

MIL-C-7637D(USAF)
29 December 1982
SUPERSEDING
MIL-C-7637C
1 December 1977

MILITARY SPECIFICATION

CLOTH, COATED, CHLOROPRENE, FIBERGLASS

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

1. SCOPE

1.1 Scope. This specification covers one type of fiberglass cloth coated with a chloroprene polymer.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. Unless otherwise specified, the following specifications and standards of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation form a part of this specification to the extent specified herein.

SPECIFICATIONS

FEDERAL

PPP-P-1136 Packaging and Packing of Coated (Plastic, Rubber) and Laminated Fabrics

Beneficial comments (recommendations, additions, deletions, and any pertinent data which may be of use in improving this document) should be addressed to: AFWAL/MLSA, WPAFB, OH 45433 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

FSC 8305

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STANDARDS

FEDERAL

FED-STD-191 Textile Test Methods

MILITARY

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

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

2.1.2 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

3. REQUIREMENTS

3.1 Materials.

3.1.1 Yarn. Texturized glass fiber yarn shall be used for weaving the base cloth.

3.1.2 Coating. The coating shall be a suitably compounded chloroprene polymer.

3.2 Construction and physical properties. The cloth shall conform to Tables I and II and to the following subparagraphs when tested as specified in 4.4.

TABLE I: Base cloth.

Physical properties	
Weight, Oz./sq. yd. (minimum)	20
Yarn per inch (minimum)	
Warp	19
Filling	11

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TABLE II. Coated Cloth.

Physical properties	
Thickness, inch	0.060 to 0.080
Weight, lbs./sq. yd. (min)	4.50
Breaking strength (grab method) pounds (min)	
Warp	250
Filling	160
Bursting strength (Mullen) pcints (min)	500
Tearing strength (tongue method) pounds (min)	
Warp	20
Filling	15
Adhesion of coating, lbs./inch (min)	9.0

3.2.1 Blocking resistance. When tested for blocking resistance, the finished cloth shall show no blocking and the cloth surface shall not adhere.

3.2.2 Flame resistance. The finished cloth shall have no flaming time, no glow time, and no char length.

3.2.3 Low temperature flexibility. The coating of the finished cloth shall not crack or flake off.

3.2.4 Heat resistance. The coating of the finished cloth shall not crack when tested in accordance with 4.4.2.

3.2.5 Width. Unless otherwise specified, the width of the finished cloth shall be 40 ± 0.5 inches.

3.2.6 Length of roll. Each roll of cloth shall be 50 ± 5 yards long, shall contain no piece less than 15 yards long and no more than 2 pieces per roll.

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3.3 Color. The color of the finished cloth shall be black.

3.4 Finish. The coating shall be applied and vulcanized on both sides of the base cloth, approximately equal thicknesses on each side.

3.4.1 The surface of the coated cloth may have a slightly pebbled grain.

3.5 Identification of product. Each roll of cloth shall be marked for identification in accordance with PPP-P-1136.

3.6 Workmanship. The cloth shall conform to the quality and grade of the product established by this specification. The occurrence of defects shall not exceed the levels established by the applicable acceptable quality levels.

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 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 Inspection. Inspection shall be in accordance with the provisions set forth in MIL-STD-105, except where otherwise indicated herein.

4.2.1 Component and material inspection. In accordance with 4.1 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. A certificate of compliance shall be submitted for the vulcanization requirement in 3.4. In addition, components and materials listed in Table III shall be tested for the characteristics specified and in accordance with the referenced

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test methods of FED-STD-191. The sample unit shall be one yard full width of the uncoated base cloth and the lot size shall be expressed in units of one linear yard. The lot shall be unacceptable if one or more units fail to meet any requirement specified. All test reports shall contain the individual values utilized in expressing the final result. The sample size shall be in accordance with Table IV.

TABLE III. Testing of components.

Component	Characteristic	Requirement reference	Test method FED-STD-191
Yarn	Identification	3.1.3	<u>1/</u>
Coating compound	Identification	3.1.5	<u>1/</u>
Base cloth	Weight	Table I	5041
	Yarns per inch	Table I	5050

1/ A certificate of compliance shall be accepted for this characteristic.

TABLE IV. Sample size.

Lot size (yards)	No. of samples or rolls
800 or less	2
801 up to and including 2,000	3
2001 and over	5

4.2.2 Examination of the end item. The end item shall be examined in accordance with the classification of defects and at the inspection levels and acceptable quality levels (AQL's) as specified in 4.2.2.1 and Table V.

