

Overview of materials for Phenolic, Carbon Fiber Composite

Category : Polymer , Thermoset , Phenolic , Phenolic, Carbon Fiber Composite

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Phenolic, Carbon Fiber Composite". 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-Phenolic-Carbon-Fiber-Composite.php

Physical Properties	Metric	English	Comments
Density	1.31 - 1.55 g/cc	0.0473 - 0.0560 lb/in ³	Average value: 1.42 g/cc Grade Count:8
Water Absorption	0.0500 - 0.900 %	0.0500 - 0.900 %	Average value: 0.289 % Grade Count:4
Linear Mold Shrinkage	0.000 - 0.00200 cm/cm	0.000 - 0.00200 in/in	Average value: 0.000760 cm/cm Grade Count:5

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	50.0 - 258 MPa	7250 - 37400 psi	Average value: 119 MPa Grade Count:8
Modulus of Elasticity	20.0 - 62.0 GPa	2900 - 8990 ksi	Average value: 38.2 GPa Grade Count:3
Flexural Yield Strength	102 - 521 MPa	14800 - 75600 psi	Average value: 253 MPa Grade Count:8
Flexural Modulus	6.30 - 44.8 GPa	914 - 6500 ksi	Average value: 21.8 GPa Grade Count:8
Compressive Yield Strength	164 - 359 MPa	23800 - 52100 psi	Average value: 258 MPa Grade Count:7
Compressive Modulus	8.41 - 17.0 GPa	1220 - 2470 ksi	Average value: 11.9 GPa Grade Count:3
Charpy Impact Unnotched	1.09 - 1.70 J/cm ²	5.19 - 8.09 ft-lb/in ²	Average value: 1.38 J/cm ² Grade Count:3
Charpy Impact, Notched	0.200 - 0.300 J/cm ²	0.952 - 1.43 ft-lb/in ²	Average value: 0.248 J/cm ² Grade Count:4

Thermal Properties	Metric	English	Comments
CTE, linear	1.00 - 10.0 μm/m-°C	0.556 - 5.56 μin/in-°F	Average value: 5.67 μm/m-°C Grade Count:3
CTE, linear, Transverse to Flow	20.0 - 40.0 μm/m-°C	11.1 - 22.2 μin/in-°F	Average value: 26.5 μm/m-°C Grade Count:3

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