

Overview of materials for Polyphenylene Sulfide (PPS), Aramid Fiber

Category : Polymer , Thermoplastic , Polyphenylene Sulfide (PPS) , Polyphenylene Sulfide (PPS), Aramid Fiber Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polyphenylene Sulfide (PPS), Aramid Fiber". 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-Sulfide-PPS-Aramid-Fiber.php

Physical Properties	Metric	English	Comments
Density	1.25 - 1.56 g/cc	0.0452 - 0.0564 lb/in ³	Average value: 1.41 g/cc Grade Count:23
Filler Content	10.0 - 30.0 %	10.0 - 30.0 %	Average value: 16.3 % Grade Count:8
Water Absorption	0.0200 - 0.200 %	0.0200 - 0.200 %	Average value: 0.0930 % Grade Count:10
Linear Mold Shrinkage	0.000500 - 0.0140 cm/cm	0.000500 - 0.0140 in/in	Average value: 0.00686 cm/cm Grade Count:22

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	123	123	Average value: 123 Grade Count:3
Tensile Strength, Ultimate	45.0 - 134 MPa	6530 - 19500 psi	Average value: 76.3 MPa Grade Count:23
Elongation at Break	1.00 - 4.00 %	1.00 - 4.00 %	Average value: 1.62 % Grade Count:19
Elongation at Yield	1.60 - 2.60 %	1.60 - 2.60 %	Average value: 2.08 % Grade Count:4
Modulus of Elasticity	3.80 - 22.8 GPa	551 - 3300 ksi	Average value: 7.88 GPa Grade Count:23
Flexural Yield Strength	85.0 - 214 MPa	12300 - 31000 psi	Average value: 124 MPa Grade Count:22
Flexural Modulus	3.50 - 20.7 GPa	508 - 3000 ksi	Average value: 7.28 GPa Grade Count:22
Izod Impact, Notched	0.214 - 1.28 J/cm	0.400 - 2.40 ft-lb/in	Average value: 0.364 J/cm Grade Count:16
Izod Impact, Unnotched	1.07 - 3.20 J/cm	2.00 - 6.00 ft-lb/in	Average value: 1.90 J/cm Grade Count:16
Charpy Impact Unnotched	0.500 - 1.20 J/cm ²	2.38 - 5.71 ft-lb/in ²	Average value: 0.975 J/cm ² Grade Count:4

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	220 - 240 °C	428 - 464 °F	Average value: 230 °C Grade Count:4
Deflection Temperature at 0.46 MPa (66 psi)	249 - 271 °C	480 - 520 °F	Average value: 258 °C Grade Count:5
Deflection Temperature at 1.8 MPa (264 psi)	110 - 260 °C	230 - 500 °F	Average value: 206 °C Grade Count:17
Flammability, UL94	V-0	V-0	Grade Count:16

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1000 - 1.00e+16 ohm-cm	1000 - 1.00e+16 ohm-cm	Average value: 5.11e+15 ohm-cm Grade Count:11
Surface Resistance	1.00e+7 - 1.00e+14 ohm	1.00e+7 - 1.00e+14 ohm	Average value: 1.49e+13 ohm Grade Count:7
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	140 - 330 °C	284 - 626 °F	Average value: 300 °C Grade Count:11
Nozzle Temperature	320 - 340 °C	608 - 644 °F	Average value: 330 °C Grade Count:4
Melt Temperature	70.0 - 343 °C	158 - 650 °F	Average value: 307 °C Grade Count:15
Mold Temperature	65.6 - 180 °C	150 - 356 °F	Average value: 155 °C Grade Count:20
Drying Temperature	50.0 - 150 °C	122 - 302 °F	Average value: 122 °C Grade Count:15
Moisture Content	0.0200 - 0.0400 %	0.0200 - 0.0400 %	Average value: 0.0371 % Grade Count:7
Injection Pressure	68.9 - 138 MPa	10000 - 20000 psi	Average value: 89.6 MPa Grade Count:15

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