

MIL-C-9074C(GL)
31 July 1969

SUPERSEDING
MIL-C-9074B(GL)
9 July 1965

MILITARY SPECIFICATION

CLOTH, LAMINATED, SATEEN, RUBBERIZED

1. SCOPE

1.1 This specification covers one type of 2-ply rubberized sateen cloth.

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

CCC-D-950 - Dyeing and Aftertreating Processes for Cotton Cloths
PPP-P-1136 - Packaging and Packing of Coated (Plastic; Rubber)
and Laminated Fabrics

MILITARY

MIL-C-10296 - Cloth, Sateen, Cotton

STANDARDS

FEDERAL

FED-STD-191 - Textile Test Methods
FED-STD-406 - Plastics: Methods of Testing
FED-STD-601 - Rubber: Sampling and Testing

MILITARY

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

FSC 8305

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(Copies of specifications, standards, drawings and publications 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 Standard shade sample.- The laminated cloth shall match the standard sample for shade only (see 6.3).

- * 3.2 First article.- When specified (see 6.2), before production is commenced, a 3-yard sample of the laminated fabric shall be submitted to the contracting officer or his authorized representative for inspection as specified in 4.2. The approval of the preproduction sample authorizes the commencement of production but does not relieve the supplier of the responsibility for compliance with all provisions of this specification. The preproduction sample shall be manufactured by the supplier in the same facilities to be used for the manufacture of the production items.

3.3 Materials.-

- * 3.3.1 Base cloth.- The base cloth shall conform to class 1 of MIL-C-10296. In addition, the base cloth shall be mildew resistant treated with inhibitor (a) in table II of CCC-D-950, and shall be tested for inhibitor content in accordance with CCC-D-950. The filling effect side shall be the face of the base cloth. The base cloth shall be of a color suitable for assuring conformance to the color requirement for the laminated cloth (see 3.5).

3.3.2 Laminating compound.- The compound used for laminating the base cloths shall be of natural or synthetic rubber or a mixture of both, suitably compounded to meet the requirements herein. The compound shall be suitably pigmented to assure that the laminated cloth conforms to the color requirements in 3.5. Reclaimed rubber shall not be used.

3.4 Laminated rubberized cloth.- Two layers of the sateen shall be joined back to back with sufficient rubber compound between the plies to conform to the requirements specified in 3.6. The material shall then be vulcanized. There shall be no strike-through of the compound to either of the outside surfaces of the cloth.

3.5 Color.- Unless otherwise specified, the color of the laminated cloth shall be OG-107 (see 6.2).

3.5.1 Color matching.- The color shall match the standard sample (see 6.3) under natural (north sky) daylight having a color temperature of 7500° Kelvin and shall be a good approximation to the standard sample under incandescent lamplight at 2800° Kelvin.

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3.6 Physical properties.- The laminated cloth shall conform to the requirements specified in table I.

TABLE I.- Physical requirements of laminated, rubberized cloth

Characteristic	Requirement
Weight, oz./sq. yd.	23.5 \pm 1.5
Breaking strength	
Initial, lbs. (min.)	
Warp	190
Filling	140
After accelerated aging, percent loss (max.)	
Warp	15
Filling	15
Tearing strength, lbs. (min.)	
Warp	7.5
Filling	5.0
Hydrostatic resistance, lbs./sq. in. (min.)	
Initial	40
After accelerated aging	30
After resistance to low temperature	30
Adhesion, warp only, lbs./2 in. width (min.)	
Initial	7
After accelerated aging	5

3.7 Width.- The minimum overall width shall be as specified (see 6.2). Both selvages shall be trimmed to give straight, uniform, fully laminated edges.

* 3.8 Length and put-up.- The laminated cloth shall be put up in rolls as specified in PPP-P-1136. The minimum length of any one roll shall be 40 yards and the maximum number of pieces shall be three. The laminated cloth may be supplied in one continuous length containing splices providing that these splices

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are on one side of the laminated cloth only and that any splice is not closer than 25 yards to any other splice. Splices shall be produced by a butted-type seam and shall be flagged so that their location in the roll can be readily seen. When a roll contains more than one piece, no piece shall be less than 25 yards in length and the ends of the pieces shall be overlapped and not joined by a seam.

3.9 Workmanship.- The finished laminated cloth shall conform to the quality of product established by this specification and the occurrence of defects shall not exceed the specified acceptable quality levels in Section 4.

