

L-603

Woven Polyimide Prepreg



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Product Data Sheet

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Description

L-603 is a polyimide resin coated on various fabrics or fibers to make a prepreg material suitable for high-temperature applications in the aerospace industry. This product can be used for engine compartment components requiring long-term exposure to high temperatures. The L-603 prepreg system is suitable for engine firewall applications where the designer is seeking burn-through resistance.

Advantages of L-603

- ❖ A relatively inexpensive material, L-603 allows the designer to build a heat-resistance structure that will perform over long term time periods required of today's modern aircraft.
- ❖ L-603 may be cured in autoclave, press, or oven with relatively low pressure.
- ❖ The L-603 resin system creates a char when exposed to flame which keeps flame from penetrating substructures.

Physical Properties on 7781 Glass Fabric

- *Standard Weight:* 0.098 lbs/ft² (479 g/m²)
- *Standard Resin Solids:* 32% by weight
- *Volatile Content:* 6-11%
- *Standard Tack:* Medium to High Tack
- *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*
- *4 days at room temperature (70°F or 21°C)*

Applications

- *Firewalls*
- *Heat Shields*
- *Insulation Blankets*
- *Thermal Padding*

Flammability

- *Self Extinguishing per FAR part 25.853*

Typical Autoclave Cure Cycle

- Apply full vacuum at room temperature (70°F or 21°C) for 1 hour minimum.
- Apply 30 PSI (0.21 MPa) autoclave pressure plus
- 180 ± 10°F (82 ± 5°C) for 2 hours, then
- 200 ± 10°F (93 ± 5°C) for 2 hours, then
- Increase temperature 1-2°F (1°C) per minute to 350 ± 10°F (177 ± 5°C), then
- 350°F ± 10°F (177 ± 5°C) for 2 hours
- Cool under pressure to 150°F (66°C) maximum
- *Post Cure: 550 ± 10°F (288 ± 5°C) for 120-150 minutes or per specification requirements*

Variations

- ❖ The L-603 resin system can be supplied on the surface of polyimide film to create a vapor and/or dielectric barrier.
- ❖ The L-603 resin system can be supplied on thin fiberglass scrim fabrics for use in aircraft insulation blankets and other high-temperature bonding applications.

Mechanical Data

PROPERTY	LAMINATE PROPERTIES	
	30 PSI (0.20 MPa) CURE WITH POSTCURE	METHOD
ULTIMATE TENSILE STRENGTH		
Warp-RT	47,000 PSI (324 MPa)	ASTM D638, Type 1
Fill-RT	42,000 PSI (290 MPa)	ASTM D638, Type 1
ULTIMATE FLEXURAL STRENGTH		
Warp-RT	78,000 PSI (538 MPa)	ASTM D790
Fill-RT	69,000 PSI (476 MPa)	ASTM D790
FLEXURAL MODULUS		
Warp-RT	2.6 MSI (18 GPa)	ASTM D790
Fill-RT	2.6 MSI (18 GPa)	ASTM D790
SHORT BEAM SHEAR STRENGTH		
Warp-RT	6,670 PSI (46 MPa)	ASTM D2344

NOTICE:

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