

INCH POUND

MIL-S-28633C
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SUPERSEDING
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MILITARY SPECIFICATION
SHELTER, EQUIPMENT, MULTIPURPOSE

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. Scope. This specification covers one type of portable, multipurpose equipment shelter nominal 8 feet by 8 feet by 6 feet 8 inches.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. Unless otherwise specified (see 6.2), the following specifications and standards form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of these documents shall be those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation.

SPECIFICATIONS

FEDERAL

TT-E-485 - Enamel, Semi-Gloss, Rust-Inhibiting.
TT-P-1757 - Primer Coating, Zinc Chromate, Low-Moisture-Sensitivity.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commanding Officer (Code 156), Naval Construction Battalion Center, Port Hueneme, CA 93043-5000, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 5411.

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

MIL-S-28633C

MILITARY

- MIL-P-514 - Plates, Identification, Instruction, Marking, Blank.
- MIL-T-704 - Treatment and Painting of Material.

STANDARDS

FEDERAL

- FED-STD-595 - Colors.

MILITARY

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
- MIL-STD-129 - Marking for Shipment and Storage.

2.1.2 Other Government documents and publications. The following other Government documents and publications form a part of this specification to the extent specified herein. Unless otherwise specified, the issues shall be those in effect on the date of the solicitation.

DEPARTMENT OF COMMERCE (DoC)

- Voluntary PS-1 - Construction and Industrial Plywood.

(Application for copies should be addressed to the Superintendent of Documents, Government Printing Office, Washington, DC 20402.)

(Copies of specifications, standards, publications, and other Government documents required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.)

2.2 Other publications. The following document(s) form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted shall be those listed in the issue of the DODISS specified in the solicitation. Unless otherwise specified, the issues of the documents not listed in the DODISS shall be the issue of the non-Government documents which is current on the date of the solicitation.

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

- ISO 668 - Series 1 Freight Containers - Classification, External Dimensions and Rating.
- ISO 1161 - Series 1 Freight Containers - Corner Fittings.
- ISO 1496/1 - Series 1 Freight Containers - General Containers, Part 1.

MIL-S-28633C

(Application for copies should be addressed to American National Standard Industry, Inc., 1430 Broadway, New York, NY 10018.)

UNIFORM CLASSIFICATION COMMITTEE, AGENT

Uniform Freight Classification.

(Application for copies should be addressed to the Uniform Classification Committee, Tariff Publishing Officer, Room 1106, 222 South Riverside Plaza, Chicago, IL 60606.)

(Non-Government standards and other publications are normally available from the organizations which prepare or which distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein (except for associated detail specifications, specification sheets or MS standards), the text of this specification shall take precedence. Nothing in this specification, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Description. The shelter shall be closed-van, general-cargo Series 1 containers defined in ISO 1496/1. The actual dimensions and the gross weight rating shall be specified in tables I and II (see 3.6). When three shelters are coupled together, the shelters shall form an integral and dimensionally equivalent to 20 foot length module (1C configuration), and meet the loading requirements for 1C containers specified in ISO 1496/1.

3.2 First production vehicle. When specified (see 6.2), the contractor shall furnish three complete equipment shelters for first article inspection and approval (see 4.2.1 and 6.4).

3.3 Materials. Materials used shall be free from defects which would adversely affect the performance or maintainability of individual components or of the overall assembly. Materials not specified herein shall be of the same quality used for the intended purpose in commercial practice. Unless otherwise specified herein, all equipment, material, and articles incorporated in the work covered by this specification are to be new and fabricated using materials produced from recovered materials to the maximum extent possible without jeopardizing the intended use. The term "recovered materials" means materials which have been collected or recovered from solid waste and reprocessed to become a source of raw materials, as opposed to virgin raw materials. None of the above shall be interpreted to mean that the use of used or rebuilt products are allowed under this specification unless otherwise specified.

