INCH-POUND

A-A-55308
May 13, 1997

COMMERCIAL ITEM DESCRIPTION

CLOTH AND STRIP, LAMINATED OR COATED, VINYL NYLON OR POLYESTER, HIGH STRENGTH, FLEXIBLE

The General Services Administration has authorized the use of this commercial item description in preference to MIL-C-43006.

1. Scope. This document covers three types, three classes and two forms of laminated or coated cloth. The cloth is intended for use in the manufacture of protective covers and tarpaulins; the laminated strip is intended for nuclear pipe insulation.

2. Classification. The cloth shall be in the following types, classes and forms:

Type I - Heavy Duty
Type II - Medium Duty
Type III - Light Duty

Class 1 - Regular
Class 2 - Special
Class 3 - Special laminated construction

Form 1 - Cloth (width as specified)
Form 2 - Strip, 3 inches wide

3. Salient Characteristics.

3.1 Description. The base cloth shall be an open mesh woven or weft inserted warp knit nylon or polyester cloth. The polyvinylchloride material shall not contain water soluble ingredients; only phosphate and phthalate ester plasticizers shall be used for the purpose of mildew resistance.

3.2 Laminated or Coated cloth. The polyvinylchloride material shall be applied to both sides of the base cloth. The face side of the finished cloth shall be comparatively smooth and the back side may be rough (areas located over the points at which the yarns cross will be raised and the areas between the yarns will be depressed). The physical properties of the finished cloth (and the strip in cloth form prior to being cut into strip) shall conform to the requirements specified in Table I when tested as specified.

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data which may improve this document should be sent to: Defense Personnel Support Center, Clothing and Textiles Directorate, Attn: DPSC-FNS, 2800 South 20th Street, Philadelphia, PA 19145-5099.

AMSC N/A **FSC 8305**

3.3 Color. The color of the finished cloth shall match the applicable color number of FED-STD-595 or shall match the approved color standard for the color specified where such a sample is applicable. The color of the finished cloth shall match the standard sample when viewed under filtered tungsten lamps that approximate artificial daylight and that have a correlated color temperature of 7500 ± 200 K, with illumination of 100 ± 20 footcandles and shall be a good match to the standard sample under incandescent lamplight at 2300 ± 200 K.

3.4 Physical Requirements The cloth shall conform to the requirements listed in Table I.

Table I Requirements of finished cloth

	Type I			Type II		Type III	
Characteristic	1	2	3	1	2	1	2
Weight oz/yd^2							
Maximum	19.8	19.8	19.8	11.0	11.0	6.6	6.6
Minimum	17.1	17.1	17.1	9.0	9.0	5.4	5.4
Breaking Strength lbs. (min.)							
Initial							
Warp	295	295	295	90	90	75	75
Filling	295	295	295	90	90	75	75
After abrasion							
Warp	177	177	177	45	45	23	23
Filling	177	177	177	45	45	23	23
After accelerated weathering 1/							
Warp	162	162	162	49	49	41	41
Filling	162	162	162	49	49	41	41
Tearing Strength lbs. (min.)							
Warp	93	93	93	32	32	28	28
Filling	93	93	93	32	32	28	28
Hydrostatic Resistance, psi (min)	425	425	425	180	180	135	135
Stiffness, cm (max)							
At 70^o F	14.0	14.0	18.0	9.0	9.0	8.5	8.5
At 20^o F	20.0	20.0	25.0	15.0	15.0	11.0	11.0
Adhesion of coating, face side lbs/2 inch width (min)	25.0	20.0	25.0	20.0	15.0	15.0	12.0
Flame Resistance 2/: warp & fill:							
After flame sec (max)	5	5	5	5	5	5	5
Char length in. (max)	4.5	4.5	4.5	7.0	7.0	7.0	7.0
Blocking, scale rating (max)	2	2	2	2	2	2	2

1/ After accelerated weathering, the finished cloth shall show no sign of delamination or of becoming stiff or brittle, nor shall the film or coating become soft or tacky.
2/ For materials required to meet NFPA requirements, see 3.4.1 and 7.2.

