

MIL-C-13453A(Ord)

26 June 1959

~~SUPERSEDED~~

MIL-C-13453(Ord)

21 May 1954

**MILITARY SPECIFICATION**

**CLOTH, COTTON, SHEETING**

**(FOR BANDOLEERS)**

**1. SCOPE**

1.1 This specification covers one type of cotton cloth suitable for use in making bandoleers for small arms ammunition.

**2. APPLICABLE DOCUMENTS**

2.1 The following documents, of the issue in effect on date of invitation for bids, form a part of this specifications:

**SPECIFICATIONS**

**FEDERAL**

CCC-T-191 - Textile Test Methods

PPP-P-51 - Packaging, Packing and Marking of Textile Fabrics  
(Woolens, Worsted, Cottons, Silks and Synthetics)

**STANDARDS**

**FEDERAL**

FED. STD. No. 4 - Glossary of Fabric Imperfections

**MILITARY**

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

(Copies of specifications, standards, drawings, and publications required by contractors in connection with specific procurement functions should be obtained from the procuring agency or as directed by the contracting officer.)

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**3. REQUIREMENTS**

3.1 Standard sample. - Unless otherwise specified the cloth shall be equal to the standard in all respects not specifically covered by this specification (see 6.2).

**3.2 Material.**

3.2.1 Cotton. - The cotton shall be of a suitable length of staple and grade to meet the requirements of this specification.

3.2.2 Yarn. - The cotton used in the manufacture of the yarn shall be thoroughly cleaned, well carded, drawn and evenly spun into a single yarn for both warp and filling.

3.3 Color. - The color shall be olive drab No. 7 and shall be produced by the use of vat dyes to match an approved shade standard. The use of sulfur dyes or dyes containing sulfur compounds capable of oxidation to sulfuric acid are prohibited (see 6.3). Chromium salts shall not be used for oxidation of the vat dyestuffs (see 4.5.1).

3.3.1 Matching. - The color shall be uniform and match an approved standard shade (see 6.2) under natural (north sky) daylight, or artificial daylight having a color temperature of 7500° Kelvin, and shall be a good approximation to the standard shade under incandescent lamplight at 2800° Kelvin (see 4.5.2).

**3.3.2 Colorfastness.**

3.3.2.1 Rating per "Standard shade sample!" - The dyed cloth shall show fastness to laundering, bleaching, crocking and light equal to or better than the standard sample when tested as specified in 4.5.3.

3.3.2.2 Rating per "No standard sample!" - When no standard shade sample is available the dyed cloth shall show good fastness to laundering, bleaching, crocking and light, when tested as specified in 4.5.3.

**3.4 Composition****3.4.1 Nonfibrous materials**

3.4.1.1 Starch and protein content. - The starch and protein content shall be not more than 2.0 percent when tested as specified in 4.5.3.

3.4.1.2 Acid hydrolyzable materials. - Nonfibrous acid-hydrolyzable materials shall not exceed 1.0 percent when tested as specified in 4.5.3.

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3.4.2 Impurities. - The maximum permissible content of impurities in the finished cloth shall be as specified in table I. The determination of the impurities content, if required, shall be specifically requested by the procuring agency (see 4.5.3 and 6.1).

Table I - Permissible limits of impurities in the cloth

Impurity	Percent allowed maximum
Chlorides (as NaCl)	.020
Sulphates (as Na <sub>2</sub> SO <sub>4</sub> )	.350
Free Sulfur (as S)	.010
Free Sulfides and sulfites	None

3.4.3 pH Value. - The pH of the cloth shall be not less than 6.9 and not more than 7.3 when tested as specified in 4.5.3.

3.5 Physical requirements. - The finished cloth shall conform to the physical requirements shown in table II when tested as specified in 4.5.3.

Table II. - Physical requirements

Weave	Weight Ounces per sq. yd.		Texture yds. per inch, min.		Breaking Strength lbs. per inch, min.	
	Minimum	Maximum	Warp	Filling	Warp	Filling
Plain	4.6	5.0	68	66	70	70

### 3.6 Dimensions.

3.6.1 Width. - Unless otherwise specified, the width of the cloth exclusive of selvages shall be not less than 42 inches.

3.6.2 Length. - Unless otherwise specified the cloth shall be furnished in pieces on one continuous length of not less than 50 yards, nor more than 240 yards.

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3.7 Workmanship. - The cloth shall conform to the quality and grade of product established by this specification. The occurrence of defects shall not exceed those set as the acceptable quality levels.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Unless otherwise specified herein the supplier is responsible for the performance of all inspection requirements prior to submission for Government inspection and acceptance. Except as otherwise specified, the supplier may utilize his own facilities or any commercial laboratory acceptable to the Government. Inspection records of the examinations and tests shall be kept complete and available to the Government as specified in the contract or order.

