

L-502

Woven Adhesive Prepreg



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Product Data Sheet

Description

L-502 is a 250°F (121°C) curing, high peel strength, toughened, epoxy prepreg available on fiberglass fabrics such as 7781 style or other styles as requested. L-502 is intended to be used as a single ply or multiple ply skin for aramid/phenolic honeycomb, aluminum honeycomb or PVC foam core sandwich panels and especially suited for radomes.

Advantages of L-502

- ❖ No adhesive is required because of the high peel strength and high toughness of the L-502 resin matrix. L-502 can be bonded directly to a variety of core materials.
- ❖ Easy processing is another major advantage. L-502 can be cured with vacuum bag, press or autoclave type cures from 90 minutes at 235°F (113°C) or in just 40 minutes at 275°F (135°C) with contact pressure (235°F (113°C) cure temperatures are recommended for urethane or PVC core.).
- ❖ L-502 is also an excellent laminating prepreg when high impact strength and high toughness are required.
- ❖ Excellent transmission properties for electromagnetic applications (radomes).

Physical Properties on 7781 Glass Fabric

- *Standard Weight:* 0.105 lbs/ft² (513 g/m²)
- *Standard Resin Content:* 42% 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)*

Cure Cycles

- 40 minutes at 275°F (135°C), or
- 60 minutes at 250°F (121°C), or
- 90 minutes at 235°F (113°C).
- Preferred Cure Cycle: **60 minutes at 270°F (132°C)**

Sandwich Properties*

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

Facings: 2 plies L-502-7781 each side

- RT Flatwise Tensile Strength: 1,300 PSI (9.0 MPa)
 - RT Sandwich Peel Strength: 4 in lb/in (18 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-502-7781 sandwich peel strength ranges from 3-5 in lb/in (13-22 Nm/m).

Mechanical Data

PROPERTY	LAMINATE PROPERTIES		
	25 PSI (0.17 MPa) CURE	VACUUM BAG CURE	TEST METHOD
ULTIMATE TENSILE STRENGTH			
Room Temperature (RT)	59 KSI (407 MPa)	54 KSI (372 MPa)	ASTM D638
160°F (71°C)	50 KSI (345 MPa)	46 KSI (317 MPa)	ASTM D638
RT(WET)	52 KSI (359 MPa)	50 KSI (345 MPa)	ASTM D638
TENSILE MODULUS			
Room Temperature (RT)	3.7 MSI (26 GPa)	3.6 MSI (25 GPa)	ASTM D638
160°F (71°C)	3.5 MSI (24 GPa)	3.4 MSI (23 GPa)	ASTM D638
RT(WET)	3.5 MSI (24 GPa)	3.3 MSI (23 GPa)	ASTM D638
COMPRESSIVE STRENGTH			
Room Temperature (RT)	61 KSI (421 MPa)	58 KSI (400 MPa)	ASTM D695
160°F (71°C)	51 KSI (352 MPa)	43 KSI (297 MPa)	ASTM D695
RT(WET)	53 KSI (366 MPa)	50 KSI (345 MPa)	ASTM D695
COMPRESSIVE MODULUS			
Room Temperature (RT)	3.7 MSI (26 GPa)	3.6 MSI (25 GPa)	ASTM D695
160°F (71°C)	3.6 MSI (25 GPa)	3.5 MSI (24 GPa)	ASTM D695
RT(WET)	3.6 MSI (25 GPa)	3.5 MSI (24 GPa)	ASTM D695
ULTIMATE FLEXURAL STRENGTH			
Room Temperature (RT)	86 KSI (593 MPa)	78 KSI (538 MPa)	ASTM D790
160°F (71°C)	61 KSI (421 MPa)	53 KSI (366 MPa)	ASTM D790
FLEXURAL MODULUS			
Room Temperature (RT)	3.5 MSI (24 GPa)	3.4 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)	6.0 KSI (41 MPa)	5.3 KSI (37 MPa)	ASTM D2344

NOTICE:

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