

## Overview of materials for Thermoset Polyurethane, Adhesive

Category : Polymer , Adhesive , Thermoset , Polyurethane, TS , Thermoset Polyurethane, Adhesive

### Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Thermoset Polyurethane, Adhesive". 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-Thermoset-Polyurethane-Adhesive.php](http://www.lookpolymers.com/polymer_Overview-of-materials-for-Thermoset-Polyurethane-Adhesive.php)

Physical Properties	Metric	English	Comments
Density	0.780 - 3.20 g/cc	0.0282 - 0.116 lb/in <sup>3</sup>	Average value: 1.21 g/cc Grade Count:77
Volatile Organic Compounds (VOC) Content	2.10 - 510 g/l	2.10 - 510 g/l	Average value: 222 g/l Grade Count:13
Water Absorption	0.0600 - 0.400 %	0.0600 - 0.400 %	Average value: 0.215 % Grade Count:25
Moisture Absorption at Equilibrium	0.150 - 0.180 %	0.150 - 0.180 %	Average value: 0.157 % Grade Count:4
Water Absorption at Saturation	0.00150 - 0.0120 %	0.00150 - 0.0120 %	Average value: 0.00427 % Grade Count:17
Loss On Ignition	0.0500 - 0.570 % @Temperature 100 - 130 °C	0.0500 - 0.570 % @Temperature 212 - 266 °F	Average value: 0.304 % Grade Count:4
	0.0500 - 0.570 % @Time 86400 - 605000 sec	0.0500 - 0.570 % @Time 24.0 - 168 hour	Average value: 0.304 % Grade Count:4
Viscosity	30.0 - 1.20e+6 cP	30.0 - 1.20e+6 cP	Average value: 28200 cP Grade Count:88
	600 - 600 cP @Temperature 50.0 - 50.0 °C	600 - 600 cP @Temperature 122 - 122 °F	Average value: 600 cP Grade Count:1
Linear Mold Shrinkage	0.000500 - 0.0125 cm/cm	0.000500 - 0.0125 in/in	Average value: 0.00805 cm/cm Grade Count:21
Outgassing - Total Mass Loss	0.150 - 2.50 %	0.150 - 2.50 %	Average value: 0.544 % Grade Count:14

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	10.0 - 95.0	10.0 - 95.0	Average value: 58.6 Grade Count:52

Mechanical Properties	75.0 - 75.0 Metric	75.0 - 75.0 English	Comments Average value: 75.0 Grade Count:2
	@Temperature -40.0 - -40.0 °C	@Temperature -40.0 - -40.0 °F	
Hardness, Shore D	35.0 - 75.0	35.0 - 75.0	Average value: 56.3 Grade Count:26
Hardness, Shore OO	50.0 - 65.0	50.0 - 65.0	Average value: 60.0 Grade Count:3
Tensile Strength, Ultimate	0.0689 - 29.0 MPa	10.0 - 4210 psi	Average value: 9.80 MPa Grade Count:58
Tensile Strength, Yield	0.0345 - 11.7 MPa	5.00 - 1700 psi	Average value: 1.32 MPa Grade Count:17
Elongation at Break	30.0 - 874 %	30.0 - 874 %	Average value: 345 % Grade Count:61
Elongation at Yield	68.0 - 250 %	68.0 - 250 %	Average value: 204 % Grade Count:4
Modulus of Elasticity	0.0000345 - 0.0896 GPa	0.00500 - 13.0 ksi	Average value: 0.0331 GPa Grade Count:23
	0.00413685 - 0.00413685 GPa	0.600009 - 0.600009 ksi	Average value: 0.00414 GPa Grade Count:1
	@Temperature 55.0 - 55.0 °C	@Temperature 131 - 131 °F	
Compressive Yield Strength	0.0345 - 19.1 MPa	5.00 - 2780 psi	Average value: 3.73 MPa Grade Count:3
Shear Strength	0.352 - 13.8 MPa	51.0 - 2000 psi	Average value: 3.99 MPa Grade Count:7
	0.690 - 17.2 MPa	100 - 2490 psi	Average value: 5.90 MPa Grade Count:4
	@Temperature -55.0 - 121 °C	@Temperature -67.0 - 250 °F	
Adhesive Bond Strength	0.138 - 20.7 MPa	20.0 - 3000 psi	Average value: 4.69 MPa Grade Count:18
Tear Strength	6.14 - 56.1 kN/m	35.0 - 320 pli	Average value: 32.9 kN/m Grade Count:9

