



AEROSPACE MATERIAL SPECIFICATION

AMS2980™/5**REV. A**

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Superseding AMS2980/5

Carbon Fiber Fabric and Epoxy Resin Wet Lay-Up Repair Material
Part 5 - Carbon Fiber Fabrics, Plain Weave, 193 g/m², and Epoxy Resin

RATIONALE

AMS2980/5A is a Five Year Review and update of this specification.

FOREWORD

AMS2980/5A belongs to the Technical Specification system explained in AMS2980.

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1. SCOPE

This Material Specification defines the requirements of carbon fiber fabric and epoxy resin systems used for wet lay-up repair of carbon fiber reinforced epoxy structures, qualified according to AMS2980/1 and AMS2980/2.

Unless otherwise specified by the drawing, the order or the inspection schedule, the present specification shall be used in conjunction with the referenced documents.

1.1 Field of Application

This AMS is only applicable to carbon fiber fabric and epoxy resin systems used for wet lay-up repair of carbon fiber reinforced epoxy structures. Only fabric/resin combinations specified in PRI QPL AMS2980 are allowed

2. APPLICABLE DOCUMENTS

The issue of the following documents in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been cancelled and no superseding document has been specified, the last published issue of that document shall apply.

2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), www.sae.org.

AMS2980	Carbon Fiber Fabric and Epoxy Resin Wet Lay-Up Repair Material Part 0 – Introduction
AMS2980/1	Carbon Fiber Fabric and Epoxy Resin Wet Lay-Up Repair Material Part 1 - General Requirements
AMS2980/2	Carbon Fiber Fabric and Epoxy Resin Wet Lay-Up Repair Material Part 2 - Qualification program
AMS2980/3	Carbon Fiber Fabric and Epoxy Resin Wet Lay-Up Repair Material Part 3 - Purchasing Specification – Fabric
AMS2980/4	Carbon Fiber Fabric and Epoxy Resin Wet Lay-Up Repair Material Part 4 - Purchasing Specification - Resin

2.2 PRI Publications

Available from Performance Review Institute, 161 Thornhill Road, Warrendale PA 15086-7527, Tel: 724-772-1616, www.pri-network.org.

PRI QPL AMS2980 Qualified product list of AMS2980

2.3 Other Publications

See the applicable Documents Section of AMS2980/1 for reference to all other documents listed in this part specification.

3. DEFINITIONS

Refer to AMS2980/1.

4. REQUIREMENTS

4.1 General Requirements

4.1.1 Material Description

Shall be as shown in Table 1.

TABLE 1 - MATERIAL DESCRIPTION

No.	Material Description	Requirements
1.1	Material Type	Wet Lay-Up Composite Material
1.2	Fabric	AMS2980/3 (Carbon Fiber, Plain Weave, 193 g/m ²)
1.3	Resin	AMS2980/4 (Epoxy)
1.4	Technical Specification	AMS2980/1 and AMS2980/2

4.1.2 Cure Cycle

Shall be as shown in Table 2.

TABLE 2 - CURE CYCLE (1)

No.	Cure Parameters	Units	Requirements
2.1	Heating Rate	°C / min	1 to 3
2.2	Cure Temperature	°C	< 95
2.3	Cure Time	Min	< 240
2.4	Cure Pressure	bar	> 0.75 vacuum pressure
2.5	Cooling Rate	°C / min	5 max

(1) Specific parameter values to be defined during qualification and recorded in the relevant Appendix of PRI QPL AMS2980 for each material combination

4.1.3 Wet Lay-Up Process

Shall be as shown in Table 3.

TABLE 3 - WET LAY-UP PROCESS

No.	Process	Requirements
3.1	Squeeze-Out	AMS2980/1 § 6.7.6
3.2	Vertical Bleeding	AMS2980/1 § 6.7.7 and 6.7.8

4.1.4 Resin Work Life and Storage Conditions

Shall be as shown in Table 4.

TABLE 4 - RESIN WORK LIFE AND STORAGE CONDITIONS

No.	Property	Units	Requirements
4.1	Work Life at RT	hours	≥ 1
4.2	Storage Life at RT ⁽¹⁾ Components A and B	months	≥ 6
4.3	Storage Life at 5 °C ⁽¹⁾ Components A and B	months	≥ 12

(1) From the date of shipment

4.2 Specific Requirements

In accordance with Tables 5 through 14. For qualification, all tests shall be performed. For release refer to AMS2980/3 and AMS2980/4.

4.2.1 Requirements for Unmixed Resin and Curing Agent

Shall be as shown in Table 5.