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AEROSPACE MATERIAL SPECIFICATION

AMS 3285D
Superseding AMS 3285C

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Revised 1-1-84

FELT, BACK CHECK, WHITE
100% Wool

1. SCOPE:

1.1 Form: This specification covers felted wool fibers in the form of sheets and rolls.

1.2 Application: Primarily for oil retention in installations which do not compress the felt, for feeding low-viscosity or light oil, and where unusual strength and hardness are required for such parts as washers, bushings, wicks, and other parts where resistance to wear and abrasion are required.

2. APPLICABLE DOCUMENTS: The following publications form a part of this specification to the extent specified herein. The latest issue of Aerospace Material Specifications (AMS) shall apply. The applicable issue of other documents shall be as specified in AMS 2350.

2.1 SAE Publications: Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096.

2.1.1 Aerospace Material Specifications:

AMS 2350 - Standards and Test Methods

2.2 ASTM Publications: Available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

ASTM D461 - Testing Felt

2.3 U. S. Government Publications: Available from Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120.

2.3.1 Military Standards:

MIL-STD-794 - Parts and Equipment, Procedures for Packaging and Packing of

3. TECHNICAL REQUIREMENTS:

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3.1 Material and Fabrication: The product shall be made from white wool fibers built up by a suitable combination of mechanical work, chemical action, moisture, and heat, without spinning, weaving, or knitting, to produce a well-felted product.

3.2 Properties: The felt shall conform to the following requirements. Tests shall be conducted on the felt supplied and in accordance with ASTM D461 insofar as practicable; splitting resistance requirements apply only to felt 3/16 in. (4.8 mm) and over in thickness.

3.2.1	Tensile Strength, min	500 psi (3.45 MPa)
3.2.2	Splitting Resistance, min	32 lb per 2 in. width (140 N/50 mm width)
3.2.3	Actual Wool Content, min	95%
3.2.4	Methyl Chloroform Soluble (See 8.2), max	2.5%
3.2.5	Water Soluble, max	2.5%
3.2.6	Combined Methyl Chloroform plus Water Soluble, max	3.0%
3.2.7	Ash Content, max	1.5%

3.2.8 Weight: Shall be as specified in Table I.

TABLE I

Nominal Thickness Inch	Weight lb per sq yd	Nominal Thickness Inch	Weight lb per sq yd
3/64	0.712 - 0.788	5/16	4.75 - 5.25
1/16	0.937 - 1.013	3/8	5.70 - 6.30
5/64	1.162 - 1.238	1/2	7.60 - 8.40
3/32	1.387 - 1.463	5/8	9.50 - 10.50
1/8	1.90 - 2.10	3/4	11.40 - 12.60
3/16	2.85 - 3.15	7/8	13.30 - 14.70
1/4	3.80 - 4.20	1	15.20 - 16.80

TABLE I (SI)

Nominal Thickness Millimetres	Weight kg/m^2	Nominal Thickness Millimetres	Weight kg/m^2
1.2	0.386 - 0.427	7.9	2.58 - 2.85
1.6	0.508 - 0.550	9.5	3.09 - 3.42
2.0	0.630 - 0.672	12.7	4.12 - 4.56
2.4	0.752 - 0.794	15.9	5.15 - 5.70
3.2	1.03 - 1.14	19.0	6.18 - 6.84
4.8	1.55 - 1.71	22.2	7.22 - 7.97
6.4	2.06 - 2.28	25.4	8.25 - 9.11

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3.2.9 Corrosion: Felt shall not have a corrosive effect on other materials when Ø exposed to conditions normally encountered in service, determined by a procedure agreed upon by purchaser and vendor. Discoloration of metal shall not be considered objectionable.

3.3 Quality: Felt, as received by purchaser, shall be uniform in quality and Ø condition, clean, sound, and free from foreign materials and from internal and external imperfections detrimental to usage of the felt.

3.4 Sizes and Tolerances:

3.4.1 Thickness: Standard thicknesses and limits of thickness shall be as specified in Table II.

TABLE II

Nominal Thickness Inch	Actual Thickness Inch	Nominal Thickness Inch	Actual Thickness Inches
3/64	0.040 - 0.054	5/16	0.298 - 0.328
1/16	0.056 - 0.070	3/8	0.359 - 0.391
5/64	0.071 - 0.085	1/2	0.481 - 0.519
3/32	0.087 - 0.101	5/8	0.603 - 0.647
1/8	0.113 - 0.137	3/4	0.725 - 0.775
3/16	0.175 - 0.201	7/8	0.847 - 0.903
1/4	0.236 - 0.264	1	0.969 - 1.031

TABLE II (SI)

