

L-551

Woven Epoxy Fiberglass Laminating Prepreg



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Product Data Sheet

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Description

L-551 is an epoxy/fiberglass prepreg designed to cure over a broad range of temperatures and pressures. L-551 is flame retardant and produces excellent void free laminates. L-551 is available on style 7781 fiberglass fabric and on many other commercially available fiberglass fabrics and mats. L-551 is intended for the manufacture of aircraft ducting, fairings, frames, clips, angles, webs, and various other detail parts requiring easy lay-up.

Advantages of L-551

- ❖ L-551 uses a 100% solids resin system with less than 0.5% volatile content resulting in dense, void free laminates.
- ❖ L-551 has excellent resistance to most fluids encountered in the aerospace environment.
- ❖ L-551 is an excellent low cost prepreg for many room temperature tooling requirements such as drill and trim fixtures.

Physical Properties on 7781 Glass Fabric

- *Standard Weight:* 0.098 lbs/ft² (479 g/m²)
- *Standard Resin Content:* 38% by weight
- *Standard Tack:* Slightly tacky on one side
- *Cured Ply Thickness:* 0.010" (0.254 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)*



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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).

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-551-7781 each side

- RT Flatwise Tensile Strength: 950 PSI (6.6 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-551-7781 sandwich peel strength ranges from 5-9 in lb/in (22-40 Nm/m).

Mechanical Data

PROPERTY	LAMINATE PROPERTIES		
	30 PSI (0.21 MPa) CURE	VACUUM BAG CURE	TEST METHOD
ULTIMATE TENSILE STRENGTH			
Room Temperature (RT)	66 KSI (455 MPa)	53 KSI (366 MPa)	ASTM D638
160°F (71°C)	51 KSI (352 MPa)	45 KSI (310 MPa)	ASTM D638
RT(WET)	54 KSI (372 MPa)	51 KSI (352 MPa)	ASTM D638
TENSILE MODULUS			
Room Temperature (RT)	3.6 MSI (25 GPa)	3.5 MSI (24 GPa)	ASTM D638
160°F (71°C)	3.4 MSI (23 GPa)	3.3 MSI (23 GPa)	ASTM D638
RT(WET)	3.4 MSI (23 GPa)	3.3 MSI (23 GPa)	ASTM D638
COMPRESSIVE STRENGTH			
Room Temperature (RT)	65 KSI (448 MPa)	55 KSI (379 MPa)	ASTM D695
160°F (71°C)	52 KSI (359 MPa)	46 KSI (317 MPa)	ASTM D695
RT(WET)	51 KSI (352 MPa)	48 KSI (331 MPa)	ASTM D695
COMPRESSIVE MODULUS			
Room Temperature (RT)	3.6 MSI (25 GPa)	3.4 MSI (23 GPa)	ASTM D695
160°F (71°C)	3.4 MSI (23 GPa)	3.4 MSI (23 GPa)	ASTM D695
RT(WET)	3.5 MSI (24 GPa)	3.3 MSI (23 GPa)	ASTM D695
ULTIMATE FLEXURAL STRENGTH			
Room Temperature (RT)	82 KSI (566 MPa)	77 KSI (531 MPa)	ASTM D790
160°F (71°C)	67 KSI (462 MPa)	63 KSI (434 MPa)	ASTM D790
FLEXURAL MODULUS			
Room Temperature (RT)	3.4 MSI (23 GPa)	3.3 MSI (23 GPa)	ASTM D790
160°F (71°C)	3.2 MSI (22 GPa)	3.2 MSI (22 GPa)	ASTM D790
INTERLAMINAR SHEAR			
Room Temperature (RT)	4.7 KSI (32 MPa)	4.5 KSI (31 MPa)	ASTM D2344

NOTICE:

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