

Overview of materials for Polycarbonate, High Heat

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, High Heat

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polycarbonate, High Heat". Each property range of values reported is minimum and maximum values of appropriate MatWeb entries. The comments report the average value, and number of data points used to calculate the average. The values are not necessarily typical of any specific grade, especially less common values and those that can be most affected by additives or processing methods.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Overview-of-materials-for-Polycarbonate-High-Heat.php

Physical Properties	Metric	English	Comments
Density	1.14 - 1.41 g/cc	0.0412 - 0.0509 lb/in ³	Average value: 1.17 g/cc Grade Count:32
Water Absorption	0.200 - 0.400 %	0.200 - 0.400 %	Average value: 0.320 % Grade Count:25
Moisture Absorption at Equilibrium	0.120 - 0.200 %	0.120 - 0.200 %	Average value: 0.187 % Grade Count:19
Water Absorption at Saturation	0.300 - 0.400 %	0.300 - 0.400 %	Average value: 0.384 % Grade Count:19
Linear Mold Shrinkage	0.00100 - 0.00900 cm/cm	0.00100 - 0.00900 in/in	Average value: 0.00700 cm/cm Grade Count:14
Linear Mold Shrinkage, Transverse	0.00500 - 0.00750 cm/cm	0.00500 - 0.00750 in/in	Average value: 0.00650 cm/cm Grade Count:3
Melt Flow	2.00 - 46.0 g/10 min	2.00 - 46.0 g/10 min	Average value: 13.7 g/10 min Grade Count:29

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	75.0 - 91.0	75.0 - 91.0	Average value: 81.9 Grade Count:10
Hardness, Rockwell R	125 - 127	125 - 127	Average value: 127 Grade Count:8
Tensile Strength, Ultimate	57.0 - 117 MPa	8270 - 16900 psi	Average value: 71.1 MPa Grade Count:13
Tensile Strength, Yield	61.0 - 74.0 MPa	8850 - 10700 psi	Average value: 65.8 MPa Grade Count:31
Elongation at Break	4.00 - 140 %	4.00 - 140 %	Average value: 62.5 % Grade Count:30
Elongation at Yield	6.00 - 7.00 %	6.00 - 7.00 %	Average value: 6.60 % Grade Count:29
Modulus of Elasticity	2.12 - 2.45 GPa	307 - 355 ksi	Average value: 2.27 GPa Grade Count:29
Flexural Yield Strength	86.0 - 186 MPa	12500 - 27000 psi	Average value: 95.9 MPa Grade Count:14

Mechanical Properties	Metric	English	Comments
Flexural Modulus	2.74 - 7.85 GPa	397 - 1140 ksi	Average value: 2.65 GPa Grade Count:14
Izod Impact, Notched	0.800 - 8.80 J/cm	1.50 - 16.5 ft-lb/in	Average value: 3.60 J/cm Grade Count:13
Izod Impact, Unnotched	8.01 J/cm - NB	15.0 ft-lb/in - NB	Average value: 8.01 J/cm Grade Count:9
	NB - NB	NB - NB	Grade Count:8
	@Temperature -40.0 - -40.0 °C	@Temperature -40.0 - -40.0 °F	
Charpy Impact Unnotched	1000 J/cm ² - NB	4760 ft-lb/in ² - NB	Grade Count:19
	0.600 - 999.9 J/cm ²	2.86 - 4759 ft-lb/in ²	Average value: 0.813 J/cm ² Grade Count:19
	@Temperature -30.0 - -30.0 °C	@Temperature -22.0 - -22.0 °F	
Charpy Impact, Notched	0.600 - 1.00 J/cm ²	2.86 - 4.76 ft-lb/in ²	Average value: 0.813 J/cm ² Grade Count:15

Thermal Properties	Metric	English	Comments
CTE, linear	65.0 - 70.0 µm/m-°C	36.1 - 38.9 µin/in-°F	Average value: 69.5 µm/m-°C Grade Count:29
CTE, linear, Transverse to Flow	65.0 - 70.0 µm/m-°C	36.1 - 38.9 µin/in-°F	Average value: 69.3 µm/m-°C Grade Count:21
Maximum Service Temperature, Air	200 °C	392 °F	Average value: 200 °C Grade Count:4
Deflection Temperature at 0.46 MPa (66 psi)	142 - 195 °C	288 - 383 °F	Average value: 166 °C Grade Count:32
Deflection Temperature at 1.8 MPa (264 psi)	132 - 179 °C	270 - 354 °F	Average value: 153 °C Grade Count:32
Vicat Softening Point	157 - 205 °C	315 - 401 °F	Average value: 178 °C Grade Count:27
Minimum Service Temperature, Air	-30.0 °C	-22.0 °F	Average value: -30.0 °C Grade Count:4
UL RTI, Electrical	125 - 150 °C	257 - 302 °F	Average value: 140 °C Grade Count:9
UL RTI, Mechanical with Impact	115 - 150 °C	239 - 302 °F	Average value: 131 °C Grade Count:9
UL RTI, Mechanical without Impact	125 - 150 °C	257 - 302 °F	Average value: 140 °C Grade Count:9
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:30
Oxygen Index	24.0 - 35.0 %	24.0 - 35.0 %	Average value: 24.9 % Grade Count:24

Optical Properties	Metric	English	Comments
Refractive Index	1.57 - 1.59	1.57 - 1.59	Average value: 1.58 Grade Count:14

Optical Properties	Metric	English	Comments
Transmission, Visible	88.0 - 90.0 %	88.0 - 90.0 %	Average value: 88.4 % Grade Count:14

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+15 - 1.00e+17 ohm-cm	1.00e+15 - 1.00e+17 ohm-cm	Average value: 1.29e+16 ohm-cm Grade Count:29
Surface Resistance	1.00e+15 - 1.00e+16 ohm	1.00e+15 - 1.00e+16 ohm	Average value: 4.67e+15 ohm Grade Count:27
Dielectric Constant	2.80 - 3.00	2.80 - 3.00	Average value: 2.90 Grade Count:29
Dielectric Strength	16.0 - 35.0 kV/mm	406 - 889 kV/in	Average value: 29.1 kV/mm Grade Count:29
Dissipation Factor	0.000400 - 0.0100	0.000400 - 0.0100	Average value: 0.00503 Grade Count:29
Arc Resistance	110 - 180 sec	110 - 180 sec	Average value: 123 sec Grade Count:3
Comparative Tracking Index	100 - 600 V	100 - 600 V	Average value: 399 V Grade Count:22

Processing Properties	Metric	English	Comments
Melt Temperature	299 - 371 °C	570 - 700 °F	Average value: 327 °C Grade Count:13
Mold Temperature	76.7 - 100 °C	170 - 212 °F	Average value: 95.9 °C Grade Count:6
Injection Velocity	200 mm/sec	7.87 in/sec	Average value: 200 mm/sec Grade Count:4

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China