

INCH-POUND

MIL-C-24756(SH)

9 November 1990

MILITARY SPECIFICATION

CURTAINS AND BLANKETS, SMOKE PORTABLE

This specification is approved for use by the Naval Sea Systems Command Department of the Navy, and is available for use by all departments and agencies of the Department of Defense.

1. SCOPE

1.1 Scope This specification covers the requirements and tests for portable smoke curtains and blankets, a generic term for which is used herein is "barriers." The barriers are intended as an aid in fighting shipboard fires.

1.2 Classification. Portable smoke barriers shall be of the following classes (see 6.2):

- class I – Two-panel curtain
- class II – One-piece blanket.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

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

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, Naval Sea Systems Command, SEA 5523, Department of the Navy, Washington, DC 20362-5101 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 4210

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

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SPECIFICATIONS

FEDERAL

DDD-L 20	Label: For Clothing, Equipage, and Tentage (General Use) . . .
PPP-B-636	Boxes, Shipping Fiberboard
PPP-C-795	Cushioning Material, Packaging (Flexible, Closed Cell, 1 Plastic Film For Long Shipping Cycle Applications)
PPP-F-320	Fiberboard, Corrugated and Solid, Sheet Stock (Container Grade) and Cut Shapes

MILITARY

MIL-C-24757	Cloth, Fiberglas, Coated
MIL-P-116	Preservation, Methods of
MIL-L-19140	Lumber and Plywood, Fire Retardant Treated
MIL-F-21840	Fastener Tapes, Hook and Loop, Synthetic

STANDARD

FEDERAL

FED-STD-751	Stitches, Seams, and Stitching
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MILITARY

MIL-STD-105	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-2073-1	DoD Materiel Procedures For Development and Application of Packaging Requirements

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Standardization Documents Order Desk Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094)

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2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

DRAWINGS

NAVAL SEA SYSTEMS COMMAND (NAVSEA)

803-5959318

Curtain, Smoke, Portable (Two Panel and Blanket)

(Application for copies should be addressed to the NAVSEA Microfilming Repository, Portsmouth Naval Shipyard Portsmouth, NH 03801.)

2.2 Non-Government publications. The following document(s) form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

D 3951

Standard Practice For Commercial Packaging
(DoD Adopted)

D 4030

Standard Specification for Glass Fiber Cord and Sewing
Thread

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

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

23 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 takes precedence. Nothing in this document however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 General. The portable smoke barriers (whether curtains or blankets) shall have the equipment and materials necessary to contain smoke aboard Navy ships.

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3.2 First article. When specified (see 6.2), a sample shall be subjected to first article inspection (see 6.4), in accordance with 43.

3.3 Guide sample. Samples furnished by the Government are solely for guidance and information to the contractor. Variations from the purchase description may appear in the sample in which case the acquisition document shall govern. Requests for access to samples shall be addressed to the activity issuing the invitation for bids.

3.4 Components. Components used in the construction of the portable smoke barrier shall meet the performance requirements specified herein.

3.4.1 Basic material. Material for the portable smoke barriers shall be as specified herein and the material requirements of MIL-C-XX328(SH).

3.4.2 Reflective tape Reflective tape shall be 3M style 8486, fluorescent red-orange, 2 inches wide, or equal (see 6.3 and 6.5).

3.4.3 Thread. Thread for stitching smoke barriers shall be fiberglass conforming to ASTM D 4030 and shall have diameter not less than 0.016 inch nor more than 0.021 inch.

3.4.4 Hook and pile fastener tape Hook and pile fastener tape shall be 2 inches wide and conform to type 1, class 1, color 3054, of MIL-F-21840.

3.4.5 Label. Each portable smoke barrier shall have an identification label made of Nomex paper or equal, conforming to type VI, class 5 of DDD-L-20. The fastness to laundering requirement of DDD-L-20 shall apply. Labels shall bear the following inscription:

CURTAIN OR BLANKET, SMOKE, PORTABLE

CONTRACT NUMBER:

STOCK NUMBER:

LAUNDERING INSTRUCTIONS: USE NAVY WASH FORMULA II,
NAVEDTRA 414-01-45-81

CONTRACTOR'S NAME:

SHIPPING LN:

3.4.6 Spring clamp. The spring clamp shall be made of steel, weigh less than 0.5 pound, have an overall length of 5 to 7 inches, and have a clamping force of 33 to 37 pounds per square inch and an opening of not less than 2 inches (see 6.3 and 6.5).

