

## Overview of materials for Polyaryletherketone (PAEK), Carbon Fiber Filled

Category : Polymer , Thermoplastic , Polyketone , Polyaryletherketone (PAEK), Carbon Fiber Filled

### Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polyaryletherketone (PAEK), 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-Polyaryletherketone-PAEK-Carbon-Fiber-Filled.php](http://www.lookpolymers.com/polymer_Overview-of-materials-for-Polyaryletherketone-PAEK-Carbon-Fiber-Filled.php)

Physical Properties	Metric	English	Comments
Density	1.33 - 1.53 g/cc	0.0480 - 0.0553 lb/in <sup>3</sup>	Average value: 1.43 g/cc Grade Count:18
Filler Content	30.0 %	30.0 %	Average value: 30.0 % Grade Count:4
Water Absorption	0.0100 - 0.200 %	0.0100 - 0.200 %	Average value: 0.0969 % Grade Count:16
Viscosity	240000 - 790000 cP	240000 - 790000 cP	Average value: 485000 cP Grade Count:6
	@Temperature 400 - 400 °C	@Temperature 752 - 752 °F	
	240000 - 790000 cP	240000 - 790000 cP	Average value: 485000 cP Grade Count:6
	@Shear Rate 1000 - 1000 1/s	@Shear Rate 1000 - 1000 1/s	
Linear Mold Shrinkage	0.000 - 0.00900 cm/cm	0.000 - 0.00900 in/in	Average value: 0.00184 cm/cm Grade Count:17
Linear Mold Shrinkage, Transverse	0.00400 - 0.0190 cm/cm	0.00400 - 0.0190 in/in	Average value: 0.0104 cm/cm Grade Count:14
Melt Flow	0.800 - 18.0 g/10 min	0.800 - 18.0 g/10 min	Average value: 4.15 g/10 min Grade Count:8

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	82.0 - 108	82.0 - 108	Average value: 98.6 Grade Count:10
Hardness, Shore D	87.0 - 91.0	87.0 - 91.0	Average value: 89.7 Grade Count:3
Tensile Strength, Ultimate	95.0 - 262 MPa	13800 - 38000 psi	Average value: 177 MPa Grade Count:16
	45.0 - 160 MPa	6530 - 23200 psi	
	@Temperature -50.0 - 250 °C	@Temperature -58.0 - 482 °F	Average value: 101 MPa Grade Count:1
	95.0 - 821 MPa	13800 - 119000 psi	Average value: 286 MPa Grade

Tensile Strength, Yield Mechanical Properties	Metric	English	Count:10 Comments
	75.0 - 275 MPa  @Temperature -50.0 - 250 °C	10900 - 39900 psi  @Temperature -58.0 - 482 °F	Average value: 169 MPa Grade Count:1
Elongation at Break	0.800 - 25.0 %	0.800 - 25.0 %	Average value: 2.80 % Grade Count:15
Elongation at Yield	1.50 - 25.0 %	1.50 - 25.0 %	Average value: 5.21 % Grade Count:4
Modulus of Elasticity	2.96 - 55.8 GPa	430 - 8090 ksi	Average value: 21.3 GPa Grade Count:19
Flexural Yield Strength	186 - 894 MPa	27000 - 130000 psi	Average value: 311 MPa Grade Count:19
Flexural Modulus	4.20 - 51.4 GPa	609 - 7450 ksi	Average value: 18.7 GPa Grade Count:19
Compressive Yield Strength	107 - 574 MPa	15500 - 83200 psi	Average value: 220 MPa Grade Count:9
Shear Strength	51.7 - 98.0 MPa	7500 - 14200 psi	Average value: 80.1 MPa Grade Count:8
Izod Impact, Notched	0.350 - 0.800 J/cm	0.656 - 1.50 ft-lb/in	Average value: 0.575 J/cm Grade Count:15
Izod Impact, Unnotched	3.20 J/cm - NB	5.99 ft-lb/in - NB	Average value: 5.33 J/cm Grade Count:14
Izod Impact, Notched (ISO)	5.80 - 9.60 kJ/m <sup>2</sup>	2.76 - 4.57 ft-lb/in <sup>2</sup>	Average value: 7.75 kJ/m <sup>2</sup> Grade Count:6
Izod Impact, Unnotched (ISO)	25.0 - 39.0 kJ/m <sup>2</sup>	11.9 - 18.6 ft-lb/in <sup>2</sup>	Average value: 33.0 kJ/m <sup>2</sup> Grade Count:6
Charpy Impact Unnotched	2.50 - 3.00 J/cm <sup>2</sup>	11.9 - 14.3 ft-lb/in <sup>2</sup>	Average value: 2.70 J/cm <sup>2</sup> Grade Count:3
	2.00 - 2.50 J/cm <sup>2</sup>  @Temperature -30.0 - - 30.0 °C	9.52 - 11.9 ft-lb/in <sup>2</sup>  @Temperature -22.0 - - 22.0 °F	Average value: 2.25 J/cm <sup>2</sup> Grade Count:2
K (wear) Factor	10100 x 10 <sup>-8</sup> mm <sup>3</sup> /N-M	5000 x 10 <sup>-10</sup> in <sup>3</sup> -min/ft-lb-hr	Average value: 10100 x 10 <sup>&lt;sup&gt;-8&lt;/sup&gt;</sup>

