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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 11984 (1986): Glass bottles for free flowing liquids  
[CHD 10: Glassware]



“ज्ञान से एक नये भारत का निर्माण”

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“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”



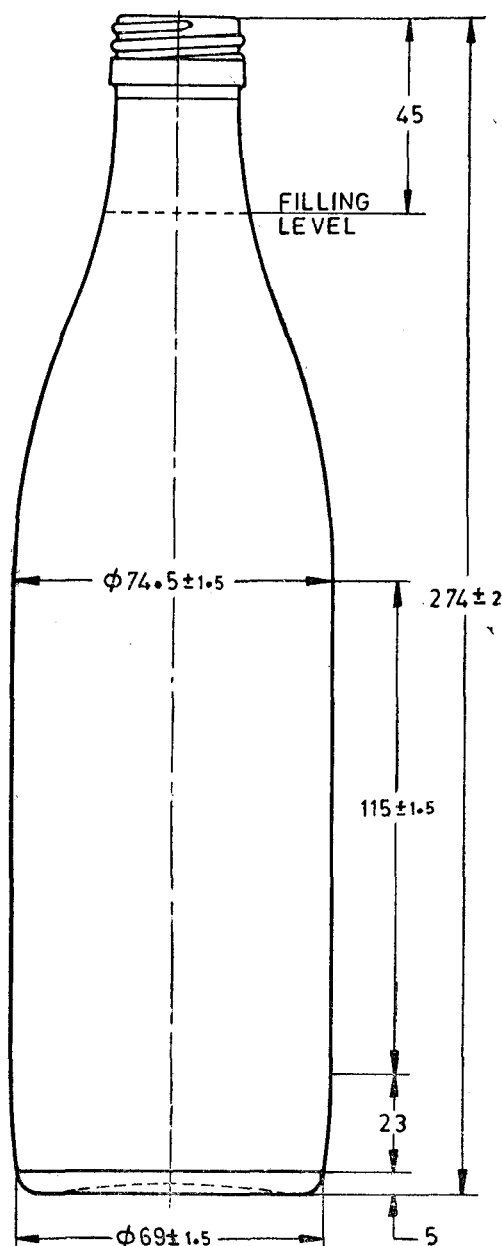
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## Indian Standard

SPECIFICATION FOR  
GLASS BOTTLES FOR FREE FLOWING LIQUIDS

- 1. Scope** — Lays down the requirements for glass bottles for packing of free flowing non-carbonated liquids like fruit juices and vegetable juices, squashes, cordials, syrups, vinegar, etc, which are very little or negligibly carbonated.
- 2. Terminology** — For the purpose of this standard, the terms and definitions as given in IS : 1382-1981 'Glossary of terms relating to glass and glassware ( *first revision* )' and IS:6654-1982 'Glossary of terms relating to glass containers ( *first revision* )' shall apply.
- 3. Nominal Capacity** — The glass bottles for free flowing liquids shall be of 700 ml capacity.
- 4. Dimensions** — The dimensions of the bottles shall be as given in Fig. 1.



All dimensions in millimetres.  
FIG. 1 DIMENSIONS OF GLASS BOTTLE

Adopted 23 December 1986

© July 1987, BIS

Gr 2

**5. Materials** — The bottles shall be made of clear glass.

**6. Capacity and Mass** — The nominal capacity, capacity at filling level, brimful capacity and mass of glass bottles shall be as follows:

Nominal Size ml	Capacity at Filling Level ml	Brimful Capacity ml	Mass g
700	$700 \pm 10$	$720 \pm 10$	$454 \pm 14$

**7. Neck Finish** — The bottles shall be provided with 28 or 31.5 mm roll on thread pilferproof ( ROSPP ) standard neck finish conforming to IS : 7511 ( Part 4 )-1986 'Dimensions for neck finishes: Part 4 Roll-on threads pilferproof ( *first revision* )'.

## **8. General Requirements**

**8.1** The bottles shall be of smooth surface without cracks, pinholes, sharp edges or bubbles. They shall be free from cords, blisters and stones and as far as possible free from loading marks.

**8.2** The bottles shall be well formed with a uniform distribution of glass over the walls and the base avoiding any wedge at the bottom.

