

Overview of materials for Silicone, RTV, Adhesive/Sealant Grade

Category : Polymer , Adhesive , Thermoset , Silicone , Silicone, RTV, Adhesive/Sealant Grade

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Silicone, RTV, Adhesive/Sealant Grade".

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-RTV-AdhesiveSealant-Grade.php

Physical Properties	Metric	English	Comments
Density	0.820 - 4.20 g/cc	0.0296 - 0.152 lb/in ³	Average value: 1.29 g/cc Grade Count:210
Volatile Organic Compounds (VOC) Content	0.000 - 33.0 g/l	0.000 - 33.0 g/l	Average value: 5.50 g/l Grade Count:6
Viscosity	3.00 - 7.00e+6 cP	3.00 - 7.00e+6 cP	Average value: 189000 cP Grade Count:88
Linear Mold Shrinkage	0.000600 - 0.0130 cm/cm	0.000600 - 0.0130 in/in	Average value: 0.00759 cm/cm Grade Count:23

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	10.0 - 92.0	10.0 - 92.0	Average value: 36.3 Grade Count:207
Tensile Strength, Ultimate	0.400 - 220 MPa	58.0 - 31900 psi	Average value: 6.93 MPa Grade Count:187
Tensile Strength, Yield	0.300 - 6.07 MPa	43.5 - 880 psi	Average value: 2.04 MPa Grade Count:26
Elongation at Break	15.0 - 1000 %	15.0 - 1000 %	Average value: 380 % Grade Count:182
Elongation at Yield	25.0 - 620 %	25.0 - 620 %	Average value: 307 % Grade Count:16
Modulus of Elasticity	0.00111 - 0.00459 GPa	0.161 - 0.665 ksi	Average value: 0.00351 GPa Grade Count:6
Shear Strength	0.0827 - 3.45 MPa	12.0 - 500 psi	Average value: 0.658 MPa Grade Count:16
Adhesive Bond Strength	0.103 - 3.24 MPa	15.0 - 470 psi	Average value: 1.16 MPa Grade Count:66
Tear Strength	3.00 - 39.4 kN/m	17.1 - 225 pli	Average value: 11.2 kN/m Grade Count:45
Peel Strength	1.09 - 14.0 kN/m	6.20 - 80.0 pli	Average value: 5.21 kN/m Grade Count:38

Thermal Properties	Metric	English	Comments
CTE, linear	54.0 - 340 $\mu\text{m/m-}^{\circ}\text{C}$	30.0 - 189 $\mu\text{in/in-}^{\circ}\text{F}$	Average value: 233 $\mu\text{m/m-}^{\circ}\text{C}$ Grade Count:49
Specific Heat Capacity	1.46 J/g- $^{\circ}\text{C}$	0.350 BTU/lb- $^{\circ}\text{F}$	Average value: 1.46 J/g- $^{\circ}\text{C}$ Grade Count:9
Thermal Conductivity	0.0600 - 7.10 W/m-K	0.416 - 49.3 BTU-in/hr-ft ² - $^{\circ}\text{F}$	Average value: 0.844 W/m-K Grade Count:60
Maximum Service Temperature, Air	60.0 - 350 $^{\circ}\text{C}$	140 - 662 $^{\circ}\text{F}$	Average value: 213 $^{\circ}\text{C}$ Grade Count:150
Minimum Service Temperature, Air	-121 - 45.0 $^{\circ}\text{C}$	-185 - 113 $^{\circ}\text{F}$	Average value: -56.9 $^{\circ}\text{C}$ Grade Count:128
Brittleness Temperature	-115 - -54.0 $^{\circ}\text{C}$	-175 - -65.2 $^{\circ}\text{F}$	Average value: -64.8 $^{\circ}\text{C}$ Grade Count:33
Glass Transition Temp, Tg	-110 - 200 $^{\circ}\text{C}$	-166 - 392 $^{\circ}\text{F}$	Average value: 127 $^{\circ}\text{C}$ Grade Count:7
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:9
Flash Point	-12.0 - 253 $^{\circ}\text{C}$	10.4 - 487 $^{\circ}\text{F}$	Average value: 57.1 $^{\circ}\text{C}$ Grade Count:19

Optical Properties	Metric	English	Comments
Transmission, Visible	90.0 %	90.0 %	Average value: 90.0 % Grade Count:15

Electrical Properties	Metric	English	Comments
Electrical Resistivity	150 - 1.63e+16 ohm-cm	150 - 1.63e+16 ohm-cm	Average value: 1.63e+15 ohm-cm Grade Count:102
Surface Resistance	5.00e+10 - 2.00e+17 ohm	5.00e+10 - 2.00e+17 ohm	Average value: 3.89e+16 ohm Grade Count:9
Insulation Resistance	5.00e+14 ohm	5.00e+14 ohm	Average value: 5.00e+14 ohm Grade Count:5
Dielectric Constant	2.40 - 6.30	2.40 - 6.30	Average value: 3.33 Grade Count:135
Dielectric Strength	4.53 - 630 kV/mm	115 - 16000 kV/in	Average value: 23.2 kV/mm Grade Count:141
Dielectric Breakdown	1500 V	1500 V	Average value: 1500 V Grade Count:5
Dissipation Factor	0.000100 - 0.0800	0.000100 - 0.0800	Average value: 0.00596 Grade Count:88

Processing Properties	Metric	English	Comments
Processing Temperature	25.0 - 125 $^{\circ}\text{C}$	77.0 - 257 $^{\circ}\text{F}$	Average value: 36.2 $^{\circ}\text{C}$ Grade Count:53
Cure Time	0.167 - 12000 min	0.00278 - 200 hour	Average value: 1050 min Grade

Processing Properties	Metric	English	Count:118 Comments
	3.00 - 180 min @Temperature 60.0 - 175 °C	0.0500 - 3.00 hour @Temperature 140 - 347 °F	Average value: 45.4 min Grade Count:24
Pot Life	60.0 - 1440 min	60.0 - 1440 min	Average value: 630 min Grade Count:5

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