

MIL-D-44285

24 June 1987

MILITARY SPECIFICATION

DOORS, DOUBLE BUMP THROUGH

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

1. SCOPE

1.1 Scope. This document covers two classes of double bump through door assemblies to be used on TEMPER tents and tactical rigid walled shelters (see 6.1).

1.2 Classification. The double bump through doors shall be of the following classes as specified (see 6.2).

Class A - No. 383 Green finish

Class B - No. 459 Sand finish

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Documents. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issue 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

A-A-883 - Tape, Pressure-Sensitive Adhesive, Masking
PPP-B-601 - Boxes, Wood, Cleated Plywood

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: U.S. Army Natick Research, Development, and Engineering Center, Natick, MA 01760-5014 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 8340

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- PPP-B-621 - Boxes, Wood, Nailed and Lock-Corner
- PPP-B-636 - Boxes, Shipping, Fiberboard

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- MIL-P-116 - Preservation, Methods Of
- MIL-C-5541 - Chemical Conversion Coatings On Aluminum Alloys
- MIL-T-44243 - Tent Sections, Tent, Extendable Modular, Personnel
- MIL-A-81236 - Adhesive, Epoxy Resin With Polyamide Curing Agent

STANDARDS

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- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
- MIL-STD-129 - Marking for Shipment and Storage
- MIL-STD-1186 - Cushioning, Anchoring, Bracing, Blocking, and Water-proofing, with Appropriate Test Methods

DRAWINGS

U.S. ARMY NATICK RESEARCH, DEVELOPMENT, AND ENGINEERING CENTER

- 5-4-3983 - Vestibule door cap
- 5-4-4081 - Doors Double Bump Through Assembly
- 5-4-4123 - Door, Panel Assembly

(Copies of 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 documents form a part of this document 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 documents not listed in the DODISS shall be the issues of the nongovernment documents which are current on the date of the solicitation.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

D 3951 - Standard Practice for Commercial Packaging

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

(Technical society and technical association documents are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

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2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document shall take precedence. Nothing in this document, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 First article. When specified in the contract or purchase order, a sample shall be subjected to first article inspection (see 4.3, 6.2, and 6.3).

3.2 Materials and components. The materials and components shall be as specified herein and as shown on the applicable drawings. Materials and components not definitely specified shall be of the quality normally used by the manufacturer provided the completed item complies with all the provisions of this document (see 6.4).

3.3 Alternate components. Components offered as equivalent to components specified in this document and on the reference drawings as a specific manufacturer's part number or equal shall be functionally equal to the manufacturer's part number identified and of equal or better quality. The incorporation and inclusion of such a component in the design of the specified end product shall not require modification or change to any other specified component, and shall not reduce ease of maintenance to it or any other components, unless such modification or change is specifically approved by the contracting officer. Prior to manufacture of the first article or if none is required, prior to commencing production, the contractor shall submit for the contracting officers' approval, a list identifying each proposed alternate component, together with proof that each listed component complies with requirements specified herein. The contracting officer, at his option, may require a physical sample of the proposed substitution. Approval of the submitted listing, together with necessary supporting data, authorizes the commencement of the first article or production manufacture, as applicable, and does not relieve the contractor of the responsibility that these components perform in accordance with specified requirements when incorporated into the end product.

3.4 Design and construction. The design and construction of the bump through doors shall be as specified herein and as shown on the drawings referenced in 2.1.

3.4.1 Honeycomb door panels. The inner and outer skins on all joints of each door panel shall be sealed to provide a water barrier against the entrance of moisture to the core material. The water barrier shall be maintained intact at all panel cross-sectional openings. All joints, edges and mitered corners shall be assembled and sealed in a manner to prevent collection and retention of moisture. The door panels shall be fabricated in accordance with the following requirements:

a. All Aluminum surfaces shall be immersion coated in accordance with class 1A of MIL-C-5541. Areas of touch-up may be by spray.