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 in the contract or order, the supplier 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 inspection set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.
- * 4.1.1 Certificate of compliance.- Where certificates of compliance are submitted, the Government reserves the right to check test such items to determine the validity of the certification.
- * 4.2 First article inspection.- When specified (see 6.2), samples submitted in accordance with 3.1 shall be inspected for all provisions of this specification applicable to end product examination and tests.
- * 4.3 Inspection.- Sampling for inspection shall be performed in accordance with MIL-STD-105, except where otherwise indicated hereinafter.
- * 4.3.1 Inspection of materials and components.- The supplier is responsible for insuring that all materials and components used were manufactured and inspected in accordance with the requirements of this specification and referenced specifications. A certificate of compliance shall be furnished with each shipment or lot stating that the laminating compound is natural or synthetic rubber or a combination of both and that no reclaimed rubber has been used.

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4.3.2 Examination of the end item.— The end item shall be examined in accordance with 4.3.2.1, 4.3.2.2 and 4.3.2.3. The lot size for purposes of determining the sample size in accordance with MIL-STD-105 shall be expressed in units of one yard each for the examination in 4.3.2.1 and 4.3.2.2 and in units of shipping containers for examination under 4.3.2.3.

- * 4.3.2.1 Yard-by-yard examination.— The required yardage of each roll shall be inspected on one side only; however, the side shall be alternated for every other roll examined. Visual defects shall be as listed in table II. The defects shall be counted regardless of their proximity to each other, except where two or more defects represent a single local condition of the cloth, in which case only the more serious defect shall be counted. The sample unit for this examination shall be 1 linear yard. The acceptable quality levels (AQL's) for this examination shall be 1.5 major defects and 4.0 total defects (major and minor), per 100 units (yards). The inspection level shall be level II of MIL-STD-105. The number of rolls from which the sample is to be selected shall be in accordance with table III. An approximately equal number of yards shall be examined in each roll sampled.

* TABLE II.— List of defects for yard-by-yard examination

Examine	Defect	Classification	
		Major	Minor
Cloth	Hole, cut, or tear.	X	
	Any smash.		X
	Open place, crack or hitchback.		X
	Floats or skips - multiple 1/2 inch or more in either warp or filling direction, or harness skips.		X
Lamination	Any blister, tunnel or delamination.	X	
	Crease or wrinkle resulting in doubling that cannot be corrected by manual pressure.	X	
	Any solid lump. <u>1</u> /	X	
Color	Color not OG-107 or not as specified, mottled or uneven.		X
Width	Trimmed width 1/4 inch less than specified.		X
	Trimmed width more than 1/4 inch less than specified.	X	

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* TABLE II.- List of defects for yard-by-yard examination (cont'd)

<u>Examine</u>	<u>Defect</u>	<u>Classification</u>	
		<u>Major</u>	<u>Minor</u>
Workmanship	Wrong side of the base cloth laminated.	X	
	Any strike-through of laminating compound.		X
	Selvages not trimmed.		X
	Edges not straight and uniform or unlaminated edges.		X
	Spot, stain or streak - more than 1 inch in its longest dimension. <u>1/</u>		X
	Abrasion mark.		X
	Any scorch or burn.	X	
	Objectionable odor. <u>2/</u>		X
	Not clean.		X

1/ At normal inspection distance (approximately 3 feet).2/ Odors of chemicals commonly used in coating compounds shall not be regarded as objectionable.* TABLE III.- Sample size (rolls) for yard-by-yard examination

<u>Lot size (yards)</u>	<u>Sample size (rolls)</u>
Up to 1200 inclusive <u>1/</u>	3
1201 to 3200 inclusive	5
3201 to 10,000 inclusive	8
10,001 to 35,000 inclusive	13
35,001 to 150,000 inclusive	20
150,001 and over	32

1/ If lot contains fewer than 3 rolls, each roll in the lot shall be examined.

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4.3.2.2 Examination for length.-

- * 4.3.2.2.1 Examination for length in individual roll.- Each individual roll in the sample shall be examined for number of pieces, length of pieces, splices and for gross length. The sample unit for this examination shall be one roll. The sample size (number of rolls selected as sample) shall be as shown in table III. The acceptable quality level (AQL) for this examination shall be 4.0 per 100 units. Any of the following shall be considered a defect with respect to length:

Any roll more than 3 pieces.
 Any piece in roll less than 25 yards.
 Pieces in roll not overlapped (joined by seam).
 Any roll with splices on both sides (faces).
 Any splice less than 25 yards from any other splice.
 Splice not butted-type seam.
 Any roll less than 40 yards.
 Any roll with a gross length more than 2 yards below that marked on ticket.

4.3.2.2.2 Examination for total yardage in sample.- The rolls examined shall be those selected for examination of individual rolls as specified in 4.3.2.2.1. The lot shall be unacceptable if the total of the actual gross lengths of rolls in the sample is less than the total of the gross lengths marked on the roll tickets.

- * 4.3.2.3 Examination of preparation for delivery requirements.- An examination shall be made in accordance with the provisions of PPP-P-1136 to determine that packaging, packing and marking requirements of Section 5 of this specification are complied with.

