

INCH-POUND

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COMMERCIAL ITEM DESCRIPTION

CONTAINER, THERMAL, SHIPPING, FOR MEDICAL MATERIEL REQUIRING CONTROLLED TEMPERATURE RANGES

The General Services Administration has authorized the use of this interim Commercial Item Description by all Federal Agencies. This document was developed by the Defense Supply Center Philadelphia, Directorate of Medical Materiel, and is based upon currently available technical information.

1. SCOPE

1.1 This Commercial Item Description covers the requirements and test procedures for various types and sizes of thermal shipping containers.

1.2 Intended use. Containers shall be suitable for the shipment and storage of medical materiel, pharmaceuticals, biologicals and specimens requiring constant chill or freeze environment. Containers shall meet all requirements of the DLA Packaging Protocols for Medical Temperature Sensitive Products.

2. CLASSIFICATION

2.1 Containers covered by this document shall be suitable for use for freeze or chill shipments and shall be the following sizes:

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any other data which may be used to improve this document should be sent to: Defense Supply Center Philadelphia, Directorate of Medical Materiel, ATTN: DSCP-FS, 700 Robbins Avenue, Philadelphia, PA 19111-5092, by letter or using the self-addressed Standardization Document Improvement Proposal, (DD Form 1426) appearing at the end of this document.

AMSC N/A

FSC 8115

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

Size 1 - Small
Size 2 - Medium
Size 3 - Large
Size 4 - XLarge

2.1.1 Required size(s) shall be specified in the contract or purchase order (see 7.2).

3. SALIENT CHARACTERISTICS

3.1 Material.

3.1.1 Insulation material. Insulation material shall be polyurethane, shall be chlorofluorocarbon-free (CFC), and shall provide required thermal and structural characteristics as specified herein.

3.1.1.2 Container bottom and 4 side walls. Polyurethane foam used to construct the container bottom and sides shall be CFC-free rigid high strength polyurethane foam conforming to MIL-PRF-83671B, class 1, category 2. To insure optimum thermal efficiency, construction of the insulation component of the container shall be a single construction with no seams or bonds. The bottom and 4 side walls of the polyurethane insulation shall be formed in one single operation. There shall be no seams or points in the insulation side wall and base material. A full bond shall exist between the insulation material and the contact surfaces of the inner liner and the outer container. Panel construction or the use of successive steps in the formation of the side walls and base **shall not be acceptable.**

3.1.1.3 Insulation closure (plug). Polyurethane foam used to construct the separate insulation closure (plug) shall be CFC-free flexible polyurethane foam conforming to MIL-PRF-83671B, class 2, grade B. Closure of the insulated container shall maintain integrity of the seal for the life of the container.

3.1.2 Inner liner and outer container. Inner liner and outer container shall be furnished in the sizes indicated herein and as specified in the contract or order.

3.1.2.1 Inner liner. Inner liner shall be constructed of C flute, corrugated fiberboard conforming to ASTM D 4727, class domestic, having a minimum bursting strength of 200 pounds. Liner shall be style RSC, shall have a half-slotted center body. The liner flutes shall be perpendicular to the top of the box. The liner joint shall be butted and shall be located in one of the corners of the liner, in accordance with figure 1. The liner joint shall be taped with suitable pressure-sensitive tape.

3.1.2.2 Outer container. Outer container shall be constructed of C flute, corrugated fiberboard conforming to ASTM D 4727, class domestic, having a minimum bursting strength of 200 pounds. Outer container shall be in accordance with ASTM D 5118, style RSC.

3.2 Cavity and cargo box insert dimensions.

3.2.1 Cavity. Cavity dimensions shall be as specified in the contract or purchase order (see 7.2).

3.2.2 Cargo box insert. Cargo box insert dimensions shall be as specified in 7.2, table I. The cargo box insert shall be designed for a type 2 load and shall conform to ASTM D 5118, style RSC, class domestic. The box shall be constructed of C-flute, corrugated fiberboard in accordance with ASTM D 4727, having a minimum bursting strength of 200 pounds. The corrugate direction shall be vertical and the manufacturer's joint shall be inside.

3.3 Design. The design of the fabricated container shall be in accordance with figure 1.

3.4 Thermal requirements. The container shall support the DLA "Packaging Protocols for Medical Temperature Sensitive Products Requiring Storage Temperatures between 2°C – 8°C (36°F – 46°F)" without change or exception so as to maintain the temperature range of 2°C – 8°C for a minimum of 72 hrs in accordance with stated ambient requirements of Cold Weather (below 55°F), Moderate Weather (between 55°F and 77°F), and Warm Weather (above 77°F).

3.5 Workmanship. Workmanship shall be first class throughout. The thermal shipping container shall be free from defects which detract from its appearance or impair its serviceability.

