

Material Properties

Bearing Grade Carbon Reinforced PEEK

Material code: 5020

It offers higher modulus, mechanical strength and resistance to deformation under load than GFPK. Due to the presence of carbon fibers, thermal conductivity of this material is 3.5 times higher than unreinforced PEEK, thus it dissipates heat at a faster rate. It also gives stable and reliable ESD performance providing maximum protection from static charge build-up.

Physical Properties	ASTM Method	Typical Values
Specific Gravity	D792	1.41 gr/cm ³
Water Absorption (24 hrs. @ 74°F)	D570	0.15 %
Color	N/A	Black
Mechanical Properties		
Tensile Strength	D1708	19,000 psi
Elongation	D1708	
• At Break		4%
Flexural Strength	D790	25,200 psi
Flexural Modulus	D790	1,200,000 psi
Compressive Strength	D695	25,000 psi
Compressive Modulus	D695	550,000 psi
Impact Strength (Izod, notched)	D256	1.4 ft-lb/in
Hardness	Shore D	90
Tribological Properties		
Coefficient of friction	D3702	
• Static		0.58
• Dynamic		0.52
Wear rate (PV: 20,000 psi-fpm)	D3702	4.08 uin/min
Thermal Properties		
Coefficient of Linear Thermal Expansion (78-400°F)	D696	30 10 ⁻⁶ °F
Heat Deflection Temperature (F/C @ 264 psi)	D648	600°F
Glass Transition Temperature (T _g)	D3418	289°F
Melting Point		644°F
Continuous Service Temperature (Max @ no load)		500°F
Electrical Properties		
Volume Resistivity (ohm-cm) @ 50% RH	D257	10 ⁴ ohm-cm
Dielectric Strength	D149	KV/mm
Dielectric Constant	D150	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 believe 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.

