

L-791

Woven Phenolic/Aramid Prepreg



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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

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

NOTICE:

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