

Overview of materials for Polyphthalamide (PPA), Glass/PTFE

Category : Polymer , Thermoplastic , Polyphthalamide (PPA) , Polyphthalamide (PPA), Glass/PTFE Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polyphthalamide + Glass/PTFE". 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-GlassPTFE.php

Physical Properties	Metric	English	Comments
Density	1.33 - 1.77 g/cc	0.0480 - 0.0639 lb/in ³	Average value: 1.56 g/cc Grade Count:24
Filler Content	10.0 - 40.0 %	10.0 - 40.0 %	Average value: 28.7 % Grade Count:15
Water Absorption	0.200 - 0.300 %	0.200 - 0.300 %	Average value: 0.244 % Grade Count:14
Additive Loading	30.0 - 50.0 %	30.0 - 50.0 %	Average value: 36.7 % Grade Count:3
Linear Mold Shrinkage	0.000500 - 0.0120 cm/cm	0.000500 - 0.0120 in/in	Average value: 0.00377 cm/cm Grade Count:24

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	125 - 126	125 - 126	Average value: 125 Grade Count:6
Tensile Strength, Ultimate	89.6 - 245 MPa	13000 - 35500 psi	Average value: 172 MPa Grade Count:24
Elongation at Break	1.00 - 4.00 %	1.00 - 4.00 %	Average value: 2.05 % Grade Count:20
Elongation at Yield	2.00 - 3.50 %	2.00 - 3.50 %	Average value: 2.63 % Grade Count:4
Modulus of Elasticity	5.52 - 19.3 GPa	800 - 2800 ksi	Average value: 11.7 GPa Grade Count:24
Flexural Yield Strength	131 - 348 MPa	19000 - 50500 psi	Average value: 246 MPa Grade Count:24
Flexural Modulus	4.83 - 17.2 GPa	700 - 2500 ksi	Average value: 10.4 GPa Grade Count:24
Izod Impact, Notched	0.320 - 1.17 J/cm	0.600 - 2.20 ft-lb/in	Average value: 0.830 J/cm Grade Count:20
Izod Impact, Unnotched	3.20 - 11.7 J/cm	6.00 - 22.0 ft-lb/in	Average value: 6.57 J/cm Grade Count:20
Charpy Impact Unnotched	3.50 - 8.00 J/cm ²	16.7 - 38.1 ft-lb/in ²	Average value: 5.88 J/cm ² Grade Count:4

Mechanical Properties	Metric	English	Comments
	4.00 - 6.80 J/cm ²	19.0 - 32.4 ft-lb/in ²	Average value: 5.77 J/cm ² Grade Count:3
	@Temperature -30.0 - -30.0 °C	@Temperature -22.0 - -22.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	18.0 - 37.8 µm/m-°C	10.0 - 21.0 µin/in-°F	Average value: 27.0 µm/m-°C Grade Count:5
Maximum Service Temperature, Air	165 - 195 °C	329 - 383 °F	Average value: 180 °C Grade Count:4
Deflection Temperature at 1.8 MPa (264 psi)	138 - 288 °C	280 - 550 °F	Average value: 260 °C Grade Count:23
Vicat Softening Point	270 - 295 °C	518 - 563 °F	Average value: 287 °C Grade Count:3
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:17

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+14 - 1.00e+16 ohm-cm	1.00e+14 - 1.00e+16 ohm-cm	Average value: 9.65e+14 ohm-cm Grade Count:13
Insulation Resistance	1.00e+12 ohm	1.00e+12 ohm	Average value: 1.00e+12 ohm Grade Count:4

Processing Properties	Metric	English	Comments
Processing Temperature	296 - 338 °C	565 - 640 °F	Average value: 319 °C Grade Count:15
Nozzle Temperature	320 - 330 °C	608 - 626 °F	Average value: 325 °C Grade Count:4
Melt Temperature	302 - 350 °C	575 - 662 °F	Average value: 326 °C Grade Count:13
Mold Temperature	65.6 - 163 °C	150 - 325 °F	Average value: 144 °C Grade Count:24
Drying Temperature	80.0 - 107 °C	176 - 225 °F	Average value: 100 °C Grade Count:13
Moisture Content	0.0500 %	0.0500 %	Average value: 0.0500 % Grade Count:9
Dew Point	-31.7 °C	-25.0 °F	Average value: -31.7 °C Grade Count:9
Injection Pressure	68.9 - 124 MPa	10000 - 18000 psi	Average value: 95.0 MPa Grade Count:20

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