Radel® R-5600

Polyphenylsulfone

Solvay Specialty Polymers

Message:

Radel® R-5600 is a very high melt flow grade of Radel® polyphenylsulfone (PPSU). It is especially well-suited for parts requiring long flow length with thin walls. Radel® resins offer exceptional hydrolytic stability and toughness superior to other commercially-available, high-temperature engineering resins. They also offer high deflection temperatures and outstanding resistance to environmental stress cracking. Radel® polymers are inherently flame retardant, provide excellent thermal stability and possess good electrical properties.
Additonal Radel® grades include a transparent injection molding grade (R-5000), an opaque, general purpose, injection molding grade (R-5100) and a transparent, extrusion grade (R-5500).
Natural/Transparent: Radel® R-5600 NT
Additional Made-to-Order Colors Available

General Information	
Features	Acid Resistant
	Base Resistant
	Flame Retardant
	Good Chemical Resistance
	Good Thermal Stability
	High ESCR (Stress Crack Resist.)
	High Heat Resistance
	Hydrolytically Stable
	Steam Sterilizable
	Ultra High Toughness
Uses	Aerospace Applications
	Aircraft Applications
	Food Service Applications
RoHS Compliance	Contact Manufacturer
Appearance	Clear Amber
	Clear/Transparent
	Colors Available
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)	34 to 40	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.18 mm)	0.70	%	ASTM D955
Water Absorption			ASTM D570
24 hr	0.37	%	

Equilibrium	1.1	%	
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)	91.0	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (3.18 mm)	690	J/m	ASTM D256
Tensile Impact Strength (3.18 mm)	399	kJ/m^2	ASTM D1822
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (1.8 MPa, Unannealed, 3.18 mm)	207	°C	ASTM D648
Glass Transition Temperature [1]	220	°C	DSC
CLTE - Flow (3.18 mm)	5.6E-5	cm/cm/°C	ASTM D696
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity (3.18 mm)	9.0E+15	ohms·cm	ASTM D257
Dielectric Strength			ASTM D149
0.0254 mm	> 200	kV/mm	
3.18 mm	15	kV/mm	
Dielectric Constant (3.18 mm, 60 Hz)	3.44		ASTM D150
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating [2] (0.762 mm)	V-0		UL 94
Optical	**Nominal Value**		**Test Method**
Refractive Index	1.672		ASTM D542
Additional Information	**Nominal Value**	**Unit**	
Steam Sterilization - w/ Morpholine [3]	> 1000	Cycles	
Injection	**Nominal Value**	**Unit**	
Drying Temperature	149	°C	
Drying Time	2.5	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	
NOTE			
1.	Heating rate of 36°F (20°C) per minute.		

2.	These flammability ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions.
3.	Cycles passed without cracking, crazing, or rupture.Steam Autoclave Conditions:- Temperature: 270°F (132°C)- Time: 30 minutes/cycle- Steam Pressure: 27 psig (0.19 MPa)- Stress Level: 1000 psi (7.0 MPa) in flexure- Additive: Morpholine at 50 ppm

Recommended distributors for this material

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