

MIL-C-85637A(AS)

05 May 1987

MIL-C-85637(AS)

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MILITARY SPECIFICATION

CLOTH, LAMINATED, FIRE RESISTANT, WATERPROOF AND
MOISTURE VAPOR PERMEABLE

This specification is approved for use within the Naval Air Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the requirements for a fire resistant Type 456 fiber aramid face cloth laminated to a layer of expanded polytetrafluoroethylene film covered by a backing cloth of a fire resistant aramid jersey knit.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. The following specifications and standards form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of the documents shall be those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation.

SPECIFICATIONS

FEDERAL

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

MILITARY

MIL-T-5624 - Turbine Fuel, Aviation, Grades JP-4 and JP-5
MIL-A-8243 - Anti-Icing and Deicing - Defrosting Fluid
MIL-C-83429 - Cloth, Plain and Basket Weave, Aromatic Polyamide, Non-Melting

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Systems Engineering and Standardization Department (Code 93), Naval Air Engineering Center, Lakehurst, NJ 08733-5100, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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MILITARY, continued

MIL-C-85636 - Cloth, Knit, Jersey, Aramid

STANDARDS

FEDERAL

FED-STD-191 - Textile Test Methods

MILITARY

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

MIL-STD-831 - Test Reports, Preparation of

2.1.2 Other Government publications. The following other Government publication forms a part of this specification to the extent specified herein. Unless otherwise specified, the issues shall be those in effect on the date of the solicitation.

PUBLICATIONS

FEDERAL REGULATIONS

Rules and Regulations under the Textile Fiber Products Identification Act.

(Application for copies should be addressed to the Federal Trade Commission, Washington, DC 20580.)

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

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the issue of the documents which are DoD adopted shall be those listed in the issue of the DODISS specified in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS shall be the issue of the nongovernment documents which is current on the date of the solicitation.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 2097 - Flex Testing of Finish on Upholstery Leather
ASTM D 2582 - Puncture-Propagation Tear Resistance of Plastic Film and
Thin Sheeting
ASTM D 3135 - Performance of Bonded and Laminated Apparel Fabrics,
Specification for
ASTM E 96 - Water Vapor Transmission of Materials

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

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(Nongovernment standards and other publications are normally available from the organizations which prepare or which distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 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. Nothing in this specification, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 First article. When specified in the contract or purchase order, a sample of the laminated cloth shall be subjected to first article inspection (see 4.4 and 6.3).

3.2 Materials.

3.2.1 Base Cloth.

3.2.1.1 Face. The face cloth shall be a fire resistant, high strength aramid fiber blend conforming to MIL-C-83429, Type II (4.3 ounces per square yard), Class 1, Color 1590.

3.2.1.2 Middle layer. The middle layer shall include a microporous, expanded polytetrafluoroethylene film weighing 0.7 ± 0.3 ounces per square yard and an adhesive suitable for the purpose intended.

3.2.1.3 Backing. The backing cloth shall be an aramid jersey knit conforming to MIL-C-85636.

3.2.2 Laminated cloth. The base cloths shall be laminated together in such a manner that the assembled (finished) cloth shall comply with the requirements specified in Table I, when tested as specified in 4.6 (see Figure 1).

3.3 Dimensions of the laminated cloth.

3.3.1 Length and put-up. Unless otherwise specified by the procuring activity (see 6.2.1), the laminated cloth shall be put up on rolls as specified in 5.1. Unless otherwise specified by the acquiring activity (see 6.2.1), the minimum length of any one roll shall be 50 linear yards, the maximum number of pieces per roll shall be three and no single piece shall be less than 10 yards.

3.3.2 Width. Unless otherwise specified by the acquiring activity (see 6.2.1), the width of the laminated cloth shall be not less than 43 inches.

3.4 Fiber identification. Each roll shall be labeled, ticketed for fiber content in accordance with the Textile Fiber Products Identification Act.

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

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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 Responsibility for compliance. All items must meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of assuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling in quality conformance does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material.

