

# TECHNICAL DATA



## Vector Systems Thermoplastic Material Advantages

- Infinite shelf-life without refrigeration
- Fast processing cycles (compared to thermosets)
- Lightweight
- High strength and stiffness
- Inherent toughness
- Solvent resistant
- Vibration damping
- Usable in highly contoured parts.
- Ability to remold and sonically weld
- Environmentally friendly - recyclable

The data listed has been obtained from carefully controlled samples considered to be representative of the product described. Because the properties of this product can be significantly affected by fabrication and testing techniques employed and since Vector Systems does not control the conditions under which its products are tested and used, Vector Systems cannot guarantee that the properties listed will be obtained with other processes and equipment.

## **Flexile™ PEEK**

Flexile™ PEEK polyetheretherketone is a semi-crystalline thermoplastic composite material that is flame retardant, offers excellent chemical and solvent resistance, demonstrates outstanding toughness and performs at high temperatures.

Flexile™ PEEK composite material can be supplied in a biaxial fabric form, as a unidirectional product, and as a multilayer, multidirectional pre-ply fabric. Multilayer and multidirectional products can be supplied in widths up to 95 inches (2.4 meters). Two dimensional and unidirectional products can be supplied in widths up to 195 inches (5 meters).

## **Neat Resin Properties**

Melting Point.....	650°F (343°C)
Specific Gravity.....	1.30
Processing Temperature.....	725°F (385°C)
Flammability rating (UL94.).....	V-0 @1.5 mm
Limiting Oxygen Index (0.4 and 3.2 mm).	24 and 35 % O <sub>2</sub>
Tensile Strength.....	16.0 ksi (110 MPa)
Tensile Modulus.....	0.54Msi (3.7 GPa)
Elongation at Yield.....	25%
Flexural Strength.....	25.4 ksi (175 MPa)
Flexural Modulus.....	0.62Msi (4.3 GPa)

For more information, data, samples and pricing contact:

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## Mechanical Properties T300/PEEK

Product tested 280 g/m<sup>2</sup> T300 (0/90 fabric) 51% resin content by weight

Property	Condition	Test Method	Value	Unit	Value	Unit
Tensile Strength (0°)	RTD	ASTM D 3039	101	Ksi	696	MPa
Tensile Modulus (0°)	RTD	ASTM D 3039	8.4	Msi	58	GPa
Tensile Strength (0°)	RTW	ASTM D 3039	105	Ksi	724	MPa
Tensile Modulus (0°)	RTW	ASTM D 3039	8.3	Msi	57	GPa
Flexural Strength (0°)	RTD	ASTM D 790	149	Ksi	1027	MPa
Flexural Modulus (0°)	RTD	ASTM D 790	7	Msi	48	GPa
Flexural Strength (0°)	RTW	ASTM D 790	133	Ksi	917	MPa
Flexural Modulus (0°)	RTW	ASTM D 790	6.6	Msi	46	GPa
Compressive Strength (0°)	RTD	ASTM D 695	64	Ksi	441	MPa
Compressive Modulus (0°)	RTD	ASTM D 695	7.7	Msi	53	GPa
Compressive Strength (0°)	RTW	ASTM D 695	60	Ksi	414	MPa
Compressive Modulus (0°)	RTW	ASTM D 695	7.1	Msi	49	GPa

RTD = Room Temperature dry RTW= Room Temperature Wet

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