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मानक

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IS 8996 (1988): 20-litre Steel Jerricans [MTD 32: Metal Containers]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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Indian Standard

(Reaffirmed 1998)

# SPECIFICATION FOR 20-LITRE STEEL JERRICANS

( First Revision )

**1. Scope** — Covers material, constructional and testing requirements of jerricans made of mild steel and of nominal capacity 20 litres.

**2. Terminology** — Various components of the jerrican have been shown in Fig. 1 and 2.

**3. Materials** — Materials for different components of the jerricans shall be as follows:

Part or Component	Material	Nominal Thickness	
a) Panel body	Mild steel sheet EDD quality conforming to IS : 513-1986 'Specification for cold rolled low carbon steel sheets and strips (third revision)'	1.0 mm	
b) Filler neck		1.6 mm	
c) Filler cap	Mild steel sheet DD quality conforming to IS : 513-1986	1.6 mm	
d) Filler cap hinge		1.6 mm	
e) Filler cap hinge bracket		1.6 mm	
f) Seating ring retainer		1.0 mm	
g) Filler cap toggle		3.25 mm	
h) Handle		1.25 mm	
j) Toggle pin		Mild steel rivet conforming to IS : 1148-1982 'Specification for hot rolled steel rivet bars ( up to 40 mm diameter ) for structural purposes ( third revision )'	5 mm dia snap head rivet
k) Hinge pin			4 mm dia rivet
m) Air tube	Mild steel tubing, seamless, cold drawn, of 8 mm OD × 0.914 mm or 13 mm OD × 0.914 mm		
n) Washer	Polyethylene or synthetic rubber of suitable composition which shall be resistant to petroleum action on it		

## 4. Manufacture

**4.1 Body** — The panel bodies shall be neatly pressed to shape and marking embossed at the specified position on one of the panels. The circular opening at the top for fitting the filler neck assembly shall be neatly punched. The edges of the panels shall be aligned properly for the full depth all round. They shall then be joined together by welding all round. The fusion shall be sufficiently deep so as to render the joint adequately strong to withstand the drop test specified in 7.5.

**4.2 Filler Neck Assembly** — The components of filler neck assembly shall be fabricated to correct size and shape as shown in Fig. 2. The seating ring retainer and the filler cap hinge shall be fixed on to the filler cap and the cap hinge bracket on to the neck by means of spot/gas welding. The air vent tube shall be formed to shape and welded to the neck in its position. The filler cap toggle shall be fitted to the filler cap by means of a toggle pin and the filler cap hinged on to the neck by means of hinge pin.

### 4.3 General Arrangement

**4.3.1** The triple handle shall be welded at places shown in Fig. 1. A sealing hole of 3 mm diameter shall be provided in the handle just behind the filler neck.

**4.3.2** The filler neck assembly shall be welded on to the hole in the left hand panel all round.

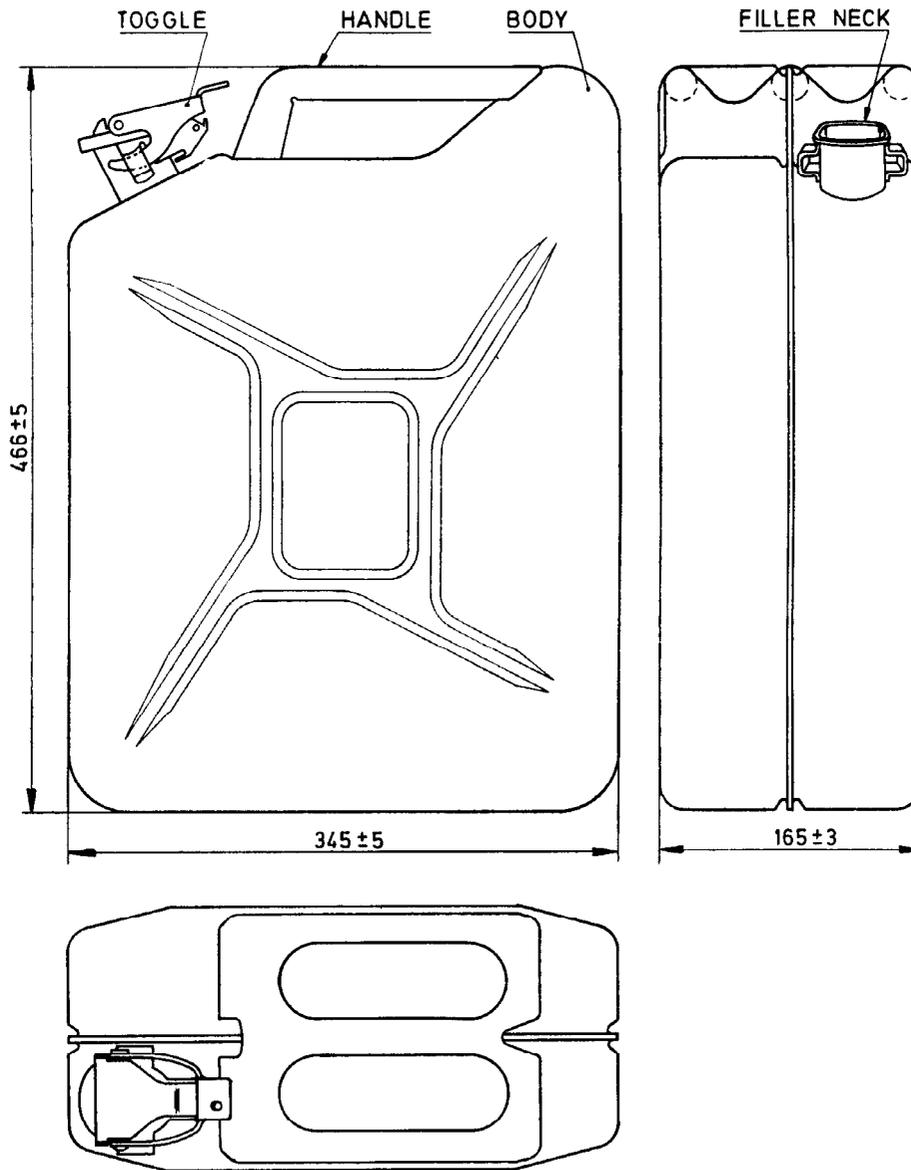
**4.3.3** After manufacture, the jerrican shall be annealed to remove working and welding stresses.

