

Overview of materials for Vinyl Ester Sheet Molding Compound

Category : Polymer , Thermoset , Vinyl Ester , Vinyl Ester Sheet Molding Compound

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Vinyl Ester Sheet Molding Compound". 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-Vinyl-Ester-Sheet-Molding-Compound.php

Physical Properties	Metric	English	Comments
Density	1.03 - 1.95 g/cc	0.0372 - 0.0704 lb/in ³	Average value: 1.72 g/cc Grade Count:31
Water Absorption	0.0500 - 0.600 %	0.0500 - 0.600 %	Average value: 0.257 % Grade Count:22
Linear Mold Shrinkage	0.000 - 0.00100 cm/cm	0.000 - 0.00100 in/in	Average value: 0.000449 cm/cm Grade Count:12

Mechanical Properties	Metric	English	Comments
Hardness, Barcol	35.0 - 70.0	35.0 - 70.0	Average value: 53.8 Grade Count:15
Tensile Strength, Ultimate	30.3 - 993 MPa	4400 - 144000 psi	Average value: 206 MPa Grade Count:30
	58.6054 - 58.6054 MPa @Temperature 150 - 150 °C	8500.01 - 8500.01 psi @Temperature 302 - 302 °F	Average value: 58.6 MPa Grade Count:1
Elongation at Break	1.20 - 7.90 %	1.20 - 7.90 %	Average value: 3.47 % Grade Count:3
Modulus of Elasticity	3.72 - 94.5 GPa	540 - 13700 ksi	Average value: 19.7 GPa Grade Count:16
	8.27371 - 8.27371 GPa @Temperature 150 - 150 °C	1200.02 - 1200.02 ksi @Temperature 302 - 302 °F	Average value: 8.27 GPa Grade Count:1
Flexural Yield Strength	40.0 - 1310 MPa	5800 - 190000 psi	Average value: 301 MPa Grade Count:31
	120.658 - 365 MPa @Temperature 115 - 150 °C	17500.0 - 52900 psi @Temperature 239 - 302 °F	Average value: 243 MPa Grade Count:2
Flexural Modulus	3.45 - 77.9 GPa	500 - 11300 ksi	Average value: 16.1 GPa Grade Count:26
	16.2 - 16.2 GPa	2350 - 2350 ksi	

Mechanical Properties	Metric @ Temperature 115 - 115 °C	English @ Temperature 239 - 239 °F	Comments Average value: 9.03 GPa Grade Count:1
	6.20528 - 8.27371 GPa	900.014 - 1200.02 ksi	Average value: 9.03 GPa Grade Count:1
	@Temperature 150 - 150 °C	@Temperature 302 - 302 °F	
	6.20528 - 8.27371 GPa	900.014 - 1200.02 ksi	Average value: 9.03 GPa Grade Count:1
	@Thickness 0.500 - 2.50 mm	@Thickness 0.0197 - 0.0984 in	
Compressive Yield Strength	103 - 310 MPa	15000 - 45000 psi	Average value: 198 MPa Grade Count:16
Compressive Modulus	0.0172 - 33.8 GPa	2.49 - 4900 ksi	Average value: 12.2 GPa Grade Count:7
Ultimate Bearing Strength	221 MPa	32000 psi	Average value: 221 MPa Grade Count:3
Poissons Ratio	0.305 - 0.330	0.305 - 0.330	Average value: 0.324 Grade Count:4
Shear Modulus	3.10 - 5.19 GPa	450 - 753 ksi	Average value: 4.40 GPa Grade Count:3
Shear Strength	31.0 - 96.5 MPa	4500 - 14000 psi	Average value: 49.4 MPa Grade Count:5
Izod Impact, Notched	2.14 - 37.0 J/cm	4.00 - 69.3 ft-lb/in	Average value: 10.9 J/cm Grade Count:23
Izod Impact, Unnotched	0.160 - 19.2 J/cm	0.300 - 36.0 ft-lb/in	Average value: 12.3 J/cm Grade Count:4

Thermal Properties	Metric	English	Comments
CTE, linear	8.00 - 36.0 µm/m-°C	4.44 - 20.0 µin/in-°F	Average value: 20.8 µm/m-°C Grade Count:11
CTE, linear, Transverse to Flow	18.0 - 27.0 µm/m-°C	10.0 - 15.0 µin/in-°F	Average value: 23.0 µm/m-°C Grade Count:4
Specific Heat Capacity	0.841 - 1.51 J/g-°C	0.201 - 0.360 BTU/lb-°F	Average value: 1.28 J/g-°C Grade Count:3
Thermal Conductivity	0.300 - 46.2 W/m-K	2.08 - 321 BTU-in/hr- ft²-°F	Average value: 11.1 W/m-K Grade Count:5
	18.5 - 43.7 W/m-K	128 - 303 BTU-in/hr- ft²-°F	Average value: 31.1 W/m-K Grade Count:1
	@Temperature 85.0 - 85.0 °C	@Temperature 185 - 185 °F	
Maximum Service Temperature, Air	98.0 - 300 °C	208 - 572 °F	Average value: 227 °C Grade Count:6
Deflection Temperature at 1.8 MPa (264 psi)	160 - 271 °C	320 - 520 °F	Average value: 237 °C Grade Count:7

Glass Transition Temp, Tg Thermal Properties	118 - 200 °C Metric	244 - 392 °F English	Average value: 169 °C Grade Count:7 Comments
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:10
Flame Spread Index	25.0	25.0	Average value: 25.0 Grade Count:4
NBS Smoke Density	600 - 700	600 - 700	Average value: 650 Grade Count:3

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0100 - 5.00e+14 ohm-cm	0.0100 - 5.00e+14 ohm-cm	Average value: 2.00e+14 ohm-cm Grade Count:4
Dielectric Constant	4.70 - 5.00	4.70 - 5.00	Average value: 4.80 Grade Count:3
Dielectric Strength	1.38 - 20.0 kV/mm	35.0 - 508 kV/in	Average value: 10.2 kV/mm Grade Count:13
Arc Resistance	120 - 191 sec	120 - 191 sec	Average value: 147 sec Grade Count:12

Processing Properties	Metric	English	Comments
Processing Temperature	93.0 - 160 °C	199 - 320 °F	Average value: 139 °C Grade Count:11
Cure Time	5.00 - 10.0 min @Temperature 138 - 138 °C	0.0833 - 0.167 hour @Temperature 280 - 280 °F	Average value: 5.17 min Grade Count:1
	3.00 - 5.00 min @Temperature 138 - 138 °C	0.0500 - 0.0833 hour @Temperature 280 - 280 °F	Average value: 5.17 min Grade Count:1
	3.00 - 5.00 min @Thickness 6.35 - 6.35 mm	0.0500 - 0.0833 hour @Thickness 0.250 - 0.250 in	Average value: 5.17 min Grade Count:1

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

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