

MIL-T-43389
17 December 1965

MILITARY SPECIFICATION

TARPAULIN, COTTON DUCK, OLIVE DRAB NO. 7;

20 FEET BY 20 INCHES

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

1. SCOPE

1.1 This specification covers the requirements for a cotton duck tarpaulin with tie ropes.

2. APPLICABLE DOCUMENTS

2.1 The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

SPECIFICATIONS

FEDERAL

T-T-871 - Twine, Cotton, Wrapping
T-T-911 - Twine, Jute
V-T-285 - Thread, Polyester
UU-P-268 - Paper, Kraft, Untreated, Wrapping
UU-T-111 - Tape; Paper, Gummed (Sealing and Securing)
CCC-C-419 - Cloth, Duck, Cotton, Unbleached, Plied-Yarns,
Army and Numbered
CCC-C-429 - Cloth, Osnaburg, Cotton
CCC-C-467 - Cloth, Jute (or Kenaf), Burlap
CCC-D-950 - Dyeing and Aftertreating Processes for Cotton Cloths
DDD-L-20 - Label; for Clothing, Equipage, and Tentage,
(General Use)
PPP-B-636 - Box, Fiberboard

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MIL-L-1709 - Lines, Tent
MIL-T-40625 - Tubing, Bias Sewn (Burlap or Osnaburg) Cloth

/FSC 8340/

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STANDARDS

FEDERAL

Fed. Std. No. 751 - Stitches, Seams, and Stitchings

MILITARY

MIL-STD-105 - Sampling Procedures and Tables for
Inspection by Attributes

MIL-STD-129 - Marking for Shipment and Storage

DRAWING

ARMY NATICK LABORATORIES

5-10-40 - Tarpaulin, Cotton Duck, Olive Drab No. 7;
20 Feet by 20 Inches

(Figure 1 is a miniature copy of referenced drawing and is attached for
Information only).

PUBLICATION

Department of the Army Technical - Repair of Canvas and Webbing
Manual TM 10-269

(Copies of specifications, standards, publication and drawing required by
suppliers in connection with specific procurement functions should be
obtained from the procuring activity or as directed by the contracting officer.)

3. REQUIREMENTS

3.1 Preproduction sample.- When specified (see 6.2), before production
is commenced, a sample tarpaulin covered by this specification shall be
submitted or made available to the contracting officer or his authorized
representative for approval in accordance with 4.2. The approval of the
preproduction sample authorizes the commencement of production, but does
not relieve the supplier of responsibility for compliance with all applicable
provisions of this specification. The preproduction sample shall be
manufactured in the same facilities to be used for the manufacture of the
production items.

3.2 Materials.-

3.2.1 Cloth, duck, cotton.- The cloth for the tarpaulin shall conform to
type III, 8.25 ounces per square yard of CCC-C-419.

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3.2.1.1 Color and treatment. - The cotton duck shall be olive drab shade No. 7 and conform to type I, class B of CCC-D-950.

3.2.2 Thread, polyester.- The thread shall conform to type I, class 1, sub-class B, size F, shade S-1 (Cable No. 66022) of V-T-285. The dyed thread shall show fastness to weathering equal to or better than the standard shade sample (see 6.4). If no standard shade sample is available, the dyed thread shall show good fastness to weathering.

3.2.3 Rope, tie-down.- The tie-down rope shall conform to class A, type LXII of MIL-L-1709, except that the diameter of the rope shall be 5/16 inch.

3.3 Construction.- The construction of the tarpaulin shall conform to the drawing listed in section 2 and as specified herein.

3.3.1 Stitching, machine.- All stitching shall conform to type 301 of Fed. Std. No. 751, 5 to 7 stitches per inch.

3.3.1.1 Thread breaks.- Thread breaks in stitching shall be overstitched not less than one inch at each break.

3.3.1.2 Stitching ends.- Stitching shall be overstitched at the ends not less than one inch except where the ends are turned under in a hem or held down by other stitching.

3.3.1.3 The addition of any lubricant to the polyester thread prior to or during the sewing operations is prohibited.

3.3.2 Each tarpaulin shall be constructed from a single piece of material. Splicing of the body panel shall not be permitted.

3.3.3 Repairs.- Repairs when necessary and when authorized by the contracting officer shall be effected in accordance with Department of the Army Technical Manual TM-10-269 except that hand sewn or glued patches will not be acceptable.

3.4 Identification marking.- The identification marking shall conform to type IV, class 8 of DDD-L-20, and shall be located in one corner on the underside of the tarpaulin.