**4.4 Protective Treatment** — The jerrican shall be thoroughly cleaned free of dirt, grease, weld scale, rust and/or rust stains both inside and outside and then given a coating as agreed to between the purchaser and the supplier.

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All dimensions in millimetres.

FIG. 1 20-LITRE JERRICAN

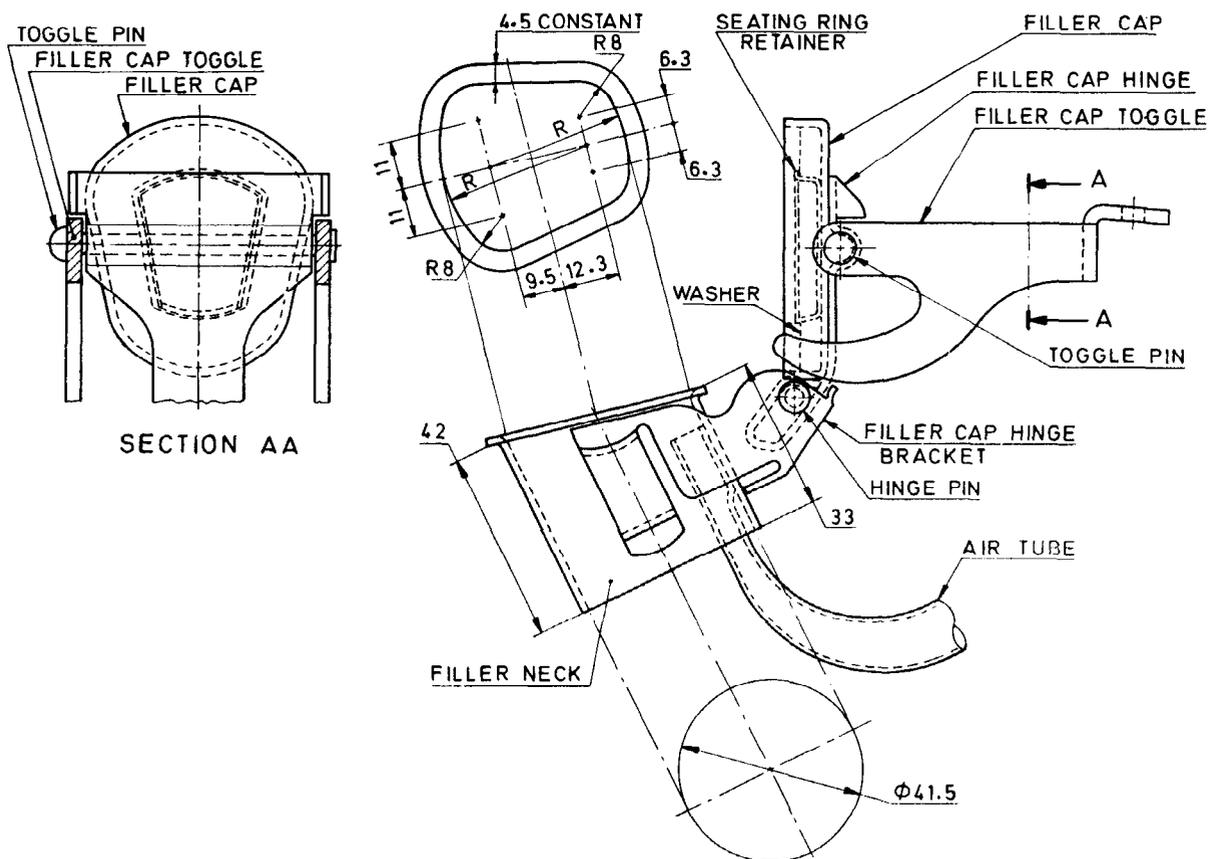
**4.5** The filler cap shall be provided with washer synthetic rubber seating ring. The washer shall be fitted after thoroughly dusting it with French chalk.