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b. Apply adhesive specified in MIL-A-81236 in a quantity of 1 gallon per 200 square feet of surface area to be bonded.

c. Cover epoxy surfaces with scrim cloth as specified on Drawing 5-4-4123.

d. Insert reinforcing blocks as shown on Drawing 5-4-4123.

e. Position honeycomb core material between aluminum skins and apply a constant pressure of 10 to 12 psi over the entire surface area for a minimum of 24 hours at a minimum temperature of 70°F.

f. Trim excess honeycomb and insert aluminum extrusions as shown on Drawings 5-4-4101 and 5-4-4102.

3.4.1.1 Panel delamination. Door panels shall show no signs of delamination when tested as specified in 4.4.4.

3.5 Workmanship. The double bump through doors shall conform to the quality of product established by this document and the occurrence of defects shall not exceed the applicable acceptable quality levels. Cloth components shall be clean and free of holes, cuts, and tears. All hinges and latches shall be properly adjusted for smooth door operation before the door assembly is prepared for delivery to the Government.

3.5.1 Riveting. Riveted joints shall be tight. The joined parts shall be undamaged, and the rivet heads shall be properly seated and tight against the bearing surfaces. All exterior surface rivets shall be weather sealed.

3.5.2 Cleaning. After fabrication, parts shall be cleaned in accordance with the drawings.

3.5.3 Welding. Welded joints shall be such that grinding of the finished weld shall not be a requirement, except when specified on the drawing. Spot stitch, and seam welds shall be as indicated on the drawings. All surfaces to be welded shall be cleaned in accordance with good commercial practice and shall be free from scale, paint, grease, and other foreign materials. Welds shall have thorough penetration, good fusion and shall be free from scabs, blisters, abnormal pock marks, cracks, voids, slag inclusions, and other harmful defects. Welded assemblies shall be cleaned to remove any scale, oxidation products, and excess flux. Any acid used in cleaning shall be completely neutralized and removed.

3.5.4 Finish. Coatings shall level out to an adherent, continuous, and uniform film without runs, wrinkles, steaks, or areas of no film. Any coating damaged during assembly or examination shall be touched up. There shall be no areas of rust. Finish shall be free of blistering, peeling, and chips.

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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 this document 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 document shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the document 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 Responsibility for dimensional requirements. Unless otherwise specified in the contract or purchase order, the contractor is responsible for assuring that all specified dimensions have been met. When dimensions cannot be examined on the end item, inspection shall be made at any point, or at all points in the manufacturing process necessary to assure compliance with all dimensional requirements.

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

- a. First article inspection (see 4.3).
- b. Quality conformance inspection (see 4.4).

4.3 First article inspection. When a first article is required (see 3.1), it shall be examined for the defects in 4.4.2 and 4.4.3, and tested as specified in 4.4.4. The presence of any defect shall be cause for rejection of the first article.

4.4 Quality conformance inspection. Unless otherwise specified, sampling for inspection shall be performed in accordance with MIL-STD-105.

4.4.1 Component and material inspection. In accordance with 4.1, components and materials shall be inspected in accordance with all the requirements of referenced documents, unless otherwise excluded, amended, modified, or qualified in this document or applicable purchase document.

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4.4.2 End item visual examination. The end item shall be examined for the defects listed in table I. The lot size shall be expressed in units of doors with frames. The sample unit shall be one door and frame assembly. The inspection level shall be II and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 4.0 for major defects and 15.0 for total (major and minor combined) defects.