**8.3 Limit of Alkalinity** — When graded according to the method prescribed in IS : 2303-1983 'Method of grading glass for alkalinity', the glass of the bottle shall conform to Type 4.

**8.4 Annealing** — The bottle shall be well annealed and shall not contain strains more than that shown by standard strain disc No. 4.

## **9. Tests**

**9.1 Verticality Test** — A vertical line through the centre of the circle formed by the inside neck opening shall pass through the centre of the circle described as the widest diameter of the bottle. The variation in verticality, when tested according to the method described in Appendix A, shall not exceed 1.6 mm.

## **10. Marking and Packing**

**10.1 Marking** — Each glass shall be marked permanently and legibly on its surface or at the bottom with the manufacturers name or trade-mark.

**10.2 Packing** — The bottle shall be packed in accordance with the guidelines laid down in IS : 6945-1973 'Code of practice for packaging glass and glassware'.

**10.3 Certification Marking** — Details available with the Bureau of Indian Standards.

# **APPENDIX A**

( Clause 9.1 )

## **TEST FOR VERTICALITY AND OVERALL HEIGHT OF BOTTLES**

### **A-0. General**

**A-0.1** This test determines the combined effect of the offset of mouth with the body and the mouth being at an angle to the body.

**A-1. Assembly**

**A-1.1** Assembly for the determination of verticality of bottle shall be as shown in Fig. 2.

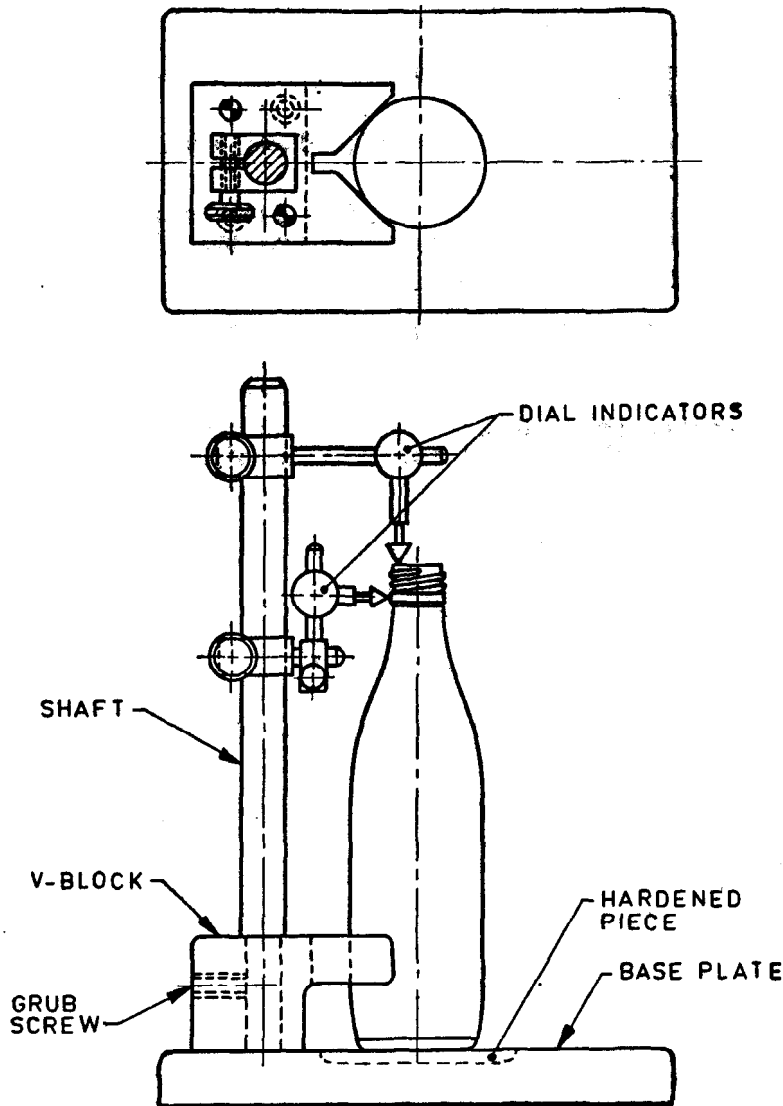


FIG. 2 ASSEMBLY FOR TESTING VERTICALITY AND OVERALL HEIGHT OF BOTTLE

**A-2. Procedure**

**A-2.1** Fill the bottle with water in order to give it more stability and place it on its base on the flat plate having a shaft bolted to it at right angles. Adjust the 'V' block mounted on the shaft in such a manner that it is in contact with the outer diameter at about the middle. Adjust the dial indicator fitted to the shaft so that the measuring point of the dial comes into contact with the outer edge of the neck of the bottle. Rotate the bottle, keeping the body always in contact with the 'V' block. Note down the maximum deflection of the indicator. Half of the maximum deflection of the indicator shall be the variation in verticality.

