, with lipped flanges in the front and drawer supports tack welded to it.

5.4 Drawers

Drawers shall be made from metal sheet not less than 0.63 mm thick and shall have a slot and stopper strip of metal sheet at the rear, holding the drawer in the box when it is fully opened.

5.5 Locker Body

Locker body shall be made from metal sheet not less than 0.8 mm thick and shall be of the same size as the drawer box. This shall be bent to box shape from one piece and tack welded at the final overlapped corner or assembled with a maximum of two pieces properly welded depending on the design. Lipped flanges shall be provided in front and the back portion shall be bent inside to seat the back. The back shall be a push fit and tack-welded in the locker body.

5.6 Foot Rest

Foot rest shall be minimum of 1.6 mm thick metal sheet or tubular type.

5.7 Locker Door

Locker door shall be made from metal sheet not less than 1.0 mm thick if a single wall is used or 0.63 mm thick if a double wall is used and shall have lipped flanges all around its sides. This shall be properly hinged and shall have a key slot in the front.

5.8 Locker Shelf

The locker shelf shall be made from metal sheet not less than 1.0 mm thick and shall have lipped flanges on all the sides. The shelf shall have the width to cover inside width of the locker box and length to cover the inside depth of the locker box. The shelf shall be seated on the supports tack-welded to the box depthwise and shall be suitably located.

5.9 Locking Mechanism

There shall be a suitable locking mechanism at the back or side of the drawers which shall so operate that all the drawers shall be locked firmly when the top drawer is closed or each drawer shall be fitted with a separate lock so as to have the individual locking arrangement.

5.10 Drawer Guides

The drawer shall have either ball bearing type guides or simple sheet angle guides so that the drawer shall move easily. The guide angle shall be made from metal sheet not less than 1.0 mm thick.

5.11 Tubular Frame

The frame shall be made either from mild steel tubular pipe with a wall thickness of not less than 1.25 mm and outside diameter 25 mm, or from aluminium tubular pipe with a wall thickness of not less than 1.6 mm and outside diameter 25 mm. The cross-section of aluminium tubular pipe may be round or square with the same dimensions. This shall be in one piece or may be joined at one place by inserting a piece of the tubular pipe in the joint with outer dimensions equal to the inside dimensions of the tubular pipe; then the joint shall be secured. At every change of direction, the tube shall be curved to minimum radius possible without causing any cracks, unevenness or other defects in the bend.

5.12 Locks

The lock shall not be less than six-lever lock with duplicate keys of non-corrosive material, and shall conform to IS 729 : 1979. Pin cylindrical locks or disc-tumbler locks may be used in place of lever locks.

5.13 Handles

Each drawer shall be fitted with a corrosion resistant metal handle which shall be fixed to the

front of the drawer or the drawer shall have a built-in pull.

6 ASSEMBLY

6.1 The components shall be assembled by means of bolting or welding.

6.1.1 Welding of aluminium parts shall be in accordance with IS 2812 : 1964.

6.2 The method of gas, arc and spot welding shall conform to IS 1323 : 1982; IS 816 : 1969 and IS 819 : 1957 respectively.

7 FINISH

7.1 Steel Component

7.1.1 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.

7.1.2 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 surface fittings and shall conform to IS 110 : 1983. Aluminium primer shall conform to IS 5660 : 1970.

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

- a) Undercoat conforming to IS 149 : 1950;
- b) Finish coat with enamel conforming to IS 151 : 1985, IS 2932 : 1974 or IS 2933 : 1975; and
- c) In case of stoving enamel 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 dull pointed instrument.

7.1.4 Aluminium parts may be anodized, if required by the purchaser and shall conform to Grade AC 25 of IS 1868 : 1968.

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

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

8 PERFORMANCE REQUIREMENTS OF FINISH

8.1 Hardness Test

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

8.2 Impact Resistance Test

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

8.3 Flexibility and Adhesion Test

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

8.4 Resistance to Humidity Under Continuous Condensation

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

9 PACKING

All the component parts shall be packed in such

a way that no damage is caused to them during transit.

10 INFORMATION TO BE SUPPLIED BY THE PURCHASER

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

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

11 MARKING

11.1 All metal tables and keys shall be marked with a suitable mark identifying the manufacturer. The keys shall bear the identification number and the locks shall have the same identification number as the keys.

