

Overview of materials for PVC, Wire and Cable Grade

Category : Polymer , Thermoplastic , Vinyl (PVC) , PVC, Wire and Cable Grade

Material Notes:

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

Physical Properties	Metric	English	Comments
Density	0.880 - 2.06 g/cc	0.0318 - 0.0744 lb/in ³	Average value: 1.37 g/cc Grade Count:1191
Apparent Bulk Density	0.380 - 0.700 g/cc	0.0137 - 0.0253 lb/in ³	Average value: 0.535 g/cc Grade Count:4
Loss On Ignition	23.0 - 54.0 %	23.0 - 54.0 %	Average value: 28.2 % Grade Count:49
Porosity	0.540 - 32.0 %	0.540 - 32.0 %	Average value: 11.0 % Grade Count:3
Viscosity	0.950 - 2.37 cP	0.950 - 2.37 cP	Average value: 1.64 cP Grade Count:3
	473000 - 473000 cP @Temperature 177 - 177 °C	473000 - 473000 cP @Temperature 351 - 351 °F	Average value: 473000 cP Grade Count:1
Linear Mold Shrinkage	473000 - 473000 cP @Frequency 1000 - 1000 Hz	473000 - 473000 cP @Frequency 1000 - 1000 Hz	Average value: 473000 cP Grade Count:1
	0.0100 - 0.0180 cm/cm	0.0100 - 0.0180 in/in	Average value: 0.0120 cm/cm Grade Count:33
Melt Flow	0.200 - 30.0 g/10 min	0.200 - 30.0 g/10 min	Average value: 5.94 g/10 min Grade Count:79
ASTM Color	-3.17 - 93.1	-3.17 - 93.1	Average value: 18.8 Grade Count:11

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	30.0 - 99.0	30.0 - 99.0	Average value: 80.6 Grade Count:1010
Hardness, Shore D	33.0 - 77.0	33.0 - 77.0	Average value: 49.6 Grade Count:140
Hardness, Shore C	65.0 - 92.0	65.0 - 92.0	Average value: 78.1 Grade Count:73
Tensile Strength, Ultimate	1.11 - 29.0 MPa	161 - 4210 psi	Average value: 15.5 MPa Grade Count:803

Mechanical Properties	Metric 13.1 MPa	English 1900 psi	Comments Average value: 13.6 MPa Grade Count:43
Elongation at Break	75.0 - 920 %	75.0 - 920 %	Average value: 308 % Grade Count:1060
	0.000 - 30.0 % @Temperature 200 - 250 °C	0.000 - 30.0 % @Temperature 392 - 482 °F	Average value: 13.8 % Grade Count:2
	0.000 - 30.0 % @Time 900 - 900 sec	0.000 - 30.0 % @Time 0.250 - 0.250 hour	Average value: 13.8 % Grade Count:2
Elongation at Yield	128 - 450 %	128 - 450 %	Average value: 303 % Grade Count:180
Modulus of Elasticity	0.00600 - 1.12 GPa	0.870 - 163 ksi	Average value: 0.0388 GPa Grade Count:39
Flexural Modulus	0.0752 - 1.30 GPa	10.9 - 188 ksi	Average value: 0.451 GPa Grade Count:4
Tear Strength	22.0 - 104 kN/m	126 - 593 pli	Average value: 54.1 kN/m Grade Count:8
Graves Tear Strength	52.0 - 73.5 kN/m	297 - 419 pli	Average value: 66.0 kN/m Grade Count:3
Compression Set	32.0 - 71.0 %	32.0 - 71.0 %	Average value: 40.6 % Grade Count:11
	40.0 - 44.0 % @Temperature 70.0 - 70.0 °C	40.0 - 44.0 % @Temperature 158 - 158 °F	Average value: 42.0 % Grade Count:2