MIL-S-28633C

3.3.1 Plywood. The plywood core material shall conform to DoC Voluntary Product Standard PS-1, grade C-D (plugged) or better, bonded with exterior glue. All plywood on the floor, roof, and walls shall be treated to prevent moisture absorption and rotting and all the plywood edges shall be sealed.

3.3.2 Fiberglass coated reinforced plastic. The plywood core material (see 3.3.1), shall be laminated on both surfaces with 18 ounces per square yard (± 10 percent) woven roving fiberglass cloth reinforcement using thermosetting polyester resin. The surface laminates shall contain not less than 30 percent glass and a maximum of 70 percent polyester resin by weight. The woven roving cloth shall be continuous in both directions with no ties or laps. The exterior panel surface shall be coated with a gel coat fused under heat and pressure. The gel coat shall be ultra-violet, weather, mildew, oil, and chemical resistant, and shall conform to the color and finish requirements of paragraph 3.8.

3.3.3 Dissimilar materials. Intimate contact of dissimilar materials, which can be expected to cause galvanic corrosion, shall be avoided. When such contact cannot be avoided, an interposing insulating material shall be provided to minimize the corrosive effect.

3.4 Construction. All shelters shall be new and unused. The roof, floor, side wall, and end wall panels shall be constructed with plywood, coated, on all surfaces with a fiberglass reinforced plastic of uniform thickness. The shelters shall not contain recesses or voids in which moisture could accumulate or contraband could be concealed. No part of the shelter, with the doors closed, shall protrude beyond the outside surfaces of the corner fittings.

3.4.1 Understructure. All crossmembers shall be of the same configuration and strength. The maximum recess allowed for the bottom side rails and end frame rails above the plane of the bottom corner fittings shall be 1/4 inch.

3.4.2 Roof. The roof panels, roof rails, and upper frame members shall be not less than 1/4 inch below the top plane of the top corner fitting.

3.4.3 Corner fittings. The shelter shall be constructed with top and bottom corner fittings in accordance with ISO 1161 and shall be capable of end-to-end coupling of containers.

3.4.4 Tamperproofing provisions. The shelter construction shall prevent access, by means other than unlocking doors, to the interior without leaving visible signs of tampering. If tack welding of fasteners and hardware is used, the weld and the surrounding area shall be thoroughly cleaned, primed, and painted in accordance with 3.8.2.

3.4.5 Doors. Door opening shall conform to ISO 1496/I. Two doors shall be hung in a nominal 6 foot 8 inch container frame to provide a clear interior opening of not less than 84 inches high and 70-3/4 inches wide. Heavy-duty

MIL-S-28633C

hinges shall allow each door to swing back against the side walls. Steel hinges shall have corrosion resistant steel pins. Means shall be provided to hold the doors in the full open position. The hinges shall be recessed within the corner structure.

3.4.5.1 Handles. Each door shall have not less than one heavy-duty, hand-operated, cam-locking device with antirack provisions. Handles shall be between 12 inches and 18 inches above the bottom plane of the corner fitting. All locking device handles shall be furnished with provisions for padlocking and customs sealing.

3.4.5.2 Document holders. Waterproof metal boxes shall be provided on both the inside and outside of the right door of each shelter. Each box shall be not less than 9 inches by 12 inches by 1 inch. Closing devices of the boxes shall withstand repeated opening and closing without tools and without impairing their sealing quality. The boxes shall be bolted or riveted in place.

3.4.5.3 Data plates. A nonferrous metal plate conforming to MIL-P-514, type I, style 3 shall be affixed to the center of the external surface of the right hand door. The method of attachment shall be either riveting or bolting. The data plate shall contain the following information; National Stock Numbers (NSNs) shall be provided by the contracting officer:

U. S. NAVY
SHELTER, EQUIPMENT, MULTIPURPOSE
SPECIFICATION: MIL-S-28633C
NSN: CONTAINER _____
ISO CONTAINER CONTROL NUMBER: _____
TARE WEIGHT: LBS _____ KG _____
CONTRACT NUMBER: _____
MFD BY: _____
DATE (MONTH & YEAR): _____

3.4.6 Captive connecting devices. Each three shelters furnished for first article test shall be provided with eight captive connecting devices supplied by the contractor. The devices shall be adjustable and tightened to form a slack-free connection with a 3 inch ($\pm 5/64$ inch) space between coupled shelters. Three shelters coupled end-to-end shall form an integral and dimensionally equivalent 20-foot module. The couplers shall maintain a tight connection when tested as specified in 4.5.1.2 or 4.5.1.3. When specified (see 6.2), the Government shall furnish the devices.

