



AEROSPACE MATERIAL SPECIFICATION

AMS3705™**REV. A**

Issued 1985-07
Revised 1993-10
Reaffirmed 2014-08

Superseding AMS3705

Epoxy Resin, Cycloaliphatic Liquid

RATIONALE

AMS3705A has been reaffirmed to comply with the SAE Five-Year Review policy.

1. SCOPE:

1.1 Form:

This specification covers an alicyclic diepoxy carboxylate prepolymer in the form of a low-viscosity liquid.

1.2 Application:

This resin has been typically in the manufacture of high temperature composite matrices and adhesives where a low viscosity resin is required, but usage is not limited to such applications.

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 which 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 following publications form a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order.

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Full document details: SAE AMS3705A

For more information on this standard, visit
<https://www.sae.org/standards/content/AMS3705A/>

Documents
Document Sharing Hub

2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

AMS 2825 Material Safety Data Sheets

2.2 ASTM Publications:

Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM D 1652 Epoxy Content of Epoxy Resins

ASTM D 1963 Specific Gravity of Drying Oils, Varnishes, Resins, and Related Materials at 25/25 °C

ASTM D 2393 Viscosity of Epoxy Resins and Related Components

2.3 U.S. Government Publications:

Available from DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

MIL-STD-2073-1 DOD Materiel, Procedures for Development and Application of Packaging Requirements

3. TECHNICAL REQUIREMENTS:

3.1 Materials:

Shall be 3, 4 - epoxy cyclohexylmethyl - 3, 4 - epoxy cyclohexane carboxylate.

3.2 Impurities:

Resin shall be substantially free of suspended matter.

3.3 Properties:

Resin shall conform to the requirements shown in Table 1, determined in accordance with specified ASTM methods; both individual results and the arithmetic means shall be reported.

TABLE 1 - Properties

Paragraph	Property	Requirement	Test Method
3.3.1	Epoxy Content (equivalent per 100 grams)	0.70 to 0.76	ASTM D 1652
3.3.2	Viscosity at 25 °C (77 °F)	350 to 450 cPs (0.35 to 0.45 Pois)	ASTM D 2393
3.3.3	Specific Gravity at 25/25 °C (77/77 °F)	1.16 to 1.18	ASTM D 1963