

Cooler Pack/Corrugated Box Combination Package Specification

Press  to see Check List only.

Description	Stores Catalog Number	Packaging Filling Instructions
Combination package; corrugated RSC box for (2) each 1 Liter or less bottles in inner 10 1/2" tall metal cans with locking rings, in styrofoam cooler, WITHOUT BOTTLES, packaging to include PIH, 6.1 PG I, Zone A certification UN 4GV/X 23/S	02-115-4200	ORNL-CHK-58

Mfg. Details Per: ORNL Packaging Specifications
No. 658-4GO-0000
Issue Date: November 30, 2004
Revised Date:

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Oak Ridge National Laboratory

Packaging Specifications

Cooler Pack/Corrugated Box Combination Package

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DATE	REVISION NUMBER	REVISION(S) MADE
11/30/2004	-0000	Specification issued.

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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, with two (2) inner 10½ " metal cans with rings, inside returnable styrofoam cooler pack.

1.1 United Nations Designation - 4GV /X 23/ S * [per Title 49, Code of Federal Regulations (CFR), ¶178.503]

- 4GV = Fiberboard box
- X = Suitable for Packing Group (PG) I, II, and III materials
- 23 = Maximum allowable gross weight in kilograms for which the box was tested (23 kgs.[50.6 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) – 16 ¼ in. x 16 ¼ in. x 16 ¾ in.
Exterior dimensions (LxWxH) – 16 ½ in. x 16 ½ in. x 17 in.
Cooler, exterior dimensions [with lid]: -16 in. x 16 in. x 16 in.
Can, interior dimensions: - 5 ½ in. x 5 ½ in. x 9 ¾ in.

1.3 Tare Weight:

8 lbs - Complete combination packaging, including cans and all packaging components, without product.

2.0 OUTER PACKAGING CRITERIA

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 Board Caliper:

6.60 mm

2.3 Corrugating Medium:

2-interleaved, 26C flute

2.4 Manufacturer's Joint:

1-3/8 in. inside glue flap

2.5 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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2.6 Closure:

Clear plastic 3M tape, #375, 48 mm x 28 in., self-adhesive (furnished with the combination packaging), or equivalent

2.7 Interior:

Natural kraft.

2.8 Exterior:

Natural kraft.

2.9 Printing:

Black, four panels:

- P-1 - Proper shipping name and UN ID block (at top left)
UN 4GV/X 23/S/* markings (at bottom left), tested for
air shipments
- P-2 - Up Arrows bock (at top right),
Manufacturer's Box Certificate (at left)
- P-3 - Hazmatpac ID
- P-4 - Up Arrows bock (at top right)
- T-1 - This End Up
- T-2, T-4 - Packing instructions
- B-3 - Made in USA, recyclable

2.10 Cleanliness:

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

2.11 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 – 2 in., #K-150, 16 in. x 16 in. x 16 in. (OD)

3.2 Bag and Closure for Cooler Ice:

Bag - polyethylene bag, to line cooler, 15 in. x 13 in. x 30 in. (part # B-740AS)
Bag Closure - "Twist-Tie", or cable tie, closure band

3.3 Absorbent Bag:

Bag – 17 in. x 8 in. with 16g/ft² absorbent liner

3.4 Can:

Can – 10 ½ in. x 6 5/8 in. diameter, with **HAZLOC** ring

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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 PG I. Additionally, certification will include testing requirements of 49 CFR, ¶173.266 for materials Toxic by Inhalation, Division 6.1, PG I, Hazard Zone A.

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. Audit copies will be requested randomly on UN packagings. Reference [¶10.0](#).

Additionally, documentation of periodic testing as required by 49 CFR ¶178.601(e) is to be submitted whenever this testing is performed.

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.

4.3 Closure Instructions

Manufacturer/supplier must furnish ORNL, in writing, closure requirements, as performed for the UN design test; per 49 CFR, ¶178.2(c)(1). It must be identified on the closure instructions specifically as to the ORNL combination package to which the instructions apply. Ref: [¶10.0](#) for distribution.

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 also assures the Company that manufacturing is conducted under a Nationally recognized QA program such as NQA1, ISO, etc.

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. Certification includes testing requirements of 49 CFR, ¶173.226 for materials Toxic by Inhalation, Division 6.1, PG I, Hazard Zone A.

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), *ORNL-311*, (items 2 - 16), 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 ORNL-311, 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 23/S/*USA/ +AC1979, or most current manufacturing code]
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 ¶2.9 of this document.
		Required packing instructions are included inside the packaging.
7	Packaging Components	All required combination packaging components, as specified in this document, are furnished with the specified corrugated box: <ul style="list-style-type: none"> <input type="checkbox"/> 10 ½" cans (2) <input type="checkbox"/> Locking rings for cans (2) <input type="checkbox"/> 2-mil polyethylene bag, with ties <input type="checkbox"/> Red tape, 1" x 9" (2) <input type="checkbox"/> Closure tapes for box (48 mm x 28") (1) <input type="checkbox"/> Absorbent packing - 2 each <input type="checkbox"/> Twist ties / cable ties <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 ½ inch.

The markings shall be printed on the box panels as stated in [§2.9](#) of this document.

The manufacturer's compliance marking shall be printed on the box as stated in [§2.11](#).

7.0 INTENDED USE

The combination packages are intended for Packing Group I, II, and III hazardous materials in liquid or solid form and Toxic by Inhalation, Division 6.1, PG I, Hazard Zone A. Maximum capacity of the container shall not exceed the tested gross weight, as marked on the box sidewall, of 23 kilograms (50.6 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-1567)

Replacement Part Numbers	
10 ½" can	C-680
Locking ring	C-700
2-mil bag	B-740AS
All, but cooler	UNR-1567

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.

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10.0 DISTRIBUTION OF UN PERFORMANCE TEST REPORTS (per [14.1](#)) and CLOSURE INSTRUCTIONS (per [14.3](#))

(A) Upon specific request, UN performance test documentation for specified order/shipment will be submitted directly to the Packaging Operations Manager at the address below, or fax number, below.

(B) Closure instructions must be furnished with each order for each type/size package purchased by ORNL, directly to the Packaging Operations Manager at the address, or fax number, below.

**Oak Ridge National Laboratory
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Oak Ridge, Tennessee 37831-6288
Fax Number: (865) 574-7098**