Nominal Thickness Millimetres	Actual Thickness Millimetres	Nominal Thickness Millimetres	Actual Thickness Millimetres
1.2	1.02 - 1.37	7.9	7.57 - 8.33
1.6	1.42 - 1.78	9.5	9.12 - 9.93
2.0	1.80 - 2.16	12.7	12.22 - 13.18
2.4	2.21 - 2.57	15.9	15.32 - 16.43
3.2	2.87 - 3.48	19.0	18.42 - 19.69
4.8	4.44 - 5.11	22.2	21.51 - 22.94
6.4	5.99 - 6.71	25.4	24.61 - 26.19

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3.4.2 Width: Standard widths shall be 60 and 72 in. (1.52 and 1.83 m) for thicknesses of 3/64 - 3/32 in. (1.2 - 2.4 mm) , incl, and 60 in. (1.52 m) for thicknesses of 1/8 in. (3.2 mm) and over.

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for Inspection: The vendor of the felt shall supply all samples for vendor's tests and shall be responsible for performing all required tests. Results of such tests shall be reported to the purchaser as required by 4.5. Purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the felt conforms to the requirements of this specification

4.2 Classification of Tests:

4.2.1 Acceptance Tests: Tests to determine conformance to requirements for tensile strength (3.2.1), splitting resistance (3.2.2), wool content (3.2.3), ash content (3.2.7), weight (3.2.8), quality (3.3), and sizes and tolerances (3.4) are classified as acceptance tests and shall be performed on each lot.

4.2.2 Preproduction Tests: Tests to determine conformance to all technical requirements of this specification are classified as preproduction tests and shall be performed prior to or on the initial shipment of felt to a purchaser, when a change in material or processing, or both, requires reapproval as in 4.4.2, and when purchaser deems confirmatory testing to be required.

4.2.2.1 For direct U. S. Military procurement, substantiating test data and, when requested, preproduction test material shall be submitted to the cognizant agency as directed by the procuring activity, the contracting officer, or the request for procurement.

4.3 Sampling: Shall be in accordance with ASTM D461.

4.3.1 For Acceptance Tests: Each lot of felt shall be 100% visually examined for quality (3.3) and sampled at random for all other tests, with the number of determinations for each requirement to be as specified in the applicable test procedure, or, if not specified therein, not less than three.

4.3.1.1 A lot shall be all felt produced in a single production run under the same fixed conditions and presented for vendor's inspection at one time. An inspection lot shall not exceed 1000 linear yd (900 linear m). A lot may be packaged in small quantities under the basic lot approval provided the lot identification is maintained.

4.3.1.2 When a statistical sampling plan and acceptance quality level (AQL) have been agreed upon by purchaser and vendor, sampling shall be in accordance with such plan in lieu of sampling as in 4.3.1 and the report of 4.5.1 shall state that such plan was used.

4.3.2 For Preproduction Tests: As agreed upon by purchaser and vendor.

4.4 Approval:

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4.4.1 Sample felt shall be approved by purchaser before felt for production use is supplied, unless such approval be waived by purchaser. Results of tests on production felt shall be essentially equivalent to those on the approved sample.

4.4.2 Vendor shall use ingredients, manufacturing procedures, processes, and methods of inspection on production felt which are essentially the same as those used on the approved sample felt. If necessary to make any change in ingredients, in type of equipment for processing, or in manufacturing procedures, vendor shall submit for reapproval a statement of the proposed changes in material or processing, or both, and, when requested, sample felt. Production felt made by the revised procedure shall not be shipped prior to receipt of reapproval.

4.5 Reports:

4.5.1 The vendor of felt shall furnish with each shipment three copies of a report showing the results of tests to determine conformance to the acceptance test requirements and stating that the felt conforms to the other technical requirements of this specification. This report shall include the purchase order number, lot number, AMS 3285D, vendor's material designation, form, size, and quantity.

4.5.2 The vendor of finished or semi-finished parts shall furnish with each shipment three copies of a report showing the purchase order number, AMS 3285D, contractor or other direct supplier of felt, suppplier's material designation, part number, and quantity. When felt for making parts is produced or purchased by the parts vendor, that vendor shall inspect each lot of felt to determine conformance to the requirements of this specification and shall include in the report either a statement that the felt conforms or copies of laboratory reports showing the results of tests to determine conformance.

4.6 Resampling and Retesting: If any specimen used in the above tests fails to meet the specified requirements, disposition of the felt may be based on the results of testing three additional specimens for each original nonconforming specimen. Failure of any retest specimen to meet the specified requirements shall be cause for rejection of the felt represented and no additional testing shall be permitted. Results of all tests shall be reported.

5. PREPARATION FOR DELIVERY:

5.1 Identification and Packaging:

5.1.1 Each roll and sheet shall have attached a tag showing not less than AMS 3285D and manufacturer's name or trademark.

5.1.2 Packaging shall be accomplished in such a manner as to ensure that the felt, during shipment and storage, will be protected against damage from exposure to moisture, weather, or any other normal hazard.

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