AEROSPACE MATERIAL SPECIFICATION

AMS3107™/4	REV. A

Issued 1983-04
Revised 1992-04
Reaffirmed 2022-08

Superseding AMS3107/4

Primer, Adhesive, Corrosion-Inhibiting High Durability Epoxy, -55 to +215 °C (-67 to +419 °F)

RATIONALE

AMS3107/4A has been reaffirmed to comply with the SAE Five-Year Review policy.

1. SCOPE:

1.1 Form:

This specification covers a corrosion-inhibiting, modified epoxy resin primer in the form of a ready-to-use, sprayable liquid.

1.2 Application:

See AMS 3107.

2. APPLICABLE DOCUMENTS:

See AMS 3107.

3. TECHNICAL REQUIREMENTS:

3.1 Basic Specification:

The complete requirements for procuring the primer described herein shall consist of this document and the latest issue of the basic specification, AMS 3107.

3.2 Material:

The primer shall be a sprayable liquid composed of a modified epoxy resin system pigmented and compounded to be compatible with AMS 3695/4 epoxy film adhesive and silicone resin-based topcoat.

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https://www.sae.org/standards/content/AMS3107/4A/

3.2.1 Storage Life: The primer, in the original closed containers, shall meet the requirements of this specification when stored and tested at any time up to the time and under the temperature conditions specified below:

180 days below -18 °C (0 °F), or
60 days at -18 to +5 °C (0 to +41 °F), or
7 days over 5 to 25 °C (41 to 77 °F).

3.3 Properties:

Primer shall conform to the following requirements:

3.3.1 Uncured Primer: The primer, as received, shall meet the requirements of Table 1, Tests 1 through 7.

3.3.2 Cured Primer Film: The primer, open dried for not less than 30 minutes at 25 °C ± 5 (77 °F ± 9) and hot air cured by heating to 150 to 175 °C (302 to 347 °F) for 60 to 90 minutes, shall meet the requirements of Table 1, Tests 8 through 18. Other curing schedules may be used when approved by purchaser after preproduction testing of a primer system.

3.3.3 Cured Primer/Adhesive System: Shall meet the requirements of Table 1, Test 19, when applied and cured in conjunction with adhesive conforming to AMS 3695/4 and tested in accordance with the applicable portion of AMS 3695/4.

TABLE 1 - Properties

Test Number	Property	Requirement
1	Color	As approved on preproduction tests
2	Solids Content	Preproduction Value ± 1%
3	Inhibitor Content	
3.1	For Preproduction:	Not less than 6.5% of solids content
3.2	For Acceptance:	Preproduction Value ± 20%
4	Weight per Volume	Preproduction Value ± 2%
5	Viscosity	Preproduction Value ± 10%
6	Sprayability	Uniform in thickness, color, and surface texture
7	Pot Life	5 days at 30 °C ± 2 (86 °F ± 4)
8	Adhesion	No flaking, lifting, or peeling
9	Flexibility	No cracking, flaking, or loss of adhesion

TABLE 1 - Properties (Continued)

Test Number	Property	Requirement
10	Impact Resistance	No cracking or loss of adhesion at 40 inch-pounds (4.5 N·m)
11	Hardness	4H, minimum
12	Fluid Resistance	No film failure exhibited by blistering, softening, cracking, peeling, or loss of adhesion
12.1	Distilled Water (ASTM D 1193, Type III)	Exposure for 7 days ± 0.1 at 25 °C ± 1 (77 °F ± 2)
12.2	Polyol Ester Based Fluid (MIL-L-23699)	Maximum reduction of 2 units pencil hardness allowed after exposure for 30 days ± 0.5 at 175 °C ± 5 (347 °F ± 9)
12.3	Anti-Icing Fluid (AMS 1425)	Exposure for 7 days ± 0.1 at 25 °C ± 1 (77 °F ± 2)
12.4	Petroleum Base Hydraulic Fluid (AMS 3020)	Exposure for 7 days ± 0.1 at 25 °C ± 1 (77 °F ± 2)
12.5	Diester Lubricating Oil (AMS 3021)	Exposure for 7 days ± 0.1 at 175 °C ± 5 (347 °F ± 9)
12.6	Aromatic Fuel (ASTM D 471, Fuel B)	Exposure for 7 days ± 0.1 at 25 °C ± 1 (77 °F ± 2)
12.7	JP4 Fuel (ASTM D 1655, Jet B)	Exposure for 7 days ± 0.1 at 25 °C ± 1 (77 °F ± 2)
13	Corrosion Resistance	
13.1	Salt Spray	No film or substrate degradation more than 1/8 inch (3.2 mm) beyond scribe mark after 40 days ± 0.5 salt spray exposure
13.2	Filiform (Acid-Humidity)	No blisters, corrosion, or loss of adhesion after 30 days ± 0.5 exposure
14	Humidity Resistance	No film failure or loss of adhesion
15	Heat Resistance After 30 days ± 0.5 at 215 °C ± 5 (419 °F ± 9)	No film failures; slight discoloration is acceptable
16	Low-Temperature Shock Cycle: 215 °C ± 5 to -55 °C ± 1 (419 °F ± 9 to -67 °F ± 2)	No film failure