Radel® R-5900

Polyphenylsulfone

Solvay Specialty Polymers

Message:

Radel® R-5900 polyphenylsufone (PPSU) offers medium melt viscosities for long flow lengths and greater injection molding ease. It also provides exceptional hydrolytic stability and toughness that is superior to that of other commercially available, high-temperature engineering resins. It offers high deflection temperature and outstanding resistance to environmental stress cracking. The resin is inherently flame retardant and has excellent thermal stability and good electrical properties.
Natural/Transparent: Radel® R-5900 NT

General Information			
UL YellowCard	E36098-100940876		
Features	Acid Resistant Base Resistant Flame Retardant Good Chemical Resistance Good Flow Good Thermal Stability High ESCR (Stress Crack Resist.) High Heat Resistance Hydrolytically Stable Steam Sterilizable Ultra High Toughness		
Uses	Appliances Consumer Applications Food Service Applications		
Agency Ratings	NSF 51 3		
RoHS Compliance	RoHS Compliant		
Appearance	Amber Clear/Transparent		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.29	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (365°C/5.0 kg)	26 to 36	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.18 mm)	0.70	%	ASTM D955
Water Absorption (24 hr)	0.37	%	ASTM D570
Mechanical	**Nominal Value**	**Unit**	**Test Method**

Tensile Modulus (3.18 mm)	2340	MPa	ASTM D638
Tensile Strength (3.18 mm)	70.3	MPa	ASTM D638
Tensile Elongation			ASTM D638
Yield, 3.18 mm	7.2	%	
Break, 3.18 mm	60 to 120	%	
Flexural Modulus (3.18 mm)	2340	MPa	ASTM D790
Flexural Strength (5.0% Strain,3.18 mm)	100	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (3.18 mm)	690	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed, 3.18 mm)	207	°C	ASTM D648
Glass Transition Temperature	220	°C	ASTM E1356
CLTE - Flow (3.18 mm)	5.6E-5	cm/cm/°C	ASTM D696
Flammability	Nominal Value		Test Method
Flame Rating (0.750 mm, ALL)	V-0		UL 94
Injection	Nominal Value	Unit	
Drying Temperature	149	°C	
Drying Time	4.0	hr	
Processing (Melt) Temp	360 to 391	°C	
Mold Temperature	138 to 163	°C	
Screw Compression Ratio	2.2:1.0		
Extrusion	Nominal Value	Unit	
Drying Temperature	171	°C	
Drying Time	4.0	hr	

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