

Overview of materials for Polycarbonate/PET Polyester Blend

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate/PET Polyester Blend , Polyester, TP , Polyethylene Terephthalate (PET)

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polycarbonate/PET Polyester Blend". 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-PolycarbonatePET-Polyester-Blend.php

Physical Properties	Metric	English	Comments
Density	1.16 - 1.40 g/cc	0.0419 - 0.0506 lb/in ³	Average value: 1.21 g/cc Grade Count:125
	1.03 - 1.03 g/cc @Temperature 270 - 270 °C	0.0372 - 0.0372 lb/in ³ @Temperature 518 - 518 °F	Average value: 1.03 g/cc Grade Count:1
Water Absorption	0.100 - 0.350 %	0.100 - 0.350 %	Average value: 0.174 % Grade Count:18
Moisture Absorption at Equilibrium	0.0100 - 0.700 %	0.0100 - 0.700 %	Average value: 0.174 % Grade Count:50
Water Absorption at Saturation	0.0100 - 0.700 %	0.0100 - 0.700 %	Average value: 0.327 % Grade Count:50
Linear Mold Shrinkage	0.00100 - 0.0180 cm/cm	0.00100 - 0.0180 in/in	Average value: 0.00669 cm/cm Grade Count:113
Linear Mold Shrinkage, Transverse	0.00300 - 0.0100 cm/cm	0.00300 - 0.0100 in/in	Average value: 0.00600 cm/cm Grade Count:47
Melt Flow	3.00 - 44.0 g/10 min	3.00 - 44.0 g/10 min	Average value: 15.4 g/10 min Grade Count:106

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	108 - 120	108 - 120	Average value: 115 Grade Count:16
Hardness, Shore D	73.0 - 75.0	73.0 - 75.0	Average value: 73.4 Grade Count:9
Tensile Strength, Ultimate	35.0 - 110 MPa	5080 - 16000 psi	Average value: 55.1 MPa Grade Count:85
Tensile Strength, Yield	34.0 - 70.0 MPa	4930 - 10200 psi	Average value: 53.9 MPa Grade Count:117
Elongation at Break	4.00 - 200 %	4.00 - 200 %	Average value: 127 % Grade Count:97
Elongation at Yield	2.00 - 86.0 %	2.00 - 86.0 %	Average value: 6.30 % Grade Count:75

Mechanical Properties	Metric	English	Comments
	1.15 - 4.15 GPa	168 - 602 ksi	Average value: 1.97 GPa Grade Count:11
Flexural Yield Strength	50.0 - 131 MPa	7250 - 19000 psi	Average value: 81.2 MPa Grade Count:108
Flexural Modulus	1.14 - 5.10 GPa	165 - 740 ksi	Average value: 2.06 GPa Grade Count:118
Izod Impact, Notched	0.392 - 100 J/cm	0.735 - 187 ft-lb/in	Average value: 7.09 J/cm Grade Count:113
	0.0500 - 7.50 J/cm @Temperature -40.0 - 0.000 °C	0.0937 - 14.1 ft-lb/in @Temperature -40.0 - 32.0 °F	Average value: 2.43 J/cm Grade Count:55
	1.60 - 7.50 J/cm @Temperature -40.0 - - 22.0 °C	3.00 - 14.1 ft-lb/in @Temperature -40.0 - - 7.60 °F	Average value: 2.43 J/cm Grade Count:5
	1.60 - 7.50 J/cm @Thickness 3.17 - 3.20 mm	3.00 - 14.1 ft-lb/in @Thickness 0.125 - 0.126 in	Average value: 2.43 J/cm Grade Count:5
Izod Impact, Unnotched	5.88 J/cm - NB	11.0 ft-lb/in - NB	Average value: 9.91 J/cm Grade Count:8
	99.99 J/cm - NB @Temperature -40.0 - - 30.0 °C	187.3 ft-lb/in - NB @Temperature -40.0 - - 22.0 °F	Grade Count:3
Izod Impact, Notched (ISO)	7.00 - 78.0 kJ/m ²	3.33 - 37.1 ft-lb/in ²	Average value: 19.7 kJ/m ² Grade Count:59
	3.00 - 60.0 kJ/m ² @Temperature -40.0 - 0.000 °C	1.43 - 28.6 ft-lb/in ² @Temperature -40.0 - 32.0 °F	Average value: 10.7 kJ/m ² Grade Count:54
Izod Impact, Unnotched (ISO)	100 kJ/m ² - NB	47.6 ft-lb/in ² - NB	Average value: 105 kJ/m ² Grade Count:4
	74.0 kJ/m ² - NB @Temperature -30.0 - - 30.0 °C	35.2 ft-lb/in ² - NB @Temperature -22.0 - - 22.0 °F	Average value: 77.0 kJ/m ² Grade Count:4
Charpy Impact Unnotched	9.50 J/cm ² - NB	45.2 ft-lb/in ² - NB	Average value: 9.50 J/cm ² Grade Count:11
	9.50 J/cm ² - NB @Temperature -30.0 - - 30.0 °C	45.2 ft-lb/in ² - NB @Temperature -22.0 - - 22.0 °F	Average value: 9.50 J/cm ² Grade Count:10
Charpy Impact, Notched	0.600 - 9.00 J/cm ²	2.86 - 42.8 ft-lb/in ²	Average value: 3.19 J/cm ² Grade Count:60
	0.500 - 5.00 J/cm ²	2.38 - 23.8 ft-lb/in ²	Average value: 1.79 J/cm ² Grade

