



PMT-F33

Description

PMT-F33 is a toughened cyanate ester resin system designed for high performance space and aerospace applications. The resin can be impregnated into numerous reinforcements and imparts a medium/dry tack.

Resin Properties

Property	Value
Density	1.19 g/cm ³
Outgassing (TML)	0.21%
Outgassing (VCM)	0.01%
Water absorption	< 1.2%
Dielectric Constant @ 3GHz	Dk/Df= 2.70/0.004
Toughness K _{ic}	0.75 in-lb/in ²

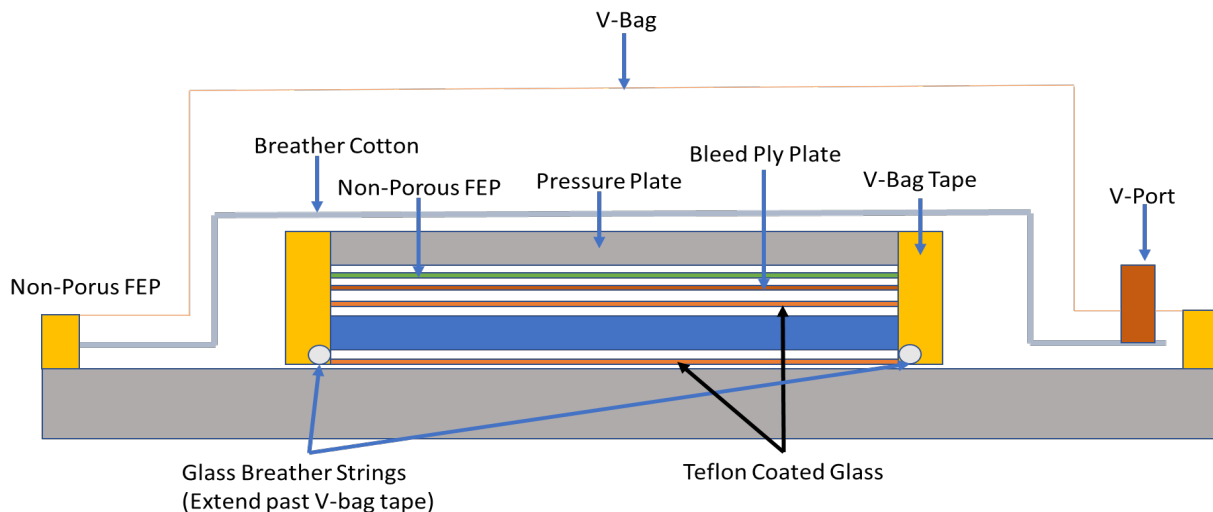
Property	Value
T _g , Standard Cure	378 °F
T _g , 400°F Post Cure	432 °F
Tension Strength	10.5 Ksi
Tension Modulus	0.44 Msi
Compression Strength	20.2 Ksi
Compression Modulus	0.58 Msi

Storage

PMT-F33 should be stored in a desiccated sealed bag. PMT-F33 has a storage life of 1 year when stored at 10°F and a handling life of 30 days when stored at 70°F or below.

Recommended Bagging Procedure

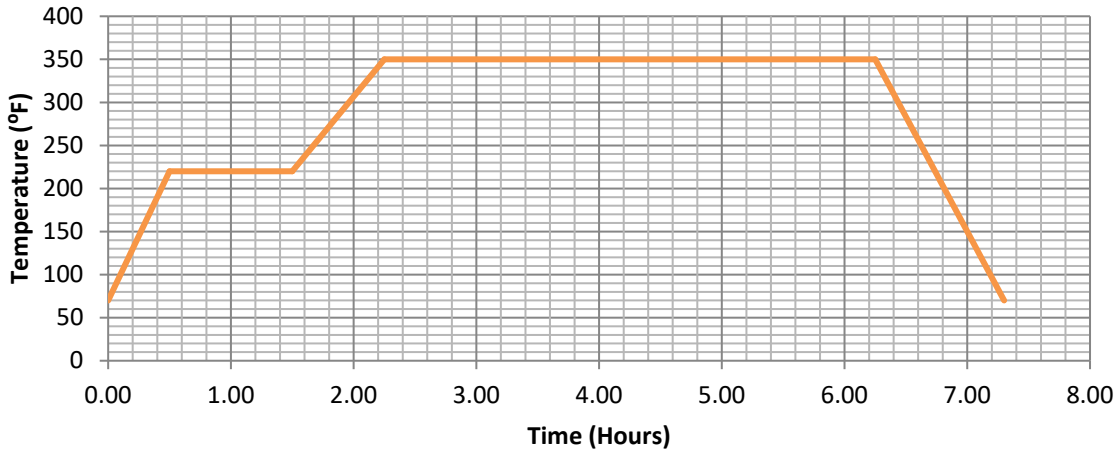
PMT-F33 requires heat and pressure for consolidation. There are many different layup and cure procedures that will yield successful structures. As a base line PMT recommends using the following bagging sequence.





Cure Cycle

PMT-F33 Cure Profile



- Stage 1 – Ramp 5°F/min to 220°F under vacuum bag pressure.
- Stage 2 – Switch to 80 psi autoclave pressure then dwell 220°F for 0.5 hours
- Stage 3 – Ramp 5°F/ min to 350°F
- Stage 4 – Dwell at 350°F for 4 hours
- Stage 5 – Ramp 5°F/ min to RT and remove pressure

Other cure cycles are possible

Lamina Mechanical Properties

Property*	ASTM Test Method	PMT-F33 M55J Unitape	PMT-F33 K13C2U Unitape	PMT-F33 M60J PW Fabric
0° Tensile Strength, Ksi	D3039	310	301	110
0° Tensile Modulus, Msi	D3039	49	85	25
90° Tensile Strength, Ksi	D3039	4.8	3.9	110
90° Tensile Modulus, Msi	D3039	1.3	1.6	25
0° Compression Strength, Ksi	D6641	128	51	52
0° Compression Modulus, Msi	D6641	46	83	24
Short Beam Shear Strength, Ksi	D2344	11.2	7.0	9.1

*Laminate properties are for reference only and may vary depending on manufacturing.