4. REGULATORY REQUIREMENTS

4.1 Federal Food, Drug, and Cosmetic Act and regulations promulgated thereunder. If the product covered by this document has been determined by the U.S. Food and Drug Administration to be under its jurisdiction, the offeror/contractor shall comply, and be responsible for compliance by its subcontractors/ suppliers, with the requirements of the Federal Food, Drug and Cosmetic requirements of all other applicable Federal, State, and local statutes, ordinances, and regulations.

4.2 Recovered materials. The offeror/contractor is encouraged to use recovered materials in accordance with the Federal Acquisition Regulation (FAR) Subpart 23.403 to the maximum extent practical.

5. QUALITY ASSURANCE PROVISIONS

5.1 Product conformance. The products provided shall meet the salient characteristics of this commercial item description, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial market. The government reserves the right to require proof of such conformance.

5.2 Metric products. Products manufactured to metric dimensions will be considered on an equal basis with those manufactured using standard inch/pound measurements.

5.3 Bid sample. The company producing the item shall provide a sample of the item it is bidding on for evaluation to the contracting officer. The contracting officer shall take appropriate action to determine if the sample provided meets the requirements of this specification. Pending approval of the bid sample, acquisition of materials, components, or commencement of production is at the sole risk of the contractor.

5.4 First article. Prior to the start of the contract, samples of the completed item shall be tested by the contractor. The samples shall be submitted, together with the contractor's inspection and test reports, to the procuring contracting officer for examination and testing to determine compliance with the requirements of the specification. Written approval of the materials, construction, and performance of the sample shall be obtained from the procuring contracting officer, or his authorized representative, prior to the manufacture and assembly of the remaining quality to be manufactured. Pending approval of the first articles, acquisition of materials, components or commencement of production is at the sole risk of the contractor. Accepted sample shall become the property of the procuring activity and shall be included in the quantity called for in the contract or order. In the event that the sample is not approved, the contractor shall submit a new sample for approval or modify the existing sample to remove the deficiencies cited.

5.4.1 Thermal insulation quality. Testing of thermal insulation quality shall be conducted in accordance with ASTM D 3103.

5.4.2 Thermal conductivity. Determination of thermal conductivity shall be conducted in accordance with ASTM C 177.

5.4.3 Drop test. Drop test shall be conducted in accordance with ASTM D 5276, using a fully packed and sealed thermal shipping container. There shall be three successive drops (one on a face, one on an edge and one on a top corner) from a height of 12 feet onto a concrete surface. The container shall be examined after the third drop. There shall be no visible cracks in the insulation.

5.5 Other quality assurance provisions. Shall meet all quality assurance provisions of the contract and/or purchase order.

6. PACKAGING

6.1 Preservation. Preservation shall be commercial.

6.1.1 Unit. Each (EA). One fully-assembled thermal shipping container, as specified, constitutes one unit.

6.1.2 Packing. Each thermal shipping container shall require no overpacking.

6.2 Unitization. Thermal shipping containers shall be uniformly unitized in accordance with commercial practice.

6.3 Marking.

6.3.1 Unit. Each thermal shipping container shall be marked in accordance with commercial practice. Marking shall include the boxmaker's certificate and any additional markings specified in the contract or order.

6.3.2 Unitized load. Each unitized load shall be marked with the National Stock Number (NSN) or commercial part number (P/N) and container size, the quantity and unit of issue, contract/order number, manufacturer's name and date of manufacture, and any additional markings specified in the contract or purchase order.

7. NOTES

7.1 Ordering data. Acquisition documents shall specify the following:

- a. Title, number and date of this document.
- b. NSN (when applicable).
- c. Container type, size and dimension requirements. Dimension requirements shall include cavity size, insulation wall thickness, insulation closure (plug) thickness, and outer container dimensions.

7.2 Dimension requirements. The following table is provided for information. The required type and dimensions (cavity dimensions, insulation wall thickness, insulation closure (plug) thickness, outer dimensions) for the thermal shipping container shall be as specified in the contract or purchase order.

TABLE I. Thermal Shipping Containers. ^{1/}

<u>SIZE</u>	<u>DIMENSIONS (Length x Width x Height (inches))</u>		
	Outer Container	Inside Cavity (including Plug)	Inside Cargo Box Insert
Small	15.75" x 12.75" x 14.25" (+/- 0.375")	11" x 8" x 7" (+/- 0.188")	10.75" x 6.5" x 4" (+/- 0.125")
Medium	18.75" x 12.75" x 17.25" (+/- 0.375")	14" x 8" x 10" (+/- 0.188")	12" x 6.5" x 6.5" (+/- 0.125")
Large	23.25" x 19.25" x 19.25" (+/- 0.375")	18.5" x 14.5" x 12" (+/- 0.188")	16-1/2" x 12" x 7" (+/- 0.125")
XLarge	23.25" x 23" x 24" (+/- 0.375")	18.5" x 18.25" x 16.75" (+/- 0.188")	18" x 14.5" x 12" (+/- 0.125")

^{1/} These containers are designed for use for "ANY TEMPERATURE-SENSITIVE PRODUCT" and are acceptable for use with packaging protocols (see 3.4). These containers maintain the required temperature as indicated in the applicable protocol for at least 72 hours during shipment.

