

Submitted for recognition as an American National Standard

SHIMS, FILLED RESIN COMPOUND
Liquid

AN AMERICAN NATIONAL STANDARD

This specification has been declared "NONCURRENT" by the Aerospace Materials Division, SAE, as of July, 1992. It is recommended, therefore, that this specification not be specified for new designs.

This cover sheet should be attached to revision "A" of the subject specification.

"NONCURRENT" refers to those materials which have previously been widely used and which may be required on some existing designs in the future. The Aerospace Materials Division, however, does not recommend these as standard materials for future use in new designs. Each of these "NONCURRENT" specifications is available from SAE upon request.

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Superseding AMS 3726/1

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1. SCOPE:

1.1 Form:

This specification covers a filled, resinous, thermosetting, two-part, 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 can be stored as two separate components for up to one year from date of receipt by purchaser.

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 an epoxy or modified epoxy-base polymer supplied with a separate hardener or curing agent.

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3.3 Cured Properties:

Shall be as shown in Table 1.

TABLE 1

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)	1700 psi (11.7 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