

Overview of materials for Polyphenylene Ether, Heat Resistant

Category : Polymer , Thermoplastic , Polyphenylene Ether/PPO , Polyphenylene Ether, Heat Resistant

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polyphenylene Ether, Heat Resistant". 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-Polyphenylene-Ether-Heat-Resistant.php

Physical Properties	Metric	English	Comments
Density	1.06 - 1.43 g/cc	0.0383 - 0.0517 lb/in ³	Average value: 1.10 g/cc Grade Count:49
Moisture Absorption at Equilibrium	0.0600 - 0.100 %	0.0600 - 0.100 %	Average value: 0.0890 % Grade Count:29
Linear Mold Shrinkage	0.00100 - 0.0100 cm/cm	0.00100 - 0.0100 in/in	Average value: 0.00599 cm/cm Grade Count:49
Melt Flow	1.00 - 50.0 g/10 min	1.00 - 50.0 g/10 min	Average value: 18.1 g/10 min Grade Count:18

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	104 - 121	104 - 121	Average value: 114 Grade Count:10
Tensile Strength, Ultimate	41.4 - 126 MPa	6000 - 18300 psi	Average value: 65.7 MPa Grade Count:18
Tensile Strength, Yield	37.0 - 126 MPa	5370 - 18300 psi	Average value: 59.7 MPa Grade Count:49
Elongation at Break	5.00 - 70.0 %	5.00 - 70.0 %	Average value: 37.3 % Grade Count:42
Elongation at Yield	1.50 - 8.00 %	1.50 - 8.00 %	Average value: 5.06 % Grade Count:8
Flexural Yield Strength	56.0 - 159 MPa	8120 - 23000 psi	Average value: 88.2 MPa Grade Count:49
Flexural Modulus	2.06 - 9.65 GPa	299 - 1400 ksi	Average value: 2.75 GPa Grade Count:49
Izod Impact, Notched	0.694 - 4.70 J/cm	1.30 - 8.81 ft-lb/in	Average value: 1.78 J/cm Grade Count:49
	0.69407 - 1.6017 J/cm @Temperature -40.0 - - 30.0 °C	1.3003 - 3.0006 ft-lb/in @Temperature -40.0 - - 22.0 °F	Average value: 1.03 J/cm Grade Count:11
Charpy Impact, Notched	0.630 - 1.89 J/cm ²	3.00 - 8.99 ft-lb/in ²	Average value: 1.19 J/cm ² Grade Count:9

Mechanical Properties	Metric	English	Comments
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Thermal Properties	Metric	English	Comments
CTE, linear	65.0 - 80.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	36.1 - 44.4 $\mu\text{in}/\text{in}\cdot\text{°F}$	Average value: 73.8 $\mu\text{m}/\text{m}\cdot\text{°C}$ Grade Count:29
Deflection Temperature at 0.46 MPa (66 psi)	85.0 - 149 °C	185 - 300 °F	Average value: 112 °C Grade Count:18
Deflection Temperature at 1.8 MPa (264 psi)	76.7 - 170 °C	170 - 338 °F	Average value: 110 °C Grade Count:49
Vicat Softening Point	103 - 146 °C	218 - 295 °F	Average value: 128 °C Grade Count:7
UL RTI, Electrical	65.0 - 110 °C	149 - 230 °F	Average value: 81.4 °C Grade Count:14
UL RTI, Mechanical with Impact	65.0 - 110 °C	149 - 230 °F	Average value: 81.4 °C Grade Count:14
UL RTI, Mechanical without Impact	65.0 - 105 °C	149 - 221 °F	Average value: 77.7 °C Grade Count:14
Flammability, UL94	HB - 5VA	HB - 5VA	Grade Count:47

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+16 - 1.00e+17 ohm-cm	1.00e+16 - 1.00e+17 ohm-cm	Average value: 1.89e+16 ohm-cm Grade Count:43
Surface Resistance	1.00e+16 ohm	1.00e+16 ohm	Average value: 1.00e+16 ohm Grade Count:29
Dielectric Constant	2.80 - 2.90	2.80 - 2.90	Average value: 2.87 Grade Count:29
Dielectric Strength	22.0 - 30.0 kV/mm	560 - 762 kV/in	Average value: 27.8 kV/mm Grade Count:33
Dissipation Factor	0.000500 - 0.00400	0.000500 - 0.00400	Average value: 0.00276 Grade Count:29
Arc Resistance	70.0 - 100 sec	70.0 - 100 sec	Average value: 78.3 sec Grade Count:29
Comparative Tracking Index	250 - 400 V	250 - 400 V	Average value: 325 V Grade Count:4
Hot Wire Ignition, HWI	120 sec	120 sec	Average value: 120 sec Grade Count:4
High Amp Arc Ignition, HAI	60.0 - 120 arcs	60.0 - 120 arcs	Average value: 90.0 arcs Grade Count:4
High Voltage Arc-Tracking Rate, HVTR	80.0 - 150 mm/min	3.15 - 5.91 in/min	Average value: 115 mm/min Grade Count:4

Processing Properties	Metric	English	Comments
Processing Temperature	220 - 320 °C	428 - 608 °F	Average value: 259 °C Grade Count:29

Processing Properties	Metric ¹⁶ °C	English ¹⁰ °F	Comments
Mold Temperature	37.8 - 120 °C	100 - 248 °F	Average value: 72.0 °C Grade Count:44
Drying Temperature	70.0 - 120 °C	158 - 248 °F	Average value: 92.6 °C Grade Count:47

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China