



## RADEL® R PPSU

### Characteristics

- \* Best Impact and Steam Resistance to 400° F (205° C)
- \* Highly Resistant to Steam Autoclaving
- \* Impact Resistant
- \* High Modulus of Elasticity and Heat Resistance
- \* FDA Compliant

### Description

Radel R offers superior hydrolysis resistance when compared to other amorphous thermoplastics as measured by steam autoclaving cycles to failure. In fact, Radel R has virtually unlimited steam sterilizability. This factor makes it an excellent choice for medical devices as steam autoclaves are widely used to sterilize medical devices. It also resists common acids and bases including commercial washing solutions over a broad range of temperatures.

Radel R is available in natural bone white or can be made in custom colors or transparent. It is commonly used in sterilization trays, dental and surgical instrument handles, and in fluid handling coupling and fitting applications. It is suitable for use in electronic assembly equipment and devices that must withstand solder temperatures.

### Forms Available

ROD	.250 to 6.00 " diameter, Lengths to 12 feet
TUBE	Custom produced as requested
PLATE	.250" to 3.000" thick, Widths to 24", Lengths to 48"
COLOR	Natural (bone white)

### Typical Property Values

#### MECHANICAL @ 73°F

Specific Gravity		1.29
Tensile Strength	psi	11,000
Tensile Modulus of Elasticity	psi	340,000
Tensile Elongation ( at Break )	%	30
Flexural Strength	psi	15,500
Flexural Modulus of Elasticity	psi	345,000
Shear Strength	psi	9,000
Compressive Strength, 10% Deformation	psi	13,400
Compressive Modulus of Elasticity	psi	280,000
Rockwell Hardness	M Scale	80
Izod Impact Strength, Notched	ft-lbs/in. of notch	2.50
Coefficient of Friction, Dynamic ( Dry vs. Steel )		
Limiting PV ( 4 :1 Safety Factor Applied )	ft.lbs/in. <sup>2</sup> min	
Wear Factor	in <sup>3</sup> -min/ft.lbs. hr.	> 1,000
Water Absorption 24 hrs	% by wt.	0.37

#### THERMAL

Coefficient of Linear Expansion ( -40°F to 300°F )	in./in./°F	3.1 x 10 <sup>-5</sup>
Heat Deflection Temperature @264 psi	°F	405
Tg-Glass Transition (amorphus)	°F	428
Continuous Service Temperature in Air	°F	300
Thermal Conductivity	°F	2.40

#### ELECTRICAL

Dielectric Strength, Short Term	Volts/mil	360
Surface Resistivity	Ohms/Sq.	>10 <sup>13</sup>
Dielectric Constant	1 MHz	3.44
Dissipation Factor	1 MHz	0.0017

( Properties listed above are provided for reference only, they should not be used for design specifications or quality control , Radel is a registered Trademark of Solvay Corp. )