11.1.1 The metal tables may also be marked with the Standard Mark.

ANNEX A

(Clause 2)

LIST OF REFERRED INDIAN STANDARDS

IS No.	Title	IS No.	Title
101 (Part 5/Sec 1) : 1988	Methods of test for ready mixed paints and enamels: Part 5 Mechanical test of paint films, Section 1 Hardness test (<i>third revision</i>)	149 : 1950	Ready mixed paint, spraying undercoating, stoving, for enamels and general purposes, colour as required
101 (Part 5/Sec 2) : 1988	Methods of test for ready mixed paints and enamels: Part 5 Mechanical test of paint films, Section 2 Flexibility and adhesion tests (<i>third revision</i>)	151 : 1985	Ready mixed paint, spraying, finishing, stoving, enamel, for general purposes, colour as required (<i>first revision</i>)
101 (Part 5/Sec 3) ; 1988	Methods of test for ready mixed paints and enamels: Part 5 Mechanical test of paint films, Section 3 Impact resistance (falling ball test) (<i>third revision</i>)	513 : 1986	Cold-rolled low carbon steel sheets and strips (<i>third revision</i>)
101 (Part 6/Sec 1) : 1988	Methods of test for ready mixed paints and enamels: Part 6 Durability tests, Section 1 Resistance to humidity under conditions of condensation	729 : 1979	Specification for drawer locks, cupboard locks and box locks (<i>third revision</i>)
110 : 1983	Ready mixed paint, brushing, grey filler, for enamels for use over primers (<i>first revision</i>)	737 : 1986	Wrought aluminium and aluminium alloy sheet and strip for general engineering purposes (<i>third revision</i>)
		814 : 1991	Covered electrodes for metal arc welding of carbon and carbon manganese steel
		816 : 1969	Code of practice for use of metal arc welding for general construction in mild steel (<i>first revision</i>)

<i>IS No.</i>	<i>Title</i>	<i>IS No.</i>	<i>Title</i>
819 : 1957	Code of practice for resistance spot welding for light assemblies in mild steel	2812 : 1964	Recommendations for manual tungsten inert gas arc welding aluminium alloys
1079 : 1988	Hot rolled carbon steel sheet and strip (<i>fourth revision</i>)	2932 : 1974	Enamel, synthetic, exterior (a) undercoating, (b) finishing (<i>first revision</i>)
1278 : 1972	Filler rods and wires for gas welding (<i>second revision</i>)	2933 : 1975	Enamel exterior (a) undercoating (b) finishing (<i>first revision</i>)
1285 : 1975	Wrought aluminium and aluminium alloy extruded round tube and hollow sections (for general engineering purposes) (<i>second revision</i>)	3618 : 1966	Phosphate treatment of iron and steel for protection against corrosion
1323 : 1982	Code of practice for oxy-acetylene welding for structural work in mild steels (<i>second revision</i>)	3663 : 1991	Dimensions of tables and chairs for general office purposes (<i>first revision</i>)
1365 : 1978	Slotted countersunk head screws (<i>third revision</i>)	4454 (Part 1) : 1981	Steel wires for cold framed springs: Part 1 Patented and cold drawn steel wires-unalloyed (<i>second revision</i>)
1730 : 1989	Dimensions for steel flats for structural and general engineering purposes (<i>first revision</i>)	4972 : 1986	Resistance spot welding electrodes
1732 : 1989	Dimensions for round and square steel bars for structural and general engineering purposes (<i>first revision</i>)	5660 : 1970	Ready mixed paint, brushing, aluminium red oxide primer
1868 : 1968	Anodic coatings on aluminium and its alloys (<i>second revision</i>)	6005 : 1970	Code of practice for phosphating of iron and steel
1977 : 1975	Structural steel (ordinary quality) (<i>second revision</i>)	7138 : 1973	Steel tubes for furniture purposes
		13871 : 1993	Powder coatings — Specification

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

SHRI J. A. PANCHAL

*Members*SHRI J. G. SEWAK (*Alternate to*
Shri J. A. Panchal)

SHRI J. C. BEHKI

SHRI S. C. CHADHA

SHRI RAJENDRA PRASAD (*Alternate*)

