



Prepreg 7781 E-Glass

Part # - 3100

50" Wide, 8H Satin Weave

This fabric is identical to part# 543, 7781 E-Glass but is pre-impregnated with an epoxy resin system. The material can be stored, shipped and handled at room temperatures and is cured using a ramp up schedule requiring at most 310°F.

Resin content 27.0% - 33.0%

Prepreg Overview:

Prepreg fabrics are pre-impregnated with an epoxy resin system. As a result, nearly perfect resin content and maximum, repeatable strength properties are attainable. When properly fabricated, parts made with Fibre Glast prepregs will have a clear shine and be free of air bubbles. Although prepreg material addresses many of the nagging challenges of composite fabrication, the user's fabrication techniques will directly affect the finished properties and cosmetics.

Fibre Glast prepregs are easy to handle and are able to be stored, shipped and handled at room temperatures. These prepregs have a shelf life of 12 months when the maximum storage temperature does not exceed 75oF and 6 months when it does not exceed 90oF.

There are 3 recommended cure cycles for Fibre Glast prepregs. All 3 will produce similar properties. Proper fabrication requires vacuum bagging and oven curing or vacuum bagging and curing in an autoclave.

All curing cycles begin with a temperature ramp up and end with a ramp down. The difference is the target temperature and the amount of time required for a complete cure. Always ramp up at a rate of no more than 5°F per minute until the target temperature is attained. Maintain the target temperature throughout the cure

cycle and then ramp down at a rate of less than 5°F per minute to at least 150oF (66oC) before removing from the oven. Resin content 36.0% - 42.0%.

Fibre Glast prepregs are also environmentally friendly as they are solvent and MDS free.

However, safety precautions are still necessary for handling, including eye and skin protection as well as excellent ventilation.

Fiberglass Fabric Overview:

Woven fabrics are strong reinforcements because the fibers are bundled into yarns oriented in just two directions. The warp and fill yarns run at 0 and 90 degrees respectively. Thus, fabrics are anisotropic, or strong in only two directions.

Fabrics need to be oriented so the fiber yarns run parallel to the expected loads. If extra strength is needed in a different direction, another ply must be added at an angle to the first. The most common angles are +/- 45 degrees.

Specific Product Properties	
Style	7781
Finish	627
Weave Pattern	8 HS
Yarn Description	Warp: ECDE 75 1/0
	Fill: ECDE 75 1/0
Count: Ends x Picks (in)	57 x 54
Weight	8.71 oz/yd ²
Breaking Strength (lb/in)	Warp: 242 lb/in
	Fill: 231 lb/in
Thickness	0.0089 in

Neat Resin Properties	
Density (g/cc)	1.229
Tg (°F/°C) (from G" DMA curve)	270 / 132
Tensile Modulus (ksi/GPa)	440 / 3.03
Tensile Strength (ksi/MPa)	10.7 / 73.77
Elongation at Break (%)	4.0
Tg after 24-Hr Water-Boil (°F/°C)	169 / 76*
Water Absorption %	3.9*

Cure	
Target Temperature	Hold For
310°F (154°C)	1 Hour
290°F (143°C)	2 Hours
270°F (132°C)	4 Hours