

Overview of materials for Polytetrafluoroethylene (PTFE), Carbon Fiber Filled

Category : Polymer , Thermoplastic , Fluoropolymer , PTFE , Polytetrafluoroethylene (PTFE), Carbon Fiber Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polytetrafluoroethylene (PTFE), 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-Polytetrafluoroethylene-PTFE-Carbon-Fiber-Filled.php

Physical Properties	Metric	English	Comments
Density	2.00 - 2.65 g/cc	0.0723 - 0.0957 lb/in ³	Average value: 2.14 g/cc Grade Count:21
Particle Size	25.0 - 800 µm	25.0 - 800 µm	Average value: 505 µm Grade Count:4

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	58.0 - 70.0	58.0 - 70.0	Average value: 62.5 Grade Count:12
Ball Indentation Hardness	38.0 - 56.0 MPa	5510 - 8120 psi	Average value: 50.3 MPa Grade Count:4
Tensile Strength, Ultimate	3.00 - 27.6 MPa	435 - 4000 psi	Average value: 16.6 MPa Grade Count:19
Tensile Strength, Yield	13.8 - 16.7 MPa	2000 - 2420 psi	Average value: 14.9 MPa Grade Count:3
Elongation at Break	3.00 - 350 %	3.00 - 350 %	Average value: 169 % Grade Count:22
Compressive Yield Strength	6.86 - 16.0 MPa	996 - 2320 psi	Average value: 9.98 MPa Grade Count:7
Shear Strength	10.3421 - 15.8579 MPa @Temperature 26.7 - 204 °C	1500.00 - 2300.00 psi @Temperature 80.0 - 400 °F	Average value: 12.5 MPa Grade Count:1
Coefficient of Friction	0.0800 - 0.160	0.0800 - 0.160	Average value: 0.123 Grade Count:11
Coefficient of Friction, Static	0.0800 - 0.300	0.0800 - 0.300	Average value: 0.142 Grade Count:10

Thermal Properties	Metric	English	Comments
CTE, linear	75.0 - 150 µm/m-°C	41.7 - 83.3 µin/in-°F	Average value: 108 µm/m-°C Grade Count:3
	100 - 223.2 µm/m-°C @Temperature 30.0 - 300 °C	55.6 - 124.0 µin/in-°F @Temperature 86.0 - 572 °F	Average value: 156 µm/m-°C Grade Count:2

Thermal Properties	Metric	English	Comments
Thermal Conductivity	0.260 - 0.988 W/m-K	0.86 BTU-in/hr-ft ² -°F	Average value: 0.527 W/m-K Grade Count:11
	0.290 - 0.310 W/m-K @Temperature 100 - 250 °C	2.01 - 2.15 BTU-in/hr-ft ² -°F @Temperature 212 - 482 °F	Average value: 0.300 W/m-K Grade Count:1
Melting Point	327 °C	621 °F	Average value: 327 °C Grade Count:7
Maximum Service Temperature, Air	260 - 270 °C	500 - 518 °F	Average value: 263 °C Grade Count:10
Minimum Service Temperature, Air	-260 - -50.0 °C	-436 - -58.0 °F	Average value: -131 °C Grade Count:10
Flammability, UL94	V-0	V-0	Grade Count:7

Electrical Properties	Metric	English	Comments
Electrical Resistivity	100 - 1.00e+7 ohm-cm	100 - 1.00e+7 ohm-cm	Average value: 1.82e+6 ohm-cm Grade Count:11
Surface Resistance	1000 - 1.00e+7 ohm	1000 - 1.00e+7 ohm	Average value: 1.20e+6 ohm Grade Count:10

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