3.5 Workmanship.- Cloth components shall be clean and free of holes, cuts or tears or cloth defects such as smashes, weak places, broken or missing yarns. Rope components shall have no cuts or abrasions. Movement of the tie-down ropes within the formed hem shall not be restricted. Seam allowances shall be maintained with seams properly sewed so that no run-offs, twists, pleats, puckers or open seams shall result. Care shall be taken in sewing that there shall be no needle chews. Thread tension shall be maintained so that there will be no loose stitching. All thread ends shall be trimmed.

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4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection.- Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own facilities or any commercial laboratory acceptable to 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.

4.2 Preproduction sample inspection.- When a preproduction sample is required, it shall be examined for the defects listed in table I and dimensions specified.

4.3 Sampling for inspection and acceptance.- Sampling for inspection and acceptance shall be performed in accordance with the provisions set forth in MIL-STD-105, except where otherwise indicated hereinafter.

4.3.1 Component and material inspection.- In accordance with 4.1 above, components and materials shall be inspected and tested in accordance with all the requirements of referenced specifications, drawings and standards unless otherwise excluded, amended, modified or qualified in this specification or applicable purchase document.

4.3.2 In-process inspection.- Inspection shall be made to determine that there is no lubrication of the polyester thread prior to or during the sewing operations. Whenever nonconformance is noted, correction shall be made to the items affected and the process.

4.3.3 End product inspection.- A lot shall consist of all completely fabricated tarpaulins offered for inspection at one time. The sample unit shall be one tarpaulin. The inspection levels and acceptable quality levels (AQL's) shall be as specified in 4.3.3.3.

4.3.3.1 Visual examination.- Visual examination of the completely fabricated end product shall be made for defects as outlined in table I.

TABLE I. - Classification of defects

Examine	Defect	Classification	
		Major	Minor
			A B
Fabric	Any smash, weak place, broken or missing yarns, multiple floats or open places	X	
	Shade bar, or fine or coarse filling bar		X
	Hole, cut, or tear	X	

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TABLE I.- Classification of defects cont'd

Examine	Defect	Classification	
		Major	Minor
Tie-down rope	Cut or abrasion		A X
	Free end of rope not finished as specified		X
	Any tie rope omitted	X	
	Tie-rope caught in hem stitching restricting movement within hem		X
Seams and stitching	Open seams:		
	- 1 inch or less		X
	- more than one inch		X
	Run-offs (see open seams)		
	Thread breaks overstitched less than one inch		X
	NOTE: A seam shall be classified as open when one or more stitches joining a seam are broken and not overstitched, when two or more continuous skipped stitches or when runoffs occur.		
	Needle chews	X	
Seam and stitch type	Wrong seam or stitch type	X	
Stitch tension	Loose, resulting in a loosely exposed top or bobbin thread		X
	Tight, resulting in excessive tightness or puckering of fabric		X
Stitches per inch	One stitch less than minimum specified		X
	Two or more stitches less than minimum specified		X
	One or more stitches in excess of maximum specified		X

NOTE: Variation in the number of stitches per inch, caused by the operator speeding up the machine and pulling the fabric in order to sew over the heavy places or heavy seams or in turning corners, shall be classified as follows:

- a. Within the minor B defect classification - no defect.
- b. Within the minor A defect classification - minor B defect.

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TABLE I. - Classification of defects cont'd

Examine	Defect	Classification	
		Major	Minor A B
Seams and stitching (cont'd)			
	Stitching margins; Not as specified stitching gage		X
Stitching ends	Overstitched less than one inch (except where ends are held down by other stitching or turned under in a hem)		X
Hems	Twisted or pleated		X
Body panel	Any splice		X
Repairs	Not in accordance with Department of the Army TM 10-269 when authorized by the contracting officer	X	
Markings	Omitted, incorrect, illegible, misplaced or size characters not as specified		X
Cleanness	Grease or oil stains, thread ends not trimmed throughout		X

4.3.3.2 Dimensional examination. - Any dimension not within the specified tolerance shall be classified as a defect.

4.3.3.3 Inspection levels and AQL's. - The inspection levels and AQL's, expressed in terms of defects per hundred units, shall be as follows:

<u>Examination</u>	<u>Inspection level</u>	<u>AQL's</u>
For defects applicable to table 1	II	6.5 Major 15.0 Major and minor A 25.0 Total; major, minor A and B
For defects applicable to 4.3.3.2	S-3	4.0 One class

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4.3.4 Examination of preparation for delivery requirements.- An examination shall be made to determine that packaging, packing and marking requirements of Section 5 of this specification are complied with. Defects shall be scored in accordance with table II. The sample unit shall be one shipping container or cloth-wrapped tarpaulins, as applicable, fully prepared for delivery with the exception that it need not be sealed. The lot shall be the number of shipping containers or cloth-wrapped tarpaulin offered for delivery at one time. The inspection level shall be S-2 and the AQL shall be 2.5 expressed in terms of defects per hundred units.

