

Overview of materials for Low Density Polyethylene (LDPE), Extrusion Grade

Category : Polymer , Thermoplastic , Polyethylene (PE) , LDPE , Low Density Polyethylene (LDPE), Extrusion Grade

Material Notes:

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

Physical Properties	Metric	English	Comments
Density	0.915 - 0.939 g/cc	0.0331 - 0.0339 lb/in ³	Average value: 0.920 g/cc Grade Count:72
Moisture Vapor Transmission	0.410 - 0.410 cc-mm/m ² -24hr-atm	1.04 - 1.04 cc-mil/100 in ² -24hr-atm	Average value: 0.410 cc-mm/m ² -24hr-atm Grade Count:1
	@Temperature 37.8 - 37.8 °C	@Temperature 100 - 100 °F	
	0.410 - 0.410 cc-mm/m ² -24hr-atm	1.04 - 1.04 cc-mil/100 in ² -24hr-atm	Average value: 0.410 cc-mm/m ² -24hr-atm Grade Count:1
	@Thickness 0.0254 - 0.0254 mm	@Thickness 0.00100 - 0.00100 in	
Water Vapor Transmission	0.260 - 20.0 g/m ² /day	0.0167 - 1.29 g/100 in ² /day	Average value: 15.8 g/m ² /day Grade Count:10
Environmental Stress Crack Resistance	18.0 - 10000 hour	18.0 - 10000 hour	Average value: 2760 hour Grade Count:4
Oxidative Induction Time (OIT)	>= 40.0 min	>= 40.0 min	Average value: 40.0 min Grade Count:1
	@Temperature 200 - 200 °C	@Temperature 392 - 392 °F	
Thickness	25.0 - 150 microns	0.984 - 5.91 mil	Average value: 54.3 microns Grade Count:24
Melt Flow	0.180 - 16.0 g/10 min	0.180 - 16.0 g/10 min	Average value: 5.81 g/10 min Grade Count:58
Base Resin Melt Index	0.330 - 7.00 g/10 min	0.330 - 7.00 g/10 min	Average value: 2.98 g/10 min Grade Count:14

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	42.0 - 57.0	42.0 - 57.0	Average value: 48.6 Grade Count:21
Tensile Strength, Ultimate	9.00 - 18.0 MPa	1310 - 2610 psi	Average value: 11.4 MPa Grade Count:28
			Average value: 9.81 MPa Grade

Tensile Strength, Yield Mechanical Properties	7.60 - 12.0 MPa Metric	1100 - 1740 psi English	Count:21 Comments
Film Elongation at Break, MD	190 - 490 %	190 - 490 %	Average value: 297 % Grade Count:31
Film Elongation at Break, TD	220 - 900 %	220 - 900 %	Average value: 519 % Grade Count:31
Elongation at Break	226 - 650 %	226 - 650 %	Average value: 533 % Grade Count:28
Modulus of Elasticity	0.152 - 0.290 GPa	22.0 - 42.1 ksi	Average value: 0.204 GPa Grade Count:9
Flexural Modulus	0.0700 - 0.276 GPa	10.2 - 40.0 ksi	Average value: 0.199 GPa Grade Count:13
Secant Modulus, MD	0.0830 - 1.28 GPa	12.0 - 185 ksi	Average value: 0.232 GPa Grade Count:19
Secant Modulus, TD	0.124 - 1.18 GPa	18.0 - 171 ksi	Average value: 0.254 GPa Grade Count:19
Elmendorf Tear Strength MD	250 - 600 g	250 - 600 g	Average value: 465 g Grade Count:10
Elmendorf Tear Strength TD	55.0 - 500 g	55.0 - 500 g	Average value: 284 g Grade Count:12
Elmendorf Tear Strength, MD	2.50 - 12.0 g/micron	63.5 - 305 g/mil	Average value: 8.19 g/micron Grade Count:21
Elmendorf Tear Strength, TD	2.20 - 7.00 g/micron	55.9 - 178 g/mil	Average value: 4.71 g/micron Grade Count:22
Dart Drop	2.00 - 11.0 g/micron	50.8 - 279 g/mil	Average value: 3.48 g/micron Grade Count:24
Dart Drop Test	64.0 - 650 g	0.141 - 1.43 lb	Average value: 212 g Grade Count:13
Hot Tack Strength	225 g/25 mm	225 g/in	Average value: 225 g/25 mm Grade Count:3
Film Tensile Strength at Break, MD	11.0 - 78.5 MPa	1600 - 11400 psi	Average value: 23.6 MPa Grade Count:31
Film Tensile Strength at Break, TD	10.0 - 53.9 MPa	1450 - 7820 psi	Average value: 18.9 MPa Grade Count:31
Heat Seal Strength	1400 g/25 mm	3.09 lb/in	Average value: 1400 g/25 mm Grade Count:3

Thermal Properties	Metric	English	Comments
Melting Point	104 - 113 °C	219 - 235 °F	Average value: 108 °C Grade Count:11
Vicat Softening Point	84.0 - 128 °C	183 - 262 °F	Average value: 91.9 °C Grade Count:44
Brittleness Temperature	-76.0 - -60.0 °C	-105 - -76.0 °F	Average value: -72.0 °C Grade Count:4

Optical Properties	Metric	English	Comments
Haze	5.00 - 17.0 %	5.00 - 17.0 %	Average value: 7.90 % Grade Count:21

Optical Properties	Metric	English	Comments
Gloss	10.0 - 78.0 %	10.0 - 78.0 %	Average value: 59.2 % Grade Count:13

Electrical Properties	Metric	English	Comments
Dielectric Constant	2.27 - 2.29	2.27 - 2.29	Average value: 2.28 Grade Count:3
Dissipation Factor	0.0000400 - 0.000100	0.0000400 - 0.000100	Average value: 0.0000640 Grade Count:3

Processing Properties	Metric	English	Comments
Processing Temperature	200 - 340 °C	392 - 644 °F	Average value: 275 °C Grade Count:3
Adapter Temperature	204 - 221 °C	400 - 430 °F	Average value: 214 °C Grade Count:3
Die Temperature	204 - 221 °C	400 - 430 °F	Average value: 214 °C Grade Count:3
Melt Temperature	149 - 327 °C	300 - 620 °F	Average value: 214 °C Grade Count:42

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