

# ADVANCED INDUSTRIAL

HIGH PERFORMANCE PLASTIC SHAPES // PRECISION CNC MACHINED COMPONENTS



## Quadrant EPP Duratron® T7130 PAI Polyamide-imide, carbon fiber reinforced, extruded (ASTM Product Data Sheet)

Categories: Polymer, Thermoplastic; Polyamide-imide (PAI); Polyamide-Imide, Graphite Filled

Physical Properties	Metric	English	Comments
Specific Gravity	1.47 g/cc	1.47 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	91	91	ASTM D785
Tensile Strength	152 MPa	22000 psi	ASTM D638
Tensile Strength at 150°C (300°F)	124 MPa	18000 psi	ASTM D638
Tensile Strength at 65°C (150°F)	138 MPa	20000 psi	ASTM D638
Elongation at Break	2.5 %	2.5 %	ASTM D638
Tensile Modulus	8.27 GPa	1200 ksi	ASTM D638
Compressive Strength	255 MPa	37000 psi	10% Def.; ASTM D695
Compressive Modulus	6.89 GPa	1000 ksi	ASTM D695
Izod Impact, Notched	0.481 J/cm	0.900 ft-lb/in	ASTM D256 Type A
Coefficient of Friction, Dynamic	0.30	0.30	Dry vs. Steel; QTM 55007
Coefficient of Friction, Static	0.30	0.30	QTM 55007
K (wear) Factor	151 x 10 <sup>-8</sup> mm <sup>3</sup> /N-M	75.0 x 10 <sup>-10</sup> in <sup>3</sup> ·min/ft-lb-hr	QTM 55010
Limiting Pressure Velocity	0.490 MPa·m/sec	14000 psi·ft/min	4:1 safety factor; QTM 55007

Thermal Properties	Metric	English	Comments
CTE, linear	9.00 µm/m·°C <small>@Temperature -40.0 - 149 °C</small>	5.00 µin/in·°F <small>@Temperature -40.0 - 300 °F</small>	ASTM E831
Thermal Conductivity	0.519 W/m·K	3.60 BTU-in/hr-ft <sup>2</sup> ·°F	ASTM F433
Maximum Service Temperature, Air	260 °C	500 °F	Long Term
Deflection Temperature at 1.8 MPa (264 psi)	282 °C	540 °F	ASTM D648
Glass Transition Temp, Tg	275 °C	527 °F	ASTM D3418
Flammability, UL94	V-0 <small>@Thickness 3.17 mm</small>	V-0 <small>@Thickness 0.125 in</small>	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	
Ketones, Esters	Acceptable	Acceptable	

### Descriptive Properties

Machinability 8 1-10, 1=Easier to Machine