7.6 Sources of referenced documents.

7.6.1 Government documents.

7.6.1.1 The Federal Food, Drug and Cosmetic Act is available from the Food and Drug Administration, Washington, DC 20204.

7.6.1.2 The following Regulation is available at <http://www.dla.mil/dlaps/dlar/r4145.21.pdf>:

DLAR 4145.21 – Preparation of Medical Temperature-Sensitive Products Requiring Freeze or Refrigerated (Chill) Environments for Shipment

DLAR 4145.21 – Packaging Protocols for Medical Temperature Sensitive Products (Attachment 1) Sensitive Products Requiring Storage Temperatures

7.6.1.2 The following Military Specification is available from the Defense Automation and Production Service, Bldg 4/D, 700 Robbins Avenue, Philadelphia, PA 19111-5094:

MIL-PRF-83671B - Foam-in-Place Packaging Materials, General Specification for

7.6.2 Non-Government documents.

7.6.2.1 The following documents are available for purchase from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959:

C 177 – Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus

D 3103 – Standard Test Method for Thermal Insulation Quality of Packages

D 4727 – Standard Specification for Corrugated and Solid Fiberboard Sheet Stock (Container Grade) and Cut Shape

D 5118 – Standard Practice for Fabrication of Fiberboard Shipping Boxes

D 5276 – Standard Test Method for Drop Test of Loaded Containers by Free Fall

MILITARY INTERESTS:

Custodians:

Army - MD

Navy - MS

Air Force – 03

Preparing Activity:

DoD-MB

Agent:

DLA-DM

Review activities:

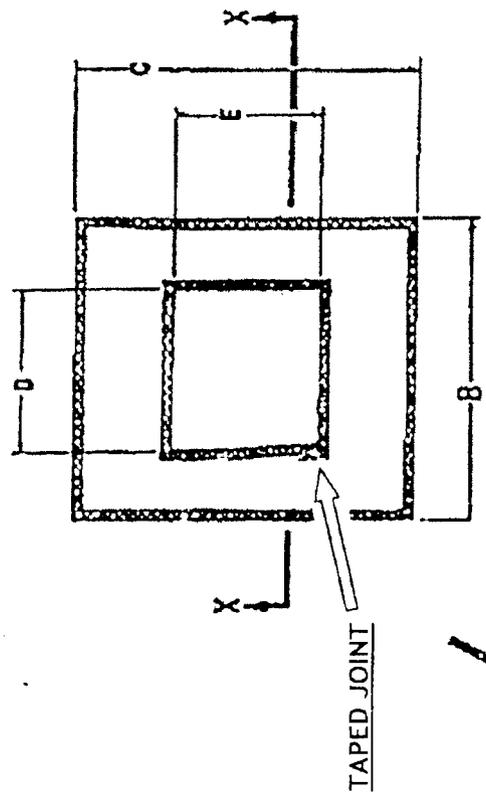
HQ DLA J-3732

DDC New Cumberland, PA

CONTAINER, THERMAL SHIPPING
FOR MEDICAL MATERIEL REQUIRING
FREEZE AND CHILL

KEY TO DIMENSIONS	
A = Height	Outer Container
B = Width	
C = Length	
D = Height	Cavity
E = Width	
F = Length	
G = Insulation Closure (Plug) Thickness	
H = Insulation (Wall) Thickness	

FIGURE 1
 (REVISED 10 FEBRUARY 2010)



FLEXIBLE FOAM
 MIL-PRF-83671B,
 CLASS 2, GRADE B
 (THICKNESS SHALL
 BE AS SPECIFIED
 IN THE CONTRACT
 OR ORDER.)

FIBERBOARD LINER
 ASTM D 4727,
 TYPE CF,
 CLASS DOMESTIC,
 GRADE 200

RIGID FOAM
 MIL-PRF-83671B,
 CLASS 1, CATEGORY 2
 THICKNESS SHALL BE
 AS SPECIFIED IN THE
 CONTRACT OR ORDER).

SECTION X-X
INSULATION Lining

FIBERBOARD CONTAINER
 ASTM D 5118, TYPE CF,
 CLASS DOMESTIC,
 GRADE 200, STYLE RSC

**DIMENSIONS SHALL BE AS SPECIFIED
 IN THE CONTRACT OR PURCHASE
 ORDER. DIMENSIONS SHALL INCLUDE
 CAVITY SIZE, WALL THICKNESS,
 INSULATION CLOSURE (PLUG)
 THICKNESS, INSIDE CARGO BOX
 INSERT, AND OUTER CONTAINER SIZE.**

**PERMITTED TOLERANCES FOR ALL
 DIMENSIONS SHALL BE AS INDICATED
 IN PARA. 7.2, TABLE I.**