



## RADEL<sup>®</sup> R5500 POLYPHENYLSULFONE

Medical grade RadelR5500 resin offers exceptional hydrolytic stability, toughness, and superior impact strength over a wide temperature range. This product also offers high heat deflection temperatures and outstanding resistance to environmental stress cracking. Recommended sterilization techniques for Radel R5500 include EtO gas, radiation, steam autoclaving, dry heat and cold sterilization.

The following physical property information is based on typical values of the base polyphenylsulfone resin.

### Applications Include:

- Provisional trials
- Instrument handles
- Medical device components
- Surgical device sterilization cases and trays

### Advantages of Radel R5500:

- Lot controlled and traceable
- Resin meets the requirements of ISO 10993 bio-compatibility standard for non-implantable medical applications
- Superior dimensional stability
- Outstanding impact resistance
- Stress relieved
- Withstands repeated autoclaving
- Laser markable

### Manufacturing Capabilities:

- **Standard Rod:** 1", 1 1/4" to 3 1/2" dia.
- **Rod Lengths:**  
48" & 96" - 1" to 2" dia.  
48" only - 2 1/2" to 3 1/2" dia.
- **Non-Standard Rod:** <1" and >3 1/2" to 6"
- **Non-Standard Sheet:** .035"- .220" T
- **Non-Standard Slab:** 1/2" - 4" T

### Colors/Grades:

- Off White/Bone NT15
- Black BK937
- Blue BU1027
- Green GN1007
- Gray GY1037
- Transarent Amber NT

Additional Solvay Standard Colors for Healthcare available on a make to order (MTO) basis

- Red RD1018
- Yellow YL1337
- Orange OR1145
- Brown BN1164
- Violet VT2582
- Gray GY1137
- Gray GY837

Property	Units	Test Standard	Result
<b>Mechanical</b>			
Flexural Modulus	psi	ASTM D790	350,000
Flexural Strength	psi	ASTM D790	13,200
Izod Impact			
Notched @73°F	ft•lbs/in	ASTM D256	13.0
Un-Notched	ft•lbs/in	ASTM D256	No Break
Tensile Elongation			
@break	%	ASTM D638	60.0-120.0
@yield	%	ASTM D638	7.2
Tensile Impact	ft•lbs/in <sup>2</sup>	ASTM D1822	190
Tensile Modulus	psi	ASTM D638	340,000
Tensile Strength @yield	psi	ASTM D638	10,100
<b>Thermal</b>			
Coefficient of Thermal Expansion	in/in/°F	ASTM D696	3.1x10 <sup>-5</sup>
Flammability Rating @0.031"	—	UL94	V-0
Heat Deflection Temperature			
@66 psi	°F	ASTM D648	417
@264 psi	°F	ASTM D648	405
Thermal Conductivity	(BTU•in)/(hr•ft <sup>2</sup> •°F)	ASTM E1530	2.08
<b>Other</b>			
Steam sterilization cycles passed without cracking*, crazing or rupture:			>1,000
Water Absorption @24hours	%	ASTM D570	0.37
Specific Gravity	—	ASTM D792	1.29

\* Steam autoclave conditions: temperature 270°F (132°C); time 30 minutes/cycle; steam pressure 27 psig (0.19 mPa); stress level 1,000 psi (7.0 mPa) in flexure; additive - Morpholine at 50 ppm.