

## Radel® R5500 (Polyphenylsulfone)

Medical grade Radel R5500 resin offers exceptional hydrolytic stability, toughness, and superior impact strength over a wide temperature range. This product also offers high 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 Radel R5500 polyphenylsulfone resin.

### Applications Include:

- Provisional trials
- Instrument handles
- Medical device components

### Advantages of Medical Grade

#### Radel R5500:

- Lot controlled and traceable
- Superior dimensional stability
- Stress relieved
- Laser markable
- Resin meets the requirements of USP Class VI specifications
- Outstanding impact resistance
- Withstands repeated autoclaving

Property	ASTM Test Method	Units	Radel® R5500
<b>Physical</b>			
Steam sterilization cycles passed without cracking*, crazing or rupture:			>2,000
Specific Gravity	D792	—	1.29
Water Absorption @24 hours	D570	%	0.37
<b>Mechanical</b>			
Compressive Modulus	D695	psi	251,000
Compressive Strength @yield	D695	psi	14,350
Flexural Modulus	D790	psi	350,000
Flexural Strength @yield	D790	psi	13,200
Izod Impact Strength			
Notched @73°F	D256	ft-lb/in	10.0
Un-Notched	D256	ft-lb/in	No Break
Tensile Elongation @break	D638	%	60.0-120.0
@yield	D638	%	7.2
Tensile Impact	D1822	ft-lbs/in <sup>2</sup>	190
Tensile Modulus	D638	psi	340,000
Tensile Strength @yield	D638	psi	10,100
<b>Thermal</b>			
Coefficient of Thermal Expansion	D696	in/in/°F	3.1x10 <sup>-5</sup>
Flammability Rating—UL94 @.031"	—	—	V-0
Heat Deflection Temperature @66 psi	D648	°F	417
@264 psi	D648	°F	405
Thermal Conductivity	C177	(BTU-in)/(hr-ft <sup>2</sup> -°F)	2.42

*NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets. All values at 73°F (23°C) unless otherwise noted.*