



ADVANCED POLYMER TECHNOLOGIES

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## Radel® R5000 Resin

PROPERTY	NOMINAL VALUES	TEST METHOD
<b>Physical</b>		
Density – Specific Gravity	1.29	ASTM D792
Refractive Index	1.672	ASTM D542
<b>Mechanical</b>		
Tensile Strength	10.1 kpsi	ASTM D638
Tensile Modulus	340 kpsi	ASTM D638
Tensile Elongation at yield	7.2 %	ASTM D638
Tensile Elongation at break	60 – 120 %	ASTM D638
Flexural Strength (@ 5% strain)	13.2 kpsi	ASTM D790
Flexural Modulus	350 kpsi	ASTM D790
Tensile Impact Strength	190 ft-lb/in <sup>2</sup>	ASTM D1822
Izod Impact, Notched	13 ft-lb/in	ASTM D256
<b>Thermal</b>		
Deflection Temperature at 264 psi	405 °F	ASTM D648
Flammability Rating <sup>1</sup>	V-0 (0.030 in)	UL-94
Coefficient of Thermal Expansion	31 ppm/°F	ASTM D696
Glass Transition Temperature <sup>2</sup>	428 °F	-
<b>Electrical</b>		
Dielectric Strength at 0.125 in.	380 V/mil	ASTM D149
Dielectric Strength at 0.001 in.	> 5,000 V/mil	-
Dielectric Constant at 60 Hz	3.44	ASTM D150
Volume Resistivity	9 x 10 <sup>15</sup> ohm-cm	ASTM D257
<b>Chemical</b>		
Steam Sterilization w/Morpholine, cycles passed without cracking, crazing, or rupture <sup>3</sup>	> 1000 cycles	-
Water Absorption at 24 hours	0.37 %	ASTM D570
Water Absorption at Equilibrium	1.10 %	ASTM D570

\*Radel® R is a registered trademark of Solvay Advanced Polymer, LLC

\*\*Typical values only. Actual properties of individual batches will vary within specification limits.

<sup>1</sup> Flammability ratings are not intended to reflect hazards under actual fire conditions

<sup>2</sup> Measured by differential scanning calorimetry at heating rate of 36°F per minute

<sup>3</sup> Steam Autoclave conditions: Temp - 270°F; Time - 30 min/cycle; Steam Pressure – 27 psig; Stress level – 1000 psi in flexure; Additive - Morpholine added at 50 ppm