TABLE IV. End item visual defects

Examine	Defect	Classification		
		Major	Minor	
Finish	Area of no coating	X		
	Color not as specified	X		
	Exposed surface due to scratch, buff, dig, or abrasion		X	
	Run, sag, blistering, cracking, flaking, or peeling		X	
	Dust, dirt, spot, or stain that cannot be removed		X	
	Painted or coated surface not uniform in appearance		X	
	Powdery areas (anodizing)		X	
	Excessive contact marks (anodizing)		X	
	Contact marks not in areas of minimum exposure (anodizing when specified)		X	
	Design, construction and workmanship - applicable to all components and assemblies	Not the type, class, style, etc. specified	X	
		Any component missing	X	
		Any component that does not function, malfunctions, or is misplaced to the degree that it does not serve its intended purpose, unless otherwise classified herein	X	
Not fabricated as specified by the specification or drawing		X		
Not clean (evidence of oil, grease, or dirt)			X	
Sharp edge or burr			X	
Puncture, fracture, or malformed		X		
Design detail deviating from specification or drawing requirements		X		
Evidence of scale, rust, discoloration, or deposit of any foreign matter			X	
Finish omitted or not as specified:				
a. On brass or aluminum components			X	
b. On steel components		X		
Area of partial or no finish		X		

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TABLE IV. End item visual defects (cont'd)

Examine	Defect	Classification	
		Major	Minor
Welding	Undercut		X
	Underfill		X
	Overlap		X
	Incomplete fusion (where visible)		X
	Slag, flux, spatter		X
	Arc strike		X
	Burn through		X
	Insufficient penetration (where visible)		X
	Surface cracking		X
	Surface porosity		X
	Unfilled craters		X
	Misalignment of welded parts		X
	Distortion of base metal		X
	Poorly formed beads		X
	Underwelded or overwelded		X
	Riveting	Mating surfaces of riveted components not drawn up tightly	
Rivet head not in contact with its mating surface			X
Rivet loose - not properly set			X
Roll of a rivet contains more than one split			X
Portion of a rivet is set or rolled on itself in lieu of being set or rolled on the mating surface of component			X

4.4.3 End item dimensional examination. The end item shall be examined for conformance to dimensions specified with an asterisk on the drawing. Any dimensions not within the specified tolerance shall be classified as a defect. The lot shall be expressed in units of doors with frames. The sample unit shall be one door and frame assembly. The inspection level shall be I and the AQL, expressed in terms of defects per hundred units, shall be 4.0.

4.4.4 End item delamination testing. The doors with frames shall be tested as specified in 4.5.1. The lot size shall be expressed in units of doors with frames. The sample unit shall be one door and frame assembly. The inspection level shall be S-2. Any test failure shall be cause for rejection of the lot.

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4.4.4 Packaging examination. The fully packaged end items shall be examined for the defects listed below. The lot size shall be expressed in units of shipping containers. The sample unit shall be one shipping container fully packaged. The inspection level shall be S-2 and the AQL, expressed in terms of defects per hundred units, shall be 2.5.

<u>Examine</u>	<u>Defect</u>
Marking (exterior and interior)	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application.
Materials	Any component missing, damaged, or not as specified.
Workmanship	Inadequate application of components, such as: incomplete sealing or closure of flap, improper taping, loose strapping, or inadequate stapling. Bulged or distorted container.
Content	Number per container is more or less than required.

4.5 Methods of inspection.

4.5.1 Delamination test. The interior and exterior of the left and right door panel surfaces shall be tested by tapping them with the edge of a coin or material of like hardness. Each surface shall be tapped in at least 10 places (excluding windows, door and window extrusions, hinge covers, and areas of the door within 1-inch of these exclusions). Any comparatively dull sound shall be indicative of an area of delamination and shall constitute failure of this test.

5. PACKAGING

5.1 Preservation. Preservation shall be level A or Commercial, as specified (see 6.2).

5.1.1 Level A. Door assemblies shall be preserved in accordance with method III of MIL-P-116. The black out flaps shall be installed on the windows. The extenders shall be dropped to the lowest position, the door lock shall be engaged, and the handle laid flat against the door leaf. Both ramps shall be turned upward against the leafs and secured with tape in accordance with A-A-883. The folded vestibule door cap shall be laid flat across the door leafs.

