



VERTEC 5000

Compression Molded

VERTEC 5000 is unreinforced PEEK (polyetheretherketone) material. Its high mechanical properties at elevated temperatures, combined with excellent chemical and hydrolysis resistance, make it the most popular advanced thermoplastic material available today. The use of unreinforced PEEK material is increasingly growing across all industries for metal replacements and other applications. Now, with its FDA approval, PEEK material can also be used to fabricate components in food and beverage as well as medical and pharmaceutical processing equipment.

<i>Physical Properties</i>	<i>ASTM Method</i>	<i>Typical Values</i>
Specific Gravity	D792	1.32 gr/cm ³
Water Absorption (24hrs. @73.4°F)	D570	0.5 %
Color	N/A	Tan

<i>Mechanical Properties</i>		
Tensile Strength	D1708/D638	15,500 psi
Tensile Elongation	D1708/D638	15 %
Flexural Strength	D790	26,000 psi
Flexural Modulus	D790	650,000 psi
Compressive Strength	D695	18,000 psi
Compressive Modulus	D695	440,000 psi
Impact Strength (Izod, notched)	D256	1 ft-lb/in
Hardness	Shore D	85

<i>Tribological Properties</i>		
Coefficient of Friction		
Static	D3702	
Dynamic	D3702	0.4
Wear Rate (PV: 20,000 psi-fpm)	D3702	µin/min

<i>Thermal Properties</i>		
Coefficient of Linear Thermal Expansion (78 to 400°F)	D696	25 10 ⁻⁶ /°F
Heat Deflection Temperature (@264 psi)	D648	325 °F
Glass Transition Temperature (T _g)	D3418	289
Continuous Service Temperature (Max @ no load)		480 °F
Melting Point		644 °F

<i>Electrical Properties</i>		
Volume Resistivity	D257	4.9 10 ¹⁶ ohm-cm
Dielectric Strength	D149	190 KV/mm
Dielectric Constant	D150	50Hz, 200°C

Note: Property values should be interpreted as typical rather than minimum value. All technical information and recommendations are presented in good faith, based upon laboratory and real-world tests believed to be reliable and practical. However, Vertec Polymers cannot guarantee the accuracy or completeness of this information, and it is the customer's responsibility to determine product suitability to any given application.

Rev. Date 05/2004