

Overview of materials for High Density Polyethylene (HDPE), Blow Molding Grade

Category : Polymer , Thermoplastic , Polyethylene (PE) , HDPE , High Density Polyethylene (HDPE), Blow Molding Grade

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "High Density Polyethylene (HDPE), Blow Molding 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-High-Density-Polyethylene-HDPE-Blow-Molding-Grade.php

Physical Properties	Metric	English	Comments
Density	0.938 - 1.01 g/cc	0.0339 - 0.0365 lb/in ³	Average value: 0.954 g/cc Grade Count:266
Apparent Bulk Density	0.590 g/cc	0.0213 lb/in ³	Average value: 0.590 g/cc Grade Count:14
Water Absorption	0.0100 %	0.0100 %	Average value: 0.0100 % Grade Count:6
Moisture Absorption at Equilibrium	0.0100 - 0.0500 %	0.0100 - 0.0500 %	Average value: 0.0167 % Grade Count:6
Environmental Stress Crack Resistance	3.00 - 5000 hour	3.00 - 5000 hour	Average value: 333 hour Grade Count:168
	15.0 - 1000 hour	15.0 - 1000 hour	Average value: 240 hour Grade Count:20
	@Temperature 50.0 - 60.0 °C	@Temperature 122 - 140 °F	
	13.0 - 530 hour	13.0 - 530 hour	Average value: 240 hour Grade Count:15
	@Temperature 40.0 - 50.0 °C	@Temperature 104 - 122 °F	
	13.0 - 530 hour	13.0 - 530 hour	Average value: 240 hour Grade Count:15
	@Thickness 1.90 - 2.00 mm	@Thickness 0.0748 - 0.0787 in	
Thermal Stress Crack Resistance	250 hour	250 hour	Average value: 250 hour Grade Count:4
Linear Mold Shrinkage	0.0150 - 0.0500 cm/cm	0.0150 - 0.0500 in/in	Average value: 0.0219 cm/cm Grade Count:4
Melt Flow	0.0100 - 55.0 g/10 min	0.0100 - 55.0 g/10 min	Average value: 5.89 g/10 min Grade Count:267
Ash	0.0300 - 0.0600 %	0.0300 - 0.0600 %	Average value: 0.0467 % Grade Count:3

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	57.0 - 73.0	57.0 - 73.0	Average value: 65.0 Grade Count:102
Tensile Strength, Ultimate	11.7 - 44.0 MPa	1700 - 6380 psi	Average value: 30.1 MPa Grade Count:80
Tensile Strength, Yield	15.2 - 42.1 MPa	2200 - 6100 psi	Average value: 27.4 MPa Grade Count:231
Elongation at Break	7.00 - 2000 %	7.00 - 2000 %	Average value: 650 % Grade Count:197
Elongation at Yield	6.00 - 600 %	6.00 - 600 %	Average value: 19.9 % Grade Count:53
Modulus of Elasticity	0.650 - 2.07 GPa	94.3 - 300 ksi	Average value: 1.26 GPa Grade Count:23
Flexural Yield Strength	25.0 - 28.0 MPa	3630 - 4060 psi	Average value: 26.8 MPa Grade Count:4
Flexural Modulus	0.586 - 2.62 GPa	85.0 - 380 ksi	Average value: 1.24 GPa Grade Count:214
Secant Modulus	1.00 - 1.36 GPa	145 - 197 ksi	Average value: 1.11 GPa Grade Count:6
Izod Impact, Notched	0.250 - 5340 J/cm	0.468 - 10000 ft-lb/in	Average value: 3.49 J/cm Grade Count:74
Charpy Impact, Notched	0.400 J/cm ² - NB	1.90 ft-lb/in ² - NB	Average value: 2.08 J/cm ² Grade Count:18
	2.00 - 5.50 J/cm ² @Temperature -30.0 - -30.0 °C	9.52 - 26.2 ft-lb/in ² @Temperature -22.0 - -22.0 °F	Average value: 3.50 J/cm ² Grade Count:5
Tensile Impact Strength	50.0 - 4800 kJ/m ²	23.8 - 2280 ft-lb/in ²	Average value: 276 kJ/m ² Grade Count:65
	100 - 399 kJ/m ² @Temperature -40.0 - -30.0 °C	47.6 - 190 ft-lb/in ² @Temperature -40.0 - -22.0 °F	Average value: 201 kJ/m ² Grade Count:6
Tensile Impact	53.4 - 131 J/cm	100 - 245 ft-lb/in	Average value: 79.7 J/cm Grade Count:17
Tensile Creep Modulus, 1 hour	360 - 510 MPa	52200 - 74000 psi	Average value: 413 MPa Grade Count:6
Tensile Creep Modulus, 1000 hours	250 - 340 MPa	36300 - 49300 psi	Average value: 282 MPa Grade Count:6
Tear Strength Test	23.5 - 30.0	23.5 - 30.0	Average value: 28.4 Grade Count:4
Thermal Properties	Metric	English	Comments
CTE, linear	18.0 - 180 μm/m-°C	10.0 - 100 μin/in-°F	Average value: 124 μm/m-°C Grade Count:18

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	48.0 - 99.0 °C	118 - 210 °F	Average value: 74.1 °C Grade Count:88
Deflection Temperature at 1.8 MPa (264 psi)	42.0 - 46.0 °C	108 - 115 °F	Average value: 43.7 °C Grade Count:6
Vicat Softening Point	62.0 - 131 °C	144 - 268 °F	Average value: 123 °C Grade Count:132
Softening Point	70.0 - 80.0 °C	158 - 176 °F	Average value: 76.8 °C Grade Count:4
Heat Distortion Temperature	38.0 - 75.0 °C	100 - 167 °F	Average value: 58.2 °C Grade Count:3
Brittleness Temperature	-118 - 82.2 °C	-180 - 180 °F	Average value: -82.3 °C Grade Count:137
Flammability, UL94	HB - V-2	HB - V-2	Grade Count:7
Oxygen Index	17.0 %	17.0 %	Average value: 17.0 % Grade Count:6

Electrical Properties	Metric	English	Comments
Electrical Resistivity	10000 - 1.00e+15 ohm-cm	10000 - 1.00e+15 ohm-cm	Average value: 8.57e+14 ohm-cm Grade Count:7
Surface Resistance	10000 - 1.00e+14 ohm	10000 - 1.00e+14 ohm	Average value: 8.57e+13 ohm Grade Count:7
Dielectric Constant	2.40	2.40	Average value: 2.40 Grade Count:6
Dielectric Strength	150 kV/mm	3810 kV/in	Average value: 150 kV/mm Grade Count:6
Dissipation Factor	0.000200	0.000200	Average value: 0.000200 Grade Count:6
Comparative Tracking Index	600 V	600 V	Average value: 600 V Grade Count:6

Processing Properties	Metric	English	Comments
Processing Temperature	171 - 240 °C	340 - 464 °F	Average value: 196 °C Grade Count:22
Die Temperature	175 - 204 °C	347 - 399 °F	Average value: 187 °C Grade Count:7
Melt Temperature	130 - 280 °C	266 - 536 °F	Average value: 193 °C Grade Count:55
Head Temperature	185 - 204 °C	365 - 399 °F	Average value: 194 °C Grade Count:3

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