## 5. Workmanship and Finish

**5.1** The jerrican shall be free from splits, cracks, dents, wrinkles, puckers, burrs, sharp corners and other defects. The welding of the body seams shall be uniform and sound and shall be free from porosity and craters. The body seam at the bottom and bottom corners shall not project beyond the base so that the jerrican shall stand firmly on level ground without rocking. The remaining portions of the body seam may project out up to 1 mm.

**5.2** The paint film both on the interior and the exterior shall be hard, flexible, firmly adherent and free from bare spots and the painted surfaces shall be even and smooth all over. It shall also be ensured that no exterior paint has flown into the interior of the jerrican during painting.

**5.3** The filler neck assembly shall form an easy and leakproof closure. The prongs of the toggle shall close in position fully and securely when pressed with the thumb near the sealing hole of the toggle. The required pressure shall increase gradually with slight slackening off in the final stage.



All dimensions in millimetres.

FIG. 2 FILLER NECK ASSEMBLY

## 6. Dimensions

6.1 The jerrican shall conform to the dimensions as shown in Fig. 1 and 2.

## 7. Tests

7.1 *Air Leakage Test* — Each jerrican shall be subjected to an internal air pressure of 70 kPa while fully immersed under water. It shall show no sign of leakage.

7.1.1 The air leakage test shall be carried out before the jerricans are painted.

7.1.2 Care shall be taken to ensure that the water does not enter into the jerricans during or after the test.

7.2 *Hot Water Test* — The jerrican with the filler cap tightly closed shall be immersed in a hot water bath maintained at 50°C, *Min* for not less than 60 seconds. During this test, it shall not show any sign of leakage indicated by 'bubbles' immediately after the removal of the jerrican from the hot water. A hissing sound shall be clearly audible on opening the cap.

7.3 *Hydraulic Pressure Testing* — The jerrican shall not leak when subjected to an internal hydraulic pressure of 280 kPa kept steady for a period of not less than 30 seconds.

7.4 *Pouring Test* — The jerrican shall be filled with 20 litres of water and then poured out slowly. The pouring shall be guggle free and the filler cap shall not fall on to the neck during the pouring operation.

7.5 *Drop Test* — The jerrican shall be filled with 20 litres of water and the cap tightly closed. The jerrican shall then be suspended diagonally and dropped thrice; one drop on each bottom corner; and one on the hump, falling free upon an even and solid concrete floor from a height of 2.40 m.

**7.5.1** At the conclusion of three drops, the jerrican shall not leak and the internal paint coat shall not erase or flake off.

**7.5.2** If there is no leakage, the jerrican shall be emptied and subjected to an internal air pressure of 70 kPa while immersed under water. The jerrican shall not show any sign of leakage.

**7.6 Dimensions** — The components of filler neck assembly shall be individually tested by gauges.

**7.7 Hardness Testing** — The toggle pin and hinge pin when tested for hardness shall have Brinell hardness of not more than 133 HB.

**8. Sampling** — Representative samples of jerricans shall be taken for tests in accordance with IS : 3259-1966 'Methods for sampling of metal containers'.

**9. Marking** — Each jerrican shall be legibly embossed on the left hand panel with the manufacturer's name, initials or recognized trade-mark and the year of manufacture or lot number or batch number.

**9.1 Standard Marking** — Details available with the Bureau of Indian Standards.

## EXPLANATORY NOTE

This standard was first published in 1978 and has been revised to incorporate the details of material thickness for different components of jerricans in clause 3.1. Dimensions of the assembly and the components where felt necessary for interchangeability or proper fitting of the components have been specified and other dimension and manufacturing details have been left to the manufacturer's discretion.

The jerricans have been conventionally in use for storage and transportation of petroleum reserve fuels. Their ruggedness and handy design makes them indispensable for the Defence requirements. This standard is based on the Defence specification IND/GS/1131 Jerricans—20 litres, issued by the Chief Inspectorate of General Stores, Kanpur.