

Westlake Plastics Polyethersulfone

Category : Polymer , Thermoplastic , Polyethersulfone (PES)

Material Notes:

High resistance to heat and combustibility, low smoke emission, and transparency are the combination of properties possessed by stock shapes extruded from PES. These, coupled with light weight, good impact resistance, dimensional stability, and chemical resistance, make stock shapes extruded from PES resin useful in the electrical/electronics, aerospace/aircraft, automotive, and mass transit industries. PES stock shapes are also applicable for heat and fire safety, food service, and hospital and health care items. Information provided by Westlake Plastics.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Westlake-Plastics-Polyethersulfone.php

Physical Properties	Metric	English	Comments
Density	1.37 g/cc	0.0495 lb/in ³	ASTM D792
Water Absorption	1.85 %	1.85 %	ASTM D570; 24 hrs.

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	127	127	ASTM D7852
Tensile Strength, Yield	82.7 MPa	12000 psi	ASTM D638
Elongation at Break	50 - 100 %	50 - 100 %	ASTM D638
Elongation at Yield	5.5 %	5.5 %	ASTM D638
Tensile Modulus	2.65 GPa	385 ksi	ASTM D638
Flexural Yield Strength	111 MPa	16100 psi	ASTM D790
Flexural Modulus	2.90 GPa	420 ksi	ASTM D790
Compressive Yield Strength	100 MPa	14500 psi	ASTM D695
Compressive Modulus	2.68 GPa	388 ksi	ASTM D695
Izod Impact, Notched	0.854 J/cm	1.60 ft-lb/in	ASTM D256
Izod Impact, Unnotched	NB	NB	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	48.6 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	27.0 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ASTM D696
	@Temperature 20.0 $^{\circ}\text{C}$	@Temperature 68.0 $^{\circ}\text{F}$	
Thermal Conductivity	0.163 W/m-K	1.13 BTU-in/hr-ft ² - $^{\circ}\text{F}$	ASTM C177

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (264 psi)	214 °C	417 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	204 °C	399 °F	ASTM D648
Flammability, UL94	V-0	V-0	
	@Thickness 0.787 mm	@Thickness 0.0310 in	
Oxygen Index	39.3 %	39.3 %	ASTM D2863

Optical Properties	Metric	English	Comments
Haze	8.0 %	8.0 %	ASTM D1746
Transmission, Visible	76 %	76 %	ASTM D1746

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.70e+15 ohm-cm	1.70e+15 ohm-cm	ASTM D257
Dielectric Constant	3.5	3.5	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	15.0 kV/mm	380 kV/in	ASTM D149
Dissipation Factor	0.0022	0.0022	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	

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