



<b>AEROSPACE MATERIAL SPECIFICATION</b>	<b>AMS3721™</b>	<b>REV. A</b>
	Issued 2017-10 Revised 2024-04	
	Superseding AMS3721	
Tape for Organic Coatings Adhesion Testing		

## RATIONALE

Five-Year Review and update. There were no technical changes made for this revision.

### 1. SCOPE

#### 1.1 Form

This specification establishes requirements for a tape that is used to perform organic coatings adhesion testing.

#### 1.2 Application

The tapes covered by this specification are typically applied to organic coatings to test for adhesion. The tape is used in conjunction with coating material specifications and tape adhesion test methods (e.g., ASTM D3359 and FED-STD-141 Method 6301).

#### 1.3 Safety - Hazardous Materials

While the materials, methods, applications, and processes described or referenced in this specification may involve the use of hazardous materials, this specification does not address the hazards that may be involved in such use. It is the sole responsibility of the user to ensure familiarity with the safe and proper use of any hazardous materials and to take necessary precautionary measures to ensure the health and safety of all personnel involved.

### 2. APPLICABLE DOCUMENTS

The issue of the following documents in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been cancelled and no superseding document has been specified, the last published issue of that document shall apply.

#### 2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), [www.sae.org](http://www.sae.org).

AMS3167 Solvents, Wipe, for Cleaning Prior to Application of Primer and Top Coat Materials, or Sealing Compounds

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<https://www.sae.org/standards/content/AMS3721A>

AMS3819 Cloths, Cleaning, For Aircraft Primary and Secondary, Structural Surfaces

AS9100 Quality Management Systems - Requirements for Aviation, Space, and Defense Organizations

## 2.2 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, [www.astm.org](http://www.astm.org).

ASTM D1974/D1974M Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes

ASTM D3330/D3330M Standard Test Method for Peel Adhesion of Pressure-Sensitive Tape

ASTM D3359 Standard Test Methods for Measuring Adhesion by Tape Test

ASTM D3652/D3652M Standard Test Method for Thickness of Pressure-Sensitive Tapes

ASTM D3759/D3759M Standard Test Method for Breaking Strength and Elongation of Pressure-Sensitive Tape

ASTM D3951 Standard Practice for Commercial Packaging

## 2.3 U.S. Government Publications

Copies of these documents are available online at <https://quicksearch.dla.mil>.

FED-STD-141 Paint, Varnish, Lacquer and Related Materials: Methods of Inspection, Sampling and Testing

## 2.4 PRI Publications

Available from Performance Review Institute, 161 Thorn Hill Road, Warrendale, PA 15086-7527, Tel: 724-772-1616, <https://www.p-r-i.org/>.

OP 2004 QPL Qualification Process

PD2000 Governance and Administration of an Industry Managed Product Qualification Program

PRI QPL-AMS3721 Products Qualified Under AMS3721

## 2.5 ISO Publications

Copies of these documents are available online at <https://webstore.ansi.org/>.

ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories

ISO 9001 Quality Management Systems - Requirements

## 3. TECHNICAL REQUIREMENTS

### 3.1 Materials

The tape shall consist of a paper backing with an applied adhesive that provides instant adhesion to a wide variety of surfaces. The paper backing shall exhibit sufficient tensile strength to resist breakage.

#### 3.1.1 Toxicity

The tape shall have no adverse effect on the health of personnel when used for its intended purpose in accordance with the manufacturer's instructions and with appropriate handling procedures and precautions.

### 3.2 Quality

The tape, as received by the purchaser, shall be uniform in quality and condition, free from foreign materials, and free from imperfections detrimental to the usage of the tape.

### 3.3 Properties

The tape, when used in accordance with the manufacturer's instructions, shall conform to the requirements shown in Table 1, determined in accordance with the specified test methods.

**Table 1 - Properties**

Paragraph	Property	Requirement	Test Method Paragraph
3.3.1	Adhesion	60 to 120 ozf/in (0.66 N/mm to 1.31 N/mm) adhesion to stainless steel	4.7.3
3.3.2	Tensile Strength and Elongation, Minimum	41 lbf/in (7.18 N/mm) and 2%	4.7.3
3.3.3	Thickness	0.006 inch $\pm$ 0.001 inch (0.15 mm $\pm$ 0.025 mm)	4.7.3
3.3.4	Adhesive Transfer	No adhesive transfer	4.7.4
3.3.5	Storage Stability	3.3.1 and 3.3.2 are tested after the specified shelf life (see 3.4)	

### 3.4 Shelf Life

Shelf life for the tape shall be specified by the manufacturer for a minimum of 12 months from the date of manufacture when stored at 70 °F  $\pm$  10 °F (21 °C  $\pm$  6 °C) and 50%  $\pm$  10% relative humidity. Purchased material may be retested for shelf-life extension using 4.4.3 as a recommended guideline.

## 4. QUALITY ASSURANCE PROVISIONS

### 4.1 Qualification of Tape

Qualification is the process by which material properties of a tape are verified through testing at an accredited laboratory (see 4.4.1) prior to inclusion on a qualified products list (QPL). All tapes sold to this specification shall be listed, or approved for listing, on an approved QPL in accordance with PD2000 and OP 2004. The manufacturer's specified shelf life shall be included in the listing. The tape may be qualified on an interim basis until the storage stability requirement (see 3.3.5) is successfully completed, at which point full qualification is granted.