Thermal Properties	Metric	English	Comments
CTE, linear	1.00 - 510 µm/m-°C	0.556 - 283 µin/in-°F	Average value: 161 µm/m-°C Grade Count:43
Thermal Conductivity	0.140 - 1.76 W/m-K	0.972 - 12.2 BTU-in/hr-ft <sup>2</sup> -°F	Average value: 0.570 W/m-K Grade Count:22
Maximum Service Temperature, Air	51.7 - 150 °C	125 - 302 °F	Average value: 109 °C Grade Count:59
Minimum Service Temperature, Air	-65.0 - -30.0 °C	-85.0 - -22.0 °F	Average value: -52.0 °C Grade Count:48
Glass Transition Temp, Tg	-83.0 - 71.0 °C	-117 - 160 °F	Average value: -34.4 °C Grade Count:34

Thermal Properties	Metric	English	Comments
	131 - 200 °C	268 - 392 °F	Average value: 90.3 °C Grade Count:9

Optical Properties	Metric	English	Comments
Transmission, Visible	90.0 %	90.0 %	Average value: 90.0 % Grade Count:9

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00500 - 2.00e+16 ohm-cm	0.00500 - 2.00e+16 ohm-cm	Average value: 2.38e+15 ohm-cm Grade Count:54
	1.30e+10 - 4.00e+14 ohm-cm	1.30e+10 - 4.00e+14 ohm-cm	Average value: 5.00e+13 ohm-cm Grade Count:8
	@Temperature 65.0 - 130 °C	@Temperature 149 - 266 °F	
Surface Resistance	3.50e+6 - 6.10e+17 ohm	3.50e+6 - 6.10e+17 ohm	Average value: 4.71e+16 ohm Grade Count:19
Insulation Resistance	3.20e+12 - 4.50e+14 ohm	3.20e+12 - 4.50e+14 ohm	Average value: 1.30e+14 ohm Grade Count:17
Dielectric Constant	2.67 - 5.90	2.67 - 5.90	Average value: 3.74 Grade Count:59
	3.18 - 3.50	3.18 - 3.50	Average value: 3.34 Grade Count:1
	@Temperature -40.0 - 140 °C	@Temperature -40.0 - 284 °F	
	3.18 - 3.50	3.18 - 3.50	Average value: 3.34 Grade Count:1
	@Frequency 1.00e+6 - 1.00e+6 Hz	@Frequency 1.00e+6 - 1.00e+6 Hz	
Dielectric Strength	13.4 - 138 kV/mm	340 - 3500 kV/in	Average value: 37.9 kV/mm Grade Count:51
Dielectric Breakdown	1500 V	1500 V	Average value: 1500 V Grade Count:7
Dissipation Factor	0.00900 - 0.200	0.00900 - 0.200	Average value: 0.0365 Grade Count:51
	0.00500 - 0.0700	0.00500 - 0.0700	Average value: 0.0375 Grade Count:1
	@Temperature -40.0 - 140 °C	@Temperature -40.0 - 284 °F	
	0.00500 - 0.0700	0.00500 - 0.0700	Average value: 0.0375 Grade Count:1
	@Frequency 1.00e+6 - 1.00e+6 Hz	@Frequency 1.00e+6 - 1.00e+6 Hz	
Arc Resistance	120 - 190 sec	120 - 190 sec	Average value: 124 sec Grade Count:18

Processing Properties	Metric	English	Comments
-----------------------	--------	---------	----------

Processing Properties	Metric <sup>100 - 125 °C</sup>	English <sup>200 - 257 °F</sup>	Comments <sup>Average value: 83.5 °C Grade Count:57</sup>
Cure Time	3.00 - 43200 min	0.0500 - 720 hour	Average value: 4860 min Grade Count:57
	5.00 - 20160 min @Temperature 60.0 - 190 °C	0.0833 - 336.0 hour @Temperature 140 - 374 °F	Average value: 1180 min Grade Count:44
Pot Life	1.50 - 600 min	1.50 - 600 min	Average value: 41.7 min Grade Count:59
	40.0 - 50.0 min @Temperature 50.0 - 50.0 °C	40.0 - 50.0 min @Temperature 122 - 122 °F	Average value: 45.0 min Grade Count:1

## 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