

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

Category : Polymer , Thermoplastic , ABS Polymer , Polycarbonate/ABS Alloy, Glass 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, Glass 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-Glass-Fiber-Filled.php

Physical Properties	Metric	English	Comments
Density	0.962 - 1.54 g/cc	0.0348 - 0.0555 lb/in ³	Average value: 1.29 g/cc Grade Count:107
	1.02 - 1.07 g/cc @Temperature 260 - 260 °C	0.0368 - 0.0387 lb/in ³ @Temperature 500 - 500 °F	Average value: 1.05 g/cc Grade Count:2
Filler Content	5.00 - 40.0 %	5.00 - 40.0 %	Average value: 19.1 % Grade Count:26
Water Absorption	0.0570 - 0.700 %	0.0570 - 0.700 %	Average value: 0.233 % Grade Count:31
Moisture Absorption at Equilibrium	0.0400 - 0.320 %	0.0400 - 0.320 %	Average value: 0.174 % Grade Count:27
Water Absorption at Saturation	0.600 - 0.700 %	0.600 - 0.700 %	Average value: 0.611 % Grade Count:9
Maximum Moisture Content	0.0200 - 0.0400	0.0200 - 0.0400	Average value: 0.0240 Grade Count:5
Linear Mold Shrinkage	0.000500 - 0.00700 cm/cm	0.000500 - 0.00700 in/in	Average value: 0.00298 cm/cm Grade Count:87
Linear Mold Shrinkage, Transverse	0.00150 - 0.00800 cm/cm	0.00150 - 0.00800 in/in	Average value: 0.00441 cm/cm Grade Count:23
Melt Flow	1.00 - 37.0 g/10 min	1.00 - 37.0 g/10 min	Average value: 12.9 g/10 min Grade Count:34

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	82.0 - 121	82.0 - 121	Average value: 116 Grade Count:24
Hardness, H358/30	116 MPa	16800 psi	Average value: 116 MPa Grade Count:4
Tensile Strength, Ultimate	27.0 - 156 MPa	3920 - 22600 psi	Average value: 87.9 MPa Grade Count:87
	5.00 - 50.0 MPa @Temperature 60.0 -	725 - 7250 psi @Temperature 140 -	Average value: 26.0 MPa Grade Count:1

Mechanical Properties	120 °C Metric	248 °F English	Comments
Tensile Strength, Yield	48.8 - 156 MPa	7080 - 22600 psi	Average value: 92.5 MPa Grade Count:41
Elongation at Break	0.600 - 109 %	0.600 - 109 %	Average value: 4.22 % Grade Count:92
	3.00 - 70.0 %	3.00 - 70.0 %	Average value: 26.3 % Grade Count:1
	@Temperature 60.0 - 120 °C	@Temperature 140 - 248 °F	
Elongation at Yield	0.900 - 4.00 %	0.900 - 4.00 %	Average value: 2.37 % Grade Count:26
	2.00 - 2.00 %	2.00 - 2.00 %	Average value: 2.00 % Grade Count:1
	@Temperature 60.0 - 120 °C	@Temperature 140 - 248 °F	
Modulus of Elasticity	3.30 - 20.3 GPa	479 - 2940 ksi	Average value: 6.89 GPa Grade Count:65
	1.30 - 3.60 GPa	189 - 522 ksi	Average value: 2.73 GPa Grade Count:1
	@Temperature 60.0 - 120 °C	@Temperature 140 - 248 °F	
Flexural Yield Strength	57.0 - 224 MPa	8270 - 32500 psi	Average value: 132 MPa Grade Count:90
Flexural Modulus	3.00 - 12.9 GPa	435 - 1870 ksi	Average value: 5.99 GPa Grade Count:97
Izod Impact, Notched	0.278 - 3.04 J/cm	0.520 - 5.70 ft-lb/in	Average value: 1.14 J/cm Grade Count:79
	0.440 - 3.20 J/cm	0.824 - 5.99 ft-lb/in	Average value: 1.44 J/cm Grade Count:19
	@Temperature -50.0 - 0.000 °C	@Temperature -58.0 - 32.0 °F	
Izod Impact, Unnotched	0.747 - 8.01 J/cm	1.40 - 15.0 ft-lb/in	Average value: 5.35 J/cm Grade Count:40
	3.30 - 6.04 J/cm	6.18 - 11.3 ft-lb/in	Average value: 4.39 J/cm Grade Count:7
	@Temperature -40.0 - -30.0 °C	@Temperature -40.0 - -22.0 °F	
Izod Impact, Notched (ISO)	4.00 - 28.0 kJ/m ²	1.90 - 13.3 ft-lb/in ²	Average value: 15.2 kJ/m ² Grade Count:31
	5.00 - 34.0 kJ/m ²	2.38 - 16.2 ft-lb/in ²	Average value: 17.3 kJ/m ² Grade Count:16
	@Temperature -40.0 - -30.0 °C	@Temperature -40.0 - -22.0 °F	
Izod Impact, Unnotched (ISO)	15.0 - 70.0 kJ/m ²	7.14 - 33.3 ft-lb/in ²	Average value: 35.2 kJ/m ² Grade Count:26
	21.0 - 52.0 kJ/m ²	9.99 - 24.7 ft-lb/in ²	Average value: 32.0 kJ/m ² Grade Count:7
	@Temperature -40.0 - -30.0 °C	@Temperature -40.0 - -22.0 °F	

