

## 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

#### General

Material Status	• Commercial: Active		
Availability	• Asia Pacific • Europe	• North America • South America	
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 <sup>1</sup>		
RoHS Compliance	• RoHS Compliant		
Appearance	• Amber	• Clear/Transparent	
Forms	• Pellets		
Processing Method	• Injection Molding		

#### Physical

	Typical Value	Unit	Test Method
Specific Gravity	1.29	g/cm <sup>3</sup>	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

	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

#### 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			ASTM D648
1.8 MPa, Unannealed, 3.18 mm	207	°C	
Glass Transition Temperature	220	°C	ASTM E1356
CLTE - Flow (3.18 mm)	0.000056	cm/cm/°C	ASTM D696

#### Injection

	Typical Value	Unit
Drying Temperature	149	°C
Drying Time	4.0	hr

Injection	Typical Value	Unit
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.

<sup>1</sup> Maximum Temperature of Use: 190°C (375°F)

[www.SolvaySpecialtyPolymers.com](http://www.SolvaySpecialtyPolymers.com)

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**For assistance with an emergency involving this product, such as spill, leak, fire or explosion, call day or night:**

### Emergency Health Information

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### Emergency Spill Information

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**For additional product information, technical assistance and Material Safety Data Sheets (MSDS), call:**

**USA** + 1.800.621.4557 / +1.770.772.8760  
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Material Safety Data Sheets (MSDS) for products of Solvay Specialty Polymers are available upon request from your sales representative or by emailing us at [specialtypolymers@solvay.com](mailto:specialtypolymers@solvay.com). Always consult the appropriate MSDS before using any of our products.

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