

Overview of materials for Linear Low Density Polyethylene (LLDPE), Film Grade

Category : Polymer , Film , Thermoplastic , Polyethylene (PE) , LLDPE , Linear Low Density Polyethylene (LLDPE), Film Grade

Material Notes:

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

Physical Properties	Metric	English	Comments
Density	0.900 - 1.04 g/cc	0.0325 - 0.0376 lb/in ³	Average value: 0.920 g/cc Grade Count:278
Moisture Vapor Transmission	0.240 - 0.470 cc-mm/m ² -24hr-atm	0.610 - 1.19 cc-mil/100 in ² -24hr-atm	Average value: 0.410 cc-mm/m ² -24hr-atm Grade Count:21
Water Vapor Transmission	4.70 - 30.0 g/m ² /day	0.303 - 1.93 g/100 in ² /day	Average value: 9.30 g/m ² /day Grade Count:24
	9.30 - 9.30 g/m ² /day @Temperature 38.0 - 38.0 °C	0.599 - 0.599 g/100 in ² /day @Temperature 100 - 100 °F	Average value: 9.30 g/m ² /day Grade Count:1
Oxygen Transmission	0.720 - 236 cc-mm/m ² -24hr-atm	1.83 - 599 cc-mil/100 in ² -24hr-atm	Average value: 205 cc-mm/m ² -24hr-atm Grade Count:20
Oxygen Transmission Rate	3500 - 5000 cc/m ² /day	225 - 322 cc/100 in ² /day	Average value: 4500 cc/m ² /day Grade Count:3
Viscosity	37000 - 79000 cP @Temperature 190 - 190 °C	37000 - 79000 cP @Temperature 374 - 374 °F	Average value: 60000 cP Grade Count:1
	37000 - 79000 cP @Shear Rate 300 - 5000 1/s	37000 - 79000 cP @Shear Rate 300 - 5000 1/s	Average value: 60000 cP Grade Count:1
Environmental Stress Crack Resistance	>= 1000 hour @Temperature 50.0 - 50.0 °C	>= 1000 hour @Temperature 122 - 122 °F	Average value: 1000 hour Grade Count:5
Thickness	8.00 - 76.2 microns	0.315 - 3.00 mil	Average value: 31.0 microns Grade Count:152
Melt Flow	0.200 - 123 g/10 min	0.200 - 123 g/10 min	Average value: 3.51 g/10 min Grade Count:241
Base Resin Melt Index	0.700 - 3.50 g/10 min	0.700 - 3.50 g/10 min	Average value: 1.71 g/10 min Grade Count:16

