

L-951

Laminating Woven Graphite Prepreg



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Product Data Sheet

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Description

L-951 is a 250°F (121°C) curing modified epoxy matrix on woven graphite fabric. L-951 is flame retardant per FAR part 25.853 and intended for use in light weight aircraft interior assemblies such as galleys, lavatories, baggage bins, food carts, bulkheads, and side walls where the extra strength and stiffness of graphite fibers are required.

Advantages of L-951

- ❖ L-951 is easily cured over a broad range of temperatures and pressures so the designer can utilize low cost tooling techniques for intricate detail parts.
- ❖ L-951 can be built with fabrics from 3K, 6K, or 12K tows in many different styles so the designer is not limited in build-up or complexity of construction.
- ❖ The L-951 matrix resin is a 100% solids modified epoxy resulting in very low void content in finished detail parts.
- ❖ L-951 will co-cure with many of today's adhesive and prepreg systems allowing design optimization.

Physical Properties on 3K Carbon Plain Weave

- *Standard Weight:* 0.070 lbs/ft² (342 g/m²)
- *Standard Resin Content:* 43% by weight
- *Standard Tack:* Slightly tacky on one side
- *Cured Ply Thickness:* 0.009" (0.229 mm)
- *Other Weights, Resin Contents, and Fabrics are Available.*

Availability

- *Up to 60" width in rolls up to 100 yards long (152 cm x 91 m)*

Shelf Life

- *6 months at 40°F (4°C) or below*
- *7 days at Room Temperature (70°F or 21°C)*

Cure Cycles

- *20 minutes at 275°F (135°C), or*
- *60 minutes at 250°F (121°C), or*
- *90 minutes at 235°F (113°C).*



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Flammability

- *Self Extinguishing per FAR part 25.853*

Sandwich Properties*

Core: ¼" cell x 0.004" (6.35 mm cell, x 0.10 mm) Aluminum Foil

Facings: 2 plies L-951-100 (3K carbon plain weave) each side

- *RT Flatwise Tensile Strength: 900 PSI (6.2 MPa)*
 - *RT Sandwich Peel Strength: 6 in lb/in (27 Nm/m)*
- ❖ *Sandwich peel strength varies with the orientation of the fibers directly against the core and the test direction.
- ❖ Fibers laid up parallel with the test direction produce minimum strengths.
- ❖ Fibers laid up perpendicular to the test direction produce maximum strengths.
- ❖ L-951-100 sandwich peel strength ranges from 5-7 in lb/in (22-31 Nm/m).

Mechanical Data

PROPERTY	LAMINATE PROPERTIES		
	85 PSI (0.59 MPa) CURE	VACUUM BAG CURE	TEST METHOD
ULTIMATE TENSILE STRENGTH			
Room Temperature (RT)	91 KSI (628 MPa)	87 KSI (600 MPa)	ASTM D638
250°F (121°C)	80 KSI (552 MPa)	78 KSI (538 MPa)	ASTM D638
TENSILE MODULUS			
Room Temperature (RT)	10.1 MSI (70 GPa)	9.9 MSI (68 GPa)	ASTM D638
250°F (121°C)	8.9 MSI (61 GPa)	8.8 MSI (61 GPa)	ASTM D638
ULTIMATE COMPRESSION STRENGTH			
Room Temperature (RT)	78 KSI (538 MPa)	72 KSI (497 MPa)	ASTM D695
250°F (121°C)	52 KSI (359 MPa)	-	ASTM D695
COMPRESSION MODULUS			
Room Temperature (RT)	8.9 MSI (61 GPa)	8.7 MSI (60 GPa)	ASTM D695
250°F (121°C)	8.0 MSI (55 GPa)	-	ASTM D695
ULTIMATE FLEXURAL STRENGTH			
Room Temperature (RT)	112 KSI (772 MPa)	107 KSI (738 MPa)	ASTM D790
250°F (121°C)	88 KSI (607 MPa)	-	ASTM D790
FLEXURAL MODULUS			
Room Temperature (RT)	9.4 MSI (65 GPa)	9.2 MSI (63 GPa)	ASTM D790
250°F (121°C)	8.7 MSI (60 GPa)	-	ASTM D790

NOTICE:

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