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मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

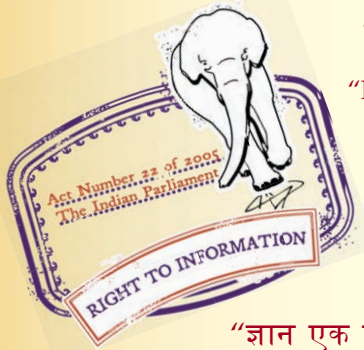
“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 3791 (1983): metal paper trays - 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”



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*Indian Standard*

SPECIFICATION FOR  
METAL PAPER TRAYS

( *First Revision* )

UDC 684.49.044



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**INDIAN STANDARDS INSTITUTION**  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

*Indian Standard*  
**SPECIFICATION FOR  
 METAL PAPER TRAYS**  
*( First Revision )*

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*Indian Standard*  
SPECIFICATION FOR  
METAL PAPER TRAYS  
( *First Revision* )

0. F O R E W O R D

**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 over a number of years. However, the sizes, finish and function of furniture items as made by various manufacturers required to be co-ordinated. This standard was, therefore, first prepared in 1966 to rationalize the sizes and specify the finishes consistent with corrosion protection. In this revision the grade of materials to be used in components have been specified.

**0.3** This standard contains clause which requires the purchaser to supply certain technical information at the time of placing orders ( *see 9* ).

**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 to the practices in the field in this country.

**0.5** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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**1. SCOPE**

**1.1** This standard lays down the requirements for materials, size, construction and finish of metal paper trays.

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

## 2. MATERIALS

**2.1 Aluminium Sheets** — Aluminium sheets shall conform to  $\frac{1}{2}$  H condition of 19000 quality of IS : 737-1974\*.

**2.2 Electrodes** — Electrodes for gas and arc welding shall conform to IS : 1278-1972† and IS : 814 ( Part 2 )-1974‡.

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

## 3. DIMENSIONS AND TOLERANCES

**3.1** The overall dimensions of paper trays shall be as given below:

a) Length	380 mm,
b) Width	255 mm, and
c) Depth	65 mm.

**3.2 Tolerances** — The overall dimensions specified in 3.1 shall not vary by more than  $\pm 5$  mm.

## 4. FABRICATION

**4.1** The tray shall be made from steel sheet not less than 0.8 mm thick and aluminium sheets not less than 1.0 mm thick and without any burrs or dents. The top edges shall be bent over and pressed into a knife edge, as shown in Fig. 1.

## 5. ASSEMBLY

**5.1** The sides and bottom shall be assembled by means of welding.

**5.2** The method of gas, arc and spot welding shall conform to IS : 1323-1966¶, IS : 816-1969\*\*, IS : 819-1957†† and IS : 2812-1964‡‡.

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\*Specification for wrought aluminium and aluminium alloys, sheet and strip ( for general engineering purposes ) ( *second revision* ).

†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 hot rolled carbon steel sheet and strip ( *third revision* ).

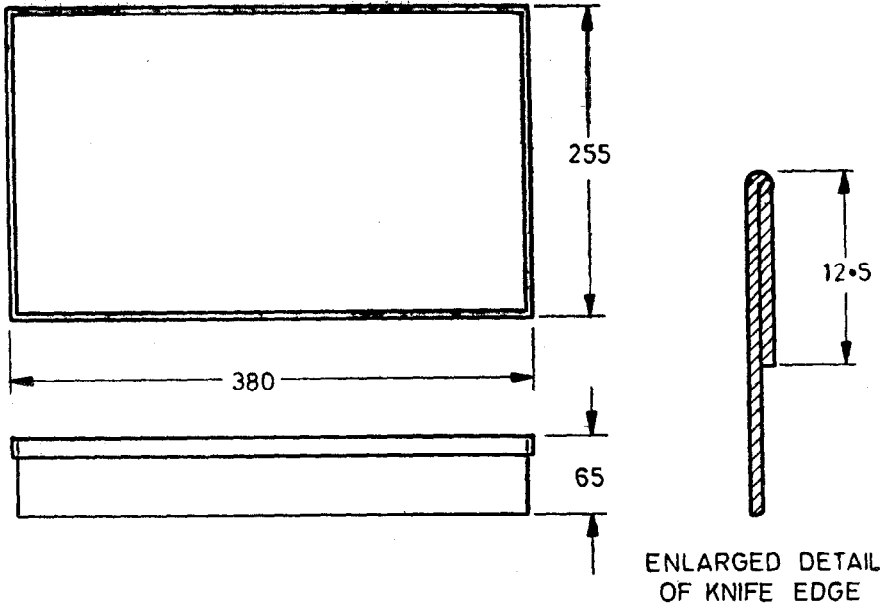
||Specification for cold rolled carbon steel sheets ( *second revision* ).

¶Code of practice for oxy-acetylene welding for structural work in mild steel ( *revised* ).

\*\*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.

‡‡Recommendations for manual tungsten inert-gas arc-welding of aluminium and aluminium alloys.



All dimensions in millimetres.

FIG. 1 METAL PAPER TRAY

## 6. ADDITIONAL ACCESSORY

6.1 The following additional accessory may be provided, if so described by the purchaser:

*Spring Clip* — The paper tray shall be fitted with a suitable spring clip inside on one of the shorter sides to hold papers.

## 7. FINISH

7.1 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.

7.2 Immediately after pickling all the mild steel parts shall be given phosphating treatment conforming to Grade 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 requiring filling and shall conform to IS : 110-1968‡. Aluminium primer shall conform to IS : 5660-1970§.

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

- a) Finish coat with enamels conforming to IS : 151-1950||, IS : 2932-1974¶ or IS : 2933-1975\*\*; and
- b) 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.

7.3.1 The finish shall be smooth, uniformly applied and free from visible defects. It shall be hard and shall not readily chip or flake. The dry film thickness shall be not less than 0.10 mm.

## 8. PERFORMANCE REQUIREMENTS OF FINISH

8.1 **Scratch Hardness Test** — A sample of mild steel plate 150 × 50 mm in size and thickness 0.315 mm and finished as given in 7 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.

8.2 **Pressure Test** — Samples prepared from mild steel plates of thickness 0.315 mm and finished as given in 7 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.

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\*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*).

**8.3 Flexibility and Adhesion Test** — A sample of mild steel plate  $150 \times 50$  mm in size and thickness 0.315 mm and finished as given in 7 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  $\times 10$  magnification.

**8.4 Stripping Test** — A sample of mild steel plate  $150 \times 50$  mm in size and thickness 0.315 mm and finished as given in 7 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.

**8.5 Test for Protection Against Corrosion Under Conditions of Condensation** — A mild steel panel of size  $150 \times 100$  mm in size and thickness 1.25 mm and finished as given in 7 shall be subjected to test for protection against corrosion under conditions of condensation in accordance with 18 of IS : 101-1964\*. A metal surface shall show no signs of corrosion after the test.

## 9. INFORMATION TO BE SUPPLIED BY THE PURCHASER

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

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

## 10. MARKING

**10.1** All metal paper trays shall be marked with a suitable mark identifying the manufacturer.

**10.1.1** The metal paper trays 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.

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