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IS : 2546 - 1974

*Indian Standard*  
SPECIFICATION FOR  
GALVANIZED MILD STEEL FIRE BUCKET  
( *First Revision* )

UDC 614·843·5 [ 669·141·24: 669·586 ]



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**INDIAN STANDARDS INSTITUTION**  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110001

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# *Indian Standard*

## SPECIFICATION FOR GALVANIZED MILD STEEL FIRE BUCKET

### ( *First Revision* )

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*Indian Standard*  
SPECIFICATION FOR  
GALVANIZED MILD STEEL FIRE BUCKET  
( *First Revision* )

0. FOREWORD

**0.1** This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 15 March 1974, after the draft finalized by the Fire Fighting Sectional Committee had been approved by the Civil Engineering Division Council.

**0.2** As one of the important items of first-aid fire fighting equipment, fire buckets have to conform to certain essential requirements in regard to shape, design, construction and finish. This standard has been prepared with a view to providing guidance both in manufacture and purchase of galvanized mild steel fire bucket of proper design and construction. This standard was published in the year 1963. This first revision has been prepared to incorporate the revised design of bucket as recommended by Ordnance Factory, Dum Dum.

**0.3** 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 regarding material, dimensions, manufacture, finish and tests of galvanized mild steel fire bucket of 10 litres nominal capacity.

**2. MATERIAL**

**2.1 Mild Steel Black Sheets** — Mild steel black sheets used for the manufacture of buckets shall conform to Grade St 34 or Grade St 42 of IS : 1079-1968†.

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

†Specification for hot rolled carbon steel sheet and strip (*second revision*).

**2.2 Mild Steel Rod** — Mild steel rod used for the top and bottom handles shall conform to IS : 226-1969\*.

**2.3 Mild Steel Wire** — Mild steel wire used for stiffening the top rim shall conform to IS : 280-1962†.

**2.4 Paints** — Paints used for painting of fire buckets shall conform to the appropriate Indian Standards given in Table 1.

**TABLE 1 PAINTS FOR PAINTING OF FIRE BUCKETS**

SL No.	PURPOSE	REFERENCE TO INDIAN STANDARDS	
		When Oil Paint Finish is Required	When Enamel Finish is Required
(1)	(2)	(3)	(4)
i)	White paints for painting the inside	IS : 641-1964*	IS : 2932-1964†
ii)	Red paints for painting the outside	IS : 120-1962‡	
iii)	Black paint for painting handles, ears and letters	IS : 128-1962§	

\*Specification for ready mixed paint, brushing, finishing, interior, semi-gloss for general purposes, white ( *revised* ).

†Specification for enamel, synthetic, exterior, Type 1 (a) under-coating, (b) finishing, colour as required.

‡Specification for ready mixed paint, brushing, finishing, semi-gloss, for general purposes, to Indian Standard colours.

§Specification for ready mixed paint, brushing, finishing, semi-gloss, for general purposes, black ( *revised* ).