Mechanical Properties	Metric	English	Comments
	@Temperature -30.0 - - 30.0 °C	@Temperature -22.0 - - 22.0 °F	
Gardner Impact	36.2 - 36.2 J	26.7 - 26.7 ft-lb	Average value: 36.2 J Grade Count:10
Dart Drop, Total Energy	5.31 - 95.0 J	3.92 - 70.1 ft-lb	Average value: 74.9 J Grade Count:46
	5.13856 - 5.13856 J	3.79000 - 3.79000 ft-lb	
	@Temperature -40.0 - - 40.0 °C	@Temperature -40.0 - - 40.0 °F	Average value: 55.4 J Grade Count:1
	49.0 - 80.2 J	36.1 - 59.2 ft-lb	
	@Temperature -40.0 - 0.000 °C	@Temperature -40.0 - 32.0 °F	Average value: 55.4 J Grade Count:2
	49.0 - 80.2 J	36.1 - 59.2 ft-lb	
	@Thickness 3.20 - 3.20 mm	@Thickness 0.126 - 0.126 in	Average value: 55.4 J Grade Count:2
Puncture Energy	49.0 - 49.0 J	36.1 - 36.1 ft-lb	Average value: 49.0 J Grade Count:2
	@Temperature -40.0 - - 40.0 °C	@Temperature -40.0 - - 40.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	26.0 - 120 µm/m-°C	14.4 - 66.7 µin/in-°F	Average value: 85.4 µm/m-°C Grade Count:71
CTE, linear, Transverse to Flow	51.0 - 140 µm/m-°C	28.3 - 77.8 µin/in-°F	Average value: 87.9 µm/m-°C Grade Count:63
Specific Heat Capacity	1.34 - 1.76 J/g-°C	0.320 - 0.421 BTU/lb-°F	Average value: 1.54 J/g-°C Grade Count:3
Thermal Conductivity	0.165 - 0.230 W/m-K	1.15 - 1.60 BTU-in/hr- ft ² -°F	Average value: 0.226 W/m-K Grade Count:15
Melting Point	220 - 280 °C	428 - 536 °F	Average value: 246 °C Grade Count:5
Hot Ball Pressure Test	85.0 - 105 °C	185 - 221 °F	Average value: 89.4 °C Grade Count:9
Deflection Temperature at 0.46 MPa (66 psi)	79.0 - 255 °C	174 - 491 °F	Average value: 110 °C Grade Count:82
Deflection Temperature at 1.8 MPa (264 psi)	40.6 - 222 °C	105 - 432 °F	Average value: 95.5 °C Grade Count:109

Electrical Properties	Metric	English	Comments
Electrical Resistivity	12.0 - 1.00e+17 ohm- cm	12.0 - 1.00e+17 ohm- cm	Average value: 2.36e+16 ohm-cm Grade Count:20
Surface Resistance	12.0 - 1.00e+15 ohm	12.0 - 1.00e+15 ohm	Average value: 8.00e+14 ohm Grade Count:15

Static Decay Electrical Properties	2.00 sec Metric	2.00 sec English	Average value: 2.00 sec Grade Count:3 Comments
Dielectric Constant	3.00 - 3.20	3.00 - 3.20	Average value: 3.07 Grade Count:3
Dielectric Strength	17.3 - 28.0 kV/mm	439 - 711 kV/in	Average value: 24.9 kV/mm Grade Count:7
Dissipation Factor	0.00800 - 0.00900	0.00800 - 0.00900	Average value: 0.00867 Grade Count:3
Arc Resistance	60.0 - 180 sec	60.0 - 180 sec	Average value: 121 sec Grade Count:4
Comparative Tracking Index	250 - 600 V	250 - 600 V	Average value: 575 V Grade Count:11

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