4.3.3 Testing of the end item.- The methods of testing specified in FED-STD-191 whenever applicable and as listed in table V shall be followed. The requirements for all tests are referenced in 3.6. The physical values specified apply to the average of the determinations made on a sample unit for test purposes as specified in the applicable test methods. The sample unit shall be 3 continuous yards, full width, of the laminated cloth. The lot size shall be expressed in units of 1 linear yard and the sample size (number of sample units) shall be as specified in table IV. The lot shall be unacceptable if any unit fails to meet any requirement specified. All test reports shall contain the individual values utilized in expressing the final result.

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TABLE IV.- Sample size (number of sample units) for testing the end item

<u>Lot size (yards)</u>	<u>Sample size</u>
800 or less	2
801 up to and including 22,000	3
22,001 and more	5

- * 4.3.3.1 Test conditions.- Results of physical tests obtained under testing conditions defined in FED-STD-406, FED-STD-601 or FED-STD-191 will be acceptable except in case of dispute. In dispute cases, tests shall be conducted with both the specimen and test apparatus under standard conditions as defined in FED-STD-191.

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INSTRUCTIONS FOR TESTING		TABLE V				
		Specification Reference		Number Determinations Per Sample Unit	Results Reported As	
		Requirement	Test Method		Pass or Fail	Numerically To Nearest
CHARACTERISTIC		Requirement	Test Method	Requirements Applicable To Individual Unit	Lot Average	Inspect Label
Weight		Table I	5041			
Breaking strength				5		0.1 ounce
Initial		Table I	5100	5		1.0 pound
Warp			5100	5		1.0 pound
Filling		Table I	5852 1/ and 5100 2/	5		1.0 pound
After accelerated aging				5		1.0 pound
Warp				5		1.0 pound
Filling				5		1.0 pound
Tearing strength		Table I	5134	5		1.0 pound
Warp			5134	5		1.0 pound
Filling				5		1.0 pound
Hydrostatic resistance		Table I	5512	5		1.0 lb./sq. in.
Initial			5852 1/ and 5512	5		1.0 lb./sq. in.
After accelerated aging				5		1.0 lb./sq. in.
After resistance to low temperature			5874 3/ and 5512	5		1.0 lb./sq. in.

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INSTRUCTIONS FOR TESTING										
TABLE V (cont'd)										
CHARACTERISTIC		Specification Reference		Requirements Applicable To		Number Determinations Per Sample Unit	Results Reported As		Inspect Label	AOI
		Requirement	Test Method	Individual Unit	Lot Average		Pass or Fail	Numerically to Nearest		
Adhesion (warp direction only)		Table I	5950			5		0.1 lb./2 inch width		
Initial										
After accelerated aging										
1/ The exposure period shall be eight days.										
2/ The test specimens for breaking strength after accelerated aging shall contain the same warp yarns as the test specimens selected for the initial breaking strength.										
3/ The specimens shall be exposed to a temperature of minus 40° ± 2°F. for a minimum of 30 minutes prior to testing. All reference to unexposed cloth shall not be applicable.										

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* 5. PREPARATION FOR DELIVERY

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

* 5.1.1 Levels A and C.- The laminated cloth, put up as specified, shall be packaged in accordance with the applicable requirements of PPP-P-1136.

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

* 5.2.1 Levels A, B, and C.- The laminated cloth shall be packed in accordance with the applicable requirements of PPP-P-1136.

* 5.3 Marking.- In addition to any special marking required by the contract or order, interior packages and shipping containers shall be marked in accordance with PPP-P-1136.

6. NOTES

* 6.1 Intended use.- The laminated, rubberized cloth covered by this specification is intended for use in the manufacture of waterproof covers for electronic equipment. It is also intended to be used in conjunction with the Drafting and Duplicating Equipment Set for packing and storing of duplicator films.

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

- (a) Title, number and date of this specification.
- (b) First article.- Whether preproduction sample is required (see 3.2.).
- (c) Whether color other than OG-107 is required (see 3.5).
- (d) Width (trimmed) required (see 3.7).
- (e) Selection of applicable levels of packaging and packing (see 5.1 and 5.2).

6.3 Standard shade sample.- For access to standard shade samples, address the procuring office issuing the invitation for bids (see 3.1).

* 6.4 Marginal notations.- The margins of this specification are marked with an asterisk to indicate where changes (additions, modifications, corrections, deletions) from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and suppliers are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

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SPECIFICATION ANALYSIS SHEET		Form Approved Budget Bureau No 22-R255
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. Comments and suggestions submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or serve to amend contractual requirements.		
SPECIFICATION Cloth, Laminated, Sateen, Rubberized MIL-C-9074C(GL)		
ORGANIZATION		
CITY AND STATE		CONTRACT NUMBER
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 Optional)		DATE

DD FORM 1426
1 JAN 66

REPLACES EDITION OF 1 OCT 64 WHICH MAY BE USED