3.4.1 Flame resistance (NFPA). When specified, the cloth shall meet the flame resistance requirements stated in NFPA 701 (Small Scale Test).

3.5 Workmanship. The finished cloth shall conform to the quality of product established by this document. The occurrence of defects shall not exceed the applicable acceptable quality levels.

3.6 Width. The overall width of the finished cloth shall be as specified width tolerance shall be ± 1/2 inch. The overall width of the finished strip shall be 3 ± 1/4 inches.

3.7 Component and material inspection. Components and materials shall be inspected in accordance with all the requirements of referenced documents, unless otherwise excluded, amended, modified or qualified in this document or applicable purchase document. In addition, testing shall be performed for the characteristics specified in Table III. All test reports shall contain the individual values utilized in expressing the final result. The sample unit shall be 1/2 yard full width of the cloth. The lot size shall be expressed in units of 1 yard and the sample size shall be as specified below. The lot shall be unacceptable if one or more sample units fail to meet any requirement specified.

Lot size - yards	Sample size (sample unit)
800 or less	2
801 up to and including 22,000	3
22,001 and over	5

4. Regulatory requirements. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulations (FAR).

5. QUALITY ASSURANCE PROVISIONS

5.1 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. The Government reserves the right to require proof of such conformance.

5.2 Market acceptance criteria. The item offered, or a generic equivalent, must have been sold to the commercial market or to the Government for at least two years.

5.3 Warranty. The item offered shall include the standard warranty given to the commercial market beginning with the date of delivery of the individual terms.

5.4 End item tests. The finished cloth shall be tested for the characteristics listed in Table II. The methods of testing specified shall be followed. The physical values specified apply to the average of 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 finished cloth. The lot shall be unacceptable if one or more sample units fail to meet any test requirements specified. The lot size shall be expressed in units of one yard each. All test reports shall contain the individual values utilized in expressing the final result. The sample size (number of sample units) shall be in accordance with the following:

Lot size - yards	Sample size
800 or less	2
801 up to and including 22,000	3
22,001 and over	5

Table II End item tests

Characteristics	Test method
Weight	ASTM-D-3776 Method C (small swatch of fabric method)
Breaking strength: Initial After abrasion After accelerated weathering	 ASTM-D-5034 (G-E or G-T) 1/ and 2/ 3/ and 2/
Tearing Strength	4/
Hydrostatic resistance	5/
Stiffness at 70° ± 2°F at 20° ± 5°F	 6/ 7/ and 6/
Adhesion of coating	8/
Flame resistance	9/
Blocking	10/

1/ Abrasion resistance . ASTM-D-4157. Type I and II cloths shall be abraded on the face side with 80 grit garnet paper. Five determinations each from the warp and filling shall be made per sample unit. Breaking strength specimens shall be cut from the center of the abraded strips. Type III shall be abraded on the face side with a 220 grit paper.

2/ Breaking strength after conditioning. ASTM-D-5035, procedure 1C-E or 1C-T.

3/ Accelerated weathering procedure. Two specimens, 8 by 6 inches minimum, with the short dimension warpwise and two specimens, 8 by 6 inches, minimum, with the short dimension filling wise shall be subjected to the procedure specified in Method 5804 of FED-STD-191, with filters. The procedure shall be performed with the face side exposed for a period of 150 hours ± 1 hour. After exposure, the specimens shall be removed and allowed to condition for at least 24 hours. One warpwise and one fillingwise specimen shall be visually inspected. The remaining specimens shall be tested for breaking strength.

4/ Tearing strength. ASTM-D-2261 or ASTM-D-2262. One maximum peak load shall be recorded. The machine shall tear a minimum distance of 3 inches. The force necessary to tear the cloth shall be observed by means of an autographic recording device. In case of failure by yarn pull-out, rather than yarn breakage, specimens shall be cut 8 by 11 inches. The speed of the movable clamp of the testing machine shall be 12 inches per minute.

5/ Hydrostatic resistance. ASTM D-751, Hydrostatic Resistance Procedure A (Pressure Application by Mullen Type Hydrostatic Tester, Procedure 1 using a machine with displacement rate of 85 ml/min. The water pressure shall be applied to the face side of the cloth.

