



AEROSPACE MATERIAL

Society of Automotive Engineers, Inc.
400 COMMONWEALTH DRIVE, WARRENDALE, PA, 15096

SPECIFICATION

AMS 3809

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Revised

TAPE, ADHESIVE, PRESSURE-SENSITIVE
Double-Faced, Carpet Tie Down

1. SCOPE:

1.1 Form: This specification covers a fabric in the form of a double-faced, pressure-sensitive, adhesive tape.

1.2 Application: Primarily for the installation and hold-down of carpet to aircraft floor panels.

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) and Aerospace Recommended Practices (ARP) shall apply. The applicable issue of other documents shall be as specified in AMS 2350.

2.1 SAE Publications: Available from Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096.

2.1.1 Aerospace Material Specifications:

AMS 2350 - Standards and Test Methods

AMS 4049 - Aluminum Alloy Sheet and Plate, Alclad, 5.6Zn - 2.5Mg - 1.6Cu - 0.26Cr
(Alclad 7075; -T6 Sheet, -T651 Plate)

2.1.2 Aerospace Recommended Practices:

ARP 1512 - Corrosion of Aluminum Alloys by Aircraft Maintenance Chemicals,
Sandwich Test

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

ASTM D1000 - Testing Pressure-Sensitive Adhesive Coated Tapes Used for
Electrical Insulation

ASTM F501 - Aerospace Materials Response to Flame with Vertical Test
Specimens (for Aerospace Vehicles Standard Conditions)

2.3 U. S. Government Publications: Available from Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120 except as specified in 2.3.3.

2.3.1 Federal Specifications:

PPP-T-680 - Tape, Pressure Sensitive Adhesive, Packaging and Packing of

2.3.2 Federal Standards:

Federal Test Method Standard No. 147 - Tape, Packaging, Adhesive, and Gummed, Methods
of Inspection, Sampling, and Testing

SAE Technical Board rules provide that: "All technical reports, including standards approved and practices recommended, are advisory only. Their use by anyone engaged in industry or trade or their use by governmental agencies is entirely voluntary. There is no agreement to adhere to any SAE standard or recommended practice, and no commitment to conform to or be guided by any technical report. In formulating and approving technical reports, the Board and its Committees will not investigate or consider patents which may apply to the subject matter. Prospective users of the report are responsible for protecting themselves against liability for infringement of patents."

2.3.3 Federal Aviation Administration Regulations: Available from Superintendent of Documents, U. S. Government Printing Office, Washington, DC 20402.

FAR Part 25 - Airworthiness Standards, Transport Category Airplanes

3. TECHNICAL REQUIREMENTS:

3.1 Material: Shall consist of a woven fabric, coated on both faces with a pressure-sensitive adhesive, meeting the requirements of 3.2.

3.1.1 Tape shall have not less than 20 x 30 (length x width) threads per square centimetre.

3.1.2 Weight of tape shall not exceed 28 g per sq ft (300 g/m²).

3.2 Properties: Tape shall conform to the following requirements:

3.2.1 Color: Natural, unless otherwise specified.

3.2.2 Thickness: Shall be 0.014 in. $\pm$ 0,001 (0.36 mm $\pm$ 0.02), determined in accordance with ASTM D1000.

3.2.3 Adhesion, Both Surfaces: Shall be not less than 40 oz per in. of width (0.44 N/mm of width), determined in accordance with ASTM D1000, Method A, 180 deg peel test.

3.2.4 Breaking Strength: Shall be not less than 35 lb per in, of width (6130 N/m of width), determined in accordance with ASTM D1000, Class 1.

3.2.5 Flammability: Shall meet the requirements of FAA Regulations, Part 25, Paragraph 25.853 (b) and the following, determined in accordance with ASTM F501, 12-set vertical flame test:

3.2.5.1 Self Extinguishing Time: Shall not exceed 15 seconds.

3.2.5.2 Burn Length: Shall not exceed 8 in, (200 mm).

3.2.6 Corrosion: Tape, applied to AMS 4049 aluminum alloy panels, shall neither show evidence of pitting corrosion nor evince a corrosion rate greater than 1, determined in accordance with ARP 1512.

3.2.7 Odor: Tape shall not emit any objectionable odor during normal use in aircraft.

3.2.8 Shelf Life: Tape shall meet the requirements of 3.2.1 through 3.2.6 up to 1 year from date of receipt by purchaser after storage at 5° to 25°C (40° to 75°F) and relative humidity not higher than 70%.

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

3.3.1 There shall be no visual evidence of separation of the adhesive from the backing upon unwinding from the roll,

3.4 Tolerances: Tape shall be supplied in widths of 1, 2, or 3 in. (25, 50, or 75 mm), as ordered, with a tolerance of $\pm$ 1/8 in. ($\pm$ 3 mm), unless otherwise specified.

4. QUALITY ASSURANCE PROVISIONS:

- 4.1 Responsibility for Inspection: The vendor of tape 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 such confirmatory testing as he deems necessary to ensure that the tape conforms to the requirements of this specification.
- 4.2 Classification of Tests:
- 4.2.1 Acceptance Tests: Tests to determine conformance to requirements for color (3.2.1), thickness (3.2.2), adhesion (3.2.3), breaking strength (3.2.4), and flammability (3.2.5), 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 on the initial shipment of tape to a purchaser, when a change in material or processing requires reapproval as in 4.4.2, and when purchaser deems confirmatory testing to be required.
- 4.3.3.1 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 all applicable requirements of Federal Test Method Standard No. 147 with an Acceptance Quality Level (AQL) of 4.0; a lot shall be all tape produced in a single production run from the same batches of raw materials under the same tied conditions and submitted for vendor's inspection at one time.
- 4.4 Approval:
- 4.4.1 Sample tape shall be approved by purchaser before tape for production use is supplied, unless such approval be waived. Results of tests on production tape shall be essentially equivalent to those on the approved sample.
- 4.4.2 Vendor shall use ingredients, manufacturing procedures and processes, and methods of inspection on production tape which are essentially the same as those used on the approved sample tape. If any change is necessary in ingredients, in type of equipment for processing, or in manufacturing procedures, vendor shall submit for reapproval a statement of the proposed changes in materials and/or processing and, when requested by purchaser, sample tape. Production tape made by the revised procedure shall not be shipped prior to receipt of reapproval.
- 4.5 Reports: Unless waived by purchaser, the vendor of tape 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 tape conforms to the other technical requirements of this specification. This report shall include the purchase order number, AMS 3809, lot number, vendor's material designation, size, and quantity.
- 4.6 Resampling and Retesting: If any specimen used in the above tests fails to meet the specified requirements, disposition of the tape 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 tape represented and no additional testing shall be permitted. Results of all tests shall be reported.