

INCH-POUND
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A-A-59403A

January 30, 2008

SUPERSEDING

A-A-59403

May 14, 1999

## COMMERCIAL ITEM DESCRIPTION

Cloth, Seat Cover, Polyester or Nylon, Water-Resistant

The General Services Administration has authorized the use of this commercial item description (CID) for all federal agencies.

1. SCOPE. This commercial item description covers three types of UV-stabilized polyester water-resistant cloth. The cloth is intended for use in the manufacture of seat covers, tops and tarps for motorized equipment.

2. CLASSIFICATION. The cloth shall be of the following type:

Type I	-	Cloth, Uncoated, Polyester or Nylon, Woven
Type II	-	Heavy Duty Cloth, Uncoated, Polyester or Nylon, Woven
Type III	-	Highly Water Resistant, Heavy Duty Cloth, Uncoated, Polyester or Nylon, Woven
Type IV	-	Cloth, Heavy Duty, Polyester, Coated, Flame Resistant, Woven

3. SALIENT CHARACTERISTICS.

3.1 Cloth. All cloth shall consist of high-tenacity, either bright, semi-dull, or clear, filament polyester yarn. All types shall be woven and the weave shall be plain. The cloth shall conform to one of the types described in Table I and shall conform to the requirements specified in 3.1 through 3.9.

Beneficial comments, suggestions, or questions on this document should be addressed to U.S. Army Tank-automotive and Armaments Command, 6501 E. 11 Mile Road, Warren, MI 48397-5000 or emailed to <a href="mailto:dami_standardization@conus.army.mil">dami_standardization@conus.army.mil</a> .
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AMSCN/A

FSC 8305

DISTRIBUTION STATEMENT A.  
unlimited.

Approved for public release; distribution is

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**TABLE I. Cloth description and verification.**

<b>Characteristics</b>	<b>Type I</b>	<b>Type II</b>	<b>Type III</b>	<b>Type IV</b>	<b>Test</b>
Tensile strength – minimum	260 lbs Warp 175 lbs Fill <u>1/</u>	450 lbs Warp 400 lbs Fill	450 lbs Warp 400 lbs Fill	450 lbs Warp 400 lbs Fill	ASTM D-5034, <u>2/</u>
Tear strength	10 lbs Warp 11 lbs Fill	45 lbs Warp 40 lbs Fill	45 lbs Warp 40 lbs Fill	45 lbs Warp 40 lbs Fill	ASTM D-2261
Elastic stretch range	3-7% Warp 11-18% Fill	3-11% Warp 3-11% Fill	3-11% Warp 3-11% Fill	3-11% Warp 3-11% Fill	SAE J-855
Abrasion resistance (minimum)	1000 cycles	2000 cycles	2000 cycles	2000 cycles	ASTM D-3884 <u>3/</u>
Tensile strength retention after UV exposure minimum	104 lbs Warp 70 lbs Fill	230 lbs Warp 160 lbs Fill	175 lbs Warp 125 lbs Fill	175 lbs Warp 125 lbs Fill	SAE J-2412 & ASTM D-5034 <u>4/</u>
Tensile strength retention after wear degradation maximum	170 lbs Warp 150 lbs Fill	400 lbs Warp 350 lbs Fill	400 lbs Warp 350 lbs Fill	400 lbs Warp 350 lbs Fill	ASTM D-4157 & ASTM D-5034 <u>5/</u>
Air permeability (ft <sup>3</sup> /min/ft <sup>2</sup> ) <u>6/</u> minimum	1.3	1.3	0.5	1.3	ASTM D-737
Water resistance (cm water in column) -- minimum	10	10	30	10	AATCC 127 <u>7/</u>

**NOTES:**

- 1/ lbs = pounds.
- 2/ Tensile strength. A constant rate-of-extension (CRE) testing machine shall be used.
- 3/ There shall be no visible wear-through when Taber-tested with a 1 kilogram (kg) weight and a CS-10 wheel for 1000 cycles for type I and 2000 cycles for types II, III, and IV.
- 4/ Strength retention after UV exposure. After being exposed to a xenon-arc lamp at 225.6 kilojoules per square meter (kJ/m<sup>2</sup>) In Accordance With (IAW) SAE J-2412, cloth shall retain specified tensile strength IAW ASTM D-5034.
- 5/ Strength retention after wear degradation. Cloth shall retain specified tensile strength after 100,000 double rubs (Wyzenbeek abrasion) using a #8 Duck as the abrader IAW ASTM D-4157. Tensile strength IAW ASTM D-5034.
- 6/ ft<sup>3</sup>/min/ft<sup>2</sup> = Cubic feet per minute per square foot.

