

## PMT-F4

### Description

PMT-F4 is a highly toughened epoxy resin system designed for vacuum bag, press and autoclave curing using standard layup procedures. The resin system is utilized by UAV's, commercial sporting goods, automotive racing, and many other composite industries due to the improved performance at competitive pricing. The resin can be impregnated into numerous unidirectional or fabric reinforcements and imparts a medium/dry tack.

### Features

- High compression strength
- Good moisture resistance
- Good impact performance
- Low cure viscosity

### Resin Properties

Resin	Density (g/cm <sup>3</sup> )	Gel Time (min@250°F)	Tg (onset)	Kic	Tensile Strength (psi)	Tensile Modulus (ksi)	Maximum Stain at Break (%)
PMT-F4	1.21	8.00	345°F	0.75	9,215	556	3.1

### Mechanical Properties for Glass Fabric

- Laminate: PMT-F4/7781 Fabric
- Cure Type: Vacuum Bag
- RC: 36%
- FAW:303 gsm

Test	Strength (ksi)	Modulus (Msi)	Test Method
0° Compression	68.9	3.7	ASTM D6641
0° Tension	76.0	3.9	ASTM D3039
3 Point Flex	123.0	7.2	ASTM D7264
SBS	9.2	Na	ASTM D2334

### Mechanical Properties for Standard Modulus Unidirectional Carbon Fiber

- Laminate: PMT-F4/T700 12K
- Cure Type: Vacuum Bag
- RC: 36%
- FAW:145 gsm

Test	Strength (ksi)	Modulus (Msi)	Test Method
0° Compression	241.8	20.5	ASTM D6641
0° Tension	321.4	21.1	ASTM D3039
3 Point Flex	309.6	19.9	ASTM D7264
SBS	13.8	Na	ASTM D2334

## Mechanical Properties for High Modulus Unidirectional Carbon Fiber:

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- Laminate: PMT-F4/HM63 12K
- Cure Type: Vacuum Bag
- RC: 35%
- FAW:120 gsm

Test	Strength (ksi)	Modulus (Msi)	Test Method
0° Compression	205.2	31.1	ASTM D6641
0° Tension	352.1	33.8	ASTM D3039
SBS	12.6	Na	ASTM D2334

## Mechanical Properties for Standard Modulus Carbon Fabric:

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- Laminate: PMT-F4/T300 3k PW
- Cure Type: Vacuum Bag
- RC: 38%
- FAW:200 gsm

Test	Strength (ksi)	Modulus (Msi)	Test Method
0° Compression	86.8	9.2	ASTM D6641
0° Tension	98.8	9.6	ASTM D3039
SBS	10.2	Na	ASTM D2334

## Mechanical Properties for Intermediate Modulus Spread Tow Carbon Fabric:

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- Laminate: PMT-F4/IM2 12K PW
- Cure Type: Vacuum Bag
- RC: 36%
- FAW:195 gsm

Test	Strength (ksi)	Modulus (Msi)	Test Method
0° Compression	108.5	12.8	ASTM D6641
0° Tension	184.3	13.4	ASTM D3039
SBS	11.4	Na	ASTM D2334

## Cure Profile

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PMT-F4 is offered as unidirectional or fabric prepreg. It is compatible with standard 250°F release materials and bagging procedures. PMT-F4 can be vacuum bag cured with standard release liners at a minimum of 26 in Hg. For autoclave cured panels use the same ramp rate and transition to maximum autoclave pressure before 200°F. PMT-F4 should be cured with a ramp rate of 3°F/min to a dwell point of 250°F for a minimum of 2 hours. It can be removed from the bag and ramped at 5°F/min to a dwell point of 350°F for 2 hours to maximize tg.

## Out Time

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PMT-F4 has a storage life of 2 years when stored under 10°F and has a work life of 3 months when stored at 75°F.

For more information contact Patz Materials and Technology at [Development@PatzMandT.com](mailto:Development@PatzMandT.com)