Thermal Properties	Metric	English	Comments
CTE, linear	5.00 - 46.8 µm/m-°C	2.78 - 26.0 µin/in-°F	Average value: 11.6 µm/m-°C Grade Count:8
Specific Heat Capacity	1.17 - 1.81 J/g-°C  @Temperature 50.0 - 200 °C	0.280 - 0.433 BTU/lb-°F  @Temperature 122 - 392 °F	Average value: 1.51 J/g-°C Grade Count:6
Thermal Conductivity	0.0370 - 0.700 W/m-K	0.257 - 4.86 BTU-in/hr-ft <sup>2</sup> -°F	Average value: 0.378 W/m-K Grade Count:8

Thermal Properties	Metric	English	Comments
Melting Point	343 - 372 °C	650 - 702 °F	Average value: 349 °C Grade Count:11
Maximum Service Temperature, Air	220 - 260 °C	428 - 500 °F	Average value: 248 °C Grade Count:4
Deflection Temperature at 1.8 MPa (264 psi)	160 - 368 °C	320 - 694 °F	Average value: 287 °C Grade Count:17
Vicat Softening Point	280 - 320 °C	536 - 608 °F	Average value: 307 °C Grade Count:3
Glass Transition Temp, Tg	150 - 343 °C	302 - 649 °F	Average value: 171 °C Grade Count:11
Flammability, UL94	V-0	V-0	Grade Count:9

Electrical Properties	Metric	English	Comments
Electrical Resistivity	20.0 - 1.00e+8 ohm-cm	20.0 - 1.00e+8 ohm-cm	Average value: 2.00e+7 ohm-cm Grade Count:5
Surface Resistance	10000 - 1.00e+6 ohm	10000 - 1.00e+6 ohm	Average value: 340000 ohm Grade Count:3
Insulation Resistance	100000 - 1.00e+6 ohm	100000 - 1.00e+6 ohm	Average value: 400000 ohm Grade Count:3

Processing Properties	Metric	English	Comments
Processing Temperature	390 - 425 °C	734 - 797 °F	Average value: 399 °C Grade Count:6
Nozzle Temperature	360 - 425 °C	680 - 797 °F	Average value: 393 °C Grade Count:13
Melt Temperature	354 - 420 °C	669 - 788 °F	Average value: 376 °C Grade Count:10
Mold Temperature	149 - 230 °C	300 - 446 °F	Average value: 183 °C Grade Count:13
Drying Temperature	120 - 150 °C	248 - 302 °F	Average value: 146 °C Grade Count:13

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

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