



Product Datasheet

Drake PAI 5060

Highest strength PAI for extreme temperatures, Extruded

Drake PAI 5060 is a highly loaded composite with 60 percent fiber reinforcement. It has twice the reinforcement of Torlon 5030 and more by both weight and volume than Torlon 7130. Drake PAI 5060's balance of extremely high modulus (stiffness), minimal CLTE (dimensional change with temperature) and machinability make it an excellent upgrade to difficult to fabricate high-performance polymers or ceramics. Tensile tests confirm the modulus is more than 50 percent higher than glass reinforced PEEK, while the thermal expansion is reduced to the range of steel.

Drake PAI 5060 is well suited for:

- Cryogenic vessels and housings
- High pressure valve seats and balls
- Test sockets for ICs

Physical Properties	Metric	English	Methods
Specific Gravity	1.9 g/cc	.069 lb/in ³	ASTM D792
Water Absorption	0.2%	0.2 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	1.3%	1.3 %	Immersion; ASTM D570(2)

Mechanical Properties*

Hardness, Rockwell M		M128	ASTM D785
Hardness, Rockwell		E90	ASTM D785
Hardness, Shore D		90	ASTM D2240
Tensile Strength, Ultimate	195 MPa	28,000 psi	ASTM D638
Elongation at Break	2 %	2%	ASTM D638
Tensile Modulus	13,800 MPa	2,000,000 psi	ASTM D638
Flexural Modulus	13,800 MPa	2,000,000 psi	ASTM D790
Flexural Yield Strength	250 MPa	36,000 psi	ASTM D790
Compressive Strength	345 MPa	50,000 psi	10% Def.; ASTM D695
Compressive Modulus	5520 MPa	800,000 psi	ASTM D695
Izod Impact (notched)	105 J/M	2.0	ASTM D256 Type A

Thermal Properties

Melt Point	275°C	527°F	ASTMD3418
Heat Deflection Temp (264 psi)	278°C	532°F	ASTM D638
Coefficient of Linear Thermal Exp. in/in/°F	1.26x10 ⁻⁵	.7x10 ⁻⁵	ASTM E831

*The mechanical properties of extruded shapes may differ from the values published by resin producers. Published resin data is always generated off injection molded test specimens run under near perfect conditions. Drake's extruded shape values are generated using specimens machined from actual shapes and may reflect surface imperfections from machining, enhanced crystallinity resulting from processing and fiber alignment inherent in all reinforced plastic shapes, regardless of process. For additional information on the effects of fiber alignment see Drake Fiber Orientation Diagram available on the Resource page of our website.