6/ Stiffness. TAPPI Method T-451, Preferred Procedure (1).

7/ Stiffness at low temperature. Specimens and equipment shall be conditioned at the specified temperature for a minimum of 4 hours before testing. Tests shall be performed at the specified temperature and in still air.

8/ Adhesion of coating. ASTM-D-751, Adhesion of Coating with 2 inch wide reinforced coating adhesion specimens, cyanoacrylate (solventless) adhesive, and pulling clamp speed of 5 mm/s. The test shall be performed on the face side of the cloth.

9/ Flame resistance. Method 5903 of FED-STD-191 unless NFPA testing is required. When NFPA testing is required, the test shall be conducted in accordance with NFPA 701, Small Scale Test.

10/ Blocking. ASTM D-751, Determination of Blocking Resistance of Fabrics Coated With Rubber or Plastics at Elevated Temperatures, except that test specimens shall be exposed at an oven temperature of 180°F for 30 minutes.

5.5 Yard-by-yard examination. The required yardage of each roll in the sample shall be examined on one side only for the defects listed below, however the side shall be alternated for every other roll examined (except type III, class 5 cloth). The same yardage shall be given a through-light inspection for pinholes and thinly coated areas. The through-lighting inspection shall be performed in accordance with MIL-STD-1487. 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. A continuous defect shall be counted as one defect for each warpwise yard or fraction thereof in which it occurs. The sample unit shall be 1 linear yard.

5.6 Defects. The cloth shall be examined for the following defects: Any hole, cut, pinhole, tear, scratch or abrasion mark; Any blister or delamination; Any lump; Any crease or wrinkle resulting in fold, pleat or doubling or adhesion of surfaces that cannot be corrected by manual pressure; Any film or coating missing to expose the base cloth; Any spot, stain or streak more than 1 inch in combined directions, clearly visible at normal inspection distance (3 feet); Any objectionable odor (odors of chemicals commonly used in coating compounds shall not be regarded as objectionable); Width specified not within a tolerance of $\pm$ 1/2 inch; Broken or missing yarn clearly visible at normal inspection distance (3 feet) by either direct viewing or through-lighting; 3 or more contiguous broken or missing yarns of any length; Crease or wrinkle of single ply film or coating or any crease wrinkle or bunching of base cloth that cannot be corrected by manual pressure; Any embedded foreign matter clearly visible at normal inspection distance (3 feet); by either direct viewing or through-lighting; Color not as specified; Color not uniform or is mottled, blotchy or spotted; Uneven thickness of film or coating clearly noticeable. Any tackiness (film or coating shall not block so as to cause surfaces to adhere and not unroll readily); Edges rolled, folded, scalloped, or corded; Not evenly laminated or coated.

5.7 Length examination. Each individual roll in the sample shall be examined for the defects listed below. If the total number of defects in the sample roll exceeds the maximum number of defects specified below, the lot shall be rejected.

Any roll containing more than two pieces.
Any piece in roll less than 25 yards.
Any roll with a total length of less than 80 yards or more than 125 yards.
Any roll with a total length more than two yards less than that marked on ticket.
End of pieces in roll not overlapped.
End of pieces in roll joined by a seam.

5.8 Acceptance criteria. Acceptance criteria shall be as specified in the contract or purchase order.

6. PACKAGING

6.1 Preservation, packing and marking. The preservation, packing and marking shall be as specified in the contract or order.

7. NOTES

7.1 Source of Government Documents. Copies of Military and Federal documents are available from:

Standardization Documents Order Desk
Bldg. 4D
700 Robbins Avenue
Philadelphia, PA 19111-5094

7.2 Sources of Nongovernment Documents.

AMERICAN SOCIETY FOR TESTING AND MATERIALS

(Applications for copies should be addressed to the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19426-2959.)

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 701 - Fire Tests for Flame Resistant Textiles and Films

(Applications for copies should be addressed to the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269)

Custodian:
Army - GL
Navy - NU
Air Force - 99

Review Activities:
Army - AT
Air Force - 45

Civil Agency Coordinating Activity:
GSA - FSS

Preparing Activity:
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