

Westlake Plastics Radel® R Polyphenylsulfone

Category : Polymer , Thermoplastic , Polyphenylsulfone (PPSU)

Material Notes:

Stock shapes extruded from Radel R resins offer a superior combination of high performance properties that include excellent thermal stability, outstanding toughness and good environmental stress cracking resistance. These properties make Radel R stock shapes attractive for a variety of demanding applications. the standard color of Radel R is off-white, but a transparent grade is available. Applications Include: Dairy connectors Automotive fuses Food service trays Aircraft interior parts Sockets and connectors Advantages of Radel R: Outstanding impact resistance Resistance to hydrolysis Transparent grade available Excellent thermal stability Combustion resistance without additives Information provided by Westlake Plastics Company.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Westlake-Plastics-Radel-R-Polyphenylsulfone.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.29 g/cc	1.29 g/cc	ASTM D792
Water Absorption	0.37 % @Time 86400 sec	0.37 % @Time 24.0 hour	ASTM D570

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	122	122	ASTM D785
Tensile Strength, Yield	69.6 MPa	10100 psi	ASTM D638
Elongation at Break	60 - 120 %	60 - 120 %	ASTM D638
Elongation at Yield	7.2 %	7.2 %	ASTM D638
Tensile Modulus	2.34 GPa	340 ksi	ASTM D638
Flexural Yield Strength	91.0 MPa	13200 psi	ASTM D790
Flexural Modulus	2.41 GPa	350 ksi	ASTM D790
Compressive Yield Strength	98.94 MPa	14350 psi	ASTM D695
Compressive Modulus	1.73 GPa	251 ksi	ASTM D695
Izod Impact, Notched	6.94 J/cm	13.0 ft-lb/in	ASTM D256
Izod Impact, Unnotched	NB	NB	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	55.8 µm/m-°C	31.0 µin/in-°F	ASTM D696
Thermal Conductivity	0.349 W/m-K	2.42 BTU-in/hr-ft²-°F	ASTM C177

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	214 °C	417 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	207 °C	405 °F	ASTM D648
Flammability, UL94	V-0 @Thickness 0.787 mm	V-0 @Thickness 0.0310 in	
Oxygen Index	38 %	38 %	ASTM D2863

Optical Properties	Metric	English	Comments
Haze	15 %	15 %	ASTM D1746
Transmission, Visible	50 %	50 %	Transparency; ASTM D1746

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00\text{e}+15$ ohm-cm	$\geq 1.00\text{e}+15$ ohm-cm	ASTM D257
Dielectric Constant	3.45 @Frequency 1000 Hz	3.45 @Frequency 1000 Hz	ASTM D150
Dielectric Strength	14.2 kV/mm	360 kV/in	ASTM D149
Dissipation Factor	0.00090 @Frequency 1000 Hz	0.00090 @Frequency 1000 Hz	ASTM D150

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