

Overview of materials for Silicone Polyurethane, Ether Based

Category : Polymer , Thermoplastic , Polyurethane, TP , Silicone Polyurethane, Ether Based

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Silicone Polyurethane, Ether Based". 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-Polyurethane-Ether-Based.php

Physical Properties	Metric	English	Comments
Density	0.978 - 1.11 g/cc	0.0353 - 0.0401 lb/in ³	Average value: 1.05 g/cc Grade Count:9
Molecular Weight	95000 g/mol	95000 g/mol	Average value: 95000 g/mol Grade Count:4
Linear Mold Shrinkage	0.0110 - 0.0360 cm/cm	0.0110 - 0.0360 in/in	Average value: 0.0204 cm/cm Grade Count:5
Linear Mold Shrinkage, Transverse	0.00800 - 0.0230 cm/cm	0.00800 - 0.0230 in/in	Average value: 0.0148 cm/cm Grade Count:3
Melt Flow	2.00 - 37.0 g/10 min	2.00 - 37.0 g/10 min	Average value: 21.2 g/10 min Grade Count:5

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	55.0 - 95.0	55.0 - 95.0	Average value: 76.1 Grade Count:15
Hardness, Shore D	50.0 - 80.0	50.0 - 80.0	Average value: 65.1 Grade Count:7
Tensile Strength, Ultimate	1.32 - 60.0 MPa	191 - 8700 psi	Average value: 19.0 MPa Grade Count:22
Tensile Strength, Yield	2.47 - 16.1 MPa	358 - 2330 psi	Average value: 7.98 MPa Grade Count:4
Elongation at Break	25.0 - 823 %	25.0 - 823 %	Average value: 453 % Grade Count:22
Modulus of Elasticity	0.00800 - 0.750 GPa	1.16 - 109 ksi	Average value: 0.188 GPa Grade Count:12
Flexural Yield Strength	1.45 - 1.86 MPa	210 - 270 psi	Average value: 1.61 MPa Grade Count:3
Flexural Modulus	0.0371 - 0.0433 GPa	5.38 - 6.28 ksi	Average value: 0.0396 GPa Grade Count:3
Tear Strength	20.2 - 175 kN/m	115 - 999 pli	Average value: 72.6 kN/m Grade Count:19
Taber Abrasion, mg/1000 Cycles	5.40 - 85.0	5.40 - 85.0	Average value: 29.7 Grade Count:5

Mechanical Properties	Metric	English	Comments
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Thermal Properties	Metric	English	Comments
CTE, linear	187 - 200 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	104 - 111 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	Average value: 192 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ Grade Count:5
Vicat Softening Point	67.0 - 82.0 $^{\circ}\text{C}$	153 - 180 $^{\circ}\text{F}$	Average value: 74.0 $^{\circ}\text{C}$ Grade Count:3
Glass Transition Temp, Tg	-68.0 - -12.0 $^{\circ}\text{C}$	-90.4 - 10.4 $^{\circ}\text{F}$	Average value: -35.7 $^{\circ}\text{C}$ Grade Count:3

Electrical Properties	Metric	English	Comments
Dielectric Constant	5.70 - 7.00	5.70 - 7.00	Average value: 6.28 Grade Count:5
Dielectric Strength	11.8 - 16.5 kV/mm	300 - 420 kV/in	Average value: 13.7 kV/mm Grade Count:5

Processing Properties	Metric	English	Comments
Processing Temperature	182 - 204 $^{\circ}\text{C}$	360 - 399 $^{\circ}\text{F}$	Average value: 193 $^{\circ}\text{C}$ Grade Count:5
Drying Temperature	82.0 - 104 $^{\circ}\text{C}$	180 - 219 $^{\circ}\text{F}$	Average value: 93.0 $^{\circ}\text{C}$ Grade Count:3
Moisture Content	0.0100 %	0.0100 %	Average value: 0.0100 % Grade Count:4

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