4.2 Lot. - Unless otherwise specified, a lot shall consist of not less than 10,000 linear yards nor more than 50,000 linear yards of the cloth offered for inspection at one time. Upon the contractor's request and approval by the procuring agency, a lot may contain less than 10,000 linear yards.

#### 4.3 Sampling.

4.3.1 For overall examination. - Random samples of pieces representative of the lot shall be selected for examination. The number of pieces selected shall be in accordance with table III.

Table III. - Number of pieces.

Lot size in yards	Sample size in pieces
Up to 1300 <sup>1/</sup>	3
1301 to 3200	5
3201 to 8000	7
8001 to 22,000	10
22,001 to 110,000	15
110,001 and over	25

<sup>1/</sup> If a lot contains fewer than three (3) pieces, each piece in the lot shall be examined.

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4.3.2 For yard to yard examination. - Pieces of cloth selected in accordance with 4.3.1 shall be used for yard-to-yard examination. The unit-of-product shall be one yard and the sample size shall be in accordance with Standard MIL-STD-105. An approximately equal number of yards shall be examined from each piece.

4.3.3 For tests. - Samples of approximately 1-yard in length shall be selected at random from the lot for tests. The number of 1-yard samples shall be in accordance with table IV.

Table IV Number of 1-yd. samples.

Lot size in yards	number of 1-yd samples
Less than 800 yards	3
801 to 22,000 yards	5
22001 yards and over	7

4.4 Examination4.4.1 Pieces.

4.4.1.1 For overall defects in piece. - The unit-of-product shall be one piece. Pieces shall be selected in accordance with 4.3.1. and shall be examined for defects listed in table V. Defects shall be counted no more than once in each piece. The maximum number of acceptable defects shall be zero for 10 or less pieces, and 1 for over 10 pieces.

Table V - Overall defects

- |     |  |
|-----|--|
| (a) | Uneven weaving throughout the piece; clearly noticeable                              |
| (b) | Off shade, shaded end-to-end, side-to-side, side-to-center, or throughout the piece. |
| (c) | Poor dye penetrations: mottled, cloudy.  |
| (d) | Overall uncleanness.   |
| (e) | Objectionable odor.  |

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4.4.1.2 Length

4.4.1.2.1 Gross length. - Pieces of cloth selected in accordance with 4.3.1 shall be examined for gross length. The lot shall be considered unacceptable if the total of the actual gross lengths of pieces in the sample is less than the total of the gross lengths marked on the piece tickets.

4.4.1.2.2 Defects in length. - Pieces of cloth selected in accordance with 4.3.1 shall be examined for the defects in length listed in table VI. The maximum number of acceptable defects shall be zero for 10 pieces or less and 1 for over 10 pieces.

Table VI - Defects in length

- |  |
|--|
| <ul style="list-style-type: none"><li>a. Piece less than 50 yards in length.</li><li>b. Piece more than the maximum length (see 6.1)</li><li>c. Length of individual piece more than 2 yards less than that specified on ticket.</li></ul> |
|--|

4.4.2 Yard by yard. - The required yardage of cloth selected in accordance with 4.3.2 shall be examined and visual defects classified in accordance with table VII. The defects found shall be counted regardless of their proximity to each other except when two or more defects represent a single local condition of the cloth in which case only the more serious defects shall be counted. A continuous defect shall be counted as one defect for each warpwise yard or fraction thereof in which it occurs. The acceptable quality level (AQL) shall be 1.5 major defects and 10 total defects (major and minor combined) per 100 units (yards).

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Table VII - Yard by yard defects

Fed. Std. No. 4	Defect	Classification	
		Major	Minor
90 91 92	Hole Cut Tear - any	X	
78	Smash - any	X	
11 33	Broken or missing yarns		
	More than 2 contiguous missing regardless of length	X	
	2 contiguous - 10" or more missing	X	
	2 contiguous - less than 10" but over 2" missing		X
	Single over 18" missing		X
9	Fine filling bar or thin place - Clearly noticeable	X	
12	Open place over 1/16" at widest opening	X	
13, 34	Floats or skips - Multiple -		
	1/2 inch or more in combined warp and filling directions	X	
	Less than 1/2 inch in combined warp and filling directions		X
	Single, floating 2 inch or more		X
2, 26	Heavy filling bar, heavy place		X
5, 27, 77	Slubs, Slugs, Gouts - Over 3/32" in thickness	X	
	1/16" but not over 3/32" in thickness		X
6, 7, 13, 34	Knots, Kinks - Noticeable Accumulation		X
	Selvage scalloped, deepest indentation more than 1/2"		X
	Selvage tight, causing noticeable waviness in adjoining cloth		X
79, 89	Abrasion mark - tender or weak place	X	
59	Crease - Embedded		X
74,75,76	Spot, stain or streak - clearly visible* and 1/2 inch or more in combined warp & filling directions		X
	Width, less than 42"		X
	Slough-off, jerked-in filling		X
5,3	Over 3/32" in thickness regardless of length	X	
	1/16" but not over 3/32" in thickness regardless of length		X

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4.4.3 Packaging, packing and marking for shipment. - Examination shall be made for compliance with the requirements of section 5.

