



AEROSPACE MATERIAL SPECIFICATION

AMS6562™/1

Issued

2023-07

Medium Temperature, Out-of-Autoclave, Oven-Vacuum-Bag Cure Epoxy Resin
Impregnated Fiber Reinforced Composite Materials, Type 35, Class 4, Grade 293,
Style 7781

RATIONALE

Widely distributed and available industry material specifications are required for procurement of composite materials whose allowance data is published in CMH-17.

NOTICE

This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user.

1. SCOPE

1.1 Form

This detail specification, along with AMS6562, establishes the requirements for continuous E-glass fabric impregnated with a medium temperature, out-of-autoclave, oven-vacuum-bag cure modified B-staged epoxy resin. The prepreg is produced using a one side coated (one side tacky) hot-melt process.

1.2 Classification

All products qualified to this detail specification have the following classification: Type 35, Class 4, Grade 293, Style 7781.

2. APPLICABLE DOCUMENTS

See AMS6562.

3. TECHNICAL REQUIREMENTS

3.1 General Requirements

In case of conflict between requirements of the basic specification AMS6562 and this detail specification, requirements of this detail specification shall govern.

SAE Executive Standards Committee Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

Copyright © 2023 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of SAE.

TO PLACE A DOCUMENT ORDER: Tel: 877-606-7323 (inside USA and Canada)
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
http://www.sae.org

SAE WEB ADDRESS:

Full document details: SAE AMS6562_1

For more information on this standard, visit
<https://www.sae.org/standards/content/AMS6562/1>

Documents
Document Sharing Hub

3.2 Constituent Material Requirements

3.2.1 Reinforcement

Specific glass fiber yarn producer, production location, fabric weaver, and weaving location are controlled by the prepreg process control document (PCD). The fabric shall meet the requirements in Table 1. This product does not contain tracer yarn. Tracer yarn may be included only if it is specifically requested by the purchaser. The inclusion of tracer yarn might alter the material properties.

Table 1 - Reinforcement requirements

Property	Requirement
Specification / Test methods	AMS-C-9084 Class 2, Type VIIIB (BGF Industries, Inc., E-glass, 497A finish)
Fabric Warp Break Strength (lb/in)	150 minimum
Fabric Thickness (inches)	0.010 ± 0.002
Fabric Yarn Count/Inch, warp × fill	57 ± 2 × 54 ± 2
Fabric Areal Weight (g/m ²)	293 ± 18

3.3 Visual and Dimensional Requirements

3.3.1 Roll Characteristics

The standard width for this product is 50 inches. Lesser widths from approved lines may be supplied only if it is specifically requested by the purchaser.

3.4 Uncured Prepreg Physical and Chemical Properties

The uncured prepreg physical and chemical properties shall be in accordance with Table 2 when tested in accordance with the designated method.

Table 2 - Uncured prepreg physical and chemical properties

Property	Test Method ⁽¹⁾	Number of Replicates	Requirement ⁽³⁾
Resin Content (%)	ASTM D3529	Every roll ⁽²⁾	35 ± 3 individual 35 ± 2 average
Fiber Areal Weight (g/m ²)	ASTM D3776 or SACMA SRM 23R-94	Every roll ⁽²⁾	293 ± 20 individual 293 ± 18 average
Volatile content (%)	ASTM D3530	First and last rolls of every batch ⁽²⁾	1.0 maximum individual 0.71 maximum average
Flow (%)	ASTM D3531	First and last rolls of every batch ⁽²⁾	21.0 to 26.6 average
Gel time (minutes)	ASTM D3532	First and last rolls of every batch ⁽²⁾	54.5 to 66.4 average
Tack	AMS 6562 4.6.1	First and last rolls of every batch	Level IV
Drape	AMS 6562 4.6.2	First and last rolls of every batch	Pass
HPLC	SACMA SRM 20R-94	One roll per batch ⁽⁴⁾	P1/P2 = 0.75 to 1.35 P1/P3 = 1.0 to 2.25 P1/P4 = 0.5 to 0.95
IR	ASTM E168 or ASTM E1252	One roll per batch ⁽⁴⁾	A798/A1481 = 0.9 to 1.15
Differential Scanning Calorimetry exotherm peak temperature (°F)	SACMA SRM 25R-94	Every resin batch (test on neat resin)	442.4 to 453.2

⁽¹⁾ If a test procedure issue within this detail specification, or between this detail specification and the associated base specification, remains unresolved after application of the criteria in 3.1, the procedures used in the original material qualification program shall govern.

⁽²⁾ Three specimens should be taken across the width of the prepreg: left, center, and right.

⁽³⁾ "Individual" refers to individual measurements. "Average" refers to the average of the measurements per roll.

⁽⁴⁾ Optional to perform either HPLC or IR.