### 3. SHAPE AND ESSENTIAL DIMENSIONS

**3.1** The shape and the essential dimensions of fire bucket shall conform to those shown in Fig. 1.

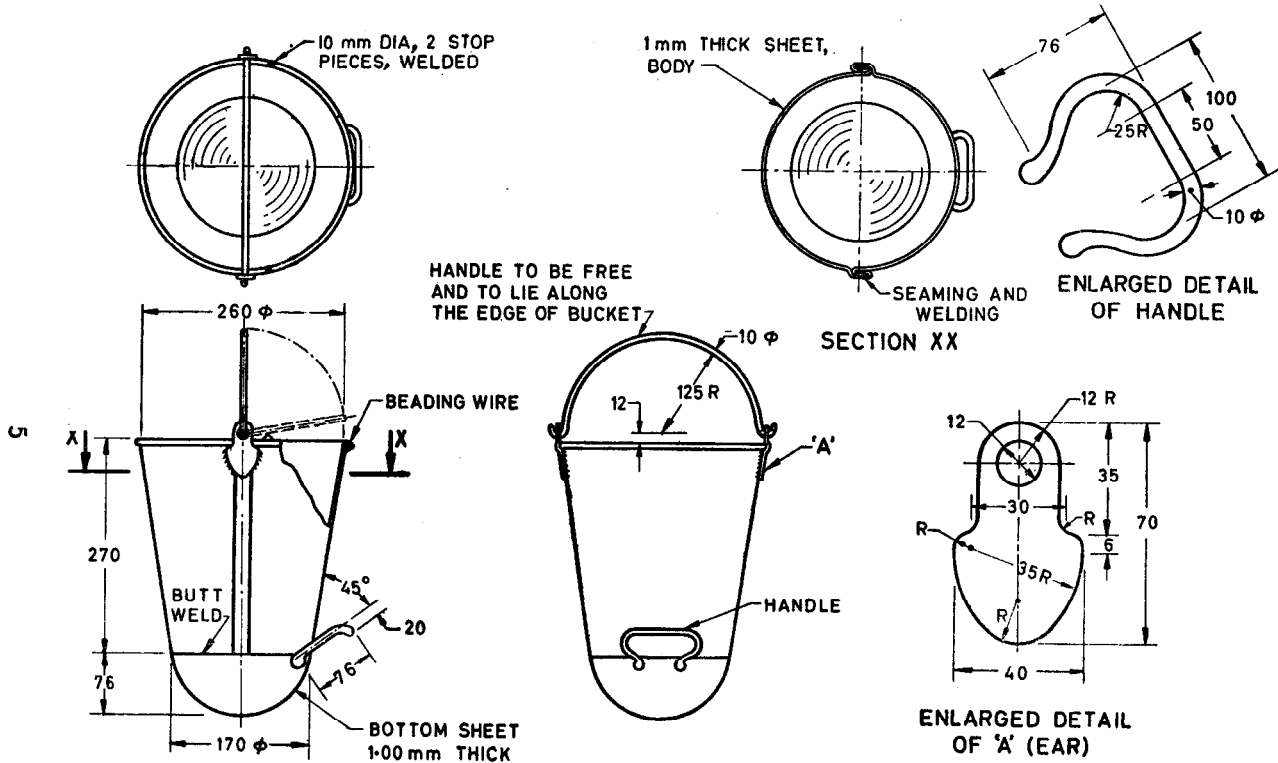
### 4. MANUFACTURE

**4.1 Body** — The body shall be in two halves which shall be joined together by butt welding. The top rim of the body shall be wired and uniformly beaded. The beading shall be fully formed without gaps. The thickness of body shall be 1 mm and diameter of beading wire 3.55 mm.

\*Specification for structural steel ( standard quality ) ( *fourth revision* ).

†Specification for mild steel wire for general engineering purposes ( *revised* ).





All dimensions in millimetres.

FIG. 1 FIRE BUCKET — SHAPE AND ESSENTIAL DIMENSIONS

**4.2 Bottom** — The bottom shall be dished and shall be joined to the body by butt welding so that there is no raw edge or crevice on the inside of the bucket. The thickness of the bottom sheet shall be 1 mm.

**4.3 Ears** — The ears shall be made of mild steel sheet and shall be fitted to the body at the top by means of welding with the flat head on the side. The thickness of sheet for ears shall be 2·8 mm.

**4.4 Top Handle** — The top handle shall be of mild steel rod of 10 mm in diameter with its ends bent up as shown in Fig. 1.

**4.5 Bottom Handle** — The bottom handle shall be of mild steel rod of 10 mm in diameter and it shall be joined to the bottom by welding as shown in Fig. 1. The grip shall have no sharp edges.

**4.6 General** — All gas welds shall be free from porosity, blow holes and brittleness.

## 5. FINISH

**5.1** All parts of the bucket shall be finished smooth and sharp edges rounded off.

**5.2** The bucket shall be galvanized after manufacture as per IS : 2629-1966\*. The thickness of coating of zinc on any portion shall be not less than 0·06 g/cm<sup>2</sup> ( both sides inclusive ).

**5.3** Bucket shall, in addition to galvanizing, be painted with two coats of white paint on the inside and two coats of red paint on the outside ( see also 2.4 ). The handles and the ears shall be painted with two coats of black paint.

**5.3.1** The word ' FIRE ' shall be painted in black centrally on the outside; its letters shall be 75 mm high, and approximately 12 mm thick.

## 6. PERFORMANCE REQUIREMENTS

**6.1** The bucket shall be water tight and tested for leakage as given in 6.1.1 and 6.1.2.

**6.1.1** The bucket shall be filled with water to the brim and kept for 15 minutes. The bucket shall not show any sign of leakage during this period.

**6.1.2** A water tank of suitable size and full of water shall be used for conducting the test. The dry empty bucket with its top facing upwards shall be pressed down the water vertically taking care that the top is at least 6 mm above the water level. It shall be observed whether any water

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\*Recommended practice for hot-dip galvanizing of iron and steel.

gets into the bucket from the bottom or sides of the bucket. If any water enters the bucket, it shall be considered to have failed the test.

**6.1.2.1** The bucket shall be withdrawn, reversed (with top downwards) and again pressed down the water vertically without agitating the water. Should any air bubble be seen escaping through the water, the bucket shall be considered to have failed the test.

## 7. INSPECTION AND MANUFACTURER'S CERTIFICATE

**7.1** The purchaser or his representative shall, if desired, be granted facilities for inspection of finished goods prior to despatch at the manufacturer's works.

## 8. SCALE OF SAMPLING AND CRITERION FOR CONFORMITY

**8.1 Lot** — In any consignment, all the buckets from the same batch of manufacture shall be grouped together to constitute a lot.

