

Radel® R-5900 polyphenylsulfone

Radel® R-5900 polyphenylsulfone (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
- Black: Radel® R-5900 BK937

General

Material Status	• Commercial: Active	
Availability	• Asia Pacific • Europe	• Latin America • North America
Features	• Acid Resistant • Base Resistant • Chemical Resistant • Flame Retardant • 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	• ISO 10993	• NSF STD-51
RoHS Compliance	• RoHS Compliant	
Appearance	• Amber	• Clear/Transparent
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Typical Value	Unit	Test method
Density / Specific Gravity	1.29		ASTM D792
Melt Mass-Flow Rate (MFR) (365°C/5.0 kg)	26 to 40	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.18 mm)	0.70	%	ASTM D955
Water Absorption (24 hr)	0.37	%	ASTM D570

Mechanical	Typical 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



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Impact	Typical Value	Unit	Test method
Notched Izod Impact (3.18 mm)	690	J/m	ASTM D256

Thermal	Typical 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	Typical Value	Unit	Test method
Flame Rating (0.75 mm, ALL)	V-0		UL 94

Injection	Typical 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	Typical Value	Unit
Drying Temperature	171	°C
Drying Time	4.0	hr

Notes

Typical properties: these are not to be construed as specifications.

