L-791

Woven Phenolic/Aramid Prepreg

JD Lincoln
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Product Data Sheet

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Description

L-791 is a 260°F (127°C) curing phenolic prepreg with excellent fire, smoke and toxicity properties. L-791 is available on 285 style aramid fabric or other styles of fabric as requested. L-791 is intended to be used as a single ply or multiple ply skin for aramid/phenolic honeycomb in aircraft interior honeycomb sandwich panels.

Advantages of L-791

- When used without an adhesive film, L-791 prepreg facings create sandwich panels with high peel strength and high toughness.
- Processing of L-791 can be easily adapted to most heated presses, autoclaves or ovens.
- L-791 is also an excellent laminating prepreg when heat resistance is a requirement.
- L-791 will allow the designer to create complex structure which meets stringent FAA burn requirements (when combined with L-591 or L-991 materials) using OSU test apparatus.

Physical Properties on 285K Style Aramid Fabric

- *Standard Weight:* *0.070 lbs/ft² (342 g/m²)*
- *Standard Resin Content:* *50% by weight*
- *Volatile Content:* *9% max*
- *Standard Tack:* *Medium tack*
- *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*
- *14 days at room temperature (70°F or 21°C)*

Cure Cycles

- *60 minutes minimum at 260°F (127°C) with full vacuum pressure or higher pressures using press or autoclave. Cool to 170°F (77°C) under pressure.*

Flammability

- *Self Extinguishing per FAR part 25.853*

Sandwich Properties*

Core: 1/8” cell (3.175 mm) Aramid Phenolic honeycomb; Adhesive: none

Facings: 2 plies L-791-285K each side

- *RT Flatwise Tensile Strength: 140 PSI (1.0 MPa)*
- *RT Sandwich Peel Strength: 5 in lb/in (22 Nm/m)*

*Sandwich peel strength varies with the orientation of fibers directly against the core and 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-791-285K sandwich peel strength ranges from 4-8 in lb/in (18-36 Nm/m).

Mechanical Data

	LAMINATE PROPERTIES	
PROPERTY	**25 PSI (0.17 MPa) CURE**	**TEST METHOD**
ULTIMATE TENSILE STRENGTH		
Room Temperature (RT)	56 KSI (386 MPa)	ASTM D638
160°F (71°C)	49 KSI (338 MPa)	ASTM D638
TENSILE MODULUS		
Room Temperature (RT)	3.3 MSI (23 GPa)	ASTM D638
160°F (71°C)	3.3 MSI (23 GPa)	ASTM D638
ULTIMATE COMPRESSION STRENGTH		
Room Temperature (RT)	21 KSI (145 MPa)	ASTM D695
160°F (71°C)	20 KSI (138 MPa)	ASTM D695
COMPRESSION MODULUS		
Room Temperature (RT)	3.0 MSI (21 GPa)	ASTM D695
160°F (71°C)	3.0 MSI (21 GPa)	ASTM D695
ULTIMATE FLEXURAL STRENGTH		
Room Temperature (RT)	54 KSI (372 MPa)	ASTM D790
FLEXURAL MODULUS		
Room Temperature (RT)	3.1 MSI (21 GPa)	ASTM D790

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