

Cooler Pack/Corrugated Box Combination Package

Press to see  Check List only.

| Description | Stores Catalog Number | Plant |
|---|-----------------------|-------|
| Combination Packaging; Corrugated RSC box for (4) each 32 oz bottles in inner styrofoam "cooler" package with inside corrugated partition box holder, without bottles, UN 4GV/X 22/S | 02-115-4410 | ORNL |

Mfg. Details Per: ORNL Packaging Specifications
No. 657-4GO-0003
Issue Date: November 15, 1994
Revised Date: May 1, 2001

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Oak Ridge National Laboratory

Packaging Specifications

Cooler Pack/Corrugated Box Combination Package

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1.0 GENERAL DESCRIPTION

Combination Package; consisting of a Regular Slotted Carton (RSC), natural kraft corrugated fiberboard, double-wall construction, 275-lb test board, in partitioned corrugated open-top box with protective absorbent, inside returnable styrofoam cooler pack.

1.1 United Nations Designation - 4GV /X 22/ S * [per Title 49, Code of Federal Regulations (CFR), &178.503]

- 4GV = Fiberboard box
- X = Suitable for Packing Group I, II, and III materials
- 22 = Maximum allowable gross weight in kilograms for which the box was tested (22 kgs.[48 lbs])
- S = Designation indicates packaging is for a combination package (*or single packaging for solid materials*)
- * = The last two (2) digits of the calendar year in which the container was manufactured

1.2 Size:

Interior dimensions (LxWxH) – 18-7/8 in. x 14-3/4 in. x 12-3/4 in.
Exterior dimensions (LxWxH) – 19-1/8 in. x 15-1/4 in. x 14 in.

1.3 Tare Weight:

6.38 lbs, complete combination packaging without product.

2.0 MATERIAL DETAILS

Box construction must comply with 49 CFR, &178.516 (latest edition) for fiberboard boxes and the following minimum requirements. Manufacturer shall document appropriate quality control on incoming raw material. No significant changes to the manufacturing process or raw material is allowed without prior approval of the Company.

2.1 Double-Wall Box:

Corrugated construction, RSC style, 275-lb test board.

2.2 Overall Construction:

42/26/26/26/42 lb per thousand square feet (MSF) basis weight.

2.3 Linerboard:

3-facings, 42/26/42 lb/MSF basis weight (110-lb minimum).

2.4 Corrugating Medium:

2-interleaved, 26/26 lb/MSF basis weight, B/C flute.

2.5 Manufacturer's Joint:

Glued overlap tab joint.

2.6 Water Resistance:

The outer surface must have a water absorption rate not greater than 155 g/m² when tested over a 30-minute period by the Cobb Method per UN requirements [49 CFR, &178.516(b)(1)].

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2.7 Closure:

Clear plastic 3M tape, #375, 2 in. x 28 in., self-adhesive (furnished with the combination packaging).

2.8 Interior:

Natural kraft.

2.9 Exterior:

Natural kraft.

2.10 Printing:

Black, four panels:

- P-1 - Proper shipping name and UN ID block (at top left)
UN 4GV/X 22/S/* markings (at bottom left)
- P-2 - Up Arrows back (at top right)
- P-3 - Hazmatpac ID
- P-4 - Up Arrows back (at top right)
- T-1 - This End Up
- T-2, T-4 - Packing instructions
- B-3 - Manufacturer's Box Certificate (at left)

2.11 Cleanliness:

Finished boxes shall be free of ragged edges, dirt, oil stains, or printing smears, and box must be dry.

2.12 Freight Classification:

In addition to the requirements contained in 49 CFR, double-wall boxes must conform to the applicable requirements of Rule 41 of the Uniform Freight Classification and Rule 222 of the National Motor Freight Classification and so marked on box.

3.0 INNER PACKAGING (CONTAINER AND CUSHIONING) CRITERIA

3.1 Cooler:

Styrofoam cooler with cover, returnable, thick walled – 1-1/2 in., #K-150, 18-3/4 in. x 14-5/8 in. x 12-5/8 in. (OD).

3.2 Inner Box and Closure:

Inner Box - Open-top, RSC, corrugated box, 200 lb test board, 10-5/8 in. x 10-5/8 in. x 6 in. (ID) with double (folded) corrugated partitions, 5 in. high, 4 cells.

Closure - Clear plastic self-adhesive tape, 17 in. x 3 in., on bottom (applied).

3.3 Absorbent Packing:

Absorbent packing furnished, for inner box.

3.4 Bag and Closure for Inner Box:

Bag - polyethylene bag, for box; 28 in. x 12 in. (L x W), 5-in. gussets, 4-mil, heat-sealed bottom.

Bag Closure - "Twist-Tie" closure band, 2 each (furnished with packaging).

3.5 Bag and Closure for Cooler Ice:

Bag - polyethylene bag, for cooler ice; 32 in. x 15 in (L x W), 5-in. gussets, 2-mil, heat-sealed bottom.

Bag Closure - "Twist-Tie" closure band, 2 each (furnished with packaging).

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4.0 CONTAINER PERFORMANCE CRITERIA

The Manufacturer shall successfully test and certify that containers meet or exceed the requirements of 49 CFR, &178.600 - 178.608, for Packing Group I.

4.1 Performance Test Documentation:

Upon request, the Manufacturer must be capable of providing copies of the performance test documentation for purchased packagings, as required by the 49 CFR for the UN certification marked packaging. Periodic audit copies will be requested randomly on UN packagings. Reference [§10.0](#).

4.2 IATA Requirements:

In addition to meeting the requirements of 49 CFR, this UN combination packaging must meet the requirements of current IATA regulations for carriage by air.