Mechanical Properties	30.0 °C Metric	22.0 °F English	Comments
Charpy Impact Unnotched	1.50 - 9.00 J/cm ²	7.14 - 42.8 ft-lb/in ²	Average value: 4.07 J/cm ² Grade Count:9
	3.00 - 4.40 J/cm ² @Temperature -40.0 - - 20.0 °C	14.3 - 20.9 ft-lb/in ² @Temperature -40.0 - - 4.00 °F	Average value: 3.63 J/cm ² Grade Count:3
Charpy Impact, Notched	0.300 - 3.20 J/cm ²	1.43 - 15.2 ft-lb/in ²	Average value: 0.979 J/cm ² Grade Count:21
	0.300 - 1.20 J/cm ² @Temperature -40.0 - 0.000 °C	1.43 - 5.71 ft-lb/in ² @Temperature -40.0 - 32.0 °F	Average value: 0.633 J/cm ² Grade Count:10
Dart Drop, Total Energy	11.0 - 35.0 J	8.11 - 25.8 ft-lb	Average value: 18.1 J Grade Count:19
	8.00 - 19.0 J @Temperature -30.0 - - 30.0 °C	5.90 - 14.0 ft-lb @Temperature -22.0 - - 22.0 °F	Average value: 13.5 J Grade Count:2
Falling Dart Impact	52.877 - 52.877 J @Temperature -28.9 - - 28.9 °C	39.000 - 39.000 ft-lb @Temperature -20.0 - - 20.0 °F	Average value: 52.9 J Grade Count:1

Thermal Properties	Metric	English	Comments
CTE, linear	18.0 - 77.4 µm/m-°C	10.0 - 43.0 µin/in-°F	Average value: 40.8 µm/m-°C Grade Count:46
CTE, linear, Transverse to Flow	32.0 - 90.0 µm/m-°C	17.8 - 50.0 µin/in-°F	Average value: 58.3 µm/m-°C Grade Count:31
Specific Heat Capacity	1.56 - 2.15 J/g-°C	0.373 - 0.514 BTU/lb-°F	Average value: 1.82 J/g-°C Grade Count:5
Thermal Conductivity	0.142 - 0.260 W/m-K	0.985 - 1.80 BTU-in/hr- ft ² -°F	Average value: 0.194 W/m-K Grade Count:10
Deflection Temperature at 0.46 MPa (66 psi)	92.0 - 146 °C	198 - 295 °F	Average value: 130 °C Grade Count:47
Deflection Temperature at 1.8 MPa (264 psi)	53.0 - 160 °C	127 - 320 °F	Average value: 120 °C Grade Count:93
Vicat Softening Point	93.0 - 144 °C	199 - 291 °F	Average value: 126 °C Grade Count:36
UL RTI, Electrical	60.0 °C	140 °F	Average value: 60.0 °C Grade Count:10
UL RTI, Mechanical with Impact	60.0 °C	140 °F	Average value: 60.0 °C Grade Count:10

Electrical Properties	Metric	English	Comments
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Electrical Properties	10000 - 3.50e+16 ohm- Metric	10000 - 3.50e+16 ohm- English	Average value: 5.54e+15 ohm-cm Grade Count:26
Surface Resistance	1000 - 3.50e+16 ohm	1000 - 3.50e+16 ohm	Average value: 2.92e+15 ohm Grade Count:18
Dielectric Constant	2.80 - 3.40	2.80 - 3.40	Average value: 3.12 Grade Count:9
Dielectric Strength	27.0 - 40.0 kV/mm	686 - 1020 kV/in	Average value: 31.3 kV/mm Grade Count:11
Dissipation Factor	0.00200 - 0.0110	0.00200 - 0.0110	Average value: 0.00594 Grade Count:9
Comparative Tracking Index	150 - 350 V	150 - 350 V	Average value: 215 V Grade Count:10

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