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7/ Water resistance. Water shall not pass through the cloth when a column of the minimum height specified is used. Testing IAW AATCC 127.

3.2 Weight. The weight of all cloth shall be  $12 \pm 3$  ounces per yard (oz/yd<sup>2</sup>) when measured IAW ASTM D-3776, Option C.

3.3 Minimum flame resistance. Flames shall progress no more than 4.0 inch per minute (in./min) when tested IAW FMVSS 302. Type IV shall provide flame resistance of less than 6.0 inch char length and less than 3 seconds after flame when tested to ASTM D 6413 vertical burn test.

3.4 Operational temperature range required. The operational temperature range required shall be -50 to 150 degrees Fahrenheit (°F) when tested IAW 3.4.1 and 3.4.2.

3.4.1 Resistance to low temperature test. A 1-inch by 4-inch specimen of the cloth with the long dimension warp-wise, and a 1-inch by 4-inch specimen of the cloth with the long dimension filling-wise, shall be exposed for 4 hours at a temperature of  $-50 \pm 5^{\circ}\text{F}$ . The sample, still in the test atmosphere, shall be bent sharply 180 degrees over a 1/8 inch steel rod that has been exposed in the test chamber with the test specimen. The cloth shall not crack or flake.

3.4.2 Resistance to high temperature test. A 2-in by 6-in specimen of the cloth shall be exposed for a period of 6 hours in an oven maintained at a temperature of  $+150^{\circ} \pm 2^{\circ}\text{F}$ . At the end of this period, the specimen, still maintained at the test atmosphere shall be bent sharply 180 degrees over a 1/8 in steel rod. The cloth shall show no evidence of tackiness, blistering, or softening.

3.5 Water wicking (minimum). The minimum water wicking shall be 3.0 in the ISO Gray scale unit of measurement when tested IAW SAE J-913, option C.

3.6 Dimensional stability (maximum shrinkage). The maximum shrinkage shall be 3.5% in the warp direction and 2.5% in the fill direction when tested IAW SAE J-883.

3.7 Mildew resistance (rating). The mildew resistance shall be 0 in the ISO Gray scale unit of measurement when tested IAW ASTM G-21.

3.8 Color. The color of the finished cloth shall match green-383 (color chip 34094) or tan-686A (color chip 33446) of FED-STD-595 or shall match an approved color sample for the color specified. There shall be no light areas or windows due to absence or poor blending of pigmentation. Visual testing is to be done on a 4"x20" swatch of cloth with a light of at least 538 lux at the working surface. The color of the finished cloth shall meet the spectral reflectance properties in Tables II, III, and IV.

3.9 Length and put-up. The cloth shall be put-up in full width rolls in lengths as required by the contract or purchase order. The total length shall be marked on an identifying document. The ends of the pieces shall be overlapped and not joined by a seam. When unrolled, there shall

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be no rolled, curled, folded, doubled, scalloped, or wavy edges, which prevent a flat lay of the cloth.

TABLE II. Spectral reflectance values (percent) for green-383 (color chip 34094).

Wavelength, Nanometers (nm)	Reflectance		Wavelength, Nanometers (nm)	Reflectance	
	Min.	Max.		Min.	Max.
600	3	12	740	7	52
620	3	12	760	11	60
640	3	12	780	17	64
660	3	13	800	24	70
680	3	15	820	32	80
700	3	28	840	37	86
720	5	40	860	49	88

TABLE III. Spectral reflectance values (percent) for tan-686A (color chip 33446).

Wavelength, Nanometers (nm)	Reflectance		Wavelength, Nanometers (nm)	Reflectance	
	Min.	Max.		Min.	Max.
700	45	65	800	45	65
720	45	65	820	45	65
740	45	65	840	45	65
760	45	65	860	45	65
780	45	65			

TABLE IV. Spectral Reflectance Values

Wavelength Nanometers (nm)	Desert Sand 500		Urban Gray 501		Foliage Green 502	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
600	28	40	12	26	8	18
620	30	42	14	26	8	18
640	34	48	14	28	8	20
660	38	56	14	30	10	26
680	44	60	18	34	10	26
700	46	66	24	38	12	28
720	48	68	26	42	16	30
740	48	72	30	46	16	30
760	50	74	32	48	18	32
780	54	76	34	48	18	34
800	54	76	34	50	20	36
820	54	76	36	54	22	38
840	56	78	38	54	24	40
860	56	78	40	56	26	42

4. REGULATORY REQUIREMENTS. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, IAW paragraph 23.403 of the Federal Acquisition Regulation (FAR).

