

Overview of materials for PVC, Molded

Category : Polymer , Thermoplastic , Vinyl (PVC) , PVC, Molded

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "PVC, Molded". 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-PVC-Molded.php

Physical Properties	Metric	English	Comments
Density	0.550 - 2.50 g/cc	0.0199 - 0.0903 lb/in ³	Average value: 1.29 g/cc Grade Count:568
Volatile Organic Compounds (VOC) Content	0.300 g/l	0.300 g/l	Average value: 0.300 g/l Grade Count:9
Apparent Bulk Density	0.470 - 0.780 g/cc	0.0170 - 0.0282 lb/in ³	Average value: 0.549 g/cc Grade Count:11
Water Absorption	0.0200 - 0.400 %	0.0200 - 0.400 %	Average value: 0.260 % Grade Count:13
Particle Size	63.0 - 250 µm	63.0 - 250 µm	Average value: 157 µm Grade Count:12
Viscosity	0.680 - 2.27 cP	0.680 - 2.27 cP	Average value: 1.48 cP Grade Count:11
Viscosity Test	79.0 - 180 cm ³ /g	79.0 - 180 cm ³ /g	Average value: 121 cm ³ /g Grade Count:23
Thickness	1000 - 3000 microns	39.4 - 118 mil	Average value: 1100 microns Grade Count:26
Linear Mold Shrinkage	0.00100 - 0.0500 cm/cm	0.00100 - 0.0500 in/in	Average value: 0.00570 cm/cm Grade Count:30
Melt Flow	2.00 - 25.0 g/10 min	2.00 - 25.0 g/10 min	Average value: 13.4 g/10 min Grade Count:6
Spiral Flow	63.5 - 94.0 cm	25.0 - 37.0 in	Average value: 83.0 cm Grade Count:6
ASTM Color	-32.4 - 97.2	-32.4 - 97.2	Average value: 18.7 Grade Count:58

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	28.0 - 99.0	28.0 - 99.0	Average value: 70.8 Grade Count:460
Hardness, Shore D	38.0 - 89.0	38.0 - 89.0	Average value: 72.0 Grade Count:61
Hardness, Shore C	75.0 - 95.0	75.0 - 95.0	Average value: 85.0 Grade Count:5

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	1.59 - 52.0 MPa	230 - 7540 psi	Average value: 14.2 MPa Grade Count:143
Elongation at Break	3.00 - 600 %	3.00 - 600 %	Average value: 309 % Grade Count:515
Modulus of Elasticity	0.00163 - 3.24 GPa	0.237 - 470 ksi	Average value: 2.12 GPa Grade Count:55
Flexural Yield Strength	2.83 - 103 MPa	410 - 15000 psi	Average value: 74.9 MPa Grade Count:45
Flexural Modulus	1.65 - 3.31 GPa	239 - 480 ksi	Average value: 2.66 GPa Grade Count:41
Izod Impact, Notched	0.214 - 28.4 J/cm	0.400 - 53.2 ft-lb/in	Average value: 6.21 J/cm Grade Count:42
	0.534 - 7.47 J/cm @Temperature -40.0 - 0.000 °C	1.00 - 14.0 ft-lb/in @Temperature -40.0 - 32.0 °F	Average value: 3.11 J/cm Grade Count:4
	0.534 - 7.47 J/cm @Thickness 3.18 - 3.18 mm	1.00 - 14.0 ft-lb/in @Thickness 0.125 - 0.125 in	Average value: 3.11 J/cm Grade Count:4
Izod Impact, Unnotched	0.400 - 11.3 J/cm	0.749 - 21.3 ft-lb/in	Average value: 4.42 J/cm Grade Count:16
Tear Strength Test	145 - 530	145 - 530	Average value: 308 Grade Count:64
Tear Strength	15.0 - 55.0 kN/m	85.6 - 314 pli	Average value: 28.5 kN/m Grade Count:19