3.5 Performance. The shelter shall perform singly as a 1E container or in a connected group of three as a 1C container. Unless otherwise specified (see 6.2), all CSC certification tests shall apply to the three-coupled shelters (1C) configuration.

MIL-S-28633C

3.5.1 Stacking. The coupled shelters in the 1C configuration shall withstand six-high stacking when tested as specified in 4.5.1.1. The maximum operating gross weight, R, is defined in section 5.1.1 of ISO 1496/1, and shall be 15,700 pounds (lbs) for the 1E configuration and 44,800 lbs for each tier of 1C containers, or 1C configurations, as specified in accordance with ISO 668.

3.5.2 Lifting from the corner fittings. The shelters shall withstand lifting from the top or bottom corner fittings in the 1E or 1C configuration when tested as specified in 4.5.1.2 and 4.5.1.3.

3.5.3 Restraint. The coupled shelters in the 1C configuration shall withstand the longitudinal restraint forces when tested as specified in 4.5.1.4. The shelter in the 1E configuration shall withstand the lateral restraint forces when tested as specified in 4.5.1.4.

3.5.4 End walls, side walls, and roof strength. The end walls, side walls, and roof shall withstand the loading applied when tested as specified in 4.5.1.5 through 4.5.1.7, respectively.

3.5.5 Floor strength. The floor panel shall withstand the uniformly distributed loads applied when tested as specified in 4.5.1.2 and 4.5.1.3. The floor strength test requirements in section 5.9 in ISO 1496/1 are not applicable for the coupled shelters. The shelter in the 1E configuration will be too small for the test vehicle to maneuver over the entire floor area of the container.

3.5.6 Racking. The coupled shelters in the 1C configuration shall withstand racking forces resulting from ship motions when tested as specified in 4.5.1.8 and 4.5.1.9.

3.5.7 Lifting from fork lift pockets. Each shelter shall have one set of closed-design forklift pockets 14 inches wide by 4-1/2 inches appropriate combination, see annex C, high for tine entry from both sides of the container as specified in accordance with section 4.8 of ISO 1496/1. Each shelter shall also have one set for tine entry from the opposite side of door opening meeting the same dimensional and loading requirements. Each shelter shall withstand lifting when tested as specified in 4.5.1.10 and 4.5.2.

3.5.8 Understructure. The underside of the base structure shall be flat and flush with the bottom faces of the lower corner fittings as permitted for 1E containers in section 4.3.2 of ISO 1496/1. No part of the base of the container shall deflect more than 1/4 inch below the bottom faces of the lower corner fittings under load as specified in accordance with section 4.3.3 of ISO 1496/1. The value of R for the 1E configuration is 15,700 lbs.

3.5.9 Weatherproofness. The shelter shall be weatherproof to the extent indicated by the test specified in 4.5.1.11.

MIL-S-28633C

3.6 Dimensions and ratings. The minimum internal dimensions shall be listed in table I. The actual external dimensions and their tolerances shall be as listed in table II. The maximum operating gross weight rating, R, as defined in section 3.3 of ISO 1496/1, shall be 15,700 lbs for the 1E configuration. When three containers are coupled together to form the 1C configuration, the group of three shall have a gross weight rating of 44,800 lbs (14,933 lbs per shelter).

TABLE I. Minimum internal dimensions.

Height		Width		Length	
feet	inches	feet	inches	feet	inches
7	2-1/2 (86-1/2)	7	6-1/2 (90-1/2)	5	10-1/16 (70-1/16)

TABLE II. Actual external dimensions, tolerances, and ratings.

