

GEHR Plastics PE-HD Polyethylene HDPE

Category : Polymer , Thermoplastic , Polyethylene (PE) , HDPE

Material Notes:

Polyethylene has a good chemical resistance against almost all acids and bases, detergents and hot water. PE has good insulation properties and is easy to weld. The operating temperature is from -50°C to 90°C. Properties: low density, high toughness, high elongation, very good electrical and dielectric properties, very low water absorption, low steam permeability, high chemical resistance, good protection against stress cracking, food safe, soft surface, HF welding not recommended, natural color is not weather resistance. Applications: Transport containers, pumps and valve parts, parts used in tank construction, components with medical applications, gaskets, sliding profiles, components for the food industry.

Order this product through the following link:

http://www.lookpolymers.com/polymer_GEHR-Plastics-PE-HD-Polyethylene-HDPE.php

Physical Properties	Metric	English	Comments
Specific Gravity	0.950 g/cc	0.950 g/cc	ISO 1183
Water Absorption	0.010 %	0.010 %	ISO 62

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	64	64	DIN 53505
Tensile Strength at Break	35.0 MPa	5080 psi	ISO 527
Tensile Strength, Yield	27.0 MPa	3920 psi	ISO 527
Elongation at Break	>= 700 %	>= 700 %	ISO 527
Elongation at Yield	9.0 %	9.0 %	ISO 527
Modulus of Elasticity	1.15 GPa	167 ksi	ISO 527
Flexural Strength	22.0 MPa	3190 psi	3.5%; ISO 178
Charpy Impact Unnotched	NB	NB	ISO 179
Charpy Impact, Notched	2.90 J/cm ²	13.8 ft-lb/in ²	ISO 179
Coefficient of Friction	0.30	0.30	DIN 53375

Thermal Properties	Metric	English	Comments
CTE, linear	150 µm/m-°C @Temperature 20.0 °C	83.3 µin/in-°F @Temperature 68.0 °F	DIN 53752
Thermal Conductivity	0.420 W/m-K	2.91 BTU-in/hr-ft ² -°F	DIN 52612

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	69.0 Â°C	156 Â°F	ISO 75
Vicat Softening Point	80.0 Â°C	176 Â°F	VST/B/50; ISO 306
	129 Â°C	264 Â°F	VST/A/50; ISO 306
Minimum Service Temperature, Air	-50.0 Â°C	-58.0 Â°F	
Flammability, UL94	HB	HB	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.0e+15 ohm-cm	1.0e+15 ohm-cm	VDE 0303
Surface Resistivity per Square	1.0e+16 ohm	1.0e+16 ohm	
Dielectric Constant	2.35	2.35	DIN 53483
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	17.0 kV/mm	432 kV/in	VDE 0303
Dielectric Loss Index	3.1	3.1	DIN 53483
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Descriptive Properties	Value	Comments
Acid Resistance	yes	
Aromatic Resistance	limited	
Bondability	yes	
Chemical Resistance	DIN 8075	
CKW Resistance	no	
Color	Natural	
Hydrocarbonate Resistance	yes	
Hydroxide Resistance	yes	
Ketone Resistance	limited	
Physiological indifference according	yes	
Resistance Against Hot Water	limited	

UV Stabilization
Descriptive Properties

limited
Value

Comments

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