4.5 Tests

4.5.1 Certification of dyestuff. - The contractor shall certify that the cloth has been dyed in accordance with 3.3. The certificate shall be signed by a responsible agent of the certifying organization and shall be accompanied by evidence of this agents authority to bind his principal. The Government, reserves the right to check-test the cloth submitted by the contractor under certification.

4.5.2 Matching. - The color of the cloth shall be visually compared with that of the standard sample. In cases of disagreement between the contractor and the procuring agency as to the correctness of the color, a sample of the cloth under inspection and a portion of the sealed standard sample shall be submitted to the nearest Army Quartermaster laboratory for final decision.

4.5.3 Test methods. - Samples of cloth selected as specified in 4.3.3 shall be tested in accordance with Specification CCC-T-191 of the indicated test method as specified in table VIII.

Table VIII - Test methods

Characteristic	Requirement reference	Test method	No. of determinations	Reported as.
Dyestuff	3.3	(see 4.5.1.1)		
Colorfastness to laundering	3.3.2	5610	1	When standard available: satisfactory or unsatisfactory
to bleaching	3.3.2	5600	1	
to crocking	3.3.2	5651	1	When no standard available: good, fair, or poor.
to light (40 hrs.)	3.3.2	5660	1	
Nonfibrous materials				
Starch and protein content	3.4.1.1	2611 <sup>o</sup>	2	Average of 2 determinations to nearest 0.1%
Acid hydrolyzable materials	3.4.1.2	2610	2	
Content of impurities				
Chlorides (as NaCl)	3.4.2	(see 4.5.4)	1	Pass or fail
Sulphates (as Na <sub>2</sub> SO <sub>4</sub> )	3.4.2	(see 4.5.4)	1	Pass or fail
Free Sulfur (as S)	3.4.2	(see 4.5.4)	1	Pass or fail
Free Sulfides & Sulfites	3.4.2	(see 4.5.4)	1	Pass or fail
pH value	3.4.3	2811	2	Avg. of the 2 det. to nearest 0.1 pH.
Weave	3.5	Visual	1	Pass or fail
Weight	3.5	5041	5	Avg. of the 5 determinations to nearest 0.1 ounces.
Yarns per inch	3.5	5050	5	Avg. of the 5 determinations to nearest whole number.
Breaking strength	3.5	5100	5	Avg. of the 5 determinations to nearest 1.0 pounds.

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4.5.4 Impurities. - The determination of the content of the impurities listed in table I when such determination is specifically requested by the procuring agency, shall be made in accordance with recognized methods of analysis contained in standard laboratory publications.

## 5. PREPARATION FOR DELIVERY

5.1 Packaging. - Packaging shall be level A, B, or C as specified. (see 6.1).

5.1.1 Levels A, B, and C. - The cloth shall be packaged in accordance with the applicable requirements for class 3 fabrics of Specification PPP-P-51.

5.2 Packing. - Packing shall be level A, B, or C as specified. (see 6.1).

5.2.1 Levels A, B, and C. - The cloth shall be packed in accordance with the applicable requirements of Specification PPP-P-51.

5.3 Marking. - Shipments shall be marked in accordance with the applicable requirements of Specification PPP-P-51.

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

- (a) Title number and date of this specification.
- (b) Quantity of cloth required.
- (c) Test for impurities if required (see 3.4.2)
- (d) Width if other than 42 inches (see 3.6.1)
- (e) Length of pieces if other than that specified (see 3.6.2).
- (f) Both the level of packaging and the level of packing required. (see 5.1 and 5.2).

6.2 Standard sample. - For access to the standard sample address the procuring agency.

6.3. - A suggested but not mandatory dye stuff formulation for OD-7 is as follows:

### New Color Index

Vat Black 25	CI 69525	Vat Olive T Prototype 547
Vat Green 19 or		Vat Olive GGL or
Vat Green 3	CI 69500	Vat Olive Green B Prototype 293
Vat Green 8	CI 71050	Vat Khaki 2G Prototype 122
Vat Yellow of suitable fastness may be used for shading if necessary.		

NOTICE: When Government drawings, specifications or other data are used for any purpose other than in connection with a definitely related Government

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procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

**Custodians:**

**Army - Ordnance Corps**

**Preparing activity**

**Army - Ordnance Corps**

SPECIFICATION ANALYSIS SHEET		Form Approved Budget Bureau No 119-H004	
<b>INSTRUCTIONS</b>			
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 (as indicated on reverse hereof).			
SPECIFICATION			
ORGANIZATION (of submitter)		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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