#### 4.1.1 Qualified Products Lists

PRI QPL-AMS3721 is the approved QPL managed by the Performance Review Institute (PRI), 161 Thorn Hill Road, Warrendale, PA 15086-7527, phone (724) 772-1616, fax (724) 772-1699. Information pertaining to qualification of tape may be obtained from PRI.

#### 4.1.2 Contract Awards

Awards will be made only for tapes that are, prior to the award of contract, QPL approved.

### 4.2 Quality System of Manufacturer

Before submitting a tape for qualification to this specification for the purpose of being listed on the QPL, the manufacturer shall have a quality system in place that holds a third-party accreditation to ISO 9001 or AS9100.

### 4.3 Responsibility for Testing

The manufacturer of the tape shall supply all samples needed and shall be responsible for the performance of all required tests of this specification.

#### 4.4 Classification of Tests

##### 4.4.1 Qualification Tests

All technical requirements of this specification (see Section 3) are qualification requirements. Conformance to these requirements shall be established prior to QPL approval. All qualification testing (see 3.3) shall be carried out by a laboratory that is independent of the manufacturer and is accredited per ISO/IEC 17025 with a Scope of Accreditation that is approved by the G-8 Qualified Products Group (QPG).

##### 4.4.2 Acceptance Tests

The technical requirements shown in Table 2 are acceptance tests. Conformance to these requirements shall be established on each batch of tape. Unless otherwise specified herein, acceptance testing may be carried out by a laboratory of the manufacturer's choosing.

**Table 2 - Acceptance tests**

Paragraph	Property	Test Method Paragraph
3.3.1	Adhesion	4.7.3
3.3.2	Tensile Strength and Elongation	4.7.3

##### 4.4.3 Shelf-Life Extension

###### 4.4.3.1 Time and Limits of Shelf-Life Extensions

The recommended procedure to extend the shelf life of a batch of tape for 3 months is to perform and pass the shelf-life tests in Table 3 at the end of the tape's original shelf life. Up to three total extensions are permissible.

###### 4.4.3.2 Shelf-Life Tests

The recommended tests to be conducted for shelf-life extensions are listed in Table 3.

**Table 3 - Shelf-life tests**

Paragraph	Property	Test Method Paragraph
3.3.1	Adhesion	4.7.3
3.3.2	Tensile Strength and Elongation	4.7.3

#### 4.5 Sampling and Testing

Shall be as follows:

##### 4.5.1 Qualification Tests

Samples shall consist of one complete roll of tape. Samples shall be identified as follows and forwarded to the laboratory responsible for testing:

TAPE  
 AMS3721A  
 MANUFACTURER'S IDENTIFICATION  
 NAME OF MANUFACTURER  
 BATCH NUMBER  
 DATE OF MANUFACTURE  
 SUBMITTED BY (NAME) (DATE) FOR QUALIFICATION TESTS IN ACCORDANCE WITH AMS3721A

#### 4.5.2 Acceptance Tests and Shelf-Life Extension Tests

Samples shall consist of one roll of tape taken at random from each batch to perform the required tests. A batch shall be the quantity of material manufactured at one time.

#### 4.6 Approval, Reapproved, and Recertification

Approval of qualification test results, being reapproved, and recertification of qualification for QPL listing shall be in accordance with PD2000 and OP 2004, unless otherwise specified herein. Data shall be reviewed by the G-8 QPG.

##### 4.6.1 Approval

The manufacturer shall submit qualification test data to PRI for approval by the G-8 QPG. Qualification will be valid until such time that the conditions in 4.6.2 or 4.6.3 occur or unless qualification is withdrawn per the conditions set forth in PD2000 and OP 2004.

##### 4.6.2 Reapproved

The manufacturer shall use ingredients, manufacturing procedures, processes, and methods of inspection on production tape that is the same as those used on the qualification sample. If necessary to make any change in product formulation, raw materials, basic methods of processing, or plant site, the manufacturer shall submit to be reapproved by the G-8 QPG by submitting a statement of the proposed changes in ingredients and/or processing and, when requested, sample tape. Production tape made by the revised procedure shall not be shipped prior to receipt being reapproved.

4.6.2.1 A review of the submitted changes may result in being reapproved without testing, reapproved after partial requalification testing, or reapproved after full requalification testing.

##### 4.6.3 Recertification

Recertification of qualification is required every 5 years. Recertification consists of a letter certifying that there have been no changes in the material ingredients, manufacturing processes, or site of production since qualification, and that the tape meets all of the requirements of this specification. In addition, a test report shall be provided by the manufacturer showing compliance with all of the qualification tests per 4.4.1.

#### 4.7 Test Methods

Testing shall be as follows:

##### 4.7.1 Standard Test Conditions

Standard laboratory test conditions for preparation and testing of specimens shall be 77 °F ± 5 °F (25 °C ± 3 °C). Unless otherwise specified herein, all test specimens shall be tested under these conditions throughout the test methods.

##### 4.7.2 Standard Tolerances

Unless otherwise specified herein, standard tolerances shown in Table 4 shall be applied throughout the test methods.

**Table 4 - Standard tolerances**

Measurement Units	Tolerance
Temperature	±2 °F (±1 °C)
Day	±2 hours
Hour	±5 minutes
Minute	±10 seconds
Inches (mm)	±0.010 inch (±0.25 mm)

##### 4.7.3 Test Procedure - ASTM Test Methods

ASTM test methods, without exceptions, shall be used for test methods specified in Table 5.