

INCH-POUND

MIL-C-8061 (AR)

13 February 1953

MILITARY SPECIFICATION

CLOTH, NYLON, RASCHEL KNIT

1. SCOPE

1.1 Scope.- This specification covers one type of raschel knitted nylon cloth.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Defense Personnel Support Center, Clothing and Textiles Directorate, Attn: DPSC-FSSD, 2800 South 20th Street, Philadelphia, PA 19101-8419, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 8305

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## 2. APPLICABLE SPECIFICATIONS, STANDARDS, AND PUBLICATIONS

2.1 The following specifications, standards, and publications of the issue in effect on date of invitation for bids, form a part of this specification to the extent specified herein.

## SPECIFICATIONS

## FEDERAL

CCC-T-191 Textile Test Methods

## MILITARY

MIL-P-6065 Packaging, Packing, and Marking  
of Cloth, Fabric, and Webbing

## STANDARDS

## MILITARY

MIL-STD-129 Marking of Shipments

## PUBLICATIONS

U. S. Air Force Specification Bulletin No. 94,  
Textile Defects, Classification of

(Copies of Specifications, standards, 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.)

## 3. REQUIREMENTS

3.1 Standard sample.- Unless otherwise specified, the cloth shall be equal to the standard sample in all respects not specifically covered by this specification. (see 6.3)

3.2 Material.- The material used in the manufacture of the cloth shall be high tenacity filament nylon yarn of suitable grade and denier.

3.3 Construction and physical requirements.- The finished cloth shall conform to the following requirements when tested as specified in 4.6.

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Table I

Thickness, inches (max)	0.04	
Weight, oz/sq yd (max)	10.5	
Bursting strength, lbs (min)	250	
	<u>Wales direction</u>	<u>Courses direction</u>
Shrinkage, % (max)	3	3
Breaking strength, lbs/inch (min)	200	200
Ultimate elongation, % (max)	95	95
Elongation at 2/3 breaking load, % (max)	75	100
Tearing strength, lbs (min)	25	25

3.3.1 The cloth shall be a raschal knit fabric with 65 ends (minimum per inch knit 6 mesh per inch in each direction).

### 3.4 Dimensions

3.4.1 Width.- The width of the finished cloth shall be as specified by the procuring agency. (see 6.2)

3.4.2 Length of cuts.- The length of single continuous pieces or cuts shall be 100 to 125 yards, except that shorter cuts may be included in accordance with the following schedule:

75 percent in cuts of 100 to 125 yards  
 15 percent in cuts of 25 to 100 yards  
 10 percent in cuts of 15 to 25 yards

3.4.3 Length of roll.- Regular rolls shall contain not more than 125 yards of cloth. Short lengths shall be rolled together to the specified roll size and the roll labeled to indicate that it is composed of short lengths.

3.5 Color.- Color shall be as specified by the procuring agency. (see 6.2) When a color is specified, it shall match an approved standard shade designated in the procurement document.

3.5.1 Colorfastness.- When a color is specified, the finished cloth shall have a colorfastness rating of "good" to laundering, dry cleaning, and wet and dry crocking when tested as specified in 4.6. The colorfastness to light rating shall be "good" when tested as specified in 4.6.

### 3.6 Finish

3.6.1 Residual size, finishing oils, or other nonfibrous

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materials shall not exceed 1-1/2 percent when tested as specified in 4.6.

3.6.2 The use of dyestuffs, detergents, or other chemicals or finishing agents which would cause deterioration under normal warehouse storage conditions, affect its serviceability, or cause dermatitis or prolonged intimate skin contact is prohibited.

3.6.3 Acidity.- The finished cloth shall have a pH value of 5.0 to 9.0 when tested as specified in 4.6.

3.6.4 Heat stabilization.- The material shall be given a heat set treatment to stabilize the construction of the fabric.

3.7 Identification marking.- Identification marking of cloth shall be in accordance with Specification MIL-P-6065.

3.8 Workmanship.- The product shall be manufactured in accordance with high grade commercial practice to produce material of uniform quality substantially free from defects of any character.

3.8.1 Limitation of defects.- When the material of this specification is included in a category of material described in Air Force Specification Bulletin No. 94, Textile Defects Classification of, the marking of defects, the designation of acceptable and non-acceptable defects, the limitation of non-acceptable defects, and the amount of additional material, if any, which shall be furnished without cost for each defect shall be in accordance with Bulletin No. 94.

#### 4. SAMPLING, INSPECTION, AND TEST PROCEDURES

4.1 Inspection tests.- All the tests specified here are classified as inspection tests. The contractor shall furnish all samples and shall be responsible for accomplishing the required inspection tests. When inspection is conducted at the Contractor's plant, all inspection and testing shall be under the supervision of the Government inspector. Inspection may be made throughout the entire process of manufacture. The passing as satisfactory of any detail of construction or material shall not relieve the contractor of responsibility for faulty workmanship or material which may be discovered at any time prior to final acceptance, and shall in no case be construed as a guaranty of the acceptance of the finished product. Contractors not having laboratory testing facilities satisfactory to the Government shall engage the services of a commercial testing laboratory acceptable to the procuring agency. The contractor shall furnish test reports, in duplicate, showing quantitative results for all tests required by this specification, and signed by an authorized representative of the contractor or laboratory, as applicable.