3.4.7 Chain. The chain shall be made of brass, zinc or plated steel; have 5/16-inch links; and weigh 1 pound per foot. The sleeve holding the chain shall be secured to the bottom of the two panel curtain by a sewn vertical tack at both ends of the hem stitch. Cadmium Plating is excluded as a coating for the chain. (see 6.3 and 6.5)

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3.5 Design. The two panel and blanket portable smoke barriers shall be constructed in accordance with Drawing 803-5959318.

3.6 Construction.

3.6.1 Stitches, seams, and stitching. Seams and stitching shall conform to FED-STD-751 as follows:

Seams

Seam types shall conform to figure 1 of FED-STD-751 Hem seams shall be in accordance with detail 8-A of Drawing 803-5959318.

3.6.1.1 Type 301 stitching (6 to 10 stitches per inch). Ends of stitching shall be back stitched or back tacked not less than 1/2-inch except where ends are caught in other seams and stitching. Thread tensions shall be maintained so that no loose or excessively tight stitching shall result in puckering of the materials sewn.

3.6.1.2 Stitching spacing gauge The stitching spacing gauge shall be $3/8 \pm 1/16$ inch.

3.6.2 Thread ends. Thread ends shall be trimmed to length not more than 0.25 inch

3.6.3 Shade marking. Component parts shall be marked, ticketed, or bundled to ensure a uniform shade throughout the portable smoke barrier. The use of ink pad numbering machine, rubber stamp, or pencil is acceptable provided that *marks* shall not show through the outside of the portable smoke barrier.

3.7 Recovered material. Unless otherwise specified herein, all equipment material, and articles incorporated in products covered by specification shall be fabricated from new materials or recovered materials to the maximum extent practicable 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 is allowed under this specification unless otherwise specified. .

3.8 Workmanship. Portable smoke curtains and blankets shall conform to the quality of product established herein.

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 (examinations and tests) 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

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the right to perform any of the inspections set forth in this specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall 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 ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of the manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

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. If required, the first article shall be examined as specified in section 4.5 for compliance with design, instruction, workmanship, appearance, and dimensional requirements.

4.4 Quality conformance inspection. Sampling for inspection shall be performed in accordance with MIL-STD-105, except where otherwise indicated (see 6.2).

4.4.1 Component and material inspection. In accordance with section 4.1, components and materials shall be tested in accordance with all the requirements of referenced specifications, figures, drawings, and standards unless otherwise excluded, amended, modified, or qualified in this specification or applicable documents (see 6.3 and 6.5).

4.5 Examination of end item. Examination of the end item shall be in accordance with MIL-STD-105 and sections 4.5.1 and 4.5.2

4.5.1 Dimensional examinations. This examination shall be limited to those examinations that may be performed without disassembling the unit in such manner that its performance, durability, and appearance would be affected. The sample unit shall be one of the finished smoke curtains or blankets. The sample size shall be in accordance with inspection level S-3. Smoke curtains and blankets shall be examined in accordance with the length and width dimensions of Drawing 803-5959318.

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4.5.2 Visual examinations. Smoke curtains and blankets shall be visually examined for defects listed in table I. The hem shall be inspected on both the face and the back side. Defects found shall be counted regardless of their proximity to one another, except where two or more defects represent a single local rendition on the hem, in which case only the most serious defect will be counted. The sample size shall be in accordance with inspection Level S-3.

TABLE I. *Description of defects in smoke barriers.*

Defects	Major	Minor
Cut, hole or tear (including selvage) - any	x	
Crease or wrinkle - embedded, cannot be removed by manual pressure		x
Spot, stain, or streak (inspection distance -3 feet):		
1 inch or more in combined length and width dimensions	x	
Less than 1 inch in combined length and width dimensions		x
Color not as specified	x	
Color not uniform or shaded		x
Design not as specified	x	
Any component not as specified	x	
Seam and stitch type:		
Wrong seam type	x	
Wrong stitch type	x	
Stitch tension		
Loose, resulting in a loosely secured seam		x
Tight, stitches break when normal strain is applied to the seam or stitching		x
Stitches per inch: Fewer than 6 or more than 10		x
Hem:		
Width variable by more than 1/4-inch		x
Badly twisted, pleated, or puckered		x
Needle chews	x	
Open seam		
Due to broken thread or broken stitch	x	
Due to skipped stitches or run off		x
Label missing incomplete, incorrect, illegible or misplaced		x

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4.6 Inspection of packaging. Sample packs and the inspection of preservation, packing and marking for shipment, stowage, and storage shall be in accordance with the requirements of section 5 and the documents specified therein.

