

Overview of materials for PVC, Extruded

Categories: [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.

Vendors: [Click here to view all available suppliers for this material.](#)

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Physical Properties	Metric	English	Comments
Density	1.13 - 1.85 g/cc	0.0408 - 0.0668 lb/in ³	Average value: 1.39 g/cc Grade Count:588
Moisture Absorption at Equilibrium	0.0100 - 0.200 %	0.0100 - 0.200 %	Average value: 0.142 % Grade Count:5
Water Absorption at Saturation	0.100 - 0.500 %	0.100 - 0.500 %	Average value: 0.250 % Grade Count:4
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: 24.7 Grade Count:80
Mechanical Properties	Metric	English	Comments
Hardness, Shore A	40.0 - 110	40.0 - 110	Average value: 74.8 Grade Count:302
Hardness, Shore D	37.0 - 88.0	37.0 - 88.0	Average value: 77.4 Grade Count:158
Ball Indentation Hardness	75.0 - 130 MPa	10900 - 18900 psi	Average value: 109 MPa Grade Count:4
Tensile Strength, Ultimate	0.00123 - 60.8 MPa	0.178 - 8820 psi	Average value: 23.9 MPa Grade Count:524
	0.00109834 - 17.5547 MPa @Temperature 70.0 - 135 °C	0.159302 - 2546.10 psi @Temperature 158 - 275 °F	Average value: 9.57 MPa Grade Count:7
	0.00109834 - 17.5547 MPa @Time 14400 - 1.21e+6 sec	0.159302 - 2546.10 psi @Time 4.00 - 336 hour	Average value: 9.57 MPa Grade Count:7
Tensile Strength, Yield	14.8 - 57.4 MPa	2150 - 8330 psi	Average value: 42.4 MPa Grade Count:153
Elongation at Break	3.50 - 720 %	3.50 - 720 %	Average value: 259 % Grade Count:435
	37.5 - 299.52 % @Temperature 70.0 - 135 °C	37.5 - 299.52 % @Temperature 158 - 275 °F	Average value: 195 % Grade Count:7
	37.5 - 299.52 % @Time 14400 - 1.21e+6 sec	37.5 - 299.52 % @Time 4.00 - 336 hour	Average value: 195 % Grade Count:7
Elongation at Yield	3.00 - 10.0 %	3.00 - 10.0 %	Average value: 5.33 % Grade Count:3
Modulus of Elasticity	0.00300 - 4.83 GPa	0.435 - 700 ksi	Average value: 2.80 GPa Grade Count:76
Flexural Yield Strength	28.0 - 99.9 MPa	4060 - 14500 psi	Average value: 81.4 MPa Grade Count:66

Flexural Modulus	1.30 - 4.69 GPa	188 - 680 ksi	Average value: 2.85 GPa Grade Count:59
Izod Impact, Notched	0.179 - 12.9 J/cm	0.335 - 24.2 ft-lb/in	Average value: 3.15 J/cm Grade Count:118
	11.7 - 11.7 J/cm @Temperature -40.0 - -40.0 °C	21.9 - 21.9 ft-lb/in @Temperature -40.0 - -40.0 °F	Average value: 11.7 J/cm Grade Count:1
	11.7 - 11.7 J/cm @Thickness 3.18 - 3.18 mm	21.9 - 21.9 ft-lb/in @Thickness 0.125 - 0.125 in	Average value: 11.7 J/cm Grade Count:1
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
Izod Impact, Notched (ISO)	1.96 - 13.7 kJ/m²	0.934 - 6.54 ft-lb/in²	Average value: 4.84 kJ/m² Grade Count:11
Charpy Impact Unnotched	1.50 - 1000 J/cm²	7.14 - 4760 ft-lb/in²	Average value: 1.50 J/cm² Grade Count:4
Charpy Impact, Notched	0.300 - 1.00 J/cm²	1.43 - 4.76 ft-lb/in²	Average value: 0.480 J/cm² Grade Count:5
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	11.1 - 178 J/cm	0.0208 - 0.333 ft-lb/mil	Average value: 80.9 J/cm Grade Count:32
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 @Temperature -50.0 - -26.0 °C	1.08 - 80.9 ksi @Temperature -58.0 - -14.8 °F	Average value: 0.306 GPa Grade Count:13
Heat Distortion	20.0 - 50.0 %	20.0 - 50.0 %	Average value: 31.7 % Grade Count:3

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+6 - 1.00e+17 ohm-cm	1.00e+6 - 1.00e+17 ohm-cm	Average value: 1.02e+16 ohm-cm Grade Count:18
Surface Resistance	1000 - 1.00e+13 ohm	1000 - 1.00e+13 ohm	Average value: 8.00e+12 ohm Grade Count:5
Dielectric Constant	3.00 - 3.30	3.00 - 3.30	Average value: 3.13 Grade Count:6
Dielectric Strength	0.690 - 50.0 kV/mm	17.5 - 1270 kV/in	Average value: 31.3 kV/mm Grade Count:8
Dielectric Loss Index	0.0100 - 0.100	0.0100 - 0.100	Average value: 0.0400 Grade Count:3

Thermal Properties	Metric	English	Comments
CTE, linear	45.0 - 90.0 µm/m-°C	25.0 - 50.0 µin/in-°F	Average value: 65.5 µm/m-°C Grade Count:45
Thermal Conductivity	0.120 - 0.190 W/m-K	0.833 - 1.32 BTU-in/hr-ft²-°F	Average value: 0.157 W/m-K Grade Count:8
Melting Point	80.0 - 196 °C	176 - 385 °F	Average value: 114 °C Grade Count:6
Maximum Service Temperature, Air	50.0 - 80.0 °C	122 - 176 °F	Average value: 61.7 °C Grade Count:10
Deflection Temperature at 0.46 MPa (66 psi)	54.0 - 85.0 °C	129 - 185 °F	Average value: 71.3 °C Grade Count:17

Deflection Temperature at 1.8 MPa (264 psi)	51.0 - 79.0 °C	124 - 174 °F	Average value: 70.0 °C Grade Count:61
Vicat Softening Point	52.0 - 92.0 °C	126 - 198 °F	Average value: 80.4 °C Grade Count:149
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 - 0.000 °C	-40.0 - 32.0 °F	Average value: -18.0 °C Grade Count:10
Brittleness Temperature	-60.0 - 35.0 °C	-76.0 - 95.0 °F	Average value: -30.3 °C Grade Count:147
Flammability, UL94	HB - 5VB	HB - 5VB	Grade Count:41
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 - 47.0 %	22.0 - 47.0 %	Average value: 28.3 % Grade Count:15
Optical Properties	Metric	English	Comments
Transmission, Visible	74.0 - 90.0 %	74.0 - 90.0 %	Average value: 89.7 % Grade Count:53
Processing Properties	Metric	English	Comments
Processing Temperature	145 - 210 °C	293 - 410 °F	Average value: 157 °C Grade Count:10
Die Temperature	170 °C	338 °F	Average value: 170 °C Grade Count:9
Melt Temperature	154 - 210 °C	310 - 410 °F	Average value: 181 °C Grade Count:151
Head Temperature	165 °C	329 °F	Average value: 165 °C Grade Count:9
Component Elements Properties	Metric	English	Comments
Bromine, Br	0.0100 %	0.0100 %	Average value: 0.0100 % Grade Count:5
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

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error. We also ask that you refer to MatWeb's [terms of use](#) regarding this information. [Click here](#) to view all the property values for this datasheet as they were originally entered into MatWeb.