4.1.2 Test equipment and inspection facilities. The manufacturer shall insure that test and inspection facilities of sufficient accuracy, quality, and quantity established and maintained to permit performance of required inspections.

4.2 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. First article inspection. The first article inspection consists of examinations and tests performed on samples which are representative of the production item after award of a contract to determine that the production item conforms to the requirements of this specification (see 4.4).
- b. Quality conformance inspection. Quality conformance inspection consists of examinations and tests performed on the individual products or lots to determine conformance of the products or lots with the requirements set forth in this specification (see 4.5).

4.3 Inspection conditions. Unless otherwise specified herein, all testing shall be performed under standard atmospheric conditions and performed on specimens in moisture equilibrium under standard atmospheric conditions specified in FED-STD-191 or ASTM as applicable.

4.4 First article inspection. First article inspection of the laminated cloth shall consist of examinations and tests for all of the requirements of this specification.

4.4.1 First article samples. Unless otherwise specified, as soon as practicable after the award of the contract or order, the manufacturer shall submit three linear yards of the laminated cloth. The samples shall be representative of

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the construction, workmanship, components and materials to be used during production. When a contractor is in continuous production of this laminated cloth from contract to contract, submission of further first article inspection samples on the new contract, may be waived at the discretion of the acquiring activity (see 6.2.1). Approval of the first article inspection samples or the waiving of the first article inspection does not waive the requirements for performing the quality conformance inspection. The first article inspection samples shall be furnished to the Government as directed by the contracting officer (see 6.2.1). A test report, containing complete test data for each component required herein, shall be prepared in accordance with MIL-STD-831. The test report shall accompany the first article samples.

4.4.2 Disposition of first article samples. Upon completion of the first article inspection, recommendations and comments pertinent for use in monitoring production will be forwarded by the Government activity responsible for the inspection program (see 6.2.1) to the contracting officer. The samples will be consumed or destroyed during testing and shall not be considered as part of the quantity to be delivered under the contract or order.

4.5 Quality conformance inspection. The quality conformance inspection shall consist of the examinations in 4.5.1 and 4.5.2 and all the tests required for the laminated cloth for each lot.

4.5.1 Examination of the end item. The end item shall be examined in accordance with the classification of defects and acceptable quality levels (AQLs) set forth in 4.5.1.1 through 4.5.1.4.

4.5.1.1 Yard-by-yard examination. Every yard of every roll in the lot shall be inspected and visual defects classified as listed in Table II. The cloth shall be inspected on the face side, except every tenth roll shall be examined on the back side. 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 one 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 AQL for this examination shall be 4.0 major and 10.5 total defects per 100 yards. The entire yardage of the lot shall be visually examined.

4.5.1.2 Overall examination. Each roll in the lot shall be examined for overall defects. The lot shall be considered unacceptable if any of the defects listed in Table III are present.

4.5.1.3 Examination for length and width.

4.5.1.3.1 Individual roll for length and width. Every roll in the lot shall be examined for the defects listed below. The lot shall be considered unacceptable if any of these defects are present.

- Gross length of roll less than minimum specified (see 3.3.1)
- Gross length of roll less than gross length marked on ticket
- Length of shortest piece on roll less than minimum specified (see 3.3.1)
- Width of roll less than the minimum specified (see 3.3.2)
- Any roll containing more than the maximum number of pieces specified (see 3.3.1)

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4.5.1.3.2 Total yardage in lot. The lot shall be unacceptable if the total of the actual gross length of pieces in the roll are less than the total of the gross lengths marked on the tickets.

4.5.1.4 Examination for compliance with Textile Fiber Products Identification Act. During the yard-by-yard examination, each roll in the sample shall be examined for conformance to the Textile Fiber Products Identification Act. Each roll not labeled in accordance with this Act shall be a defect. The lot shall be unacceptable if two or more of these defects occur.

4.5.2 Inspection of packaging. The sampling and inspection of the preservation, packing and container marking shall be in accordance with the requirements of PPP-P-1136.

