

## Overview of materials for Silicone, Molded, Glass Fiber Filled

Category : Polymer , Thermoset , Silicone , Silicone, Molded, Glass Fiber Filled

### Material Notes:

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

Physical Properties	Metric	English	Comments
Density	1.06 - 3.80 g/cc	0.0383 - 0.137 lb/in <sup>3</sup>	Average value: 1.42 g/cc Grade Count:323
Water Absorption	0.0200 - 0.450 %	0.0200 - 0.450 %	Average value: 0.171 % Grade Count:9
	0.240 - 0.240 %	0.240 - 0.240 %	Average value: 0.240 % Grade Count:1
	@Temperature 50.0 - 50.0 °C	@Temperature 122 - 122 °F	
Thickness	0.240 - 0.240 %	0.240 - 0.240 %	Average value: 0.240 % Grade Count:1
	@Time 173000 - 173000 sec	@Time 48.0 - 48.0 hour	
Linear Mold Shrinkage	0.00100 - 0.00800 cm/cm	0.00100 - 0.00800 in/in	Average value: 0.00319 cm/cm Grade Count:7
Outgassing - Total Mass Loss	0.100 - 1.07 %	0.100 - 1.07 %	Average value: 0.563 % Grade Count:6
	0.100 - 0.340 %	0.100 - 0.340 %	Average value: 0.220 % Grade Count:1
	@Temperature 218 - 218 °C	@Temperature 425 - 425 °F	
Outgassing - Total Mass Loss	0.100 - 0.340 %	0.100 - 0.340 %	Average value: 0.220 % Grade Count:1
	@Time 7200 - 7200 sec	@Time 2.00 - 2.00 hour	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	75.0 - 90.0	75.0 - 90.0	Average value: 86.3 Grade Count:4
Hardness, Shore A	18.0 - 92.0	18.0 - 92.0	Average value: 53.0 Grade Count:499
Tensile Strength, Ultimate	0.414 - 160 MPa	60.0 - 23200 psi	Average value: 7.11 MPa Grade Count:508
	1.38 - 62.1 MPa	200 - 9000 psi	Average value: 23.2 MPa Grade

Tensile Strength, Yield Mechanical Properties	Metric	English	Count:13 Comments
Elongation at Break	5.00 - 1150 %	5.00 - 1150 %	Average value: 394 % Grade Count:496
Elongation at Yield	31.0 - 38.0 %	31.0 - 38.0 %	Average value: 35.7 % Grade Count:3
Modulus of Elasticity	0.00159 - 14.0 GPa	0.230 - 2030 ksi	Average value: 2.19 GPa Grade Count:16
Flexural Yield Strength	30.0 - 180 MPa	4350 - 26100 psi	Average value: 86.8 MPa Grade Count:14
Flexural Modulus	8.00 - 16.0 GPa	1160 - 2320 ksi	Average value: 12.5 GPa Grade Count:9
Compressive Yield Strength	40.0 - 331 MPa	5800 - 48000 psi	Average value: 159 MPa Grade Count:13
Poissons Ratio	0.500	0.500	Average value: 0.500 Grade Count:27
Shear Modulus	0.0000689 - 1.83 GPa	0.0100 - 265 ksi	Average value: 0.208 GPa Grade Count:24
Shear Strength	0.965 - 20.0 MPa	140 - 2900 psi	Average value: 4.48 MPa Grade Count:31
Adhesive Bond Strength	0.0103 - 150 MPa	1.50 - 21800 psi	Average value: 3.62 MPa Grade Count:40
Izod Impact, Notched	0.200 - 3.93 J/cm	0.375 - 7.36 ft-lb/in	Average value: 1.34 J/cm Grade Count:5
Charpy Impact Unnotched	0.400 - 2.50 J/cm <sup>2</sup>	1.90 - 11.9 ft-lb/in <sup>2</sup>	Average value: 1.38 J/cm <sup>2</sup> Grade Count:4
Tear Strength	4.91 - 51.9 kN/m	28.0 - 296 pli	Average value: 17.4 kN/m Grade Count:181
Peel Strength	0.0877 - 7.05 kN/m	0.500 - 40.2 pli	Average value: 1.46 kN/m Grade Count:353
Compression Set	25.0 - 49.0 %	25.0 - 49.0 %	Average value: 31.8 % Grade Count:4

