

Overview of materials for Acrylonitrile Butadiene Styrene (ABS), 10% Carbon Fiber Filled

Category : Polymer , Thermoplastic , ABS Polymer , Acrylonitrile Butadiene Styrene (ABS), 10% Carbon Fiber Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Acrylonitrile Butadiene Styrene (ABS), 10% Carbon Fiber Filled". Specific grades with carbon fiber content between 5% and 14% are included. 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-Acrylonitrile-Butadiene-Styrene-ABS-10-Carbon-Fiber-Filled.php

Physical Properties	Metric	English	Comments
Density	1.07 - 1.26 g/cc	0.0387 - 0.0455 lb/in ³	Average value: 1.12 g/cc Grade Count:17
Filler Content	10.0 - 13.0 %	10.0 - 13.0 %	Average value: 10.6 % Grade Count:5
Water Absorption	0.140 - 0.400 %	0.140 - 0.400 %	Average value: 0.222 % Grade Count:12
Linear Mold Shrinkage	0.000700 - 0.0100 cm/cm	0.000700 - 0.0100 in/in	Average value: 0.00319 cm/cm Grade Count:17

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	99.0 - 108	99.0 - 108	Average value: 106 Grade Count:7
Tensile Strength, Ultimate	48.3 - 103 MPa	7000 - 15000 psi	Average value: 79.0 MPa Grade Count:10
	30.0 - 45.0 MPa @Temperature 60.0 - 90.0 °C	4350 - 6530 psi @Temperature 140 - 194 °F	Average value: 37.5 MPa Grade Count:1
Tensile Strength, Yield	43.1 - 103 MPa	6260 - 15000 psi	Average value: 75.1 MPa Grade Count:7
Elongation at Break	0.700 - 10.0 %	0.700 - 10.0 %	Average value: 2.87 % Grade Count:17
	0.700 - 0.700 % @Temperature 60.0 - 90.0 °C	0.700 - 0.700 % @Temperature 140 - 194 °F	Average value: 0.700 % Grade Count:1
Elongation at Yield	0.600 - 0.600 % @Temperature 90.0 - 90.0 °C	0.600 - 0.600 % @Temperature 194 - 194 °F	Average value: 0.600 % Grade Count:1
Modulus of Elasticity			Average value: 7.36 GPa Grade

Mechanical Properties	Metric	English	Count:11 Comments
	6.00 - 7.50 GPa @Temperature 60.0 - 90.0 °C	870 - 1090 ksi @Temperature 140 - 194 °F	Average value: 6.75 GPa Grade Count:1
Flexural Yield Strength	68.9 - 138 MPa	10000 - 20000 psi	Average value: 106 MPa Grade Count:14
Flexural Modulus	2.55 - 8.96 GPa	370 - 1300 ksi	Average value: 5.97 GPa Grade Count:14
Izod Impact, Notched	0.374 - 0.686 J/cm	0.700 - 1.29 ft-lb/in	Average value: 0.520 J/cm Grade Count:15
Izod Impact, Unnotched	1.60 - 5.34 J/cm	3.00 - 10.0 ft-lb/in	Average value: 2.38 J/cm Grade Count:11
Charpy Impact Unnotched	1.00 - 1.00 J/cm ² @Temperature -20.0 - -20.0 °C	4.76 - 4.76 ft-lb/in ² @Temperature -4.00 - -4.00 °F	Average value: 1.00 J/cm ² Grade Count:1
Charpy Impact, Notched	0.300 - 0.300 J/cm ² @Temperature -20.0 - -20.0 °C	1.43 - 1.43 ft-lb/in ² @Temperature -4.00 - -4.00 °F	Average value: 0.300 J/cm ² Grade Count:1

Thermal Properties	Metric	English	Comments
CTE, linear	19.8 - 57.6 µm/m-°C	11.0 - 32.0 µin/in-°F	Average value: 38.2 µm/m-°C Grade Count:5
Deflection Temperature at 0.46 MPa (66 psi)	99.0 - 113 °C	210 - 235 °F	Average value: 106 °C Grade Count:12
Deflection Temperature at 1.8 MPa (264 psi)	88.0 - 105 °C	190 - 221 °F	Average value: 100 °C Grade Count:14
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:12

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00 - 1.00e+16 ohm-cm	1.00 - 1.00e+16 ohm-cm	Average value: 8.33e+14 ohm-cm Grade Count:14
Surface Resistance	1.00 - 1.00e+12 ohm	1.00 - 1.00e+12 ohm	Average value: 6.17e+10 ohm Grade Count:11

Processing Properties	Metric	English	Comments
Melt Temperature	200 - 260 °C	392 - 500 °F	Average value: 229 °C Grade Count:9
Mold Temperature	27.0 - 85.0 °C	80.6 - 185 °F	Average value: 65.4 °C Grade Count:11
Drying Temperature	70.0 - 82.2 °C	158 - 180 °F	Average value: 79.2 °C Grade Count:9

Moisture Content Processing Properties	0.100 % Metric	0.100 % English	Average value: 0.100 % Grade Count:4 Comments
Dew Point	-17.8 °C	0.000 °F	Average value: -17.8 °C Grade Count:4
Injection Pressure	68.9 - 103 MPa	10000 - 15000 psi	Average value: 86.2 MPa Grade Count:6

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