4.5.3 Testing of end item.

4.5.3.1 Leakage. The lot size, for the leakage test, shall be expressed in units of one yard and the number of sample units tested shall be in accordance with MIL-STD-105, Inspection Level S-3. Each sample unit shall be a length of cloth, full width, with a minimum testing area of 1290 square inches. The sample units shall be taken from as many different rolls of cloth as possible and the actual test area within the roll shall be randomly selected. Sample units from different rolls shall be selected from as many different locations across the width of the cloth as possible to assure that both areas near the selvage edges and areas in the middle of the cloth width are selected. The AQL for this test shall be 6.5 leaks per 100 yards of cloth based on the lot size expressed in yards (see 4.6.1).

4.5.3.2 Film weight. The lot size, for the film weight test, shall be expressed in units of one yard. The sample unit shall be 1-1/2 yards full width of the polytetrafluoroethylene film. The number of sample units shall be as follows:

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

The lot shall be rejected if any specimen weighs less than 0.4 or more than 1.0 ounces per square yard, or if the difference in weight between any two specimens in the sample unit is greater than 0.30 ounces per square yard. (see 4.6.2).

4.5.3.3 Physical and chemical testing. The lot size shall be expressed in units of one yard. Specimens for each test shall be cut in a diagonal fashion across the entire width of the sample unit so that no two specimens are taken from areas that overlap in the width or lengthwise direction. The sample unit for test purposes shall be three continuous yards, full width, of the laminated cloth. The lot shall be unacceptable if one or more sample units fail to meet any of the test requirements specified (see Table I). The number of sample units shall be as follows:

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

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4.6 Test methods. The methods of testing specified in 4.6.1, 4.6.2 and as listed in Table IV shall be followed. Unless otherwise specified, test methods listed in Table IV are contained in FED-STD-191. The physical and chemical values specified in Table I, except where otherwise specified, shall apply to the average of the determinations made on the individual specimens from the sample units, as specified in the applicable test methods. All individual values shall be shown and utilized in expressing the final results.

4.6.1 Overall testing for leakage. Each sample unit shall be tested for leakage using a hydrostatic tester at a pressure of 1 psi for 1 minute. Each appearance of water, at different places on the sample unit, shall be counted as a leak. The leakage test shall be performed directly on the roll of cloth without cutting the samples from the roll. After testing, the cloth shall be thoroughly dry, without any damage or deterioration, before putting up in rolls and packaging.

4.6.2 Film overall weight test. The polytetrafluoroethylene film shall be tested in accordance with Method 5041 of FED-STD-191 except that each specimen shall be 25 square inches and shall be cut in diagonal fashion from each sample unit. The specimens shall be equally spaced across the full width of the sample unit no closer than two inches to the edge of the sample unit and each specimen shall be tested under ambient conditions. The distance between the top of a specimen and the bottom of next specimen shall be 3 inches.

4.6.3 Retesting. Individual rolls, from lots which have been rejected for any of the physical requirements listed in Table I or 4.6.1, may be retested once for the failed characteristic. Each roll in the rejected lot shall be inspected individually. One of the pieces on the roll shall be randomly selected, one sample unit of cloth, of sufficient length to perform the test for the failed characteristic, shall be taken from the end of that piece. The sample unit shall be tested for the failed characteristic and if the sample unit passes the test requirements for the characteristic in question, the roll will be considered acceptable.

5. PACKAGING

5.1 Preservation, packing and marking. Cloth which was tested for overall leakage shall be thoroughly dry. Cloth shall be preserved, packed and marked in accordance with requirements of PPP-P-1136. The levels of preservation and packing shall be as specified by the contracting activity (see 6.2.1). In addition to the markings required, the following precautionary marking shall appear on all containers:

"STORE IN A COOL DRY PLACE."

6. NOTES

6.1 Intended use. The laminated cloth is intended for use in the fabrication of continuous-wear anti-exposure clothing.

6.2 Ordering data.

6.2.1 Acquisition requirements. Acquisition documents should specify the following:

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- a. Title, number and date of this specification.
- b. Quantity
- c. Selection of applicable levels of preservation and packing (see 5.1).
- d. Whether first article is waived (see 4.4.1).
- e. Name and address of the first article inspection laboratory (see 4.4.1); including the Government Activity responsible for conducting the inspection program (see 4.4.2).
- f. Length and put up requirements if different than standard (see 3.3.1).
- g. Width requirements if different than standard (see 3.3.2).

