

## Overview of materials for Linear Medium Density Polyethylene (LMDPE), Film

Category : Polymer , Film , Thermoplastic , Polyethylene (PE) , MDPE , Linear Medium Density Polyethylene (LMDPE), Film

### Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Linear Medium Density Polyethylene (LMDPE), Film". 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-Medium-Density-Polyethylene-LMDPE-Film.php](http://www.lookpolymers.com/polymer_Overview-of-materials-for-Linear-Medium-Density-Polyethylene-LMDPE-Film.php)

Physical Properties	Metric	English	Comments
Density	0.929 - 0.938 g/cc	0.0336 - 0.0339 lb/in <sup>3</sup>	Average value: 0.934 g/cc Grade Count:21
Moisture Vapor Transmission	0.230 - 0.350 cc-mm/m <sup>2</sup> -24hr-atm	0.584 - 0.889 cc-mil/100 in <sup>2</sup> -24hr-atm	Average value: 0.273 cc-mm/m <sup>2</sup> -24hr-atm Grade Count:6
Water Vapor Transmission	5.10 - 14.0 g/m <sup>2</sup> /day	0.328 - 0.902 g/100 in <sup>2</sup> /day	Average value: 7.49 g/m <sup>2</sup> /day Grade Count:6
Oxygen Transmission	78.0 - 133 cc-mm/m <sup>2</sup> -24hr-atm	198 - 338 cc-mil/100 in <sup>2</sup> -24hr-atm	Average value: 122 cc-mm/m <sup>2</sup> -24hr-atm Grade Count:5
Thickness	8.00 - 75.0 microns	0.315 - 2.95 mil	Average value: 31.5 microns Grade Count:8
Melt Flow	0.270 - 4.80 g/10 min	0.270 - 4.80 g/10 min	Average value: 2.15 g/10 min Grade Count:17

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	58.0 - 65.0	58.0 - 65.0	Average value: 60.2 Grade Count:6
Film Tensile Strength at Yield, MD	15.0 - 17.0 MPa	2180 - 2470 psi	Average value: 15.9 MPa Grade Count:16
Film Tensile Strength at Yield, TD	15.0 - 18.0 MPa	2180 - 2610 psi	Average value: 16.9 MPa Grade Count:16
Film Elongation at Break, MD	500 - 850 %	500 - 850 %	Average value: 663 % Grade Count:20
Film Elongation at Break, TD	750 - 1100 %	750 - 1100 %	Average value: 928 % Grade Count:16
Modulus of Elasticity	0.370 GPa	53.7 ksi	Average value: 0.370 GPa Grade Count:4
Secant Modulus, MD	0.280 - 0.450 GPa	40.6 - 65.3 ksi	Average value: 0.359 GPa Grade Count:15
Secant Modulus, TD	0.310 - 0.520 GPa	45.0 - 75.4 ksi	Average value: 0.417 GPa Grade Count:15
Coefficient of Friction	0.240 - 1.00	0.240 - 1.00	Average value: 0.523 Grade Count:14

Mechanical Properties	Metric	English	Comments
Elmendorf Tear Strength, MD	0.015 - 4.00 g/micron	20.7 - 102 g/mil	Average value: 2.02 g/micron Grade Count:16
Elmendorf Tear Strength, TD	3.42 - 20.4 g/micron	86.9 - 518 g/mil	Average value: 11.2 g/micron Grade Count:16
Dart Drop	1.00 - 4.00 g/micron	25.4 - 102 g/mil	Average value: 1.96 g/micron Grade Count:9
Dart Drop Test	40.0 - 100 g	0.0882 - 0.221 lb	Average value: 71.1 g Grade Count:9
Seal Strength	1200 - 1400 g/25 mm	1200 - 1400 g/in	Average value: 1300 g/25 mm Grade Count:4
Film Tensile Strength at Break, MD	34.0 - 50.0 MPa	4930 - 7250 psi	Average value: 40.4 MPa Grade Count:20
Film Tensile Strength at Break, TD	25.0 - 44.0 MPa	3630 - 6380 psi	Average value: 34.7 MPa Grade Count:16

Thermal Properties	Metric	English	Comments
Melting Point	124 - 128 °C	255 - 262 °F	Average value: 127 °C Grade Count:5
Vicat Softening Point	111 - 123 °C	232 - 253 °F	Average value: 117 °C Grade Count:12
Brittleness Temperature	-75.0 - -70.0 °C	-103 - -94.0 °F	Average value: -70.6 °C Grade Count:9

Optical Properties	Metric	English	Comments
Haze	3.00 - 20.0 %	3.00 - 20.0 %	Average value: 8.86 % Grade Count:18
Gloss	48.0 - 88.0 %	48.0 - 88.0 %	Average value: 72.8 % Grade Count:18
Transmission, Visible	90.0 %	90.0 %	Average value: 90.0 % Grade Count:4

Processing Properties	Metric	English	Comments
Melt Temperature	210 - 290 °C	410 - 554 °F	Average value: 234 °C Grade Count:9

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