

BUREAU OF INDIAN STANDARDS

DRAFT FOR COMMENTS ONLY

(Not to be reproduced without permission of BIS or used as an Indian Standard)

भारतीय मानक मसौदा

काँच के पात्र जैसे सामान की निर्यात पैकेजिंग — रीति संहिता

(पहला पुनरीक्षण)

Draft Indian Standard

**Export Packaging of Glass Container Ware — Code of
practice**

(First Revision)

ICS 55.100

Glass, Glassware & Laboratoryware Sectional Committee, CHD 10

Last date for Comments: 11 November, 2024

FOREWORD

(Formal clauses to be added later)

Due to fragile nature of glass, special precautions are needed in adopting packaging methods and materials for glass container ware for export. Also more often than not importing countries impose certain restrictions on the mode of packaging of glass container packed products.

The need for formulating this code of practice for export packaging of glass container ware was felt in view of the wide variety of goods differing in their characteristics, size and value. This code applies to empty and filled glass container packed with goods, such as food products, drugs, chemicals, cosmetics, wines and toiletry preparations. This code, however, excludes packing method of inflammable, highly poisonous and corrosive solids, semi-solids and liquids in glass containers.

This Indian Standard was originally published in 1977. The first revision of this standard has been undertaken in view of the latest technological advancements and also to incorporate several editorial changes such as inclusion of reference clause, Hindi title, ICS No. etc. as per the latest standard format.

The recommended practice for packaging glass and glassware, including container ware for transport within the country has been given separately in IS 6945.

Draft Indian Standard

Export Packaging of Glass Container Ware — Code of practice
(First Revision)

1 SCOPE

This standard lays down the recommended practices for export packaging of glass container ware both empty and filled, for transport by rail, road, air or ship or any combination of these.

2 REFERENCES

The standards listed in Annex A contain provisions which through reference in this text, constitute provisions of and necessary adjuncts to this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated in Annex A.

3 TERMINOLOGY

For the purpose of this standard, the definitions given in IS 1382, IS 2771 (Part 1), IS 2771 (Part 2), IS 4261, IS 6703, and IS 7186 shall apply.

4 PACKING REQUIREMENTS

The packing requirements for various groups of glass container ware are given below.

4.1 Preserved Fruit Jars (Food Product Bottles)

4.1.1 Preserved fruit jars and bottles either empty or containing food items, such as sauce, squash, syrup, coffee, etc., shall be packed in fibreboard boxes of suitable construction, with liners and partitions or in wooden containers with adequate cushioning materials. It is, however, recommended not to use paddy straw or grass as cushioning materials. The bulk packs shall be lined all along the inner surface with suitable waterproofing materials. In the event of using a fibreboard box made waterproof externally, the inner waterproof liner may be avoided.

4.1.2 The slotted partitions shall be made from 3 ply or 5 ply corrugated fibreboard or moulded corrugated board, the height of the partitions shall be equal to the full height of the jar or bottle. Liners shall be in one piece, covering the sides and ends of the box. Liners shall be of the same height as partitions and fabricated of corrugated fibreboard or moulded corrugated board. Top and bottom liners shall be fabricated of corrugated fibreboard or moulded corrugated board, and not more than 5 mm smaller than the inside length and width of the box. Layers of jars/bottles shall be separated by sheets of corrugated fibreboard or moulded corrugated board.

4.2 Pharmaceuticals, Chemicals, Toiletry and Cosmetic Preparations Bottles

4.2.1 Bottles containing liquids, solid or semi-solid pharmaceuticals, chemicals and toiletry goods and empty bottles for these products shall be packed in fibreboard boxes of suitable construction with liners and partitions or wooden boxes with adequate partitioning and cushioning material. It is, however, recommended not to use paddy straw or grass as cushioning materials. The bulk packs shall be lined all along the inner surface with suitable waterproofing materials. In the event of using a fibreboard box made waterproof externally, the inner waterproof liner may be avoided.

4.2.2 Bottles not individually packed in cartons shall be packed in slotted partitions made from 3 ply or 5 ply corrugated fibreboard or moulded corrugated board. The height of the partitions shall be equal to the full height of the bottles. Liners shall be in one piece and of the same height as partitions and fabricated of corrugated fibreboard or moulded corrugated board. Top and bottom liners shall be fabricated of corrugated fibreboard or moulded corrugated board and not more than 5 mm smaller than the inside length and width of the box.

4.2.3 The pharmaceutical and toiletry product bottles primarily packed individually in a paperboard carton up to 50 ml bottles and with inner liners for bottles above 50 ml capacity (wherever necessary) shall be packed either

in outer bulk fibreboard boxes with honeycomb partitioning and liners or wooden boxes with suitable partitioning and cushioning materials. Paddy straw or grass should not be used as cushioning material. If corrugated fibreboard box is used as a primary carton, the liners/cushioning materials used in the bulk containers may be avoided.

