

Quadrant EPP Quadrant PC 1000 extruded (ISO Data)

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, Extruded

Material Notes:

Quadrant Engineering Plastic Products is marketing non-UV-stabilized polycarbonate stock shapes under the trade name Quadrant PC 1000. It is a natural, "non-optical" industrial quality (clear, translucent). High mechanical strength Good creep resistance Very high impact strength, even at low temperatures Stiffness retention over a wide range of temperatures Very good dimensional stability (very low water absorption and low coefficient of linear thermal expansion) Natural colour (clear, translucent) Good electrical insulating and dielectric properties Physiologically inert (suitable for food contact) Economical thermal performance

Order this product through the following link:

http://www.lookpolymers.com/polymer_Quadrant-EPP-Quadrant-PC-1000-extruded-ISO-Data.php

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in ³	ISO 1183-1
Moisture Absorption at Equilibrium	0.15 %	0.15 %	50% RH
Water Absorption at Saturation	0.40 %	0.40 %	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	75	75	ISO 2039-2
Hardness, Shore D	79	79	
Ball Indentation Hardness	120 MPa	17400 psi	ISO 2039-1
Tensile Strength	74.0 MPa	10700 psi	at Yield; ISO 527-1/-2
Elongation at Break	>= 50 %	>= 50 %	ISO 527-1/-2
Elongation at Yield	6.0 %	6.0 %	ISO 527-1/-2
Tensile Modulus	2.40 GPa	348 ksi	ISO 527-1/-2
Flexural Strength	103 MPa	14900 psi	
Flexural Modulus	2.175 GPa	315.5 ksi	
Compressive Strength	21.0 MPa	3050 psi	ISO 604
	@Strain 1 %	@Strain 1 %	
	40.0 MPa	5800 psi	
	@Strain 2 %	@Strain 2 %	ISO 604
	80.0 MPa	11600 psi	ISO 604
	@Strain 5 %	@Strain 5 %	

Mechanical Properties	Metric	English	Comments
Charpy Impact Unnotched	NB	NB	ISO 179-1/1eU
Charpy Impact, Notched	0.900 J/cm ²	4.28 ft-lb/in ²	ISO 179-1/1eA
Coefficient of Friction, Dynamic	0.50 - 0.60	0.50 - 0.60	

Thermal Properties	Metric	English	Comments
CTE, linear	65.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	36.1 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 23.0 - 100 $^{\circ}\text{C}$	@Temperature 73.4 - 212 $^{\circ}\text{F}$	
Thermal Conductivity	0.210 W/m-K	1.46 BTU-in/hr-ft ² - $^{\circ}\text{F}$	
Maximum Service Temperature, Air	120 $^{\circ}\text{C}$	248 $^{\circ}\text{F}$	Continuous; 20,000 h
	130 $^{\circ}\text{C}$	266 $^{\circ}\text{F}$	Continuous; 5,000 h
Deflection Temperature at 1.8 MPa (264 psi)	130 $^{\circ}\text{C}$	266 $^{\circ}\text{F}$	ISO 75-1/-2
Glass Transition Temp, Tg	150 $^{\circ}\text{C}$	302 $^{\circ}\text{F}$	DSC, 20 $^{\circ}\text{C}/\text{min}.$; ISO 11357-1/-2
Flammability, UL94	HB	HB	
Oxygen Index	25 %	25 %	ISO 4589-1/-2

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.0\text{e}+14$ ohm-cm	$\geq 1.0\text{e}+14$ ohm-cm	IEC 60093
Surface Resistivity per Square	$\geq 1.0\text{e}+13$ ohm	$\geq 1.0\text{e}+13$ ohm	IEC 60093
Dielectric Constant	3.0	3.0	IEC 60250
	@Frequency ≥ 100000 Hz	@Frequency ≥ 100000 Hz	
Dielectric Strength	28.0 kV/mm	711 kV/in	
Dissipation Factor	0.0010	0.0010	IEC 60250
	@Frequency 100000 Hz	@Frequency 100000 Hz	
Comparative Tracking Index	350 V	350 V	IEC 60112

Compliance Properties	Metric	English	Comments
3A-Dairy	No	No	
European Food 1935/2004	No	No	

FDA Compliance Properties	Yes Metric	Yes English	Comments
USP Class VI	No	No	

Chemical Resistance Properties	Metric	English	Comments
Acids, Strong (pH 1-3)	Unacceptable	Unacceptable	
Acids, Weak	Limited	Limited	
Alcohols	Limited	Limited	
Alkalies, Strong (pH 11-14)	Unacceptable	Unacceptable	
Alkalies, Weak	Limited	Limited	
Chlorinated Solvents	Unacceptable	Unacceptable	
Continuous Sunlight	Limited	Limited	
Hot Water / Steam	Limited	Limited	
Hydrocarbons - Aliphatic	Acceptable	Acceptable	
Hydrocarbons - Aromatic	Unacceptable	Unacceptable	
Inorganic Salt Solutions	Acceptable	Acceptable	
Ketones, Esters	Unacceptable	Unacceptable	

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