

## Overview of materials for PVC, Extruded

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

### Material Notes:

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

Physical Properties	Metric	English	Comments
Density	0.549 - 1.85 g/cc	0.0198 - 0.0668 lb/in <sup>3</sup>	Average value: 1.37 g/cc Grade Count:538
Moisture Absorption at Equilibrium	0.100 - 0.200 %	0.100 - 0.200 %	Average value: 0.167 % Grade Count:3
Water Absorption at Saturation	0.100 - 0.200 %	0.100 - 0.200 %	Average value: 0.167 % Grade Count:3
Viscosity	1.02 - 2.51 cP	1.02 - 2.51 cP	Average value: 1.73 cP Grade Count:6
Linear Mold Shrinkage	0.0150 - 0.0310 cm/cm	0.0150 - 0.0310 in/in	Average value: 0.0193 cm/cm Grade Count:6
ASTM Color	-59.0 - 97.5	-59.0 - 97.5	Average value: 24.5 Grade Count:81

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	40.0 - 110	40.0 - 110	Average value: 74.2 Grade Count:289
Hardness, Shore D	37.0 - 88.0	37.0 - 88.0	Average value: 77.4 Grade Count:160
Tensile Strength, Ultimate	3.74 - 55.9 MPa	542 - 8110 psi	Average value: 23.2 MPa Grade Count:482
Tensile Strength, Yield	1.79 - 57.4 MPa	260 - 8330 psi	Average value: 33.9 MPa Grade Count:181
Elongation at Break	3.50 - 720 %	3.50 - 720 %	Average value: 274 % Grade Count:389
Modulus of Elasticity	1.06 - 4.83 GPa	154 - 700 ksi	Average value: 2.84 GPa Grade Count:77
Flexural Yield Strength	28.0 - 99.9 MPa	4060 - 14500 psi	Average value: 81.0 MPa Grade Count:70
Flexural Modulus	1.30 - 4.69 GPa	188 - 680 ksi	Average value: 2.84 GPa Grade Count:66
Izod Impact, Notched	0.179 - 12.9 J/cm	0.335 - 24.2 ft-lb/in	Average value: 3.51 J/cm Grade Count:95
	11.7 - 11.7 J/cm	21.9 - 21.9 ft-lb/in	

Mechanical Properties	Metric	English	Comments
	@ Temperature -40.0 - - 40.0 °C	@ Temperature -40.0 - - 40.0 °F	Average value: 11.7 J/cm Grade Count:1
	11.7 - 11.7 J/cm	21.9 - 21.9 ft-lb/in	Average value: 11.7 J/cm Grade Count:1
	@Thickness 3.18 - 3.18 mm	@Thickness 0.125 - 0.125 in	
Izod Impact, Unnotched	0.300 - 34.2 J/cm	0.562 - 64.1 ft-lb/in	Average value: 2.28 J/cm Grade Count:88
Charpy Impact Unnotched	1.50 - 1000 J/cm <sup>2</sup>	7.14 - 4760 ft-lb/in <sup>2</sup>	Average value: 1.50 J/cm <sup>2</sup> Grade Count:3
Charpy Impact, Notched	0.300 - 1.00 J/cm <sup>2</sup>	1.43 - 4.76 ft-lb/in <sup>2</sup>	Average value: 0.567 J/cm <sup>2</sup> Grade Count:3
Tear Strength Test	145 - 550	145 - 550	Average value: 322 Grade Count:64
Tear Strength	17.5 - 105 kN/m	99.9 - 599 pli	Average value: 53.8 kN/m Grade Count:29
Dart Drop Total Energy	5.34 - 178 J/cm	0.0100 - 0.333 ft-lb/mil	Average value: 70.9 J/cm Grade Count:38
Compression Set	18.0 - 50.0 %	18.0 - 50.0 %	Average value: 31.3 % Grade Count:16
Clash Berg Modulus	0.0331 - 0.689 GPa	4.80 - 99.9 ksi	Average value: 0.205 GPa Grade Count:10
	0.00745 - 0.558 GPa	1.08 - 80.9 ksi	Average value: 0.306 GPa Grade Count:13
	@Temperature -50.0 - - 26.0 °C	@Temperature -58.0 - - 14.8 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	45.0 - 90.0 μm/m-°C	25.0 - 50.0 μin/in-°F	Average value: 63.7 μm/m-°C Grade Count:46
Thermal Conductivity	0.140 - 0.190 W/m-K	0.972 - 1.32 BTU-in/hr-ft <sup>2</sup> -°F	Average value: 0.162 W/m-K Grade Count:4
Maximum Service Temperature, Air	60.0 - 80.0 °C	140 - 176 °F	Average value: 65.0 °C Grade Count:4
Deflection Temperature at 0.46 MPa (66 psi)	69.0 - 85.0 °C	156 - 185 °F	Average value: 76.0 °C Grade Count:8
Deflection Temperature at 1.8 MPa (264 psi)	51.0 - 79.0 °C	124 - 174 °F	Average value: 70.0 °C Grade Count:65
Vicat Softening Point	52.0 - 87.0 °C	126 - 189 °F	Average value: 80.0 °C Grade Count:123
Heat Distortion Temperature	65.0 - 76.0 °C	149 - 169 °F	Average value: 73.5 °C Grade Count:24
Minimum Service Temperature, Air	-40.0 - -5.00 °C	-40.0 - 23.0 °F	Average value: -25.0 °C Grade Count:4
Brittleness Temperature			Average value: -30.4 °C Grade

Thermal Properties	-60.0 - 35.0 °C Metric	-76.0 - 95.0 °F English	Count:146 Comments
Flammability, UL94	HB - 5VB	HB - 5VB	Grade Count:40
Flame Spread	0.0100 - 24.0 mm/min	0.000394 - 0.945 in/min	Average value: 6.26 mm/min Grade Count:4
Oxygen Index	22.0 - 30.0 %	22.0 - 30.0 %	Average value: 26.7 % Grade Count:13

Optical Properties	Metric	English	Comments
Transmission, Visible	74.0 - 90.0 %	74.0 - 90.0 %	Average value: 88.3 % Grade Count:51

Component Elements Properties	Metric	English	Comments
Cadmium, Cd	0.00500 %	0.00500 %	Average value: 0.00500 % Grade Count:5
Chromium, Cr	0.0100 %	0.0100 %	Average value: 0.0100 % Grade Count:5
Lead, Pb	0.0100 %	0.0100 %	Average value: 0.0100 % Grade Count:5
Mercury, Hg	0.0100 %	0.0100 %	Average value: 0.0100 % Grade Count:5

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+13 - 1.00e+17 ohm-cm	1.00e+13 - 1.00e+17 ohm-cm	Average value: 3.36e+16 ohm-cm Grade Count:6
Dielectric Constant	3.00 - 3.30	3.00 - 3.30	Average value: 3.12 Grade Count:4
Dielectric Strength	18.0 - 50.0 kV/mm	457 - 1270 kV/in	Average value: 32.0 kV/mm Grade Count:4

Processing Properties	Metric	English	Comments
Melt Temperature	154 - 210 °C	310 - 410 °F	Average value: 181 °C Grade Count:157

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