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## 5. PRODUCT CONFORMANCE.

5.1 Responsibility for inspection. The contractor is responsible for the performance of all inspections (examinations and tests).

5.2 Product conformance. The products provided shall meet the salient characteristics of this Commercial Item Description, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial market expect for any changes necessary to conform to this commercial item description. The Government reserves the right to require proof of such conformance.

5.3 Market acceptability. The offeror shall prepare written certification that the cloth provided has been a stable production item for at least three years or is the basis for current orders if a new product. The use of the term "commercial item" in this document does not imply that any items offered are not required to conform with all requirements specified herein.

5.4 Standard test conditions. Physical tests shall be conducted with both the specimen and test apparatus under standard conditions as defined in ASTM D-618.

6. PACKAGING. Preservation, packing, and marking shall be as specified in the contract or order.

## 7. NOTES.

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

7.1 Ordering data. Acquisition documents must specify the following:

- a. Title, number, and date of this CID.
- b. Issue of the DoDISS to be cited in the solicitation, and if required, the specified issue of individual documents referenced.
- c. Length/width of rolls.
- d. Level of preservation, packaging, and packing required.
- e. Color required.

7.2 Part Identification Number (PIN). The following part identification numbering procedure is for Government purposes and does not constitute a requirement for the contractor.

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Type:

- 1 = Type I, Cloth, Uncoated, Polyester or Nylon, Woven.
- 2 = Type II, Heavy Duty Cloth, Uncoated, Polyester or Nylon, Woven.
- 3 = Type III, Highly Water Resistant, Heavy Duty Cloth, Uncoated, Polyester or Nylon, Woven.
- 4 = Type IV, Cloth, Heavy Duty, Polyester, Coated, Flame Resistant, Woven

CID number

### 7.3 Address for obtaining copies of reference documents.

7.3.1 Government publications. The Code of Federal Regulations (CFR) may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

7.3.2 Copies of AATCC-127, "Water Resistance: Hydrostatic Pressure Test" are available online at <http://www.aatcc.org> or from The American Association of Textile Chemists and Colorists (AATCC) Standards, 1 Davis Drive, P.O. Box 12215, Research Triangle Park, NC 27709-2215.

7.3.3 Copies of ASTM D-3776, "Standard Test Method for Mass Per Unit Area (Weight) of Fabric"; ASTM D-5034, "Standard Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test)"; ASTM D-2261, "Standard Test Method for Tearing Strength of Fabrics by the Tongue (Single Rip) Procedure (Constant-Rate-of-Extension Tensile Testing Machine)"; ASTM D-3884, "Standard Guide for Abrasion Resistance of Textile Fabrics (Rotary Platform, Double-Head Method)"; ASTM D-4157, "Standard Test Method for Abrasion Resistance of Textile Fabrics (Oscillatory Cylinder Method)"; ASTM D-737, "Standard Test Method for Air Permeability of Textile Fabrics"; ASTM D-618 "Standard Practice for Conditioning Plastics for Testing"; and ASTM G-21 "Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi" are available online at <http://www.astm.org> or from the ASTM International, 100 Bar Harbor Drive, West Conshohocken, PA 19428-2959.

7.3.4 Copies of FMVSS-302, "Flammability of Interior Materials-Passenger Cars, Multipurpose Passenger Vehicles, Trucks and Busses" are available online at [www.fmvss.com](http://www.fmvss.com) or from the U.S. Department of Transportation, National Highway Traffic Safety Administration, Office of Vehicle Safety Compliance, 400 Seventh Street SW, Room 6115, Washington, DC 205090.

7.3.5 Copies of SAE J855, "Test Method of Stretch and Set of Textiles and Plastics"; SAE J883, "Test Method for Determining Dimensional Stability of Automotive Textile Materials"; SAE J2412, "Accelerated Exposure of Automotive Interior Trim Components Using a Controlled Irradiance Xenon-Arc Apparatus"; and SAE J913, "Test Method for Wicking of

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Automotive Fabrics and Fibrous Materials” are available online at <http://sae.org> or from the Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

7.3.6 Copies of FED-STD-595, “Colors Used in Government Procurement” are available online at <http://assist.daps.dla.mil/quicksearch/> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.

Custodians:

Army - AT

Navy - NU

Air Force - 99

Review Activities:

Army - GL, MI

Navy - MC

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CIVIL AGENCY COORDINATING ACTIVITY:

GSA - FSS

Preparing Activity:

Army - AT

(Project 8305-2008-003)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST online database at <http://assist.daps.dla.mil>.