

Overview of materials for Very Low Density Polyethylene (VLDPE)

Category : Polymer , Thermoplastic , Polyethylene (PE) , LDPE , Very Low Density Polyethylene (VLDPE)

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Very Low Density Polyethylene (VLDPE)". 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-Very-Low-Density-Polyethylene-VLDPE.php

Physical Properties	Metric	English	Comments
Density	0.887 - 0.923 g/cc	0.0320 - 0.0333 lb/in ³	Average value: 0.908 g/cc Grade Count:23
Moisture Vapor Transmission	0.0300 - 0.0714 cc-mm/m ² -24hr-atm	0.0762 - 0.181 cc-mil/100 in ² -24hr-atm	Average value: 0.0438 cc-mm/m ² -24hr-atm Grade Count:3
Thickness	8.00 - 51.0 microns	0.315 - 2.01 mil	Average value: 29.6 microns Grade Count:16
Melt Flow	0.770 - 13.0 g/10 min	0.770 - 13.0 g/10 min	Average value: 3.05 g/10 min Grade Count:23

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	26.0 - 40.0	26.0 - 40.0	Average value: 31.3 Grade Count:3
Tensile Strength, Ultimate	9.00 - 15.0 MPa	1310 - 2180 psi	Average value: 12.3 MPa Grade Count:3
Film Tensile Strength at Yield, MD	5.00 - 68.3 MPa	725 - 9910 psi	Average value: 12.5 MPa Grade Count:11
Film Tensile Strength at Yield, TD	5.00 - 66.9 MPa	725 - 9700 psi	Average value: 12.0 MPa Grade Count:11
Tensile Strength, Yield	4.00 - 8.00 MPa	580 - 1160 psi	Average value: 5.67 MPa Grade Count:3
Film Elongation at Break, MD	400 - 800 %	400 - 800 %	Average value: 548 % Grade Count:12
Film Elongation at Break, TD	590 - 1000 %	590 - 1000 %	Average value: 790 % Grade Count:11
Elongation at Break	700 - 750 %	700 - 750 %	Average value: 733 % Grade Count:3
Flexural Modulus	0.0450 - 0.115 GPa	6.53 - 16.7 ksi	Average value: 0.0733 GPa Grade Count:3
Secant Modulus, MD	0.0400 - 0.231 GPa	5.80 - 33.5 ksi	Average value: 0.103 GPa Grade Count:8
Secant Modulus, TD	0.0500 - 0.241 GPa	7.25 - 34.9 ksi	Average value: 0.113 GPa Grade Count:8

Mechanical Properties	Metric	English	Comments
Coefficient of Friction	0.140 - 1.00	0.140 - 1.00	Average value: 0.498 Grade Count:9
Elmendorf Tear Strength MD	120 - 701 g	120 - 701 g	Average value: 437 g Grade Count:12
Elmendorf Tear Strength TD	499 - 1030 g	499 - 1030 g	Average value: 674 g Grade Count:12
Elmendorf Tear Strength, MD	3.57 - 17.7 g/micron	90.6 - 450 g/mil	Average value: 12.2 g/micron Grade Count:18
Elmendorf Tear Strength, TD	8.36 - 25.6 g/micron	212 - 650 g/mil	Average value: 19.4 g/micron Grade Count:18
Dart Drop	6.00 - 33.2 g/micron	152 - 843 g/mil	Average value: 22.2 g/micron Grade Count:15
Dart Drop Test	120 - 210 g	0.265 - 0.463 lb	Average value: 177 g Grade Count:5
Film Tensile Strength at Break, MD	13.0 - 76.6 MPa	1890 - 11100 psi	Average value: 46.6 MPa Grade Count:12
Film Tensile Strength at Break, TD	20.0 - 63.6 MPa	2900 - 9230 psi	Average value: 36.9 MPa Grade Count:11

Thermal Properties	Metric	English	Comments
Melting Point	110 - 122 °C	230 - 252 °F	Average value: 115 °C Grade Count:10
Vicat Softening Point	38.0 - 95.0 °C	100 - 203 °F	Average value: 78.6 °C Grade Count:18
Brittleness Temperature	-70.0 °C	-94.0 °F	Average value: -70.0 °C Grade Count:7

Optical Properties	Metric	English	Comments
Haze	0.600 - 25.0 %	0.600 - 25.0 %	Average value: 6.03 % Grade Count:15
Gloss	25.0 - 95.0 %	25.0 - 95.0 %	Average value: 70.8 % Grade Count:11
Transmission, Visible	90.0 %	90.0 %	Average value: 90.0 % Grade Count:7

Processing Properties	Metric	English	Comments
Processing Temperature	86.0 - 274 °C	187 - 525 °F	Average value: 188 °C Grade Count:10

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