**8.2 Sample Size**—The number of buckets to be selected from the lot shall depend on the size of the lot and shall be in accordance with col (1) and (2) of Table 2. These buckets shall be selected at random from at least 10 percent of the packages subject to a minimum of 3; equal number of buckets being selected from each such package. If the number of packages is less than 3, buckets from all the packages shall be selected.

**TABLE 2 SCALE OF SAMPLING AND CRITERION FOR CONFORMITY**

( Clauses 8.2 and 8.4 )

No. OF BUCKETS IN THE LOT	SAMPLE SIZE	PERMISSIBLE NO. OF DEFECTIVE BUCKETS
(1)	(2)	(3)
Less than 15	All	0
15 to 200	15	1
201 to 300	20	1
301 to 500	30	2
501 to 800	40	3
801 to 1 300	55	3
1 301 to 3 200	75	4
3 201 and above	115	6

NOTE — The sampling plan given here is such that lots with 2.5 percent or less defectives will be accepted most of the times.

**8.3 Number of Tests**— All the buckets selected as in **8.2** shall be inspected for shape and dimensions (*see 3*), manufacturing defects (*see 4*) and finish (*see 5*) and tested for leakage (*see 6*). Any bucket which fails to satisfy the requirement of any one or more of the characteristics shall be considered as defective bucket.

**8.4 Criterion for Conformity**— The lot shall be considered as conforming to the requirements of this standard if the number of defective buckets among those inspected does not exceed the corresponding number given in col (3) of Table 2; otherwise it shall be considered as not conforming to the requirements of the standard.

## **9. MARKING AND PACKING**

**9.1** Each bucket shall be stamped or embossed on its side with the manufacturer's name or trade-mark, year of manufacture and its capacity. Embossing shall be sufficiently deep so that the marking remains quite legible after galvanizing.

**9.1.1** The fire bucket 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.

**9.2** Buckets shall be suitably packed as required by the purchaser.

# INDIAN STANDARDS

## ON

### FIRE FIGHTING EQUIPMENT

IS :

926-1970	Firemen's axe ( <i>first revision</i> )
927-1964	Firehooks ( <i>revised</i> )
928-1964	Fire bell ( <i>revised</i> )
933-1967	Portable chemical fire extinguisher, foam type ( <i>first revision</i> )
934-1972	Portable chemical fire extinguisher, soda acid type ( <i>second revision</i> )
939-1960	Snatch block for use with fibre ropes for fire brigade use
940-1972	Portable chemical fire extinguisher, water type ( gas pressure ) ( <i>first revision</i> )
1910-1961	Self-contained breathing apparatus for fire brigade use
1924-1973	Portable fire extinguisher, water type ( bucket pump ) ( <i>first revision</i> )
2171-1972	Portable fire extinguishers, dry powder type ( <i>first revision</i> )
2546-1974	Galvanized mild steel fire bucket ( <i>first revision</i> )
2878-1964	Portable fire extinguishers, carbon-dioxide type
4308-1967	Dry powder for fire fighting
4861-1968	Dry powder for fighting fires in burning metals
4862-1968	Portable fire extinguishers for aircraft
4947-1968	Carbon dioxide cartridges for fire extinguishers
5486-1969	Quick release knife
5490-1969	Refills for portable fire extinguishers and chemical fire engines
5505-1969	Multi-edged rescue axe ( non-wedging )
5506-1969	Chemical fire engines, soda acid type
5507-1969	Chemical fire engines, foam type
6234-1971	Portable fire extinguishers, water type ( constant air pressure )
6382-1971	Code of practice for design and installation of fixed CO <sub>2</sub> fire extinguishing system

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TO

IS:2546-1974 SPECIFICATION FOR GALVANIZED  
MILD STEEL FIRE BUCKET

(First Revision)

Addenda

(Page 4, clause 2.4) - Add the following new sentence at the end of the clause:

'The shade of the outside colour shall be fire red conforming to Shade No. 536 of IS:5-1978\*.'

(Page 4, foot-note with '+' mark) - Add the following new foot-note after '+' mark:

\*Colours for ready mixed paints (third revision).'

(Page 6, clause 5.2) - Add the following new sentence at the end of the clause:

'Alternately, it may also be galvanized of lead tin alloy to a thickness of not less than 0.012 mm.'

(BDC 22)

**AMENDMENT NO. 2 FEBRUARY 2001  
TO  
IS 2546 : 1974 SPECIFICATION FOR GALVANIZED  
MILD STEEL FIRE BUCKET**

*( First Revision )*

*( Page 6, clause 5.2, line 2 )* — Insert the following after zinc:

'conforming to IS 13229:1991 Specification for zinc for galvanizing'.

( CED 22 )

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Reprography Unit, BIS, New Delhi, India