**A-2.2** Now repeat the exercise after adjusting the measuring point of the dial so that it comes into contact with the top of the sealing surface for measuring the height of the bottle. The maximum deflection shown by the indicator is the variation in the height of the bottle.

## EXPLANATORY NOTE

This standard lays down the requirements for glass bottles for free flowing liquids.

The bottles covered in this standard were earlier covered under Class A of IS : 1494-1971 'Specification for glass containers for preserved fruits industry and domestic fruit preserves ( *first revision* )'. The IS : 1494-1971 lays down the requirements for the following four classes of glass containers:

- a) Class A — suitable for packing free flowing liquids, such as squashes, cordials, syrups and vinegars;
- b) Class B — suitable for packing semi-fluid products, such as tomato ketchup and other sauces;
- c) Class C — suitable for packing semi-solid products, such as jams, jellies, marmalades, chutneys, preserved fruit or powder concentrates; and
- d) Class D — suitable for domestic fruit preserving.

Two separate Indian Standards are now available for Class B and Class C mentioned above. They are IS : 9780-1981 'Specification for glass bottles for tomato ketchup' and IS : 9781-1981 'Specification for glass jars for jams, jellies and marmalades'.

The Indian Standard on glass bottles suitable for domestic fruit preserving is under formulation. Once the separate Indian Standards on the above 4 classes of bottles are available, it is envisaged to withdraw IS : 1494-1971.

**AMENDMENT NO. 1 NOVEMBER 2005**  
**TO**  
**IS 11984 : 1986 SPECIFICATION FOR**  
**GLASS BOTTLES FOR FREE FLOWING LIQUIDS**

( Page 2, clause 8.4 ) — Insert the following at the end:

**‘8.5 Bottle Washing**

All bottles shall be thoroughly cleaned immediately before filling by automatic/semi-automatic washing machines. Washing shall be accomplished by prerinse and final rinse. For final rinse dechlorinated potable water shall be used. Bottles should be thoroughly drained, sterilized and dried after final rinse so that strength and purity of content is not affected after filling. Water jets in the washing machine should be so designed and jet pressure so maintained as to thoroughly rinse the whole internal and external surface area of the bottles. Wash water in the bottle washer should be thoroughly drained and changed frequently to prevent algal growth.

**8.5.1** Wherever second hand bottles are being used, all the bottles should be pre-washed prior to feeding to the bottle washer. This should be done in the following manner:

- a) Pre-rinse first soaking in a tank to remove labels and other extraneous matter.
- b) Rinse in the second tank with hot water around 60°C and 3 percent caustic solution at 60°C using brushes to clean the interior and exterior of bottles thoroughly.
- c) Final rinse in the third tank with potable water.
- d) Feed the bottles to bottle washer.’

( Page 2, clause 10.3 ) — Substitute the following for the existing clause:

**‘10.3 BIS Certification Mark**

Each bottle may also be marked with the Standard Mark.

**10.3.1** The use of the Standard Mark is governed by the provisions of *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.’



**AMENDMENT NO. 2 JULY 2007**  
**TO**  
**IS 11984 : 1986 SPECIFICATION FOR**  
**GLASS BOTTLES FOR FREE FLOWING LIQUIDS**

(Page 2, clause 8.3) — Substitute the following for the existing clause:

**“8.3 Limit of Alkalinity** — When graded according to the method prescribed in IS 2303 (Part 1/Sec 1) : 1994 ‘Grading glass for alkalinity : Part 1 Hydrolytic resistance, Section 1 Hydrolytic resistance of glass grains at 98°C – Method of test and classification (*first revision*)’, the glass of the bottle shall conform to Class HGB 3.”