SHRI JAYANTILAL M. DALAL

SHRI GAUTAM MAHAJAN (*Alternate*)

SHRI AJIT DESAI

SHRI V. K. BHATT (*Alternate*)*DIRECTOR*SHRI V. K. AGGARWAL (*Alternate*)

SHRI ANIL DOSHI

SHRI S. A. SHINDE (*Alternate*)

SHRI I. P. FIGUERO

SHRI H. H. JAMSHEDJI (*Alternate*)

SHRI S. P. GOENKA

SHRI HARISH KHAITAN (*Alternate*)

SHRI SANJEEV JAIN

SHRI R. M. KARKHANIS (*Alternate*)

SHRI H. C. KULSHRESHTHA

SHRI S. S. BHATIA (*Alternate*)

SHRI K. S. LAULY

SHRI HEMAN C. VISSANJI (*Alternate*)

SHRI M. M. MISTRY

SHRIMATI M. CHEEMA

SHRI K. K. MISHRA (*Alternate*)

SHRI V. D. NARANG

SHRI L. R. PAHWA

SHRI S. K. RAY (*Alternate*)

SHRI V. N. PATEL

SHRI P. A. PATEL (*Alternate*)

SHRI P. RAJGOPALAN

PROF V. P. RAORI

SHRI O. P. RATRA

SHRI M. K. RISHI

SHRIMATI TRIPLI KHURANA (*Alternate*)

SHRI S. N. SANYAL

SHRI S. P. BADORI (*Alternate*)

SHRI R. L. SHARMA

SHRI UTPAL SEN (*Alternate*)

SHRI Y. R. TANEJA,

Director-in-Charge (Civ Engg)

Representing

National Institute of Designs, Ahmadabad

Small Scale Steel Furniture Manufacturers Association, New Delhi
Directorate General of Supplies and Disposals, New Delhi

All India Plastics Manufacturers Association, Bombay

Furn Plastics Ltd, Nagpur

Central Building Research Institute, Roorkee

Neolux India Pvt Ltd, Bombay

Godrej and Boyce Mfg Co Ltd, Bombay

Andaman Chamber of Commerce and Industry, Port Blair

Supreme Industries Ltd, New Delhi

Director of Education (Delhi Administration), Delhi

The Indian Plywood Mfg Co Pvt Ltd, Bombay

National Buildings Organization, New Delhi

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

Office of the Development Commissioner (SSI), New Delhi

Indian Tourism Development Corporation, New Delhi

Chandan Metal Products Pvt Ltd, Vadodara

Indian Institute of Technology, Bombay

School of Planning and Architecture, New Delhi

Building Materials and Technology Promotion Council, New Delhi

Central Public Works Department, New Delhi

Forest Research Institute, Dehra Dun

Indian Oil Corporation Ltd, New Delhi

Director General, BIS (*Ex-officio Member*)*Member-Secretary*

SHRI R. S. JUNEJA

Deputy Director (Civ Engg), BIS

Metal Furniture Subcommittee, CED 35 : 1*Convener*

SHRI M. R. AGNIHOTRI

Members

SHRI V. K. AGARWAL

SHRI AJAY KUMAR AGARWAL (*Alternate*)

ASSISTANT DIRECTOR (PLASTIC)

SHRI BHAGWAN DASS

SHRI S. C. CHADHA

SHRI I. C. KHANNA (*Alternate*)

SHRI I. P. FIGUERO

SHRIMATI MEDHA GODGIL

SHRI P. S. KHANOLKAR

SHRI J. RANGARAJAN (*Alternate*)

School of Planning and Architecture, New Delhi

Hindustan Aluminium Corporation Ltd, Bombay

National Buildings Organization, New Delhi

Central Buildings Research Institute (CSIR), Roorkee

Directorate General of Supplies and Disposals, New Delhi

Godrej and Boyce Mfg Co Pvt Ltd, Bombay

Industries, Energy and Labour Department, Government of
Maharashtra

Goodlass Nerolac Paints Ltd, Bombay

(Continued on page 6)

(Continued from page 5)

Members

SHRI S. K. KINRA

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

SHRI SHIV KUMAR KAPANI (*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 (5250)

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 :

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	{ 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.