Thermal Properties	Metric	English	Comments
CTE, linear	11.0 - 280 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	6.11 - 156 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Average value: 90.4 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ Grade Count:29
	20.0 - 40.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature 50.0 - 150 $^\circ\text{C}$	11.1 - 22.2 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @Temperature 122 - 302 $^\circ\text{F}$	Average value: 30.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ Grade Count:2
CTE, linear, Transverse to Flow	20.0 - 40.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	11.1 - 22.2 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Average value: 33.3 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ Grade Count:3
Specific Heat Capacity	0.320 - 1.14 J/g $\cdot^\circ\text{C}$	0.0765 - 0.272 BTU/lb $\cdot^\circ\text{F}$	Average value: 0.864 J/g $\cdot^\circ\text{C}$ Grade Count:15
	0.820 - 0.920 J/g $\cdot^\circ\text{C}$	0.196 - 0.220 BTU/lb $\cdot^\circ\text{F}$	Average value: 0.842 J/g $\cdot^\circ\text{C}$ Grade

Thermal Properties	Metric	English	Count:13 Comments
	@Temperature 100 - 100 °C	@Temperature 212 - 212 °F	
Thermal Conductivity	0.0600 - 32.0 W/m-K	0.416 - 222 BTU-in/hr-ft <sup>2</sup> -°F	Average value: 1.64 W/m-K Grade Count:35
	1.00 - 3.00 W/m-K @Temperature 50.0 - 100 °C	6.94 - 20.8 BTU-in/hr-ft <sup>2</sup> -°F @Temperature 122 - 212 °F	Average value: 1.94 W/m-K Grade Count:14
	1.50 - 4.69 W/m-K @Temperature 50.0 - 50.0 °C	10.4 - 32.5 BTU-in/hr-ft <sup>2</sup> -°F @Temperature 122 - 122 °F	Average value: 1.94 W/m-K Grade Count:4
	1.50 - 4.69 W/m-K @Pressure 30.0 - 30.0 MPa	10.4 - 32.5 BTU-in/hr-ft <sup>2</sup> -°F @Pressure 4350 - 4350 psi	Average value: 1.94 W/m-K Grade Count:4
Maximum Service Temperature, Air	95.6 - 300 °C	204 - 572 °F	Average value: 228 °C Grade Count:415
Maximum Service Temperature, Inert	149 - 232 °C	300 - 450 °F	Average value: 226 °C Grade Count:92
Deflection Temperature at 1.8 MPa (264 psi)	200 - 282 °C	392 - 540 °F	Average value: 259 °C Grade Count:7
Minimum Service Temperature, Air	-136 - -40.0 °C	-212 - -40.0 °F	Average value: -58.5 °C Grade Count:491
Glass Transition Temp, Tg	-120 - 118 °C	-184 - 244 °F	Average value: -104 °C Grade Count:29
UL RTI, Electrical	150 - 220 °C	302 - 428 °F	Average value: 211 °C Grade Count:127
UL RTI, Mechanical without Impact	150 - 220 °C	302 - 428 °F	Average value: 203 °C Grade Count:127
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:144
	HB - HB @Temperature 200 - 220 °C	HB - HB @Temperature 392 - 428 °F	Grade Count:15

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0500 - 1.00e+16 ohm-cm	0.0500 - 1.00e+16 ohm-cm	Average value: 8.93e+14 ohm-cm Grade Count:7
Insulation Resistance	1.00e+8 - 1.00e+11 ohm	1.00e+8 - 1.00e+11 ohm	Average value: 1.94e+10 ohm Grade Count:6
Dielectric Constant	3.20 - 6.91	3.20 - 6.91	Average value: 4.75 Grade Count:35

Electrical Properties	Metric 59.1 kV/mm	English 500 kV/in	Comments Average value: 21.3 kV/mm Grade Count:455
Dielectric Breakdown	>= 25000 V @Temperature 90.0 - 90.0 °C	>= 25000 V @Temperature 194 - 194 °F	Average value: 31500 V Grade Count:2
	>= 30000 V @Temperature 90.0 - 90.0 °C	>= 30000 V @Temperature 194 - 194 °F	Average value: 31500 V Grade Count:2
	>= 30000 V @Time 20.0 - 60.0 sec	>= 30000 V @Time 0.00556 - 0.0167 hour	Average value: 31500 V Grade Count:2
Dissipation Factor	0.00150 - 0.0700	0.00150 - 0.0700	Average value: 0.0109 Grade Count:35
Arc Resistance	180 - 240 sec	180 - 240 sec	Average value: 208 sec Grade Count:8
Comparative Tracking Index	300 - 450 V	300 - 450 V	Average value: 390 V Grade Count:5

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