

# Material Properties

## Glass Fiber Reinforced PEEK

### Material code: 5010

It exhibits higher modulus than neat PEEK, thus offering more resistance to deformation under load at elevated temperatures. This material is an ideal candidate for many structural component applications carrying high static loads. Due to the abrasiveness of glass fibers, its use against soft metal surfaces in dynamic applications must be carefully examined.

Physical Properties	ASTM Method	Typical Values
Specific Gravity	D792	1.54 gr/cm <sup>3</sup>
Water Absorption (24 hrs. @ 74°F)	D570	0.15 %
Color	N/A	Tan
<b>Mechanical Properties</b>		
Tensile Strength	D1708	10,500 psi
Elongation	D1708	
• At Break		3%
Flexural Strength	D790	28,200 psi
Flexural Modulus	D790	1,000,000 psi
Compressive Strength	D695	19,100 psi
Compressive Modulus	D695	500,000 psi
Impact Strength (Izod, notched)	D256	1.4 ft-lb/in
Hardness	Shore D	90
<b>Tribological Properties</b>		
Coefficient of friction	D3702	
• Static		0.75
• Dynamic		0.70
Wear rate (PV: 20,000 psi-fpm)	D3702	4.2 uin/min
<b>Thermal Properties</b>		
Coefficient of Linear Thermal Expansion (78-400°F)	D696	14 10 <sup>-6</sup> °F
Heat Deflection Temperature (F/C @ 264 psi)	D648	600°F
Glass Transition Temperature (T <sub>g</sub> )	D3418	289°F
Melting Point		644°F
Continuous Service Temperature (Max @ no load)		500°F
<b>Electrical Properties</b>		
Volume Resistivity (ohm-cm) @ 50% RH	D257	10 <sup>16</sup> ohm-cm
Dielectric Strength	D149	1285 KV/mm
Dielectric Constant	D150	3.7 Hz, 200°F

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

