

Overview of materials for Low Density Polyethylene (LDPE), Wire/Cable Grade

Category : Polymer , Thermoplastic , Polyethylene (PE) , LDPE , Low Density Polyethylene (LDPE), Wire/Cable Grade

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Low Density Polyethylene (LDPE), Wire/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-Low-Density-Polyethylene-LDPE-WireCable-Grade.php

Physical Properties	Metric	English	Comments
Density	0.917 - 2.00 g/cc	0.0331 - 0.0723 lb/in ³	Average value: 0.988 g/cc Grade Count:76
Water Absorption	0.0100 %	0.0100 %	Average value: 0.0100 % Grade Count:8
Moisture Absorption at Equilibrium	0.0100 %	0.0100 %	Average value: 0.0100 % Grade Count:8
Environmental Stress Crack Resistance	1.00 - 1000 hour	1.00 - 1000 hour	Average value: 211 hour Grade Count:39
	>= 96.0 hour @Temperature 50.0 - 50.0 °C	>= 96.0 hour @Temperature 122 - 122 °F	Average value: 1150 hour Grade Count:4
Melt Flow	0.200 - 12.0 g/10 min	0.200 - 12.0 g/10 min	Average value: 1.39 g/10 min Grade Count:75

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	44.0 - 53.0	44.0 - 53.0	Average value: 47.7 Grade Count:17
Tensile Strength, Ultimate	9.00 - 25.0 MPa	1310 - 3630 psi	Average value: 13.0 MPa Grade Count:20
Tensile Strength, Yield	8.34 - 20.7 MPa	1210 - 3000 psi	Average value: 12.3 MPa Grade Count:53
Elongation at Break	50.0 - 900 %	50.0 - 900 %	Average value: 371 % Grade Count:72
Elongation at Yield	13.5 - 50.0 %	13.5 - 50.0 %	Average value: 30.0 % Grade Count:14
Modulus of Elasticity	0.200 - 0.300 GPa	29.0 - 43.5 ksi	Average value: 0.220 GPa Grade Count:7
Flexural Modulus	0.125 - 0.300 GPa	18.1 - 43.5 ksi	Average value: 0.208 GPa Grade Count:7
Secant Modulus	0.193 - 1.20 GPa	28.0 - 174 ksi	Average value: 0.545 GPa Grade Count:3

Tear Strength Test Mechanical Properties	13.7 - 115 Metric	13.7 - 115 English	Average value: 25.0 Grade Count:9 Comments
Tensile Set	5.00 - 360 %	5.00 - 360 %	Average value: 24.7 % Grade Count:17

Thermal Properties	Metric	English	Comments
CTE, linear	180 - 230 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	100 - 128 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	Average value: 218 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ Grade Count:8
Melting Point	104 - 200 $^{\circ}\text{C}$	219 - 392 $^{\circ}\text{F}$	Average value: 113 $^{\circ}\text{C}$ Grade Count:15
Maximum Service Temperature, Air	200 $^{\circ}\text{C}$	392 $^{\circ}\text{F}$	Average value: 200 $^{\circ}\text{C}$ Grade Count:8
Deflection Temperature at 0.46 MPa (66 psi)	41.0 - 45.0 $^{\circ}\text{C}$	106 - 113 $^{\circ}\text{F}$	Average value: 42.6 $^{\circ}\text{C}$ Grade Count:5
Vicat Softening Point	87.8 - 93.9 $^{\circ}\text{C}$	190 - 201 $^{\circ}\text{F}$	Average value: 90.3 $^{\circ}\text{C}$ Grade Count:5
Brittleness Temperature	-76.0 - -67.0 $^{\circ}\text{C}$	-105 - -88.6 $^{\circ}\text{F}$	Average value: -74.1 $^{\circ}\text{C}$ Grade Count:12
Flammability, UL94	HB - V-2	HB - V-2	Grade Count:10
Oxygen Index	17.0 - 24.8 %	17.0 - 24.8 %	Average value: 19.2 % Grade Count:7

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+6 - 1.00e+18 ohm-cm	1.00e+6 - 1.00e+18 ohm-cm	Average value: 3.44e+16 ohm-cm Grade Count:35
Surface Resistance	1.00e+14 ohm	1.00e+14 ohm	Average value: 1.00e+14 ohm Grade Count:5
Dielectric Constant	2.03 - 2.70	2.03 - 2.70	Average value: 2.35 Grade Count:74
Dielectric Strength	2.17 - 49.6 kV/mm	55.0 - 1260 kV/in	Average value: 31.3 kV/mm Grade Count:58
Dissipation Factor	0.0000100 - 0.00700	0.0000100 - 0.00700	Average value: 0.000783 Grade Count:69
Comparative Tracking Index	600 V	600 V	Average value: 600 V Grade Count:8

Processing Properties	Metric	English	Comments
Processing Temperature	80.0 - 240 $^{\circ}\text{C}$	176 - 464 $^{\circ}\text{F}$	Average value: 150 $^{\circ}\text{C}$ Grade Count:6
Die Temperature	141 - 185 $^{\circ}\text{C}$	285 - 365 $^{\circ}\text{F}$	Average value: 174 $^{\circ}\text{C}$ Grade Count:10
Melt Temperature	120 - 230 $^{\circ}\text{C}$	248 - 446 $^{\circ}\text{F}$	Average value: 162 $^{\circ}\text{C}$ Grade Count:13
Head Temperature	140 - 185 $^{\circ}\text{C}$	284 - 365 $^{\circ}\text{F}$	Average value: 174 $^{\circ}\text{C}$ Grade Count:10

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