Height			Width			Length			Rating
ft	in	tolerances	ft	in	tolerances	ft	in	tolerances	(Max Gross)
		in			in			in	lbs*
8	0	+0 -3/16	8	00	+0 -3/16	6	5-1/2	+0 -3/16	15,700

3.7 Weight. The tare weight of the shelter T, as defined in section 3.3 of ISO 1496/1 shall be not more than 2,100 lbs. The tare weight marked on the shelter (see 3.9), shall be the average weight of the first 10 production shelters. This average shall be compared to the average of the last 10 shelters of the next 250 shelters produced. If the average weight of the second group varies 10 percent or more from the average weight of the first group, the second average weight shall be marked on subsequent shelters. Checks and necessary changes shall be made at intervals of 250 shelters.

3.8 Color and finish. Unless otherwise specified (see 6.2), the color of the interior and exterior shall be green, approximating color 14064 of FED-STD-595.

3.8.1 Fiberglass finish. The color of the fiberglass coating shall be homogeneous throughout its thickness. Painting of the plastic shall not be allowed.

MIL-S-28633C

3.8.2 Metal finish. Cleaning, treatment, and painting of the metal surfaces shall be in accordance with MIL-T-704, type A, except that all surfaces of the ferrous components shall be coated with a primer coat conforming to TT-P-1757, composition L. After cleaning and treatment, all exposed interior and exterior metal surfaces shall be painted with enamel conforming to TT-E-485, type II or IV, composition L.

3.9 Exterior marking. All equipment shelters shall be marked as specified herein. The words "U.S. NAVY SEABEE EQUIPMENT SHELTER" shall be stenciled in 3 inch letters on the top, both sides, the rear end wall, and the left hand door of the shelter and shall be centrally located. The following information shall be stenciled in 1-3/4 inch letters and numerals in English units: Tare weight, maximum gross weight in single and coupled configurations, shipping cube, and nominal outside dimensions. The stenciling medium shall be white and shall not rub off of the exterior surface of the shelter when the medium is dry.

3.9.1 Serial numbers. Equipment shelters shall be marked with a serial number (see 6.2). The numbers shall be 3 inches high, located directly below each "U.S. NAVY SEABEE EQUIPMENT SHELTER" marking. The stenciling medium shall be as specified in 3.9. Serial numbers shall be provided by the contracting officer.

3.10 Workmanship. All parts, components, and assemblies of the shelter including castings, forgings, molded parts, stampings, seals and sealing agents, machined surfaces and welded parts shall be clean and free from any defects that will reduce the capability of the shelter to meet the requirements specified herein. Any components and assemblies which have been repaired or modified to overcome deficiencies shall not be used. External surfaces shall be free from burrs, slag, sharp edges, and corners except where sharp edges and corners are required. The internal cargo space shall be free from sharp protrusions that could damage cargo.

3.10.1 Metal fabrication. Metal used in the fabrication of equipment shall be free from kinks and sharp bends. The straightening of material shall be done by methods that will not cause injury to the metal. Shearing and chipping shall be done neatly and accurately. Corners shall be square and true. Flame cutting, using a tip suitable for the thickness of the metal, may be employed instead of shearing or sawing. Burned surfaces of flame-cut material shall be free of slag. All bends of a major character shall be made with controlled means in order to insure uniformity of size and shape. Precautions shall be taken to avoid overheating, and heated metal shall be allowed to cool slowly.

3.10.2 Fiberglass. Fiberglass coated plywood used in the fabrication of the shelter shall be smooth or embossed and free from bubbles, glazing cracks, and discontinuities.

MIL-S-28633C

3.10.3 Bolted connections. Boltholes shall be accurately punched or drilled and shall have the burrs removed. Washers or lockwashers shall be provided in accordance with good commercial practice, and all bolts, nuts, and screws shall be tight.

