

Quadrant EPP Duratron® PAI T5030 (Ext), Polyamide-imide, 30% glass reinforced, extruded (ASTM Product Data Sheet)

Categories:	Polymer; Thermoplastic; Polyamide-imide (PAI); Polyamide-Imide, Glass Filled
Material Notes:	Data provided by Quadrant Engineering Plastic Products. Formerly Torlon® 4XG. <ul style="list-style-type: none"> • Maintains strength and stiffness to 500°F (260°C) • Minimal expansion rate to 500°F (260°C) • Excellent wear resistance in bearing grades • Able to endure harsh thermal, chemical and stress conditions

Physical Properties	Metric	English	Comments
Specific Gravity	1.60 g/cc	1.60 g/cc	ASTM D792
Water Absorption	0.30 %	0.30 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	1.5 %	1.5 %	Immersion; ASTM D570(2)

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	90	90	ASTM D785
Tensile Strength	159 MPa	23000 psi	ASTM D638
Elongation at Break	4.0 %	4.0 %	ASTM D638
Tensile Modulus	6.89 GPa	1000 ksi	ASTM D638
Flexural Strength	207 MPa	30000 psi	ASTM D790
Flexural Modulus	6.76 GPa	980 ksi	ASTM D790
Compressive Strength	276 MPa	40000 psi	10% Def.; ASTM D695
Compressive Modulus	4.83 GPa	700 ksi	ASTM D695
Izod Impact, Notched	0.534 J/cm	1.00 ft-lb/in	ASTM D256 Type A

Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	>= 1e+13 ohm	>= 1e+13 ohm	EOS/ESD S11.11
Dielectric Strength	27.6 kV/mm	700 kV/in	Short Term; ASTM D149

Thermal Properties	Metric	English	Comments
CTE, linear	16.2 µm/m-°C @Temperature -40.0 - 149 °C	9.00 µin/in-°F @Temperature -40.0 - 300 °F	ASTM E831
Thermal Conductivity	0.360 W/m-K	2.50 BTU-in/hr-ft²-°F	ASTM F433
Maximum Service Temperature, Air	260 °C	500 °F	Long Term
Deflection Temperature at 1.8 MPa (264 psi)	277 °C	530 °F	ASTM D648
Glass Transition Temp, Tg	275 °C	527 °F	ASTM D3418
Flammability, UL94	V-0	V-0	1/8 inch (Estimated Rating)

Compliance Properties	Metric	English	Comments
3A-Dairy	No	No	
Canada AG	No	No	
FDA	No	No	
NSF	No	No	
USDA	No	No	
USP Class VI	No	No	

Chemical Resistance Properties	Metric	English	Comments
Acids, Strong (pH 1-3)	Limited	Limited	
Acids, Weak	Acceptable	Acceptable	
Alcohols	Acceptable	Acceptable	
Alkalies, Strong (pH 11-14)	Unacceptable	Unacceptable	
Alkalies, Weak	Limited	Limited	
Chlorinated Solvents	Acceptable	Acceptable	
Conductive / Static Dissipative	No	No	
Continuous Sunlight	Acceptable	Acceptable	
Hot Water / Steam	Limited	Limited	
Hydrocarbons - Aliphatic	Acceptable	Acceptable	
Hydrocarbons - Aromatic	Acceptable	Acceptable	
Inorganic Salt Solutions	Acceptable	Acceptable	

Descriptive Properties

Machinability

8

1-10, 1=Easier to Machine