L-956

Laminating Woven Graphite Prepreg

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Product Data Sheet

Revised: 10/2/08

Description

L-956 is an excellent high temperature modified epoxy prepreg which exhibits outstanding performance at temperatures up to 400°F (204°C). L-956 is ideally suited for applications on light weight advanced aircraft for fairings, inlet ducting, leading edges, control surfaces, pylons, and radomes. L-956 is moisture resistance and has excellent compatibility with other graphite/epoxy systems.

Advantages of L-956

- L-956 has an excellent balance between toughness, high temperature strength and weatherability.
- L-956 may be co-cured with many of today's epoxy adhesives systems to form load transfer interfaces.
- L-956 is also supplied on light weight fiberglass fabric for use as a surfacing ply for graphite/epoxy laminates and facesheets to improve their damage tolerance.

Physical Properties on 8 mil Graphite Fabric

- *Standard Weight:* *0.070 lbs/ft² (342 g/m^2)*
- *Standard Resin Content:* *36% by weight*
- *Volatile Content:* *Less than 5.0%*
- *Standard Tack:* *Medium*
- *Cured Ply Thickness:* *0.008-0.009" (0.203-0.229mm)*
- *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)*
- *Standard widths: 42" and 50" (107 cm and 127 cm)*

Shelf Life

- *12 months at 0°F (-18°C)*
- *10 days at Room Temperature (70°F or 21°C)*

Cure Cycles

Step Cure as follows:

- *200°F (93°C) for 1 hour followed by 250°F (121°C) for 1 hour followed by 350°F (177°C) for 2 hours (rate of temperature rise = 5°F/minute) (2°C/minute approximately).*

To enhance the high temperature properties, a post cure may be used:

- *2 hours at 300°F (149°C) followed by 2 hours at 375°F (191°C)*

❖ L-956 may be bonded into various structures using L-313 high temperature adhesive and L-309 corrosion inhibiting primer. 350°F (177°C) flatwise tension values with L-313 adhesive exceed 950 PSI (6.6 MPa) against 1/8" (3.175 mm) cell aluminum core.

❖ Typical construction techniques utilize a layer of fiberglass prepreg such as L-556 for dissimilar metal protection against metallic details or metal honeycomb. In addition a layer of L-556 may be used to provide softening of graphite to metal joints where local loads need to be distributed to avoid local metal overload failure.

Mechanical Data

	LAMINATE PROPERTIES			
PROPERTY	**139**	**100**	**145 UD**	**TEST METHOD**
TENSILE STRENGTH				
Room Temp.	104 KSI (717 MPa)	71 KSI (483 MPa)	299 KSI (2.1 GPa)	ASTM D638
250°F (121°C)	98 KSI (676 MPa)	68 KSI (469 MPa)	-	ASTM D638
300°F (149°C)	95 KSI (655 MPa)	-	285 KSI (2.0 GPa)	ASTM D638
TENSILE MODULUS				
Room Temp.	9.1 MSI (63 GPa)	9.0 MSI (62 GPa)	18.6 MSI (128 GPa)	ASTM D638
250°F (121°C)	8.7 MSI (60 GPa)	8.7 MSI (60 GPa)	-	ASTM D638
300°F (149°C)	8.0 MSI (55 GPa)	-	17.5 MSI (121 GPa)	ASTM D638
COMPRESSIVE STRENGTH				
Room Temp.	85 KSI (586 MPa)	73 KSI (503 MPa)	184 KSI (1.3 GPa)	ASTM D695
300°F (149°C)	68 KSI (469 MPa)	-	152 KSI (1.0 GPa)	ASTM D695
COMPRESSIVE MODULUS				
Room Temp.	8.6 MSI (59 GPa)	8.6 MSI (59 GPa)	14.5 MSI (100 GPa)	ASTM D695
300°F (149°C)	8.5 MSI (59 GPa)	-	14.1 MSI (97 GPa)	ASTM D695
SHORT BEAM SHEAR				
Room Temp.	9.2 KSI (63 MPa)	-	16.4 KSI (113 MPa)	ASTM D2344
300°F (149°C)	7.6 KSI (52 MPa)	-	9.0 KSI (62 MPa)	ASTM D2344