

GEHR Plastics ECTFE Polyethylene Chlorotrifluoroethylene

Category : Polymer , Thermoplastic , Fluoropolymer , ETFE/ECTFE , ECTFE Fluoropolymer

Material Notes:

Ethylene-Chlorotrifluoroethylene exhibits an extraordinary impact strength at temperatures ranging from -76°C to 150°C. A great part of the product properties attributes to the very smooth surface and differentiates HALAR® from other fluoropolymers. Due to the fact that ECTFE is very pure, this material is being used to process chemicals and ultrapure water for the semiconductor industry. Also, the permeation resistance to oxygen, carbon dioxide, chlorine gas and hydrochloric acid is 10 to 100 times better than PTFE. Properties extremely high impact strength good insulation properties very good weather resistance high resistance to radiation very high chemical resistance very good sliding properties physiologically harmless high density non-consistent against hot amines Applications includes parts which come in contact with aggressive materials, lining of tanks, pumps, flanges, fittings, parts in centrifuges and control engineering industry.

Order this product through the following link:

http://www.lookpolymers.com/polymer_GEHR-Plastics-ECTFE-Polyethylene-Chlorotrifluoroethylene.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.68 g/cc	1.68 g/cc	ISO 1183
Water Absorption	<= 0.010 %	<= 0.010 %	ISO 62

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	90	90	
Hardness, Shore D	85	85	DIN 53505
Tensile Strength at Break	54.0 MPa	7830 psi	ISO 527
Tensile Strength, Yield	30.0 MPa	4350 psi	ISO 527
Elongation at Break	250 %	250 %	ISO 527
Modulus of Elasticity	1.69 GPa	245 ksi	ISO 527
Flexural Strength	49.0 MPa	7110 psi	3.5%; ISO 178
Charpy Impact Unnotched	NB	NB	ISO 179
Charpy Impact, Notched	NB	NB	ISO 179
Coefficient of Friction	0.30	0.30	DIN 53375

Thermal Properties	Metric	English	Comments
CTE, linear	80.0 Åµm/m-Å°C	44.4 Åµin/in-Å°F	DIN 53752
	@Temperature 20.0 Å°C	@Temperature 68.0 Å°F	

Thermal Properties	Metric	English	Comments
Thermal Conductivity	0.150 W/m-K	U-in/hr-ft ² - °F	DIN 52612
Maximum Service Temperature, Air	150 Â°C	302 Â°F	
Deflection Temperature at 0.46 MPa (66 psi)	90.0 Â°C	194 Â°F	ISO 75
Deflection Temperature at 1.8 MPa (264 psi)	63.0 Â°C	145 Â°F	ISO 75
Minimum Service Temperature, Air	-76.0 Â°C	-105 Â°F	
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	VDE 0303
Surface Resistivity per Square	>= 1.00e+12 ohm	>= 1.00e+12 ohm	VDE 0303
Dielectric Constant	2.6	2.6	DIN 53483
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	21.0 kV/mm	533 kV/in	VDE 0303
Comparative Tracking Index	>= 600 V	>= 600 V	CTI; IEC 60112

Descriptive Properties	Value	Comments
Acid Resistance	limited	
Aromatic Resistance	yes	
Bondability	limited	
CKW Resistance	yes	
Color	Natural	
Hydrocarbonate Resistance	yes	
Hydroxide Resistance	yes	
Ketone Resistance	yes	
Physiological indifference according	yes	
Resistance Against Hot Water	yes	
UV Stabilization	yes	

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