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4.2.2.1 Yard-by-yard examination. The required yardage of each roll shall be inspected on one side only. However, the side shall be alternated, so that alternate rolls are examined on the face and back respectively. The defects found shall be classified as listed in Table V. The defects found 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 lot size shall be expressed in units of one linear yard. The sample unit for this examination shall be one linear yard. The acceptable quality levels (AQL's) for this examination shall be 2.5 for major defects and 4.0 for total defects (major and minor) per 100 units (yards). The inspection level shall be level II. The number of rolls from which the sample is to be selected shall be in accordance with Table IV. An approximately equal number of yards shall be examined in each roll sampled.

TABLE V. Classification of defects.

Defect	Extent of defect	Major	Minor
Blisters or lumps	Covering any area 1/8 inch square or greater	X	
Crease	Permanent, resulting from faulty coating procedure	X	
Light area or window	More than 5 in a linear yard		X
Narrow width	Width less than minimum specified		X
Pinhole, cut, or tear	Any size	X	
Stain or streak	Coating compound stain or streak clearly noticeable at distance of 6 feet		X
Uneven coating	Thin areas, where coating compound is missing or insufficient. Heavily coated areas, clearly noticeable at distance of 6 feet	X	X

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4.3 Test conditions.

4.3.1 Sampling for physical testing. A sample 2 yards long and the full width of the cloth shall be taken from each 1,000 continuous produced yards or fraction thereof of finished cloth of one type. Each sample shall be subjected to all tests specified in 4.4. Failure of any sample of cloth shall be cause for rejection of the material represented.

4.4 Physical requirements tests. The cloth shall be subjected to tests specified in Table VI, 4.4.1, and 4.4.2.

TABLE VI. Test methods.

Test	FED-STD-191 Method No.
Width	5020
Thickness	5030
Weight	5041
Yarns per inch	5050
Breaking strength	5100
Bursting strength	5122
Tearing strength	5134
Blocking resistance <u>1/</u>	5872
Low temperature flexibility <u>2/</u>	5874
Flame resistance	5903

1/ Except that the test specimens shall consist of two 4- by 4-inch squares of cloth placed together in a flat, unfolded condition between the glass plates.

2/ Except that the temperature shall be $-20^{\circ} \pm 1.8^{\circ}\text{F}$, and paragraphs 3.2, 4.4, 4.5, and 4.6 of FED-STD-191 are not applicable.

4.4.1 Adhesion of coating. The adhesion of coating of the coated cloth shall be tested in accordance with method 5950 of FED-STD-191, with the following exceptions.

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4.4.1.1 Test specimens shall be 6 inches by 1 inch, with the long dimension parallel to the warp. One end of the strip shall be immersed in the benzene to a depth of 1 inch for a period of 1/2 hour. The benzene treated ends shall be immersed in distilled water (1 inch) for 1 hour at room temperature. Using a sharp knife, the coating shall be peeled back from the cloth for a distance of 1 inch to 2 inches. The samples shall be conditioned by allowing them to age for 24 hours at normal room conditions before testing.

4.4.2 Heat resistance. At least three 1- by 4-inch specimens from each sample, with the long dimension warpwise, shall be tested. The specimens shall be suspended vertically, not touching each other, in a circulating air oven. The specimens shall be exposed for 24 hours at $260^{\circ} \pm 5^{\circ}\text{F}$. The specimens shall be bent over a cool (70°F) 3/8-inch rod within 5 minutes after removal from the source of heat.

4.5 Packaging, packing, and marking. Preparation for delivery shall be inspected for conformance to Section 5.

5. PACKAGING

5.1 Packaging, packing, and marking. Shipments shall be packaged, packed, and marked in accordance with PPP-P-1136.

6. NOTES

6.1 Intended use. The coated cloth covered by this specification is intended for use where a semi-flexible fire resistant, heat insulating material is required.

6.2 Material meeting the requirements of this specification is identified as Raybestos Manhattan Style RL-6764 manufactured by Raybestos Industrial Products, Industrial Division, Raybestos-Manhattan, Inc., Garco and O'Hear Streets, North Charleston, S.C. 29406.

6.3 Ordering data. Procurement documents should specify the following:

- a. Title, number, and date of this specification.
- b. Type of cloth, width, and quantity required.

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c. Level of packaging and packing (see 5.1).

Custodians:
Navy - AS
Air Force - 20

Preparing Activity:
Air Force - 20

Project No. 8305-0831

Reviewer:
DLA-CT