MITSUBISHI CHEMICAL ADVANCED MATERIALS

Mitsubishi Chemical Advanced Materials Duratron® PAI T7530, Compression Molded Carbon Fiber Reinforced Polyamide-Imide (ASTM Datasheet)

Categories:	Polymer; Thermoplastic; Polyamide-imide (PAI)
Material Notes:	Quadrant Engineering Plastic Products is now Mitsubishi Chemical Advanced Materials.
Key Words:	Duratron, T7530 PAI, Polyamide-imide (Torlon)

Physical Properties	Metric	English	Comments
Specific Gravity	1.51 g/cc @Temperature 22.8 °C	1.51 g/cc @Temperature 73.0 °F	ASTM D792
Water Absorption at Saturation	1.5 %	1.5 %	ASTM D570 2

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	90	90	ASTM D785
Tensile Strength	86.2 MPa @Temperature 22.8 °C	12500 psi @Temperature 73.0 °F	ASTM D638
Elongation at Break	2.6 %	2.6 %	ASTM D638
Tensile Modulus	5.03 GPa @Temperature 22.8 °C	730 ksi @Temperature 73.0 °F	ASTM D638
Flexural Strength	124 MPa @Temperature 22.8 °C	18000 psi @Temperature 73.0 °F	ASTM D790
Flexural Modulus	6.89 GPa @Temperature 22.8 °C	1000 ksi @Temperature 73.0 °F	ASTM D790
Compressive Strength	296 MPa @Strain 10.0 %, Temperature 22.8 °C	43000 psi @Strain 10.0 %, Temperature 73.0 °F	ASTM D965
Compressive Modulus	6.69 GPa	971 ksi	ASTM D695
Izod Impact, Notched	0.374 J/cm	0.700 ft-lb/in	Type "A"; ASTM D256
Coefficient of Friction	0.22	0.22	QTM 55007
K (wear) Factor	226 x 10^{-8} mm³/N-M	112 x 10^{-10} in³-min/ft-lb-hr	QTM 55010
Limiting Pressure Velocity	1.51 MPa-m/sec	43000 psi-ft/min	(with 4:1 safety factor applied); QTM 55007

Thermal Properties	Metric	English	Comments
Thermal Conductivity	0.519 W/m-K	3.60 BTU-in/hr-ft²-°F	
Glass Transition Temp, Tg	275 °C	527 °F	ASTM D3418
Flammability, UL94	V-0	V-0	UL94