6.3 First article. When a first article inspection is required, the item should be a first production item as required by 4.4.1. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examinations, test and approval of the first article.

6.4 Test cups. Contamination test chambers, 6 inches in diameter, manufactured by Pesce Lab Sales, P.O. Box 235, Kennett Square, PA 19348, have been successfully used for the leakage test after perspiration. Equivalent test cups may be used.

6.5 Subject term (key word) listing

Aramid
Cloth
Continuous-wear anti-exposure clothing
Fire resistant
First article
Jersey knit
Laminated
Moisture vapor permeable
Polytetraflouroethylene film
Waterproof

6.6 Changes from previous issue. Asterisks (or verticle lines) are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Preparing activity:
Navy - AS
(Project 8305-N114)

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TABLE I. Laminated cloth physical requirements.

Characteristics	Requirement
Weight, ounces per square yard	7.5 ± 1.0
Breaking strength, pounds, minimum:	
Warp	190
Filling	105
Delamination after agitation (wet flexing)	no delamination <u>1/</u>
Hydrostatic resistance, psig, minimum	150
Flame resistance, maximum:	
After flame time, seconds	2
Char length, inches	5
Moisture vapor transmission rate, gm/m ² /24 hrs, Minimum:	
Water method	425 <u>2/</u>
Inverted water method	3,500 <u>3/</u>
Leakage, Maximum:	
Initial	no failures
After flexing	2 failures
After synthetic perspiration	no failures
After exposure to aircraft fluids	no failures
Overall leakage	see 4.5.3.1
Film Overall Weight	see 4.5.3.1
Puncture - Propagation, kilograms, minimum	
Warp	4.3
Filling	2.8

- 1/ The cloth shall be considered delaminated if separation between any ply is 0.25 inch or more in any direction.
- 2/ This minimum value shall be obtained by averaging all of the determinations obtained from the individual specimens taken from all of the sample units as a group. No single specimen determination shall be less than 350 grams/meter²/24 hours.
- 3/ This minimum value shall be obtained by averaging all of the determinations obtained from the individual specimens taken from all of the sample units as a group. No single specimen determination shall be less than 2500 grams/meter²/24 hours.

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TABLE II. Classification of defects for the laminated cloth.

Defects	Classification	
	Major	Minor
Blisters or lumps:		
- 1/4 square inch or less in combined directions, clearly visible <u>1/</u>		X
- Over 1/4 square inch in combined directions, clearly visible <u>1/</u>	X	
Laminating faults:		
- Creases	X	
- Folds - winding on tubes		X
- Any evidence of delamination	X	
Any cut, tear or hole	X	
Floats, slubs or skips - multiple 1/2 inch or more in either warp or filling direction		X
Foreign matter incorporated	X	
Stains on surface:		
- Any spot or stain (compound, oil, dirt) over 1 inch in length in any direction, clearly visible <u>1/</u>		X
Streaks:		
- Shade streaks on surface, clearly visible <u>1/</u>		X
Any tackiness	X	

1/ The term "clearly visible" shall be interpreted as meaning clearly visible at normal examination distance (approximately 3 feet) under an overhead illumination.

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TABLE III. Overall defects.

Selvage curled, folded, rolled, or slack continuously or intermittently throughout the piece.
Overall uncleanness or objectionable odor.
Uneven lamination throughout the piece.
Off-shade, shaded end to end, side to side, side to center or throughout the piece.
Traceable numbering system, which can be traced to the date of lamination, missing from end of roll or identification tag

TABLE IV. Test Methods.