4.2.4 Bottles in suitable requisite numbers to meet a retail pack-intermediate pack shall be directly packed in a paperboard carton with partitions and/or liners of corrugated fibreboard or moulded corrugated board or in corrugated fibreboard boxes with partitions. These intermediate packs shall then be packed in outer bulk packs.

4.3 Pharmaceutical Vials

4.3.1 Vials not packed in cartons shall be packed depending on the quantity in 3 ply, 5 ply or 7 ply corrugated fibreboard boxes, with slotted partitions made from corrugated fibreboard or moulded corrugated board (wherever necessary). The height of partitions shall be equal to the height of the vial. Liners shall be in one piece, covering the sides and ends of the box. Liners shall be of the same height as partitions and fabricated of corrugated fibreboard or moulded corrugated board. Top and bottom liners shall be fabricated of corrugated fibreboard or moulded corrugated board, and not more than 5 mm smaller than the inside length and width of the box. Layers of vials shall be separated by sheets of paperboard, corrugated board or moulded corrugated board.

4.3.2 Filled vials primarily packed individually in a paperboard carton shall be packed either in outer fibreboard boxes with liners or wooden containers with suitable cushioning materials. Paddy straw or grass should not be used, as cushioning materials.

4.3.3 Filled vials not packed individually shall be packed in 100 numbers in one intermediate corrugated fibreboard or moulded corrugated board box or in a paperboard carton with slotted partitions of corrugated fibreboard or moulded corrugated fibreboard. These intermediate packs shall then be packed in outer bulk pack of 3 ply or 5 ply corrugated board box or wooden container with adequate cushioning materials. The bulk packs shall be lined all along the inner surface with suitable waterproofing materials. In the event of using a fibreboard box made waterproof externally, the inner waterproof liner may be avoided.

4.4 Ampoules

4.4.1 Ampoules shall be packed in paperboard/fibreboard cartons with slotted partitions and where necessary cotton as cushioning material or in contour fit paperboard or thermoformed plastic containers.

4.4.2 The primary cartons of ampoules shall be packed in outer bulk packs made of 3 ply or 5 ply fibreboard boxes with liners and partitions or wooden containers with adequate cushioning materials. It is, however, recommended not to use paddy straw or grass as cushioning materials. The bulk packs shall be lined all along the inner surface with suitable waterproofing materials. In the event of using a fibreboard box made waterproof externally, the inner waterproof liner may be avoided.

4.5 Beer Bottles

Twelve beer bottles (filled) in a $4 \times 3 \times 1$ manner or suitable number of empty bottles shall be packed in a 3 ply or 5 ply corrugated fibreboard box either designed to have auto slots or a regular box with slotted partitions made from 3 ply or 5 ply corrugated fibreboard or in wooden containers with adequate cushioning materials. It is, however, recommended not to use paddy straw or grass as cushioning materials. The bulk packs shall be lined all along the inner surface with suitable waterproofing materials. In the event of using a fibreboard box made waterproof externally, the inner waterproof liner may be avoided.

4.6 Other Alcoholic Bottles - Distillery Products

4.6.1 180 ml Glass Bottles

Forty-eight filled bottles in a $6 \times 8 \times 1$ manner or suitable number of empty bottles shall be packed in a 5 ply corrugated fibreboard box of suitable construction with liners and partitions or in a wooden container with adequate cushioning materials. It is, however, recommended not to use paddy straw or grass as cushioning materials. The bulk packs shall be lined all along the inner surface with suitable waterproofing materials. In the event of using a fibreboard box made waterproof externally, the inner waterproof liner may be avoided.

4.6.2 375 ml Glass Bottles

Twenty-four bottles in a $6 \times 4 \times 1$ manner or suitable number of empty bottles shall be packed in a 5 ply corrugated fibreboard box of suitable construction with liners and partitions or in a wooden container with adequate partitioning and cushioning materials. It is, however, recommended not to use paddy straw or grass as cushioning materials. The bulk packs shall be lined all along the inner surface with suitable waterproofing materials. In the event of using a fibreboard box made waterproof externally, the inner waterproof liner may be avoided.

4.6.3 750 ml Glass Bottles

4.6.3.1 Twelve filled bottles in $4 \times 3 \times 1$ manner or suitable number of empty bottles not individually packed shall be packed in a 5 ply corrugated fibreboard box of suitable construction with liners and partitions or in wooden containers with adequate partitioning and cushioning materials. It is, however, recommended not to use paddy straw or grass as cushioning materials. The bulk packs shall be lined all along the inner surface with suitable waterproofing materials. In the event of using a fibreboard box made waterproof externally, the inner waterproof liner may be avoided.

