

# AEROSPACE MATERIAL SPECIFICATION

**SAE** AMS 2980/4

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Submitted for recognition as an American National Standard

## TECHNICAL SPECIFICATION: CARBON FIBER FABRIC AND EPOXY RESIN WET LAY-UP REPAIR MATERIAL PURCHASING SPECIFICATION - RESIN

### FOREWORD

This Purchasing Specification (PS) is part of the Technical Specification system described in AMS 2980.

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**1. SCOPE:**

This PS specifies the batch release and delivery requirements for epoxy resin systems (base resin and curing agent) used for wet lay-up repair purposes.

**1.1 Limitation:**

This specification relates to qualified epoxy resin systems listed in the associated QPL.

**2. REFERENCES:**

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 unless otherwise specified.

**2.1 SAE Publications:**

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

AMS 2980 Technical Specification: Carbon Fiber Fabric and Epoxy Resin Wet Lay-Up Repair Material - Part 0 - Introduction

AMS 2980/1 Technical Specification: Carbon Fiber Fabric and Epoxy Resin Wet Lay-Up Repair Material - General Requirements

**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 2393 Viscosity of Epoxy Resins and Related Components

ASTM D 2896 Total Base Number of Petroleum Products by Potentiometric Perchloric Acid Titration

ASTM E 203 Water Using Karl Fischer Reagent

**2.3 EN Publications:**

Available from CEN-comité, Européen de Normalisation, Secrétariat Central, Rue de Stassart 36, B-1050 Bruxelles, Belgium.

EN 6042 Organic Compounds by Infrared Spectroscopy

EN 6043 Gel Time and Viscosity of Matrix Resins

## 2.4 ISO Publications:

Available from ISO, Central Secretariat, 1 Rue de Varembé, Case postale 56, CH-1211 Geneve 20, Switzerland.

ISO 2555 Brookfield RV Viscosity  
 ISO 3001 Epoxide Equivalent  
 ISO 9702 Viscosity

## 3. DEFINITIONS:

Refer to AMS 2980/1.

## 4. REQUIREMENTS

The resin system to be delivered shall meet the general requirements in accordance with AMS 2980/1 and the requirements in this PS and the IPS of the material to be purchased.

## 5. RELEASE TESTING:

## 5.1 Test Report:

The resin manufacturer shall test each resin batch in accordance with Table 1 and the sampling plan in paragraph 5.5. The manufacturer shall provide the purchaser with a test report certifying that the resin batch meets the requirements of Section 4.

TABLE 1 - Batch Release Tests for Resin Systems

Property	Test Method <sup>1</sup>	Remarks
Epoxide Equivalent	ASTM D 1652 or ISO 3001	Base resin
Amine Value	ASTM D 2896	Curing agent
IR Spectrum (qualitatively)	EN 6042	Base resin and curing agent
Water Content	ASTM E 203	Base resin and curing agent <sup>2</sup>
Viscosity @ 25 °C	ASTM D 2393 or ISO 2555	Base resin and curing agent
Gel Time	EN 6043	Blending ratio is specified in the IPS

<sup>1</sup>Use test methods specified in the relevant IPS. Use three samples per test.  
<sup>2</sup>If required by the IPS.