Characteristic	Test Method
Weight	5041
Breaking strength <u>8/</u>	5100
Delamination after agitation	<u>1/</u>
Hydrostatic resistance <u>2/</u>	5512
Flame resistance <u>9/</u>	5903
Moisture vapor transmission rate	<u>3/</u>
Leakage:	<u>4/</u>
After flexing	<u>5/</u>
After synthetic perspiration	<u>6/</u>
After exposure to aircraft fluids	<u>7/</u>
Puncture - Propagation	<u>10/</u>
Overall leakage	4.6.1
Film overall weight	4.6.2

- 1/ One specimen, 14 inches by full width, shall be selected from each sample unit and tested for delamination after 24 hours of continuous agitation. The specimens shall be agitated using the "normal" cycle, in an automatic home laundering type machine except that the washing machine shall be capable of continuous agitation. The water level shall be maintained at 18.0 ± 0.5 gallons, and the water temperature shall be $32^\circ \pm 9^\circ\text{C}$. The load shall be 2 ± 0 .

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pounds. Upon completion of 24 hours of continuous agitation, and while still wet, the specimens shall be evaluated for delamination using ASTM D 3135 as a minimum standard for evaluation. The report shall only include the evaluation of delamination. To be considered delamination, the separation between any 2 plies shall be visible as an area of at least 0.25 inches in one direction by at least 0.125 inches in the other direction.

- 2/ The back side of the cloth shall face the water.
- 3/ Five specimens per sample unit shall be tested for each of the moisture vapor transmission rate (MVTR) methods. The back side of the laminated cloth shall face the water and the specimen shall be sealed by any means which prevents leaking or wicking of water around the specimen. The tests shall be performed in an area with a controlled temperature of $73.4 \pm 1^\circ\text{F}$ and a controlled relative humidity of $50 \pm 2\%$. The water method for determining MVTR shall be conducted as specified in ASTM E 96, with the test dish in the upright position (Procedure B). The free stream air velocity shall be 550 ± 50 FPM as measured 2 inches above the cloth specimen. The air flow shall be measured at least 2 inches from any other surface. The test shall be run for 2 hours and weight measurements shall be taken only at the start and completion of the test.
- 4/ The test for resistance to leakage shall be conducted as specified in FED-STD-191, Method 5516. The hydrostatic head shall be 30 inches and shall be held for three minutes. The report shall only include the appearance of water. The face of the cloth shall face the water. The test may be performed on any device which tests the same specimen area at equivalent pressure.
- 5/ Five warp and five filling specimens, 6 by 6 inches, shall be selected in accordance with 4.6. Twenty of the specimens shall then be randomly selected for actual testing. Specimens shall be conditioned according to FED-STD-191, Section 4. Each of the 20 selected specimens shall be flexed for 10,000 cycles as specified in ASTM D 2097 and as follows: Mark the back of each specimen with two lines 1.7 inches apart and perpendicular to the test direction. The area between the lines is the test area and shall be centered on the back of the specimen. Fold the edges over the face of the specimen $1/4$ inch to create flaps parallel to the test area lines (see Figure 2). Tape flaps in place at the edges of the specimen. The tape should not extend into the area that will be checked for leakage. Wrap the specimen around the fully extended pistons with the back side out. The test area lines should meet evenly and should line up with the edges of the pistons. Clamp in place making sure the clamps are not in the test area. Check specimen for smoothness and tautness. Wrinkles cause improper flexing. After flexing, the flexed area of the specimen shall be tested for leakage as specified in footnote 4/ of this table.

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6/ One specimen per sample unit shall be tested for leakage after exposure to synthetic perspiration. The synthetic perspiration solution shall be made up in a 500 ml glass beaker by combining 3.0 g sodium chloride, 1.0 g trypticase soy broth powder, 1.0 g normal propyl propionate, and .5 g of liquid lecithin. Add 500 ml of distilled water, add a magnetic stirring bar, and cover the beaker. Place the beaker on a combination hot plate/magnetic stirrer apparatus. While stirring, heat the solution to 50 °C; remove cover, and dispense immediately with a pipet or other suitable measuring device. Dispense 2 ml of perspiration solution at 30°C onto the center of an 8 inch by 8 inch glass plate. Place a specimen on the glass plate with the knit side facing the glass. Dispense an additional 2 ml of the synthetic perspiration solution onto the center of the specimen. Place an 8 inch by 8 inch glass plate on top of the specimen with a 4 lb. weight positioned in the center. After 16 hours, remove the specimen (Do Not Rinse) and test immediately for leakage as specified in footnote 4/ of this table.