5.1.2 Commercial. Door assemblies shall be preserved in accordance with ASTM D 3951.

5.2 Packing. Packing shall be Level A, B, or Commercial, as specified (see 6.2).

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5.2.1 Level A. Each door assembly, preserved as specified in 5.1, shall be packed in a snug-fitting cleated plywood shipping container conforming to over-seas type, style A or I, grade A or B, type 2 load of PPP-B-601, or a nailed wood shipping container conforming to class 2, style 1, grade A or B, load type 2 of PPP-B-621. When a 4-way fork entry is required (see 6.2), additional skids shall be in accordance with the applicable box specification. Cushioning, blocking, and bracing in accordance with MIL-STD-1186 shall be applied as required to prevent movement of the door assembly within the shipping container. The inside dimensions of the shipping container shall approximate 83 inches in length, 68 inches in width, and 3-1/2 inches in depth. Approximate dimensions are furnished as a guide only. Each shipping container shall be closed and strapped in accordance with the appendix of the box specification, as applicable.

5.2.2 Level B. Each door assembly, preserved as specified in 5.1, shall be packed in a snug-fitting fiberboard shipping container conforming to style FTC, type CF (variety SW) or SF, class domestic, grade 350 of PPP-B-636, except that the dimensional limitations be waived. Cushioning, blocking, and bracing in accordance with MIL-STD-1186 shall be applied as required to prevent movement of the door assembly within the shipping container. The inside dimensions of the shipping container shall approximate 83 inches in length, 68 inches in width, and 3-1/2 inches in depth. Approximate dimensions are furnished as a guide only. Each container shall be closed and reinforced in accordance with the appendix of PPP-B-636.

5.2.2.1 Weather-resistant fiberboard containers. When specified (see 6.2), the fiberboard shipping container shall be a grade V3c, V3s, or V4s box fabricated in accordance with PPP-B-636 and closed in accordance with method III, as specified in the appendix.

5.2.3 Commercial. Each door assembly, preserved as specified in 5.1, shall be packed in accordance with ASTM D 3951.

5.3 Marking. In addition to any special marking required by the contract or purchase order, shipping containers shall be marked in accordance with MIL-STD-129 or ASTM D 3951, as applicable.

6. NOTES

6.1 Intended use. The double bump through doors are intended to be used on TEMPER tents and tactical rigid wall shelters to provide a door that swings both ways and that can be locked open for free passage in and out of the shelters.

6.2 Ordering data. Acquisition documents should specify the following:

- a. Title, number, and date of this document.
- b. Class of item required (see 1.2).
- c. When a first article is required (see 3.1, 4.3, and 6.3).
- d. Selection of applicable levels of preservation and packing (see 5.1 and 5.2).

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- e. When a 4-way fork entry is required (see 5.2.1).
- f. When weather-resistant grade fiberboard shipping containers are required for level B packing (see 5.2.2.1).

6.3 First article. When a first article is required, it shall be inspected and approved under the appropriate provisions of FAR 52.209. The first article should be a preproduction sample, initial production item or other specific item described under the definition of a first article in FAR. The contracting officer should specify the appropriate type of first article and the number of units to be furnished.

6.4 Recycled material. It is encouraged that recycled material be used when practical as long as it meets the requirements of the document (see 3.2).

6.5 Vestibule door cap. When double bump through doors are intended to be used with TEMPER end section adapters, door sections adapters or vestibules, a vestibule door cap conforming to Drawing 5-4-3983 of MIL-T-44243 must be obtained.

6.5 Subject term (key word) listing.

Bump through doors
Doors
Double doors
Passageways
Shelters, tactical, rigid walled
Tents, TEMPER

Custodians:

Army - GL
Navy - NU
Air Force - 99

Preparing activity:

Army - GL
Project No. 8340-0498

Review activities:

Army - MD
DLA - CT

User activity:

Navy - MC, MS

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NOTE: This form may not be used to request copies of documents, nor to request waivers, deviations, or clarification of specification requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

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