5. PACKAGING

(The packing requirements specified herein apply only for direct Government acquisitions. For the extent of applicability of the packaging or preparation for delivery requirements of referenced documents listed in section 2, see 6.6.)

5.1 General.**5.1.1 Navy fire-retardant requirements.**

(a) **Lumber and plywood.** Unless otherwise specified (see 6.2), all lumber and plywood including laminated veneer material used in shipping container and pallet construction, members, blocking, bracing, and reinforcing shall be fire-retardant treated material conforming to MIL-L-19140 as follows:

**Level A and B - Type II - weather resistant
Category I - general use.**

**Level C - Type I - non-weather resistant
Category I - general use.**

(b) **Fiberboard.** Fiberboard used in the construction of interior (unit and intermediate) and exterior fiberboard boxes including interior packaging forms shall conform to the class-domestic/fire retardant or class-weather resistant/fire retardant materials requirements as specified (see 6.2), of PPP-F-320.

5.2 Preservation. Preservation shall be level A, C, of commercial as specified (see 6.2).**5.2.1 Level A.**

5.2.1.1 Barriers. Each barrier (see 1.2) shall be folded, tied and unit protected to meet the requirements of MIL-P-1 16, method III and as follows: Each barrier including its necessary tape and chain where applicable shall be contained in a waterproof, fire retardant, plastic bag constructed of material conforming to class 3 of PPP-C-795. Bag closure shall be by heat or cold sealing or provided with a interlocking or press-fit type closure. Each sealed bag shall be contained in a class-weather resistant/fire retardant box conforming to PPP-B-636 with box type, variety, grade and style at the option of the contractor. Box closure shall be in accordance with method V of the appendix to the box specification.

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5.2.2 Level C. Each barrier shall be unit protected as specified under level A except, that the fiberboard box shall be class-domestic/fire retardent (see 5.1.1 (b)) and the box closure shall be in accordance with method I using pressure sensitive adhesive tape.

5.23 Commercial. Commercial packaging (cleaning, preservation and unit package) shall be in accordance with ASTM D 3951.

53 Packing. Packing shall be level A B, C or commercial as specified (see 6.2).

53.1 General requirements for level A, B, and C. Containers selected (see 5.3.2), shall be of minimum weight and cube consistent with the protection required, of uniform size, and contain identical quantities of identical material.

5.3.2 Level A, B and C containers. Barriers preserved as specified (see 5.2), shall be packed in exterior shipping containers for the level of packing specified (see 5-3), in accordance with table VII of MIL-STD-2073-1, and herein. Unless otherwise specified (see 6.2), container selection shall be at the contractor's option.

5.3.2.1 Caseliners, closure and gross weight

5.3.2.1.1 Caseliners. Unless otherwise specified (see 6.2), level A shipping containers containing barriers preserved level C or commercial shall be provided with waterproof caseliners in accordance with MIL-STD-2073-1.

5.3.2.12 Closure. Containers closure, reinforcing, or banding shall be in accordance with the applicable container specification or appendix thereto except that class-weather-resistant fire retardant fiberboard boxes shall be closed in accordance the method V and reinforced with non-metallic or tape banding and class-domestic/fire retardant fiberboard boxes shall be closed in accordance with method I using pressure sensitive tape.

5.3.2.13 Weight. Wood, plywood, and cleated type containers exceeding 200 pounds gross weight shall be modified by the addition of skids in accordance with MIL-STD-2073-1 and the applicable container specification or appendix thereto.

533 Commercial Barriers, preserved as specified (see 5.2) shall be packed for shipment in accordance with ASTM D3951 and herein.

5.3.3.1 Container modification. Shipping containers exceeding 200 pounds gross weight shall have a minimum of two, 3-inch by 4-inch nominal wood skids laid flat, or a skid or sill type base which will support the material and facilitate handling by mechanical handling equipment during shipment, stowage and storage.