TABLE II. - Examination of preparation for delivery

<u>Examine</u>	<u>Defect</u>
Marking	Omitted, incorrect, illegible, of improper size, location, sequence or method of application
Workmanship	Inadequate application of components, such as incomplete closure of container flaps or cloth wrapping, loose strapping or stitching or improper taping Bulging or distortion of containers
Content	Number of units per container or cloth wrapping is more or less than required

5. PREPARATION FOR DELIVERY

5.1 Packaging.- Packaging shall be level A or C as specified (see 6.2).

5.1.1 Level A.- Each tarpaulin shall be compactly folded and tied with cotton tape or twine. Each folded and tied tarpaulin shall be wrapped in a sheet of 30-pound minimum basis weight kraft paper conforming to grade B of UU-P-268. The wrap shall be secured with 2-inch minimum width gummed paper tape conforming to class 1 of UU-T-111 (see 6.3).

5.1.2 Level C.- Tarpaulins shall be packaged to afford adequate protection against damage during shipment from the supply source to the first receiving activity. The supplier may use his standard practice when it meets these requirements.

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

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5.2.1 Level A.- Twelve tarpaulins, packaged as specified in 5.1, shall be packed in a snug-fitting fiberboard shipping container conforming to style RSC-L, V3c or V3s of PPP-B-636. The inside of each container shall be fitted with a taped liner conforming to type CF, class domestic, variety SW, grade 275 of PPP-B-636. Each container shall be closed, waterproofed, and reinforced with flat steel strapping or tape banding in accordance with the appendix of the container specification alternatively, the twelve tarpaulins shall be wrapped and sewn in cotton osnaburg cloth conforming to class 2 of CCC-C-429 or jute (or kenaf) burlap cloth conforming to class 1 of CCC-C-467. The wrapping shall be securely sewn with type I, 16-ply cotton twine conforming to T-T-871 or type I, size No. 2 jute twine conforming to T-T-911, with approximately one stitch to the inch and every third stitch knotted. Five inches of surplus covering shall be gathered together on each of the four corners and securely sewn into ears for handles. In lieu of the sewn wrapping, the cloth covering specified may be procured in bias-sewn tubing form or bags (tubing pre-sewn one end) conforming to MIL-T-40625 with closure effected by securing each open end with two wire ties.

5.2.2 Level B.- Twelve tarpaulins, packaged as specified in 5.1, shall be packed in a snug-fitting fiberboard shipping container conforming to style RSC-L, type CF or SF, class domestic, variety SW, grade 275 of PPP-B-636. The inside of each container shall be fitted with a taped liner conforming to type CF, class domestic, variety SW, grade 275 of PPP-B-636. Each container shall be closed in accordance with the appendix of the container specification. Alternatively, the twelve tarpaulins shall be wrapped and sewn in a cloth covered bundle as specified in 5.2.1.

5.2.3 Level C.- Tarpaulins, packaged as specified in 5.1, shall be packed in a manner to insure carrier acceptance and safe delivery at destination at the lowest transportation rate for such supplies. Containers shall be in accordance with rules or regulations of carriers applicable to the mode of transportation.

5.3 Marking.- In addition to any special marking required by the contract or order, interior packages and shipping containers or cloth covered bundles shall be marked in accordance with MIL-STD-129.

6. NOTES

6.1 Intended use.- The tarpaulin covered by this specification is designed to cover the junction when shelter S-44/G and shelter S-44 A/G are placed end to end.

6.2 Ordering data.- Procurement documents should specify the following:

- a. Title, number and date of this specification
- b. Stock number
- c. When preproduction sample is required (see 3.1)
- d. Selection of applicable levels of packaging and packing (see 5.1 and 5.2)

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6.3 The method of packaging referred to in 5.1.1 is similar to method III of MIL-P-116.

6.4 For access to standard shade sample of polyester thread, address the procuring office issuing the invitation for bids.