3.10.4 Riveted connections. Rivet holes shall be accurately punched or drilled and shall have the burrs removed. Rivets shall be driven with pressure tools and shall completely fill the holes. Rivet heads, when not countersunk or flattened, shall be of approved shape and of uniform size for the same diameter of rivet. Rivet heads shall be full, neatly made, concentric with the rivet holes, and in full contact with the surface of the member.

3.10.5 Welding. Welding procedures shall be in accordance with a nationally recognized welding code. The surface of parts to be welded shall be free from rust, scale, paint, grease, or other foreign matter. Welds shall be of sufficient size and shape to develop the full strength of the parts connected by the welds. Welds shall transmit stress without permanent deformation or failure when the parts connected by the weld are subjected to proof and service loadings.

3.10.6 Machined work. All parts shall be manufactured to gage, through the use of jigs, and fixtures and shall provide interchangeability of parts as manufactured.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items must meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of assuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling in quality conformance does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material.

4.1.2 Material inspection. The contractor is responsible for insuring that supplies and materials are inspected for compliance with all the requirements specified herein and in applicable referenced documents.

MIL-S-28633C

4.2 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.2.1).
- b. Quality conformance inspection (see 4.2.2).

4.2.1 First article inspection. The first article inspection shall be performed on three complete shelters when a first article is required (see 3.2 and 6.2). This inspection shall include the examination of 4.4 and the tests of 4.5.1.1 through 4.5.3. The first article may be either a first production item or a standard production item from the supplier's current inventory provided the item meets the requirements of the specification and is representative of the design, construction, and manufacturing technique applicable to the remaining items to be furnished under the contract. In the event the contractor desires to deliver the test model as a contract item, it shall be delivered as the last item on the contract only after the contractor, at his own cost and expense, shall have completely cleaned, reconditioned, and overhauled the unit, making such replacements and modifications, thereto as are required to make the unit acceptable as a contract item.

4.2.2 Quality conformance inspection. The quality conformance inspection shall include the examination of 4.4, the tests of 4.5, and the packaging inspection of 4.6. This inspection shall be performed on the samples selected in accordance with 4.3.

4.3 Sampling. Sampling shall be in accordance with MIL-STD-105.

4.3.1 Sampling for tests. Sampling shall be in accordance with MIL-STD-105. The inspection shall be level S-3 with an Acceptable Quality Level (AQL) of 2.5 percent defective.

4.4 Examination. Each shelter shall be examined for compliance with the requirements specified in section 3 and table III of this specification. The examination shall be based on inspection level II and an AQL of 4.0 percent defective for major defects and 6.5 for minor defects as specified in MIL-STD-105. Any redesign or modification of the contractor's standard product to comply with specified requirements, or any necessary redesign or modification following failure to meet specified requirements shall receive particular attention for adequacy and suitability. This element of inspection shall encompass all visual examinations and dimensional measurements. Noncompliance with any specified requirements or presence of one or more defects preventing or lessening maximum efficiency shall constitute cause for rejection.

MIL-S-28633C

TABLE III. Classification of defects.

Classification	Defects	Requirement paragraph
Major:		
101	Type not as specified.	1.1, 3.1
102	Dimensions not as specified.	1.1, 3.6
103	Materials not as specified.	3.3
104	Plywood not as specified.	3.3.1
105	Fiberglass not as specified.	3.3.2, 3.8.1, 3.10.2
106	Basic requirements as to construction not as specified.	3.4
107	Understructure not as specified.	3.4.1, 3.5.6
108	Roof construction not as specified.	3.4.2
109	Corner fittings not as specified.	3.4.3, 3.5.2
110	Doors not constructed as specified.	3.4.5
111	Dimensions and rating not as specified.	3.6, tables I and II
112	Weight not as specified.	3.7
Minor:		
201	Handles not as specified.	3.4.5.1
202	Document holder not manufactured as specified.	3.4.5.2
203	Data plates not as specified.	3.4.5.3
204	Captive connecting device not as specified.	3.4.6
205	Color and finish not as specified.	3.8, 3.8.1, and 3.8.2
206	Exterior marking not as specified.	3.9
207	Serial numbers not as specified.	3.9.1
208	Workmanship not as specified.	3.10 thru 3.10.5

4.5 Tests. The following tests shall be performed to verify compliance with 3.4 and 3.5. Failure of any test shall be cause for rejection of containers and shall be cause for the Government to defer future acceptance until objective evidence furnished by the supplier indicated that deficiencies revealed by the tests have been corrected.

