

Overview of materials for Polycarbonate/ABS Alloy, Carbon Fiber Filled

Category : Polymer , Thermoplastic , ABS Polymer , Polycarbonate/ABS Alloy, Carbon Fiber Filled , Polycarbonate (PC)

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polycarbonate/ABS Alloy, Carbon Fiber Filled". 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-PolycarbonateABS-Alloy-Carbon-Fiber-Filled.php

Physical Properties	Metric	English	Comments
Density	1.17 - 1.41 g/cc	0.0423 - 0.0509 lb/in ³	Average value: 1.29 g/cc Grade Count:29
Filler Content	10.0 - 40.0 %	10.0 - 40.0 %	Average value: 21.6 % Grade Count:8
Water Absorption	0.100 - 0.200 %	0.100 - 0.200 %	Average value: 0.113 % Grade Count:8
Additive Loading	10.0 - 40.0 %	10.0 - 40.0 %	Average value: 26.3 % Grade Count:4
Linear Mold Shrinkage	0.000500 - 0.0250 cm/cm	0.000500 - 0.0250 in/in	Average value: 0.00217 cm/cm Grade Count:18

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	63.0 - 165 MPa	9140 - 24000 psi	Average value: 103 MPa Grade Count:31
Tensile Strength, Yield	63.0 - 96.0 MPa	9140 - 13900 psi	Average value: 79.7 MPa Grade Count:4
Elongation at Break	0.500 - 3.00 %	0.500 - 3.00 %	Average value: 1.63 % Grade Count:28
Elongation at Yield	1.00 - 2.30 %	1.00 - 2.30 %	Average value: 1.74 % Grade Count:5
Modulus of Elasticity	4.61 - 16.5 GPa	669 - 2400 ksi	Average value: 9.73 GPa Grade Count:31
Flexural Yield Strength	95.0 - 234 MPa	13800 - 34000 psi	Average value: 148 MPa Grade Count:31
Flexural Modulus	3.51 - 17.9 GPa	509 - 2600 ksi	Average value: 9.15 GPa Grade Count:31
Izod Impact, Notched	0.370 - 1.20 J/cm	0.693 - 2.25 ft-lb/in	Average value: 0.744 J/cm Grade Count:28
Izod Impact, Unnotched	1.76 - 5.34 J/cm	3.30 - 10.0 ft-lb/in	Average value: 3.17 J/cm Grade Count:28

Thermal Properties	Metric	English	Comments
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Thermal Properties	Metric	English	Comments
	0.128 - 80.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	0.0777 - 44.4 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Average value: 11.2 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ Grade Count:11
Thermal Conductivity	0.560 - 0.700 W/m-K	3.89 - 4.86 BTU-in/hr-ft ² -°F	Average value: 0.617 W/m-K Grade Count:9
Deflection Temperature at 0.46 MPa (66 psi)	97.0 - 118 °C	207 - 245 °F	Average value: 102 °C Grade Count:5
Deflection Temperature at 1.8 MPa (264 psi)	92.0 - 129 °C	198 - 265 °F	Average value: 109 °C Grade Count:21
UL RTI, Mechanical without Impact	60.0 - 105 °C	140 - 221 °F	Average value: 81.8 °C Grade Count:11
Flammability, UL94	HB - 5VB	HB - 5VB	Grade Count:19

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00 - 1.00e+9 ohm-cm	1.00 - 1.00e+9 ohm-cm	Average value: 8.33e+7 ohm-cm Grade Count:17
Surface Resistance	0.0300 - 1.00e+12 ohm	0.0300 - 1.00e+12 ohm	Average value: 3.13e+10 ohm Grade Count:21
Static Decay	0.0100 - 2.00 sec	0.0100 - 2.00 sec	Average value: 1.00 sec Grade Count:8

Processing Properties	Metric	English	Comments
Processing Temperature	232 - 270 °C	450 - 518 °F	Average value: 251 °C Grade Count:9
Nozzle Temperature	240 - 280 °C	464 - 536 °F	Average value: 263 °C Grade Count:12
Melt Temperature	210 - 277 °C	410 - 531 °F	Average value: 260 °C Grade Count:19
Mold Temperature	41.0 - 100 °C	106 - 212 °F	Average value: 63.3 °C Grade Count:27
Drying Temperature	70.0 - 100 °C	158 - 212 °F	Average value: 90.8 °C Grade Count:10
Moisture Content	0.0200 - 2.00 %	0.0200 - 2.00 %	Average value: 0.229 % Grade Count:20
Dew Point	-28.9 °C	-20.0 °F	Average value: -28.9 °C Grade Count:7
Injection Pressure	68.9 - 103 MPa	10000 - 15000 psi	Average value: 86.2 MPa Grade Count:15

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