5.0 QUALITY ASSURANCE

The Seller shall assure, and be responsible, that the quality of the packaging furnished under this document is of good quality, as pursuant to industry standard manufacturing practices for all components of this combination package, including the materials/components used in the manufacturing of the stated boxes and the individual components constituting the complete combination package, as sold.

The Seller shall meet the requirements stipulated in this packaging specification.

5.1 Manufacturer's Certification:

By the act of placing the UN performance criteria markings on each box of the combination package purchased, the Seller acknowledges he has certified and accepted responsibility that the stated box design and combination package meets or exceeds the U.S. Department of Transportation's UN performance requirements as required by 49 CFR, &178.600 - 178.608.

In addition, this certification marking acknowledges that the box Manufacturer has complied with the specific standards for fiberboard boxes specifically listed in 49 CFR, &178.516, including the Cobb Water Absorption Test specifically referenced under 49 CFR, &178.516(b)(1).

5.2 Receiver Inspections:

The following inspections will be performed on incoming combination packages by the receiver to determine the combination packages meet quality standards and the requirements of this document. However, the receiver is not limited to the following inspections to determine quality and specification conformance. Conformance will be indicated by a Y or N in the "Y/N" column and negative responses documented on the Nonconformance Report (NCR), UCN-11457, (items 3 - 21b), attached to the checklist, and submitted to ORNL's Packaging Operations (PkgOps) for action.

Note: Checklist for this specification is on following page.

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This checklist is to be reproduced for QC Inspections.

Receiver Inspection Quality Control (QC) Checklist for Incoming Corrugated Box Combination Packagings:

| QC Conformance | Y/N | << "No's" to be documented on form UCN 11457, with checklist |
|----------------|-----|---|
| 1 | | Package Condition Packaging is in unimpaired physical condition, except for superficial marks. Cooler has no cracks, dents, etc. |
| 2 | | Box Construction Scoring uniform and sufficient depth to allow clean fold and without distortion or breaks. |
| | | Corrugating medium not crushed within assembled box. |
| | | When folded along score lines, flaps meet and are square - no space between flaps greater than 1/16 in. |
| 3 | | Manufacturer's Joint Glue tab joints securely glued, in alignment with box sidewalls, and have no loose edges. No breaking of linerboard at tab joint fold. |
| 4 | | Box Alignment Assembled box and top are square at corners/edges. |
| 5 | | Markings Boxes legibly marked (printed) in accordance with required UN markings specified in &1.1 of this document, with the addition of required Manufacturer information. [UN 4GV/X 22/S*/USA/ +ACO612] |
| 6 | | Box Printing Printing on the box is of the specified size, is sharp, and has no smears. Location and information is according to specifications set forth in &2.10 of this document. |
| | | Required packing instructions are printed on top flaps, as well as included inside the packaging. |
| 7 | | Packaging Components All required combination packaging components, as specified in this document, are furnished with the specified corrugated box: <input type="checkbox"/> 2- and 4-mil polyethylene bags, with ties <input type="checkbox"/> Inner corrugated box with partitions <input type="checkbox"/> Closure tapes for box <input type="checkbox"/> Absorbent packing - 4 each <input type="checkbox"/> Styrofoam returnable cooler pack, with cover |

Catalog Number _____

P.O. Number _____

Total Units Received _____

Inspection Method: Per ORNL PkgOps QC Inspection Plan

Sample Size _____ [Based on ANSI/ASQC Z1.4-1993]

NCR No. _____

Inspector/Date _____

Additional comments provided on back: _____ check if yes

The above QC check list shall be accomplished for each order based on random samples of incoming packaging, by QC personnel to determine Manufacturer's conformance to these specified Packaging Specifications

Shipments of packaging not meeting specified requirements will be returned to the Seller for credit.

QC inspections resulting in non-compliance with these Packaging Specifications will be cause for rejection of the entire shipment.

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6.0 MARKING

As a minimum, each double-wall box of the combination package shall be marked in accordance with 49 CFR, &178.2, 178.3, and 178.503, on the exterior surface of the box. Markings shall have a minimum letter height of 1/2 inch.

The markings shall be printed on the box panels as stated in [&2.10](#) of this document.

The manufacturer's compliance marking shall be printed on the box as stated in [&2.12](#).

7.0 INTENDED USE

The combination packages are intended for Packing Group I, II, and III hazardous materials in liquid form. Maximum capacity of the container shall not exceed the tested gross weight, as marked on the box sidewall, of 22 kilograms (48 lbs).

8.0 SUGGESTED MANUFACTURERS

The following list of suggested Sellers have demonstrated ability to comply to the requirements set forth in this document. However this list does not guarantee current or continued availability as a suggested source:

- Hazmatpac, Houston, Texas (**Mfg. Item ID No. UN-1507**)

The Seller must advise the Company prior to any change in the current source (manufacturer) of packaging materials described in these Packaging Specifications.

Any Seller or Manufacturer that satisfactorily demonstrates to the Company the capability to furnish packaging in compliance with this Requirements Document, may be added to the above listing.

9.0 AUTHORIZED CHANGES

Changes/revisions in the requirements specified in this document will only be authorized by ORNL PkgOps as coordinated with Oak Ridge facilities Packaging Operations.

10.0 DISTRIBUTION OF UN PERFORMANCE TEST REPORTS (per [&4.1](#))

Upon specific request, UN performance test documentation for specified order/shipment will be submitted directly to the Packaging Operations Manager at the address below:

**Oak Ridge National Laboratory
Packaging Operations Manager
Bldg 7001, MS 6288
P. O. Box 2008, 1 Bethel Valley Road
Oak Ridge, Tennessee 37831-6288**