

Quadrant EPP Quadrant PC 1000 Extruded, Unfilled, Polycarbonate (ASTM Product Data Sheet)

Categories: Polymer; Thermoplastic; Polycarbonate (PC); Polycarbonate, Extruded

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D792
Water Absorption	0.20 %	0.20 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	0.40 %	0.40 %	Immersion; ASTM D570(2)
Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	75	75	ASTM D785
Hardness, Rockwell R	126	126	ASTM D785
Hardness, Shore D	80	80	ASTM D2240
Tensile Strength	72.4 MPa	10500 psi	ASTM D638
Elongation at Break	100 %	100 %	ASTM D638
Tensile Modulus	2.21 GPa	320 ksi	ASTM D638
Flexural Strength	89.6 MPa	13000 psi	ASTM D790
Flexural Modulus	2.41 GPa	350 ksi	ASTM D790
Compressive Strength	79.3 MPa	11500 psi	10% Def.; ASTM D695
Compressive Modulus	2.07 GPa	300 ksi	ASTM D695
Shear Strength	63.4 MPa	9200 psi	ASTM D732
Izod Impact, Notched	0.801 J/cm	1.50 ft-lb/in	ASTM D256 Type A
Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	$\geq 1.00e+13$ ohm	$\geq 1.00e+13$ ohm	EOS/ESD S11.11
Dielectric Constant	3.17 @Frequency 1e+6 Hz	3.17 @Frequency 1e+6 Hz	ASTM D150
Dielectric Strength	15.7 kV/mm	400 kV/in	Short Term; ASTM D149
Dissipation Factor	0.00090 @Frequency 1e+6 Hz	0.00090 @Frequency 1e+6 Hz	ASTM D150
Thermal Properties	Metric	English	Comments
CTE, linear	70.2 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature -40.0 - 149 °C	39.0 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @Temperature -40.0 - 300 °F	ASTM E831
Thermal Conductivity	0.186 W/m-K	1.29 BTU-in/hr-ft ² -°F	ASTM F433
Maximum Service Temperature, Air	121 °C	250 °F	Long Term
Deflection Temperature at 1.8 MPa (264 psi)	143 °C	290 °F	ASTM D648
Glass Transition Temp, Tg	145 °C	293 °F	ASTM D3418
Flammability, UL94	HB	HB	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)	Unacceptable	Unacceptable	
Acids, Weak	Acceptable	Acceptable	
Alcohols	Acceptable	Acceptable	
Alkalies, Strong (pH 11-14)	Unacceptable	Unacceptable	
Alkalies, Weak	Acceptable	Acceptable	
Chlorinated Solvents	Unacceptable	Unacceptable	
Conductive / Static Dissipative	No	No	
Continuous Sunlight	Limited	Limited	
Hot Water / Steam	Limited	Limited	
Hydrocarbons - Aliphatic	Limited	Limited	
Hydrocarbons - Aromatic	Unacceptable	Unacceptable	
Inorganic Salt Solutions	Acceptable	Acceptable	
Ketones, Esters	Unacceptable	Unacceptable	

Descriptive Properties

Color	Natural	
Machinability	3	1-10, 1=Easier to Machine