4.6.3.2 750 ml filled bottles individually packed in paperboard cartons shall be packed in 12 numbers in a $4 \times 3 \times 1$ manner in 5 ply corrugated fibreboard box of suitable construction with liners/partitions or in wooden containers with adequate cushioning materials. It is, however, recommended not to use paddy straw or grass as cushioning materials. The bulk packs shall be lined all along the inner surface with suitable waterproofing materials. In the event of using a fibreboard box made waterproof externally, the inner waterproof liner may be avoided. If the primary cartons are made from corrugated fibreboard, the use of liners/cushioning materials in the bulk containers may be avoided.

4.7 Ink Bottles

4.7.1 The ink bottles filled or empty shall be packed in fibreboard boxes of suitable construction with liners and partitions or in wooden containers with adequate cushioning materials. It is, however, recommended not to use paddy straw or grass as cushioning materials. The bulk packs shall be lined all along the inner surface with suitable waterproof materials. In the event of using a fibreboard box made waterproof externally, the inner waterproof liner may be avoided.

4.7.2 The filled bottles shall be primarily packed individually in a paperboard carton. These primary packs shall then be packed in fibreboard boxes of suitable construction with liners or partitions or in wooden containers with adequate cushioning materials. It is, however, recommended not to use paddy straw or grass as cushioning materials. The bulk packs shall be lined all along the inner surface with suitable waterproofing materials. In the event of using a fibreboard box made waterproof externally, the inner waterproof liner may be avoided.

4.7.3 The slotted partitions shall be made from 3 ply or 5 ply corrugated fibreboard or moulded corrugated board. The height of the partitions shall be equal to the height of the unit carton. Liners shall be in one piece covering the sides and ends of the box and shall be of the same height as partitions and fabricated of corrugated fibreboard or moulded corrugated board. Top and bottom liners shall be fabricated of corrugated fibreboard or moulded corrugated board and not more than 5 mm smaller than the inside length and width of the box. Layers of unit cartons shall be separated by sheets of corrugated fibreboard or moulded corrugated board.

4.8 The fibreboard a suitable adhesive boxes depending upon style shall be sealed by applying in between the flap surfaces (wherever necessary) and then the box shall be closed by suitable adhesive/gummed tape. The box shall be reinforced by two non-metallic straps in the girth direction. If metallic straps are used suitable corners shall be provided to avoid the strap cutting the box. For wooden bulk packs, it is, however, recommended to use metallic straps.

4.9 The fibreboard boxes/wooden boxes shall conform to IS 1503, IS 2771 (Part 1), and IS 2771 (Part 2).

5 TESTING

5.1 The filled and closed bulk packs shall be tested for their transport worthiness as prescribed in covering the following tests:

- a) Drop, as specified in IS 7028 (Part 4)
- b) Vibration, as specified in IS 7028 (Part 2)
- c) Rolling, as specified in IS 7028 (Part 5)
- d) Impact, as specified in IS 7028 (Part 4)
- e) Static stack load, and as specified in IS 7028 (Part 1)
- f) Water spray, as specified in IS 7028 (Part 8).

5.1.1 The bulk packs shall pass these tests.

6 MARKING

6.1 In addition to the normal marking required by the importer each box/container shall be marked with 'GLASS WITH CARE' and 'THIS SIDE UP' in accordance with IS 1260 (Part 2).

6.2 The package may also be marked with country of origin, address of importer, name of the product, lot or batch No. and any other handling instructions as given in IS 1260 (Part 2).

6.3 Attention is drawn to the special markings specified by the carriers required to be put on the boxes for certain glass container packed goods. In this regard IATA, IMCO and UIC regulation may be consulted.

ANNEX A

(Clause 2)

LIST OF REFERRED STANDARDS

IS No.

Title

IS 1260 (Part 2) : 2020	Packaging — Distribution Packaging — Graphical Symbols for Handling and Storage of Packages Part 2 General Goods (<i>fourth revision</i>)
IS 1382 : 1981	Glossary of terms relating to glass and glassware (<i>first revision</i>)
IS 1503 : 2023	Wooden Packing Cases — Specification (<i>fourth revision</i>)
IS 2771 (Part 1) : 2022	Corrugated Fibreboard Boxes — Specification Part 1 General Requirements (<i>third revision</i>)
IS 2771 (Part 2) : 1975	Specification for fibreboard boxes Part 2 solid fibreboard boxes (<i>first revision</i>)
IS 4261 : 2001	Glossary of terms relating to paper and pulp based packaging materials (<i>first revision</i>)
IS 6703 : 1972	Glossary of wooden packaging terms
IS 7028	Performance tests for complete, filled transport packages
(Part 1) : 2002	Part 1 stacking tests using static load (<i>second revision</i>)
(Part 2) : 2002	Part 2 vibration test at fixed low frequency (<i>second revision</i>)
(Part 4) : 1987	Part 4 vertical impact drop (<i>first revision</i>)
(Part 5) : 1987	Part 5 rolling test (<i>first revision</i>)
(Part 8) : 2002	Part 8 water spray test (<i>second revision</i>)
IS 7186 : 1973	Glossary of terms relating to paper and flexible packaging