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	15.6 - 205 °C	60.0 - 401 °F	Average value: 88.3 °C Grade Count:406
Minimum Service Temperature, Air	-65.0 - -27.0 °C	-85.0 - -16.6 °F	Average value: -41.9 °C Grade Count:17
Brittleness Temperature	-80.0 - 15.0 °C	-112 - 59.0 °F	Average value: -29.9 °C Grade Count:784
UL RTI, Electrical	50.0 - 90.0 °C	122 - 194 °F	Average value: 82.4 °C Grade Count:31
UL RTI, Mechanical with Impact	50.0 °C	122 °F	Average value: 50.0 °C Grade Count:11
UL RTI, Mechanical without Impact	50.0 - 90.0 °C	122 - 194 °F	Average value: 80.3 °C Grade Count:31
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:74
Oxygen Index	12.0 - 62.0 %	12.0 - 62.0 %	Average value: 29.3 % Grade Count:720

Optical Properties	Metric	English	Comments
Transmission, Visible	80.0 - 90.0 %	80.0 - 90.0 %	Average value: 88.8 % Grade Count:16

Electrical Properties	Metric	English	Comments
Electrical Resistivity	2.50 - 5.60e+15 ohm-cm	2.50 - 5.60e+15 ohm-cm	Average value: 5.77e+14 ohm-cm Grade Count:204
	2.60e+9 - 3.39e+14 ohm-cm @Temperature 50.0 - 50.0 °C	2.60e+9 - 3.39e+14 ohm-cm @Temperature 122 - 122 °F	Average value: 4.52e+13 ohm-cm Grade Count:17
Insulation Resistivity	747 - 747 Megaohm/1000 m @Temperature 15.6 - 15.6 °C	2450 - 2450 Megaohm/1000 ft @Temperature 60.0 - 60.0 °F	Average value: 747 Megaohm/1000 m Grade Count:1
Dielectric Constant	2.10 - 7.04	2.10 - 7.04	Average value: 3.98 Grade Count:64
Dielectric Strength	21.0 - 39.4 kV/mm	533 - 1000 kV/in	Average value: 29.0 kV/mm Grade Count:19
Dissipation Factor	0.000100 - 0.140	0.000100 - 0.140	Average value: 0.0667 Grade Count:48
	0.0580 - 0.0900 @Temperature 30.0 - 30.0 °C	0.0580 - 0.0900 @Temperature 86.0 - 86.0 °F	Average value: 0.0740 Grade Count:2
	0.0580 - 0.0900 @Frequency 1000 - 1000 Hz	0.0580 - 0.0900 @Frequency 1000 - 1000 Hz	Average value: 0.0740 Grade Count:2
Comparative Tracking Index	600 V	600 V	Average value: 600 V Grade Count:26
Hot Wire Ignition, HWI	15.0 - 120 sec	15.0 - 120 sec	Average value: 75.3 sec Grade Count:26
High Amp Arc Ignition, HAI	30.0 - 120 arcs	30.0 - 120 arcs	Average value: 87.7 arcs Grade Count:25

Processing Properties	Metric	English	Comments
Processing Temperature	157 - 191 °C	315 - 375 °F	Average value: 174 °C Grade Count:46
Nozzle Temperature	188 - 249 °C	370 - 480 °F	Average value: 205 °C Grade Count:35
Die Temperature	150 - 249 °C	302 - 480 °F	Average value: 202 °C Grade Count:38
Melt Temperature	110 - 310 °C	230 - 590 °F	Average value: 184 °C Grade Count:538
Head Temperature	130 - 165 °C	266 - 329 °F	Average value: 146 °C Grade Count:3

Processing Properties	Metric	English	Comments
Mold Temperature	10.0 - 65.6 °C	50.0 - 150 °F	Average value: 44.2 °C Grade Count:35
Roll Temperature	21.1 - 48.9 °C	70.0 - 120 °F	Average value: 35.0 °C Grade Count:4
Drying Temperature	82.2 °C	180 °F	Average value: 82.2 °C Grade Count:4
Injection Pressure	0.0689 - 6.89 MPa	10.0 - 1000 psi	Average value: 3.69 MPa Grade Count:35
Cushion	0.381 - 2.54 cm	0.150 - 1.00 in	Average value: 1.46 cm Grade Count:31

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