The predigested protein shall contain the following amino acids:

<u>Ingredient</u>	<u>Milligrams (mg)</u>
Lysine	82.5
Histidine	27.5
Arginine	40.0
Aspartic acid	72.5
Threonine	42.5
Serine	50.0
Glutamic acid	197.5
Proline	92.5
Glycine	22.5
Alanine	28.7
Cystine	4.7
Valine	66.2
Methionine	30.0
Isolencine	53.8
Leucine	87.5
Tyrosine	51.3
Phenylalanine	48.8
Tryptophane	18.8

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TABLE IV. Test Methods. Continued

- 7/ One specimen per sample unit shall be tested for leakage after exposure to aircraft fluids. The specimens shall be not less than 6 inches in diameter. Specimens shall be placed on a flat surface and 1 ml of JP-4 (jet fuel conforming to MIL-T-5624) spread over the middle, followed by 1 ml of de-icing fluid conforming to MIL-A-8243. Place the horizontal specimens flat in an air circulating oven at 50°C for 30 minutes. Remove from oven and test immediately as specified in footnote 4/ of this table.
- 8/ The use of an elongation recording device and tensioning clamp during the performance of this test is not necessary.
- 9/ Because of the toxicity of the fumes generated by burning laminate, glowing specimens shall not be removed from the cabinet. The cabinet shall not be opened until it has been cleared of fumes and smoke. Any equivalent load may be applied to the charred sample prior to measuring.
- 10/The test for puncture propagation shall be conducted as specified in ASTM D 2582. The specimen shall be six by eight inches with six inches in the direction to be tested. The specimen shall be aligned perpendicular to the test direction, with the test direction being defined as the direction of the yarns being torn. The specimen shall be positioned with the face side toward the probe. The test shall be conducted using carriage #6 (0.9072 KG) and only one tear shall be made on a single specimen. If the tear is not straight, the results shall be considered invalid and another specimen tested.