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5.4 Marking, levels A, B, C and commercial. In addition to any special marking required (see 6.2), unit packs and shipping containers shall be marked including bar coding for shipment, stowage, and storage in accordance with MIL-STD-2073-1.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The portable smoke curtains and blankets are intended to be used over shipboard doors and hatches to help prevent the spread of smoke. The portable smoke curtains and blankets are for use in conjunction with other firefighting equipment.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of this specification
- b. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2)
- c. Quantity required
- d. Class required (see 1.2)
- e. When first article sample is required and whether sampling shall be in accordance with MIL-STD-105 (see 3.2, 4.4, and 6.4)
- f. When fire-retardant treated lumber and plywood is not required (see 5.1.1 (a))
- g. Class of fire retardant fiberboard required (see 5.1.1 (b))
- h. Level of preservation and level of packing required (see 5.2 and 5.3)
- i. Container selection and other options if other than the contractor's (see 5.3.2)
- j. When caseliners are not required (see 5.3.2.1.1)
- k. Special marking required (see 5.4)

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6.3 Consideration of data requirements. The following data requirements should be considered when this specification is applied on a contract. The applicable Data Item Descriptions (DIDs) should be reviewed in conjunction with the specific acquisition to ensure that only essential data are requested/provided and that the DIDs are tailored to reflect the requirements of the specific acquisition. To ensure correct contractual application of the data requirements, a Contract Data Requirements List (DD Form 1423) must be prepared to obtain the data, except where DOD FAR Supplement 27.475-1 exempts the requirement for a DD Form 1423.

Reference Paragraph	DID Number	DID Title	Suggested Tailoring
3.4.2, 3.4.6, 3.4.7 and 4.4.1	DI-E-2121	Certification of Compliance	

The above DIDs were those cleared as of the date of this specification. The current issue of DOD 5010.12-L Acquisition Management Systems and Data Requirements Control List (AMSDL), must be researched to ensure that only current, cleared DIDs are cited on the DD Form 1423.

6.4 First article. When first article inspection is required, the contracting officer should provide specific guidance to offerors whether the items should be a preproduction sample, a first article sample, a first production item, a sample selected from the first production items, a standard production item from the contractor's current inventory (see 3.2), and the number of items to be tested as specified in 4.3. The contracting officer should also include specific instructions in acquisition documents regarding arrangements for examinations, approval of first article test results, and disposition of first articles. Invitations for bids should provide that the Government reserves the right to waive the requirement for samples for first article inspection to those bidders offering a product which has been previously acquired or tested by the Government, and that bidders offering such products, who wish to rely on such production or test, must furnish evidence with the bid that prior Government approval is presently appropriate for the pending contract. Bidders should not submit alternate bids unless specifically requested to do so in the solicitation.

6.5 Certification of compliance. Where certificates of compliance are submitted, the Government reserves the right to check test items to determine the validity of the certification. A , . certificate of compliance should be excepted for the requirements of the reflective tape, spring clamps, and chain (see 6.3).

6.6 Sub-contracted material and parts. The packaging preparation of delivery requirements of referenced documents listed in section 2 do not apply when material and parts are acquired by the contractor for incorporation into the equipment and be their separate identity when the equipment is shipped.

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6.7 Equal item. Prior to the use of an “or equal” item, the contractor shall submit the item with supporting data to the contracting officer for subsequent approval or disapproval by the responsible military agency.

6.8 Standard samples. Where and how access to standard guide samples may be obtained should be stated in the invitation for bids.

6.9 Subject term (key words) listing.

Fire barriers
Fire containment
Firefighting
Fume suppression

Preparing activity
Navy - SH
(Project 4210-N413)

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of 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.

I RECOMMEND A CHANGE:

1. DOCUMENT NUMBER

MIL-C-24756(SH)

2. DOCUMENT DATE (YYMMDD)

11-9-90

3. DOCUMENT TITLE

Curtains and Blankets, Smoke, Portable

4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME (Last, First, Middle Initial)

b. ORGANIZATION

c. ADDRESS (Include Zip Code)

d. TELEPHONE (Include Area Code)

(1) Commercial

(2) AUTOVON
(If applicable)

7. DATE SUBMITTED
(YYMMDD)

8. PREPARING ACTIVITY

a. NAME

al Sea Systems Command (SEA 5523)

b. TELEPHONE (Include Area Code)

(1) Commercial

(703) 602-7217

(2) AUTOVON

(AV) 332-7217

c. ADDRESS (Include Zip Code)

Washington, DC 20362-5101

IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:

Defense Quality and Standardization Office

5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466

Telephone (703) 756-2340 AUTOVON 289-2340