Custodians:

Army - GL
Navy - MC
Air Force - 67

Preparing activity:

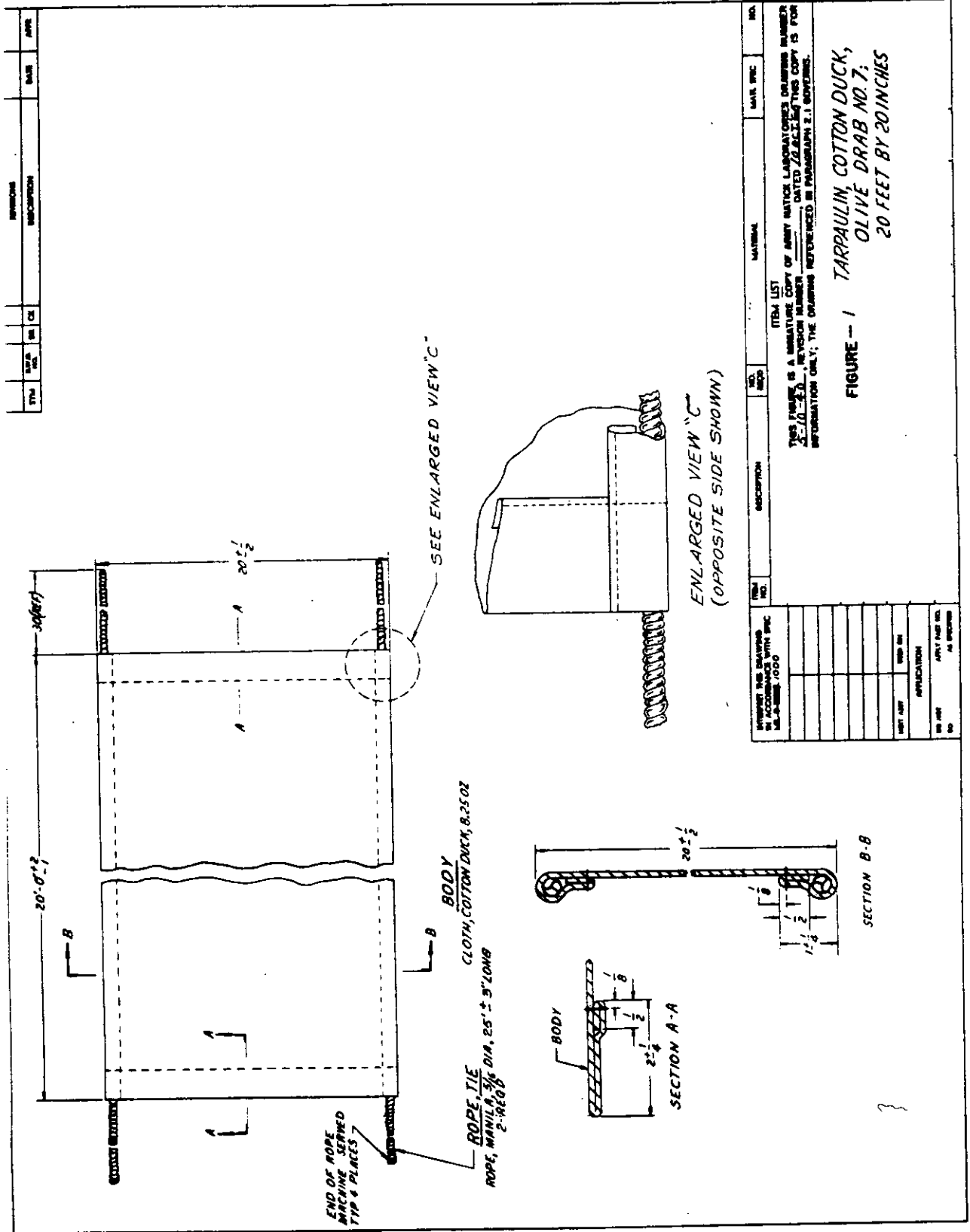
Army - GL
Project No. 8340-0132

Review activities:

Army - MI
Navy - MC
Air Force - 67

Review information is current as of the date of this document. For future coordination of changes to this document, draft circulation should be based on the information in the current Federal Supply Classification Listing of DOD Documents.

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SPECIFICATION ANALYSIS SHEET		Form Approved Budget Bureau No. 119-R004
INSTRUCTIONS		
This sheet is to be filled out by personnel either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity.		
SPECIFICATION Tarpaulin, Cotton Duck, Olive Drab No. 7; 20 Feet by 20 Inches MIL-T-43389		
ORGANIZATION		CITY AND STATE
CONTRACT NO.	QUANTITY OF ITEMS PROCURED	DOLLAR AMOUNT \$
MATERIAL PROCURED UNDER A		
<input type="checkbox"/> DIRECT GOVERNMENT CONTRACT <input type="checkbox"/> SUBCONTRACT		
1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?		
A. GIVE PARAGRAPH NUMBER AND WORDING.		
B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES		
2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID		
3. IS THE SPECIFICATION RESTRICTIVE?		
<input type="checkbox"/> YES <input type="checkbox"/> NO IF "YES", IN WHAT WAY?		
4. REMARKS (Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)		
SUBMITTED BY (Printed or typed name and activity)		DATE

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1 OCT 64