Physical Properties	Metric	English	Comments
Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	9.80 - 37.3 MPa	1420 - 5410 psi	Average value: 23.1 MPa Grade Count:25
Film Tensile Strength at Yield, MD	5.00 - 44.0 MPa	725 - 6380 psi	Average value: 11.0 MPa Grade Count:120
Film Tensile Strength at Yield, TD	5.00 - 46.0 MPa	725 - 6670 psi	Average value: 10.9 MPa Grade Count:120
Tensile Strength, Yield	9.00 - 22.1 MPa	1310 - 3210 psi	Average value: 12.5 MPa Grade Count:34
Film Elongation at Break, MD	80.0 - 1400 %	80.0 - 1400 %	Average value: 649 % Grade Count:251
Film Elongation at Break, TD	460 - 1650 %	460 - 1650 %	Average value: 836 % Grade Count:231
Film Elongation at Yield, MD	435 - 550 %	435 - 550 %	Average value: 491 % Grade Count:5
Film Elongation at Yield, TD	670 - 780 %	670 - 780 %	Average value: 737 % Grade Count:5
Elongation at Break	8.00 - 1000 %	8.00 - 1000 %	Average value: 762 % Grade Count:35
Modulus of Elasticity	0.0110 - 0.413 GPa	1.60 - 59.9 ksi	Average value: 0.179 GPa Grade Count:28
Secant Modulus	0.115 - 0.230 GPa	16.7 - 33.4 ksi	Average value: 0.167 GPa Grade Count:5
Secant Modulus, MD	0.0103 - 0.717 GPa	1.49 - 104 ksi	Average value: 0.196 GPa Grade Count:194
Secant Modulus, TD	0.00145 - 0.869 GPa	0.210 - 126 ksi	Average value: 0.222 GPa Grade Count:194
Izod Impact, Notched (ISO)	56.0 - 56.0 kJ/m ² @Temperature -50.0 - -50.0 °C	26.6 - 26.6 ft-lb/in ² @Temperature -58.0 - -58.0 °F	Average value: 56.0 kJ/m ² Grade Count:1
Puncture Energy	0.452 - 10.5 J	0.333 - 7.74 ft-lb	Average value: 2.62 J Grade Count:42
Coefficient of Friction	0.100 - 2.00	0.100 - 2.00	Average value: 0.546 Grade Count:66
Coefficient of Friction, Static	0.170 - 1.00	0.170 - 1.00	Average value: 0.714 Grade Count:5
Tear Strength Test	16.0 - 22.0	16.0 - 22.0	Average value: 20.0 Grade Count:6
Elmendorf Tear Strength MD	12.0 - 1080 g	12.0 - 1080 g	Average value: 237 g Grade Count:115
Elmendorf Tear Strength TD	25.0 - 1470 g	25.0 - 1470 g	Average value: 504 g Grade Count:117
Elmendorf Tear Strength, MD	0.0750 - 35.0 g/micron	1.91 - 889 g/mil	Average value: 10.1 g/micron Grade Count:175

Mechanical Properties	Metric	English	Comments
Dart Drop Total Energy	570 - 890 J/cm	1.07 - 1.67 ft-lb/mil	Average value: 656 J/cm Grade Count:7
Dart Drop	1.57 - 59.1 g/micron	40.0 - 1500 g/mil	Average value: 9.18 g/micron Grade Count:164
Dart Drop Test	30.0 - 1350 g	0.0662 - 2.98 lb	Average value: 250 g Grade Count:164
Seal Strength	1800 - 2400 g/25 mm	1800 - 2400 g/in	Average value: 2070 g/25 mm Grade Count:12
Film Tensile Strength at Break, MD	0.0283 - 82.7 MPa	4.10 - 12000 psi	Average value: 44.0 MPa Grade Count:264
Film Tensile Strength at Break, TD	0.0248 - 55.1 MPa	3.60 - 7990 psi	Average value: 33.1 MPa Grade Count:244
Heat Seal Strength Initiation Temperature	95.0 - 180 °C	203 - 356 °F	Average value: 105 °C Grade Count:10

Thermal Properties	Metric	English	Comments
Melting Point	116 - 130 °C	241 - 266 °F	Average value: 123 °C Grade Count:57
Crystallization Temperature	104 - 115 °C	219 - 239 °F	Average value: 110 °C Grade Count:7
Vicat Softening Point	65.0 - 123 °C	149 - 253 °F	Average value: 101 °C Grade Count:63
Brittleness Temperature	-70.0 °C	-94.0 °F	Average value: -70.0 °C Grade Count:9

Optical Properties	Metric	English	Comments
Haze	0.700 - 80.0 %	0.700 - 80.0 %	Average value: 12.8 % Grade Count:233
Gloss	3.20 - 155 %	3.20 - 155 %	Average value: 66.5 % Grade Count:234
Transmission, Visible	2.00 - 90.0 %	2.00 - 90.0 %	Average value: 75.5 % Grade Count:6

Processing Properties	Metric	English	Comments
Processing Temperature	90.0 - 460 °C	194 - 860 °F	Average value: 222 °C Grade Count:33
Melt Temperature	149 - 310 °C	300 - 590 °F	Average value: 221 °C Grade Count:81
Die Opening	0.0810 - 0.254 cm	0.0319 - 0.100 in	Average value: 0.172 cm Grade Count:13
	0.180 - 0.250 cm @Temperature 200 - 220 °C	0.0709 - 0.0984 in @Temperature 392 - 428 °F	Average value: 0.215 cm Grade Count:1

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China