

Overview of materials for Medium Density Polyethylene (MDPE), Molded

Category : Polymer , Thermoplastic , Polyethylene (PE) , MDPE , Medium Density Polyethylene (MDPE), Molded

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Medium Density Polyethylene (MDPE), Molded". 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-Medium-Density-Polyethylene-MDPE-Molded.php

Physical Properties	Metric	English	Comments
Density	0.928 - 0.950 g/cc	0.0335 - 0.0343 lb/in ³	Average value: 0.938 g/cc Grade Count:30
Water Absorption	0.0100 %	0.0100 %	Average value: 0.0100 % Grade Count:4
Environmental Stress Crack Resistance	30.0 - 5000 hour	30.0 - 5000 hour	Average value: 1220 hour Grade Count:6
	110 - 220 hour @Temperature 30.0 - 50.0 °C	110 - 220 hour @Temperature 86.0 - 122 °F	Average value: 984 hour Grade Count:12
Melt Flow	0.0900 - 85.0 g/10 min	0.0900 - 85.0 g/10 min	Average value: 10.6 g/10 min Grade Count:30

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	59.0 - 63.0	59.0 - 63.0	Average value: 61.4 Grade Count:9
Tensile Strength, Ultimate	9.20 - 33.0 MPa	1330 - 4790 psi	Average value: 18.9 MPa Grade Count:13
Tensile Strength, Yield	14.0 - 22.8 MPa	2030 - 3300 psi	Average value: 18.9 MPa Grade Count:18
Elongation at Break	16.0 - 1210 %	16.0 - 1210 %	Average value: 463 % Grade Count:18
Elongation at Yield	8.00 - 13.0 %	8.00 - 13.0 %	Average value: 10.2 % Grade Count:6
Modulus of Elasticity	0.350 - 0.840 GPa	50.8 - 122 ksi	Average value: 0.648 GPa Grade Count:7
Flexural Modulus	0.480 - 0.970 GPa	69.6 - 141 ksi	Average value: 0.767 GPa Grade Count:21
Izod Impact, Notched	1.44 - 5.60 J/cm	2.70 - 10.5 ft-lb/in	Average value: 3.77 J/cm Grade Count:3
Charpy Impact, Notched	0.800 - 0.800 J/cm ² @Temperature -30.0 - -	3.81 - 3.81 ft-lb/in ² @Temperature -22.0 - -	Average value: 0.800 J/cm ² Grade Count:1

Mechanical Properties	30.0 °C Metric	22.0 °F English	Comments
Tensile Impact Strength	130 - 353 kJ/m ²	61.9 - 168 ft-lb/in ²	Average value: 221 kJ/m ² Grade Count:4

Thermal Properties	Metric	English	Comments
CTE, linear	90.0 - 500 µm/m-°C @Temperature -20.0 - 100 °C	50.0 - 278 µin/in-°F @Temperature -4.00 - 212 °F	Average value: 295 µm/m-°C Grade Count:1
Melting Point	117 - 131 °C	243 - 268 °F	Average value: 126 °C Grade Count:5
Deflection Temperature at 0.46 MPa (66 psi)	47.0 - 77.8 °C	117 - 172 °F	Average value: 54.8 °C Grade Count:14
Deflection Temperature at 1.8 MPa (264 psi)	37.3 - 41.0 °C	99.1 - 106 °F	Average value: 38.4 °C Grade Count:12
Vicat Softening Point	62.0 - 124 °C	144 - 255 °F	Average value: 104 °C Grade Count:14
Brittleness Temperature	-118 - -70.0 °C	-180 - -94.0 °F	Average value: -90.6 °C Grade Count:5
Flammability, UL94	HB	HB	Grade Count:3

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	Average value: 1.00e+15 ohm-cm Grade Count:3

Processing Properties	Metric	English	Comments
Processing Temperature	160 - 220 °C	320 - 428 °F	Average value: 198 °C Grade Count:5
Melt Temperature	170 - 315 °C	338 - 599 °F	Average value: 231 °C Grade Count:7

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