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4.2 Inspection.- Inspection shall consist of visual inspection and all inspection tests specified herein. Inspection shall be at point of manufacture unless otherwise specified by the procuring agency. (see 6.2) In case of inspection at factory, every facility for the prosecution of this work shall be afforded by the manufacturer to the inspector.

4.2.1 Visual inspection.- Visual inspection shall be 100 percent and shall include the inspection of the packaging, and marking, and of conformance to requirements of this specification not covered by tests. Visual inspection for defects shall be accomplished before the cloth is prepared for shipment.

4.3 Defective material.- Inspection for defects of workmanship and material shall be in accordance with U. S. Air Force Specification Bulletin No. 94, Textile Defects, Classification of; where applicable.

4.4 Rejection.- Failure of any sample of cloth to conform to any of the requirements of this specification shall be cause for rejection of the lot represented.

4.5 Atmospheric conditions for testing.- Unless otherwise specified in the test method, all tests shall be made on specimens in standard condition as described in Specification CCC-T-191, section 4.

4.6 Tests.- All tests shall be conducted as specified herein.

4.6.1 Specification CCC-T-191 test methods:

<u>Test</u>	<u>Method No., CCC-T-191</u>
Sizing (non fibrous materials)	2611
Acidity	2811
Thickness	5030
Weight	5041
Yarns per inch	5050
Meshes per inch <u>1/</u>	5050
Breaking strength and elongation	5100
Bursting strength	5120
Tearing strength	5134
Colorfastness to: Laundry	5614
Dry cleaning	5620
Crocking	5650
Light <u>2/</u>	5660

1/ Except that the meshes per inch shall be counted in each direction.

2/ Except exposure shall be for 20 Standard Fading Hours.

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4.6.2 Color matching.- The color shall match the approved standard shade under natural (north sky daylight or artificial daylight having a color temperature of 7500 degrees Kelvin.

4.6.3 Heat stabilization.- The contractor shall include in the test report a certified statement to the effect that a suitable heat set process has been applied to stabilize the cloth.

4.6.4 Shrinkage.- After conditioning for not less than 4 hours, an 18-inch square shall be marked on a 20-inch square specimen by means of a template, using indelible ink. A metal tub of adequate size to accommodate the specimen prepared as described below shall be filled to within 3 inches of the top with water which shall then be heated to a boil. The specimen shall be placed in the boiling water in a "skein" form prepared by stapling two opposite sides of the specimen together to form a loop or "skein". This shall then be placed over a glass rod 1/4 inch in diameter and 21 inches in length. A glass tube 1/2 inch in diameter and 21 inches long weighing approximately 45 grams shall be placed inside the loop at the bottom. The loop shall be suspended in the boiling water bath by attaching it to another glass rod 24 inches long and 1/4 inch in diameter by means of twine or wire. The 24-inch glass rod shall rest on the top of the tub allowing the specimen to hang freely in the bath. The specimen shall be subjected to the action of the boiling water bath for a period of 15 minutes after which it shall be removed from the tub and allowed to drain for few minutes, and the staples shall be removed from the sample which shall then be placed flat on a horizontal screen to dry. After the specimen is thoroughly dry, it shall be exposed for at least 4 hours to a standard atmosphere of 65 percent relative humidity and a temperature of 21.1°C (70°F). The 18-inch square shall then be measured in three places and the amount of shrinkage recorded.

4.7 Sample for physical testing.- A sample, or samples, each at least 2 yards long and full width of the cloth, to be furnished at no additional cost to the Government, shall be taken from each lot submitted for acceptance on any contract or order. Each sample shall be suitably tagged to identify it with the roll sampled and such samples shall be subjected to all tests specified herein. When an inspection lot exceeds 5,000 yards, an additional sample for each 5,000 yards or fraction thereof of the excess shall be taken.

## 5. PREPARATION FOR DELIVERY

5.1 Application.- The packaging, packing, and marking requirements specified herein apply only to direct purchases by or direct shipments to the Government.

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5.2 Packaging and packing.- The cloth shall be packaged and packed in accordance with Specification MIL-P-6065.

5.3 Marking of shipments.- Interior packages and exterior shipping containers shall be marked in accordance with Standard MIL-STD-129.

The nomenclature shall read as follows:

Cloth, Nylon, Raschel Knit, 12 oz per sq yd, Width\* \_\_\_\_\_,  
Color\* \_\_\_\_\_.

\* Applicable data to be entered by the contractor.

## 6. NOTES

6.1 Intended use.- the material covered by this specification is intended for use in the manufacture of safety harnesses in troop transports.

6.2 Ordering data.- The procurement document should specify the following:

- a. Number, Title, and date of this specification.
- b. Width required.
- c. Color required
- d. Point of inspection
- e. Whether domestic or overseas shipment is required  
(see section 5)

6.3 Standard sample.- For access to standard sample, address the procuring office issuing the invitation for bids.

6.4 Standard shade.- For access to standard sample, address the procuring office issuing the invitation for bids.

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