Thermal Properties	Metric	English	Comments
CTE, linear	50.0 - 80.0 µm/m-°C	27.8 - 44.4 µin/in-°F	Average value: 55.4 µm/m-°C Grade Count:5
Maximum Service Temperature, Air	40.0 - 100 °C	104 - 212 °F	Average value: 52.4 °C Grade Count:30
Deflection Temperature at 0.46 MPa (66 psi)	66.0 - 90.6 °C	151 - 195 °F	Average value: 77.3 °C Grade Count:18
Deflection Temperature at 1.8 MPa (264 psi)	46.7 - 87.2 °C	116 - 189 °F	Average value: 70.7 °C Grade Count:43
Vicat Softening Point	63.0 - 91.0 °C	145 - 196 °F	Average value: 76.4 °C Grade Count:30
Softening Point	160 - 190 °C	320 - 374 °F	Average value: 174 °C Grade Count:7
Minimum Service Temperature, Air	-57.5 - -22.3 °C	-71.5 - -8.14 °F	Average value: -41.9 °C Grade Count:8
Brittleness Temperature	-72.0 - -3.00 °C	-97.6 - 26.6 °F	Average value: -36.8 °C Grade

Thermal Properties	Metric	English	Count:179 Comments
Decomposition Temperature	185 - 200 °C	365 - 392 °F	Average value: 188 °C Grade Count:5
UL RTI, Electrical	50.0 - 80.0 °C	122 - 176 °F	Average value: 56.0 °C Grade Count:5
UL RTI, Mechanical with Impact	50.0 - 70.0 °C	122 - 158 °F	Average value: 54.0 °C Grade Count:5
UL RTI, Mechanical without Impact	50.0 - 80.0 °C	122 - 176 °F	Average value: 56.0 °C Grade Count:5
Flammability, UL94	HB - 5VA	HB - 5VA	Grade Count:51
Oxygen Index	25.0 - 31.0 %	25.0 - 31.0 %	Average value: 28.6 % Grade Count:14

Optical Properties	Metric	English	Comments
Haze	5.00 - 16.0 %	5.00 - 16.0 %	Average value: 8.00 % Grade Count:8
Transmission, Visible	66.0 - 90.0 %	66.0 - 90.0 %	Average value: 84.9 % Grade Count:47

Component Elements Properties	Metric	English	Comments
Cadmium, Cd	0.00500 %	0.00500 %	Average value: 0.00500 % Grade Count:9
Chromium, Cr	0.0100 %	0.0100 %	Average value: 0.0100 % Grade Count:9
Lead, Pb	0.0100 %	0.0100 %	Average value: 0.0100 % Grade Count:9
Mercury, Hg	0.0100 %	0.0100 %	Average value: 0.0100 % Grade Count:9

Electrical Properties	Metric	English	Comments
Electrical Resistivity	2.00e+6 - 1.00e+15 ohm-cm	2.00e+6 - 1.00e+15 ohm-cm	Average value: 1.52e+14 ohm-cm Grade Count:18
	>= 2.00e+10 ohm-cm	>= 2.00e+10 ohm-cm	Average value: 1.05e+12 ohm-cm Grade Count:5
	@Temperature 70.0 - 70.0 °C	@Temperature 158 - 158 °F	
Surface Resistance	1.00e+12 - 5.00e+14 ohm	1.00e+12 - 5.00e+14 ohm	Average value: 2.00e+14 ohm Grade Count:3
Dielectric Strength	6.00 - 35.0 kV/mm	152 - 889 kV/in	Average value: 20.3 kV/mm Grade Count:3
Comparative Tracking Index	400 - 600 V	400 - 600 V	Average value: 575 V Grade Count:4

Processing Properties	Metric	English	Comments
Melt Temperature	154 - 213 °C	310 - 415 °F	Average value: 179 °C Grade Count:121

Processing Properties

Metric 18.3 °C

English 65 °F

Comments Value: 59.1 °C Grade Count: 3

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