

AEROSPACE MATERIAL SPECIFICATION



AMS 3726/3A

Issued OCT 1983
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Superseding AMS 3726/3

Shims, Filled Resin Compound Liquid Precatalyzed

1. SCOPE:

1.1 Form:

This specification covers a filled, resinous, thermosetting, precatalyzed, liquid compound capable of being applied and cured in place between the surfaces of mechanically fastened (joined) structures.

1.2 Application:

This product has been used typically as a molded shim during assembly of aircraft components and parts, but usage is not limited to such applications. The compound covered by this detail specification requires storage in the frozen condition just prior to installation.

2. APPLICABLE DOCUMENTS:

See AMS 3726.

3. TECHNICAL REQUIREMENTS:

3.1 Basic Specification:

The complete requirements for procuring the product described herein shall consist of this document and the latest issue of the basic specification, AMS 3726.

3.2 Material:

Shall be a precatalyzed epoxy or modified epoxy-base polymer supplied in a tube. The amount of material in a tube shall be as specified.

3.2.1 Compound shall meet the requirements of this specification at any time up to six months from date of receipt by purchaser when stored below -37 °C (-35 °F) in the original unopened containers.

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3.3 Cured Properties:

Shall be as shown in Table 1.

TABLE 1 - Properties

Paragraph	Property	Requirement	Method of Testing
3.3.1	Hardness, Durometer D or equivalent, minimum average	92	ASTM D 2240
3.3.2	Specific Gravity, maximum	1.60	ASTM D 792
3.3.3	Coefficient of Linear Thermal Expansion, maximum average -62 to +93 °C (-80 to +199 °F)	5.4 x 10 ⁻⁵ mm/mm per °C (3.0 x 10 ⁻⁵ inch/inch per °F)	ASTM D 696
3.3.4	Lap Shear Strength, minimum average	2000 psi (13.8 MPa)	ASTM D 1002
3.3.5	Lap Shear Residual Strength, Exposed, minimum average		
3.3.5.1	Salt Spray, 30 days at 50 °C ± 1 (122 °F ± 2)	1500 psi (10.3 MPa)	ASTM B 117
3.3.5.2	Condensing Humidity, 30 days at 60 °C + 1 (140 °F ± 2)	1800 psi (12.4 MPa)	ASTM D 1151
3.3.5.3	JP-4 Fuel, 7 days at 60 °C ± 1 (140 °F ± 2)	1800 psi (12.4 MPa)	ASTM D 3165
3.3.6	Strain Compatibility, Tensile, Constant Amplitude Cycling		
3.3.6.1	Aluminum alloy	20 cycles without failure at -55 °C ± 1 (-67 °F ± 2)	4.5.2
3.3.6.2	Graphite-epoxy laminate	20 cycles without failure at -55 °C ± 1 (-67 °F ± 2)	4.5.3
3.3.7	Flatwise Compressive Strength, minimum	30.0 ksi (207 MPa) stress without failure	4.5.4
3.3.8	Shim-Torque Test, breakaway torque, individual bolt, minimum	50% of initial applied torque	4.5.5