

Solvay Specialty Polymers Radel® R-5500 Polyphenylsulfone (PPSU)

Category : Polymer , Thermoplastic , Polyphenylsulfone (PPSU)

Material Notes:

Radel® R-5500 is a general purpose extrusion grade of polyphenylsulfone (PPSU), offering exceptional hydrolytic stability and better toughness than most commercially available high-temperature polymers. This resin has a high heat deflection temperature, excellent thermal stability, outstanding resistance to environmental stress cracking, good electrical properties and inherent flame retardant properties. Transparent and opaque colors are available. Features: Acid Resistant; Autoclave Sterilizable; Base Resistant; Biocompatible; E-beam Sterilizable; Ethylene Oxide Sterilizable; Flame Retardant; Good Chemical Resistance; Good Sterilizability; Good Thermal Stability; Heat Sterilizable; High ESCR (Stress Crack Resist.); High Heat Resistance; Hydrolytically Stable; Radiation (Gamma) Resistant; Radiation Sterilizable; Radiotranslucent; Steam Resistant; Steam Sterilizable; Ultra High Toughness Uses: Aerospace Applications; Aircraft Applications; Dental Applications; Food Service Applications; Hospital Goods; Medical Devices; Medical/Healthcare Applications; Membranes; Surgical Instruments Additional Properties: Steam Sterilization - > 1000 Cycles Automotive Specifications ASTM D6394 SP0311 Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Radel-R-5500-Polyphenylsulfone-PPSU.php

Physical Properties	Metric	English	Comments
Density	1.29 g/cc	0.0466 lb/in ³	ASTM D792
Water Absorption	0.37 % @Time 86400 sec	0.37 % @Time 24.0 hour	ISO 62
Water Absorption at Saturation	1.1 %	1.1 %	ASTM D570
Linear Mold Shrinkage, Flow	0.0070 cm/cm @Thickness 3.18 mm	0.0070 in/in @Thickness 0.125 in	
Melt Flow	12 - 17 g/10 min @Load 5.00 kg, Temperature 365 °C	12 - 17 g/10 min @Load 11.0 lb, Temperature 689 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Tensile Strength	69.6 MPa @Thickness 3.18 mm	10100 psi @Thickness 0.125 in	ASTM D638
Elongation at Break	60 - 120 % @Thickness 3.18 mm	60 - 120 % @Thickness 0.125 in	ASTM D638
Elongation at Yield	7.2 % @Thickness 3.18 mm	7.2 % @Thickness 0.125 in	ASTM D638
	2.34 GPa	339 ksi	

Tensile Modulus Mechanical Properties	Metric @ Thickness 3.18 mm	English @ Thickness 0.125 in	ASTM D638 Comments
Flexural Strength	91.0 MPa @Strain 5.00 %, Thickness 3.18 mm	13200 psi @Strain 5.00 %, Thickness 0.125 in	ASTM D790
Flexural Modulus	2.41 GPa @Thickness 3.18 mm	350 ksi @Thickness 0.125 in	ASTM D790
Izod Impact, Notched	6.90 J/cm @Thickness 3.18 mm	12.9 ft-lb/in @Thickness 0.125 in	ASTM D256
Tensile Impact Strength	399 kJ/mÂ² @Thickness 3.18 mm	190 ft-lb/inÂ² @Thickness 0.125 in	ASTM D1822

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	56.0 Âµm/m-Â°C @Thickness 3.18 mm	31.1 Âµin/in-Â°F @Thickness 0.125 in	
Deflection Temperature at 1.8 MPa (264 psi)	207 Â°C @Thickness 3.20 mm	405 Â°F @Thickness 0.126 in	Unannealed; ASTM D648
Glass Transition Temp, Tg	220 Â°C	428 Â°F	ASTM E1356
Flammability, UL94	V-0 @Thickness 0.762 mm	V-0 @Thickness 0.0300 in	

Optical Properties	Metric	English	Comments
Refractive Index	1.672	1.672	ASTM D542

Electrical Properties	Metric	English	Comments
Volume Resistivity	9.00e+15 ohm-cm	9.00e+15 ohm-cm	ASTM D257
Dielectric Constant	3.44 @Frequency 6.00e+7 Hz	3.44 @Frequency 6.00e+7 Hz	ASTM D150
Dielectric Strength	15.0 kV/mm @Thickness 3.18 mm	381 kV/in @Thickness 0.125 in	ASTM D149
	>= 200 kV/mm @Thickness 0.0254 mm	>= 5080 kV/in @Thickness 0.00100 in	ASTM D149

Processing Properties	Metric	English	Comments
Zone 1	338 - 388 Â°C	640 - 730 Â°F	
Zone 2	338 - 388 Â°C	640 - 730 Â°F	
Zone 3	338 - 388 Â°C	640 - 730 Â°F	
Zone 4	338 - 388 Â°C	640 - 730 Â°F	
Zone 5	338 - 388 Â°C	640 - 730 Â°F	
Adapter Temperature	327 - 371 Â°C	621 - 700 Â°F	
Melt Temperature	360 - 391 Â°C	680 - 736 Â°F	
Mold Temperature	138 - 163 Â°C	280 - 325 Â°F	
Die Cooling Temperature	327 - 371 Â°C	621 - 700 Â°F	
Drying Temperature	149 Â°C	300 Â°F	
	171 Â°C	340 Â°F	
	@Time 14400 sec	@Time 4.00 hour	

Descriptive Properties	Value	Comments
Agency Ratings	ISO 10993	
Availability	Asia Pacific	
	Europe	
	Latin America	
	North America	
Color	Black; Clear/Transparent; Colors	
Form	Pellets	
Processing Technique	Blow Molding; Extrusion; Film Extrusion	
	Injection Molding; Machining	
	Profile Extrusion; Sheet Extrusion; Thermoforming	
RoHS Compliance	RoHS Compliant	
Screw Compression Ratio	2.2:1.0	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215, Fengxian District, Shanghai City, China