4.5.1 CSC tests and certification. The tests in this section shall be witnessed and the containers CSC certified by an authority approved by the United States Coast Guard. The tests shall be as specified in ISO 1496/1.

MIL-S-28633C

All the tests apply except test No. 8 "Floor Strength," and test No. 12, "Lifting from the Base at Grapppler Arm Positions." Test No. 13, "Weatherproofness," shall be made last.

4.5.1.1 Test No. 1: Stacking. Three coupled shelter in the 1C configuration shall be tested for stacking in accordance with ISO 1496/1. The value of R shall be 44,800 lbs for each tier of 1C containers or configurations.

4.5.1.2 Test No. 2: Lifting from the top corner fittings. Three coupled shelters in the 1C configuration shall be tested for lifting from the top corner fittings with the lifting forces applied vertically in accordance with ISO 1496/1 and the value of R shall be 44,800 lbs for the 1C configuration. The shelter in the 1E configuration shall be tested with an appropriate sling angle and the value of R shall be 15,700 lbs.

4.5.1.3 Test No. 3: Lifting from the bottom corner fittings. Three coupled shelters in the 1C configuration shall be tested for lifting from the bottom corner fittings in accordance with ISO 1496/1. The sling angle shall be 45 degrees (°) to the horizontal and the value of R of 44,800 lbs. Also, the shelter shall be tested in the 1E configuration. In this case the sling angle shall be 60° to the horizontal and the value of R of 15,700 lbs.

4.5.1.4 Test No. 4: Restraint. Three coupled shelters in the 1C configuration shall be tested for restraint in the longitudinal direction in accordance with ISO 1496/1 and the value of R shall be 44,800 lbs. The single shelter in the 1E configuration shall be tested for restraint in the lateral direction and the value of R shall be 15,700 lbs.

4.5.1.5 Test No. 5: Strength of end walls. One end wall, defined by the height and width of a single 1E shelter shall be tested for strength in accordance with ISO 1496/1. The value of P shall be 13,600 lbs (15,700 lbs gross weight minus 2,100 lbs tare weight). Testing the end walls of the 1C configuration is noncritical and will not be required.

4.5.1.6 Test No. 6: Strength of side walls. Both side walls, defined by the height and length of a single 1E shelter shall be tested for strength, one at a time. The test procedure shall be the same on the end wall testing of 1E configuration in 4.5.1.5 in accordance with ISO 1496/1. Three coupled shelters in the 1C configuration shall be tested for strength of sided wall in accordance with ISO 1496/1. The test of coupled shelters is to determine the adequacy of the connectors and frames as well as the side panels. Both side walls shall be tested, one at a time. The value of P shall be 38,499 lbs (12,833 lbs per shelter).

4.5.1.7 Test No. 7: Strength of the roof. The roof of a single 1E shelter shall be tested in accordance with ISO 1496/1. The weakest area of the roof is at the center.

MIL-S-28633C

4.5.1.8 Test No. 9: Transverse rigidity. Three coupled shelters in the 1C configuration shall be tested for transverse rigidity in accordance with ISO 1496/1.

4.5.1.9 Test No. 10: Longitudinal rigidity. Three coupled shelters in the 1C configuration shall be tested for longitudinal rigidity in accordance with ISO 1496/1.

4.5.1.10 Test No. 11: Lifting from forklift pockets. The lateral forklift tineways of a single 1E shelter, with one set of pockets on each side of the shelter, shall be tested in accordance with ISO 1496/1. The value of R shall be 15,700 lbs.