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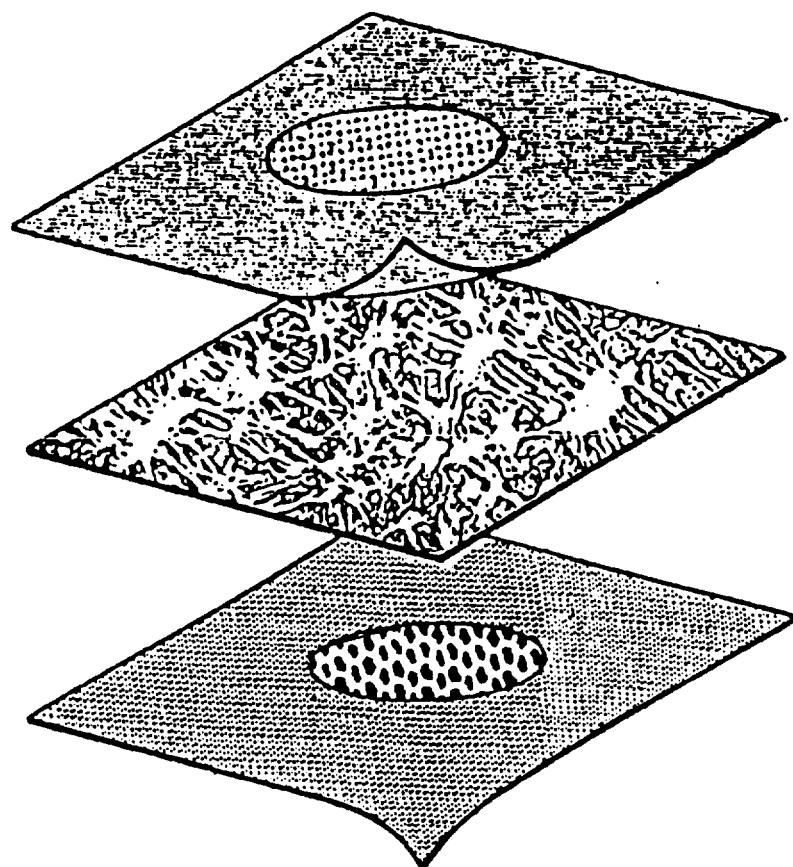
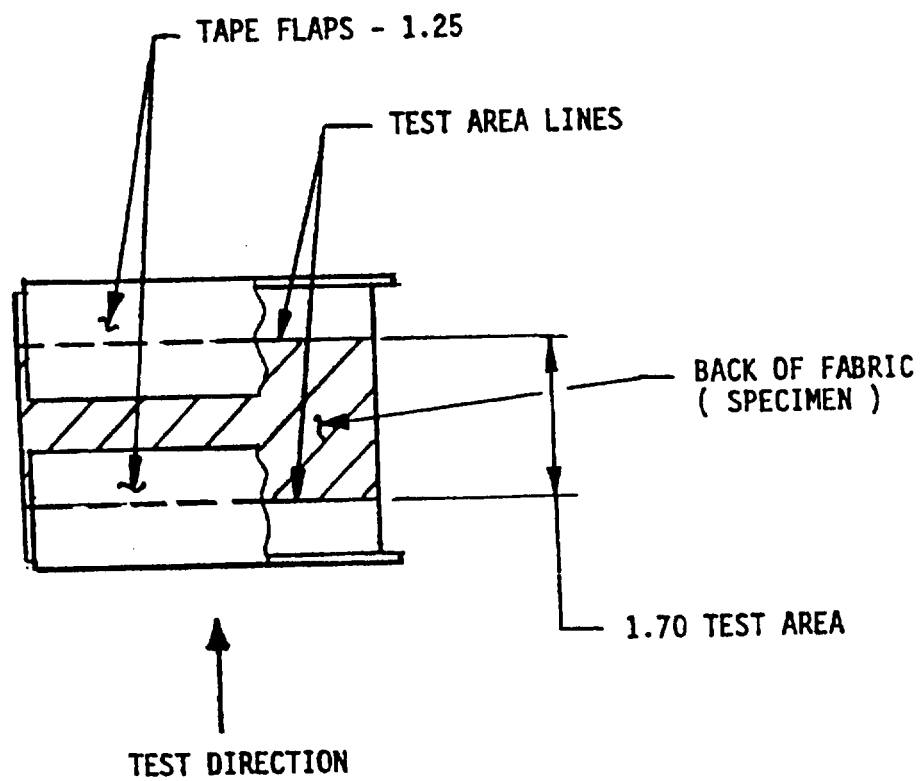


FIGURE 1. Exploded view of laminated cloth.

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NOTE: DIMENSIONS ARE IN INCHES.

FIGURE 2. Synthetic perspiration sample

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1. DOCUMENT NUMBER MIL-C-85637A(AS)	2. DOCUMENT TITLE CLOTH, LAMINATED, FIRE RESISTANT, WATERPROOF AND MOISTURE VAPOR PERMEABLE
3a. NAME OF SUBMITTING ORGANIZATION 	4. TYPE OF ORGANIZATION (Mark one) <input type="checkbox"/> VENDOR <input type="checkbox"/> USER <input type="checkbox"/> MANUFACTURER <input type="checkbox"/> OTHER (Specify): _____
3b. ADDRESS (Street, City, State, ZIP Code) 	
5. PROBLEM AREAS a. Paragraph Number and Wording: b. Recommended Wording: c. Reason/Rationale for Recommendation: 	
6. REMARKS 	
7a. NAME OF SUBMITTER (Last, First, MI) - Optional 	7b. WORK TELEPHONE NUMBER (Include Area Code) - Optional
7c. MAILING ADDRESS (Street, City, State, ZIP Code) - Optional 	8. DATE OF SUBMISSION (YYMMDD)

(TO DETACH THIS FORM, CUT ALONG THIS LINE.)