



## MULTIPREG E722

120°C (248°F) Curing Modified Epoxy Resin Component Prepreg

E722 is a toughened epoxy resin system of medium viscosity for cures at 120°C (248°F), pre-impregnated into high performance fibers such as carbon, glass and aramid. Designed for structural applications in the motor racing and marine industries, also for general aircraft fittings, sporting equipment, and for a wide range of engineering applications.

\*E722 is compatible for co-cure with Amber Composites 120°C (248°F) cure resin film EF72 and Amber Composites syntactic core Amlite SC72A.

### CHARACTERISTICS:

- Excellent drapeability – complex shapes easily formed
- At least 1 month shelf life at ambient temperature
- Autoclave, vacuum bag or press cures
- Good surface finish
- Medium tack level, easily laminates to mold surface
- Tg (DMTA – peak  $\tan \delta$ ) 138°C (280°F) after 1 hr at 120°C (248°F)
- Low volatile content – no solvents used during processing

### RESIN PROPERTIES

Density 1.21 g/cm<sup>3</sup> (75.5lbs/ft<sup>3</sup>) at 23°C (73.4°F)

Tg (DMTA) after 1hr at 120°C (248°F) Onset: 120°C (248°F)  
Peak Tan  $\delta$ : 138°C (280°F)



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### PROCESSING

Following removal from refrigerated storage, allow prepreg to reach room temperature before opening the polythene bag, to avoid moisture condensation.

Cut patterns to size and lay up the laminate in line with design instructions taking care not to distort the prepreg. If necessary, the tack of the prepreg may be increased by gentle warming with hot air. The lay up should be vacuum debulked at regular intervals using a P3 (pin pricked) release film on the prepreg surface, vacuum of 980 mbar (29 ins Hg) is applied for 20 minutes.

For autoclave cures, use of a non-perforated release film on the prepreg surface trimmed to within 25-30mm of prepreg edge is recommended for the cure cycle, a vacuum bag should be installed using standard techniques.

### CURING CYCLES

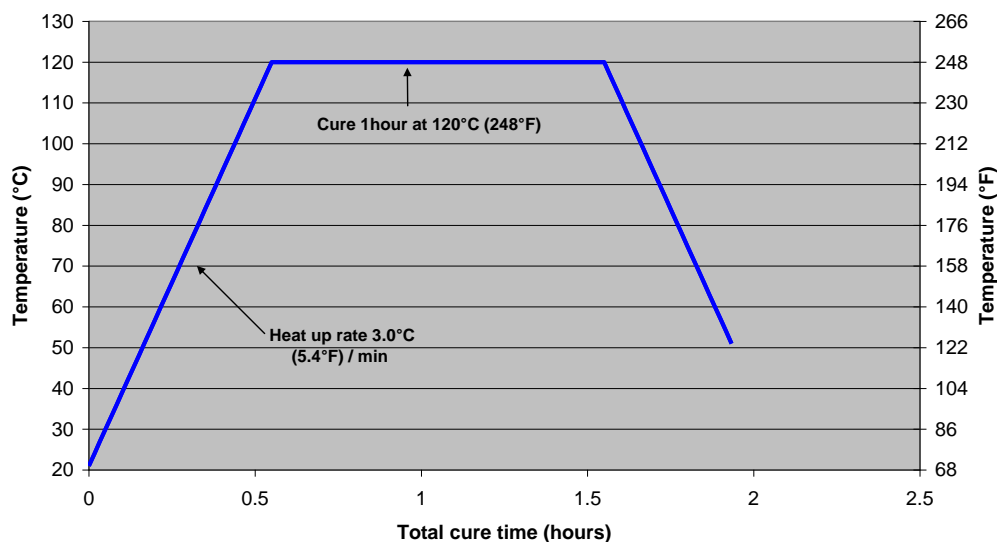
E722 can be successfully molded by vacuum bag, autoclave, or matched die molding techniques.

Increase autoclave pressure to 1.4 bar (20 psi) with vacuum applied.

Vent to atmosphere and raise pressure to 6.2 bar (90 psi) (or max allowed by the core material).

Increase air temperature at 3°C (5.4°F) / min and hold for 1 hour at 120°C (248°F). Allow to cool to 50°C (122°F) before removal of pressure.

**120°C Cure Schedule - E722**





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### EXOTHERM

In certain circumstances, such as the production of thick section laminates rapid heat up rates or highly insulating masters, E722 can undergo exothermic heating leading to rapid temperature rise and component degradation in extreme cases.

Where this is likely, a cure incorporating an intermediate dwell of 1 hr at 90°C (194°F) is recommended in order to minimize the risk.

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### TYPICAL LAMINATE PROPERTIES (at Room Temperature)

**T300 (3K) 280g/m<sup>2</sup> 5HS carbon 0/90° configuration woven laminates, cured 1hr at 120°C(248°F), results normalised to 55% Vf.**

Tensile Strength	641.2 MPa
Tensile Modulus	58.0 GPa
Tensile Poisson's Ratio	0.04
Tensile Strain to failure (%)	1.0

Compression Strength	605.8 MPa
Compression Modulus	75.1 GPa

Flexural Strength	901 MPa
Flexural Modulus	59 GPa

Apparent ILSS	68.1 MPa
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**T300 (3K) 280g/m<sup>2</sup> 4/4 twill carbon 0/90° configuration woven laminates, cured 1hr at 120°C(248°F), results normalised to 55% Vf.**

Flexural Strength	900 MPa
Flexural Modulus	66 GPa

Apparent ILSS	59 MPa
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### STORAGE

Shelf life is at least 1 month at ambient temperature 20°C (68°F)

Refrigerated storage life is 12 months at -18°C (0°F)

To avoid moisture condensation: Following removal from cold storage, allow prepreg to reach room temperature before opening the polythene bag.

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### HANDLING SAFETY

Observe established precautions for handling epoxy resins and fibrous materials.

For further information refer to Material Safety Data Sheet.

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### FURTHER INFORMATION

Please contact Amber Composites for additional information.

This is not a specification. The information given in this data sheet in relation to the performance, storage and other characteristics of the product is based on results gained from experience and tests and is believed to be accurate. Given, however, that conditions of use and storage will vary, Amber Composites will not be liable for any loss or damage resulting from reliance upon such information. The purchaser is recommended to carry out his own tests to establish the suitability of the product for its particular purpose. The use of the product in certain processes may require third party consent.