4.5.1.11 Test No. 13: Weatherproofness. A single shelter shall be tested for weatherproofness in accordance with ISO 1496/1.

4.5.2 Forklift test. A shelter uniformly loaded so that its total weight is equal to 10,000 lbs shall be picked up by a forklift using the forklift pocket openings, to a height of 12 inches off the ground. The shelter shall be carried by the forklift not less than 330 feet at an average velocity of not less than 6 miles per hour. This test shall be performed on each set of forklift pockets on the shelter. After completion of the test, the shelter shall not show any permanent deformation or abnormality which would make it unsuitable for use, and the tolerance requirements affecting handling, securing, and interchange shall be satisfied.

4.5.3 Door test. The doors of the shelter shall be opened, and the doors engaged to the securing devices on the side walls. Each door, while secured, shall be pulled with a force of 60 lbs. Failure of the door to remain attached to the securing device shall constitute failure of the test. The doors shall then be closed. Failure of the doors to close tightly or failure of the handles to lock shall constitute failure of the test.

4.5.4 Failure criteria. Each container shall be inspected after every test for compliance. Any of the following shall constitute failure of any of the tests specified in 4.5:

- a. Deflection of the container bottom side rails or bottom end frame members of more than 1/4 inch below the top plane of the bottom corner fittings.
- b. Deflection of the container crossmembers of more than 1/4 inch.
- c. Evidence of weld failure.
- d. Permanent deformation.
- e. Any broken or torn component.
- f. Any detachment of a gasket.
- g. Inability of one man standing on the ground to open or close a door without the use of tools.
- h. Inability of one man standing on the ground to operate a latching mechanism without the use of tools.

MIL-S-28633C

- i. Any dimension after a test not within the specified tolerance.
- j. Penetration of water into the interior of the container.
- k. Failure of the captive connecting devices to maintain a tight connection.

4.6 Packaging inspection. The preservation, packing, and marking of the item shall be inspected to verify conformance to the requirements of section 5.

5. PACKAGING

5.1 Preservation and packaging. The shelters shall be preserved and prepared for shipment in accordance with the contractors standard practice in a manner to prevent corrosion, deterioration, damage, and comply with applicable carrier rules and regulations.

5.2 Marking. Marking shall be in accordance with MIL-STD-129. Address markings shall be placed on tags in accordance with MIL-STD-129. The tags and printing thereon shall be waterproofed and secured to shelter door handle.

6. NOTES

6.1 Intended use. The multipurpose equipment shelters are intended to provide a weathertight portable facility for Military advanced base use. The multipurpose shelters are capable of transporting the equipment or items to the operational site and functioning as a protective storage facility both in transit and in use. The multipurpose shelters are capable of containerization system handling.

6.2 Ordering data. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. When specification and standards shall be other than as specified (see 2.1.1).
- c. When first article is required for inspection and approval (see 3.2, 4.2.1, and 6.3).
- d. When captive connecting devices are to be furnished by the contractor (see 3.4.6).
- e. When captive connecting devices are to be furnished by the Government (see 3.4.6 and 6.4).
- f. When CSC certification tests are other than to three coupled shelters (1C) configuration (see 3.5).
- g. When color and finish of shelter is other than specified (see 3.8).
- h. Serial numbers required to be marked in the equipment shelter (see 3.9.1).

6.3 First article. When a first article inspection is required, the item will be tested and should be a first production item or it may be a standard production item from the contractor's current inventory as specified in 4.2.1. The first article should consist of three units. The contracting

MIL-S-28633C

officer should include specific instructions in acquisition documents regarding arrangements for examination, test, and approval of the first article.

6.4 Government furnished property. When specified, the contracting officer should arrange to furnish the property specified in 3.4.6.

6.5 Subject term (key word) listing.

Cargo
Container
ISO Container
Shelter

6.6 Changes from previous issue. Asterisks are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodian:
Navy - YD

Preparing Activity:
Navy - YD

Review Activities:
Army - GL
Air Force - 99

(Project 5411-N037)

User Activities:
Navy - MC
Air Force - 80