

Inchem Phenoxy PKFE

Category : Polymer , Thermoplastic

Material Notes:

Phenoxy PKFE - polyhydroxy ether of Bisphenol A. Originally developed by Union Carbide. Produced by InChem Corporation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_inchem-Phenoxy-PKFE.php

Physical Properties	Metric	English	Comments
Density	1.18 g/cc	0.0426 lb/in ³	ASTM D792
Water Absorption	0.13 %	0.13 %	ASTM D570
Moisture Absorption at Equilibrium	1.5 %	1.5 %	
Moisture Vapor Transmission	1.38 cc-mm/m ² -24hr-atm	3.51 cc-mil/100 in ² -24hr-atm	
Oxygen Transmission	2.28 cc-mm/m ² -24hr-atm	5.79 cc-mil/100 in ² -24hr-atm	
Linear Mold Shrinkage	0.0030 - 0.0040 cm/cm	0.0030 - 0.0040 in/in	
Melt Flow	2.0 g/10 min @Load 2.16 kg, Temperature 190 °C	2.0 g/10 min @Load 4.76 lb, Temperature 374 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	123	123	
Hardness, Shore D	75	75	
Tensile Strength, Ultimate	65.5 MPa	9500 psi	
Tensile Strength, Yield	62.1 MPa	9010 psi	
Elongation at Break	90 %	90 %	
Elongation at Yield	3.5 %	3.5 %	
Modulus of Elasticity	2.62 GPa	380 ksi	
Flexural Yield Strength	96.6 MPa	14000 psi	
Flexural Modulus	2.83 GPa	410 ksi	
Compressive Yield Strength	82.8 MPa	12000 psi	
Compressive Modulus	2.24 GPa	325 ksi	

Poissons Ratio Mechanical Properties	0.38 Metric	0.38 English	Comments
Shear Modulus	0.949 GPa	138 ksi	Calculated
Izod Impact, Notched	1.31 J/cm	2.45 ft-lb/in	ASTM D256
Izod Impact, Unnotched	NB	NB	
Charpy Impact Unnotched	NB	NB	
	NB	NB	Low Temp

Thermal Properties	Metric	English	Comments
CTE, linear	57.6 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	32.0 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature -30.0 - 100 $\text{Å}^\circ\text{C}$	@Temperature -22.0 - 212 $\text{Å}^\circ\text{F}$	
Deflection Temperature at 0.46 MPa (66 psi)	91.0 $\text{Å}^\circ\text{C}$	196 $\text{Å}^\circ\text{F}$	
Deflection Temperature at 1.8 MPa (264 psi)	87.0 $\text{Å}^\circ\text{C}$	189 $\text{Å}^\circ\text{F}$	

Optical Properties	Metric	English	Comments
Refractive Index	1.60	1.60	

Electrical Properties	Metric	English	Comments
Dielectric Constant	3.8	3.8	
	4.1	4.1	
Dielectric Strength	20.5 kV/mm	521 kV/in	
Dissipation Factor	0.0012	0.0012	
	0.030	0.030	

Processing Properties	Metric	English	Comments
Processing Temperature	230 $\text{Å}^\circ\text{C}$	446 $\text{Å}^\circ\text{F}$	
Rear Barrel Temperature	190 $\text{Å}^\circ\text{C}$	374 $\text{Å}^\circ\text{F}$	
Middle Barrel Temperature	210 $\text{Å}^\circ\text{C}$	410 $\text{Å}^\circ\text{F}$	
Front Barrel Temperature	230 $\text{Å}^\circ\text{C}$	446 $\text{Å}^\circ\text{F}$	
Nozzle Temperature	230 $\text{Å}^\circ\text{C}$	446 $\text{Å}^\circ\text{F}$	
Mold Temperature	50.0 $\text{Å}^\circ\text{C}$	122 $\text{Å}^\circ\text{F}$	

Processing Properties	Metric	English	Comments
Drying Temperature	70 U A °C	70 U A °F	

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