

Overview of materials for Polyphthalamide (PPA), Carbon Fiber + PTFE Filled

Category : Polymer , Thermoplastic , Polyphthalamide (PPA) , Polyphthalamide (PPA), Carbon Fiber + PTFE Filled

Material Notes:

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

Physical Properties	Metric	English	Comments
Density	1.27 - 1.58 g/cc	0.0459 - 0.0571 lb/in ³	Average value: 1.40 g/cc Grade Count:32
Filler Content	10.0 - 40.0 %	10.0 - 40.0 %	Average value: 23.6 % Grade Count:18
Water Absorption	0.0200 - 0.600 %	0.0200 - 0.600 %	Average value: 0.273 % Grade Count:22
Linear Mold Shrinkage	0.000300 - 0.00700 cm/cm	0.000300 - 0.00700 in/in	Average value: 0.00163 cm/cm Grade Count:32

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	122 - 126	122 - 126	Average value: 125 Grade Count:6
Tensile Strength, Ultimate	100 - 300 MPa	14500 - 43500 psi	Average value: 208 MPa Grade Count:29
Tensile Strength, Yield	170 - 186 MPa	24700 - 27000 psi	Average value: 176 MPa Grade Count:3
Elongation at Break	1.00 - 3.00 %	1.00 - 3.00 %	Average value: 1.70 % Grade Count:24
Elongation at Yield	0.700 - 2.80 %	0.700 - 2.80 %	Average value: 1.79 % Grade Count:8
Modulus of Elasticity	10.0 - 28.3 GPa	1450 - 4100 ksi	Average value: 20.0 GPa Grade Count:28
Flexural Yield Strength	155 - 430 MPa	22500 - 62400 psi	Average value: 304 MPa Grade Count:32
Flexural Modulus	7.58 - 28.3 GPa	1100 - 4100 ksi	Average value: 17.0 GPa Grade Count:32
Izod Impact, Notched	0.374 - 0.908 J/cm	0.700 - 1.70 ft-lb/in	Average value: 0.662 J/cm Grade Count:25
Izod Impact, Unnotched	2.67 - 8.54 J/cm	5.00 - 16.0 ft-lb/in	Average value: 5.49 J/cm Grade Count:21
Charpy Impact Unnotched	1.10 - 6.00 J/cm ²	5.24 - 28.6 ft-lb/in ²	Average value: 4.23 J/cm ² Grade Count:7

Mechanical Properties	Metric	English	Comments
	1.80 J/cm ²	8.1 ft-lb/in ²	Average value: 3.88 J/cm ² Grade Count:1
	@Temperature -30.0 - -30.0 °C	@Temperature -22.0 - -22.0 °F	
Charpy Impact, Notched	0.700 - 0.800 J/cm ²	3.33 - 3.81 ft-lb/in ²	Average value: 0.775 J/cm ² Grade Count:4

Thermal Properties	Metric	English	Comments
CTE, linear	16.2 - 27.0 µm/m-°C	9.00 - 15.0 µin/in-°F	Average value: 21.9 µm/m-°C Grade Count:6
Maximum Service Temperature, Air	165 - 195 °C	329 - 383 °F	Average value: 180 °C Grade Count:7
Deflection Temperature at 0.46 MPa (66 psi)	266 - 301 °C	510 - 573 °F	Average value: 284 °C Grade Count:5
Deflection Temperature at 1.8 MPa (264 psi)	245 - 293 °C	473 - 560 °F	Average value: 268 °C Grade Count:28
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:25

Electrical Properties	Metric	English	Comments
Electrical Resistivity	10.0 - 1.00e+16 ohm-cm	10.0 - 1.00e+16 ohm-cm	Average value: 1.18e+15 ohm-cm Grade Count:20
Insulation Resistance	1000 - 1.00e+9 ohm	1000 - 1.00e+9 ohm	Average value: 1.44e+8 ohm Grade Count:7

Processing Properties	Metric	English	Comments
Processing Temperature	296 - 330 °C	565 - 626 °F	Average value: 318 °C Grade Count:17
Nozzle Temperature	320 - 330 °C	608 - 626 °F	Average value: 325 °C Grade Count:7
Melt Temperature	302 - 350 °C	575 - 662 °F	Average value: 327 °C Grade Count:18
Mold Temperature	135 - 163 °C	275 - 325 °F	Average value: 149 °C Grade Count:28
Drying Temperature	80.0 - 107 °C	176 - 225 °F	Average value: 99.0 °C Grade Count:18
Moisture Content	0.0500 %	0.0500 %	Average value: 0.0500 % Grade Count:11
Dew Point	-31.7 °C	-25.0 °F	Average value: -31.7 °C Grade Count:11
Injection Pressure	68.9 - 124 MPa	10000 - 18000 psi	Average value: 96.5 MPa Grade Count:21

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