PMT-F5-140

Description

PMT-F5-140 is a tooling resin that can be cured under vacuum or autoclave pressure at 140°F and post cured at 420°F to attain a final Tg of 430°F. PMT-F5-140 can be prepregged onto glass or carbon based reinforcements and is single side coated to allow for low void consolidation in or out of the autoclave.

Resin Properties

Property	Value
Density	1.25 g/cm³
Hardness	37 HB
Linear Shrinkage	0.75%
Water absorption	4%
Coefficient of Thermal Expansion	48

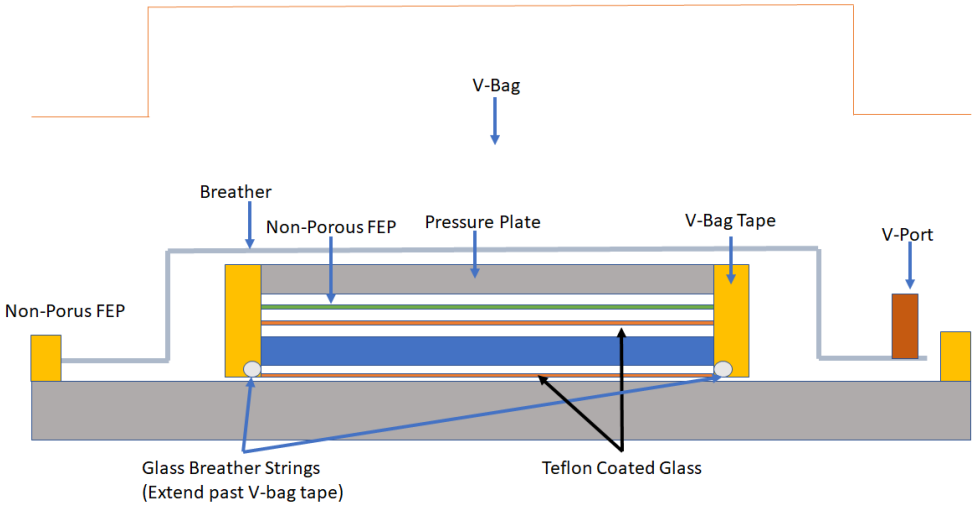
Property	Value
Tg, 420°F Post Cure	450°F
Cure Exotherm	594 J
Tension Strength	8.2 Ksi
Tension Modulus	0.46 Msi
Toughness Kic	0.51

Storage

PMT-F5-140 should be stored in a desiccated sealed bag. PMT-F5-140 has a storage life of 3 months when stored at 10°F and a handling life of 3 days when stored at 70°F or below.

Recommended Bagging Procedure

PMT-F5-140 requires heat and pressure for consolidation. There are many different layup and cure procedures that will yield successful structures. As a base line PMT recommends using the following bagging sequence.



Cure Cycle

PMT-F5-140 should be cured with a ramp rate of 3-5 degrees F/min to a dwell point of 140°F for a minimum of 8 hours. The part may then be removed from the bag for a free-standing post cure ramping at 50°F/hr to 420°F for a 2 hr dwell to achieve the maximum Tg of 430°F. If a 420°F Tg is not necessary, PMT-F5-140 can utilize a freestanding post cure that is 25°F over the maximum temperature of the finished structure.

Laminate Mechanical Properties

Mechanical Properties for 3K Plain Weave Carbon Fabric:
Laminate: PMT-F5-140/AGP-193-P-50
FAW:193 gsm
RC: 40%
Cure type: Vacuum bag

Property*	ASTM Test Method	
Tensile Strength, Ksi	D3039	100.8
Tensile Modulus, Msi	D3039	9.1
Compression Strength, Ksi	D6641	88.5
Compression Modulus, Msi	D6641	8.2
Flex Strength, Ksi	D790	129.5
Flex Modulus, Msi	D790	7.8

Mechanical Properties for Glass Fabric:
Laminate: PMT-F5-140/7781
FAW:300 gsm
RC: 40%
Cure type: Vacuum bag

Property*	ASTM Test Method	
Tensile Strength, Ksi	D3039	57
Tensile Modulus, Msi	D3039	3.9
Compression Strength, Ksi	D6641	57
Compression Modulus, Msi	D6641	3.7
Flex Strength, Ksi	D790	71
Flex Modulus, Msi	D790	3.6

*Properties are for reference only