

# Radel® R

(polyphenylsulfone)

Stock shapes extruded from Radel® R resins offer a superior combination of high performance properties that include excellent thermal stability, outstanding toughness, and good environmental stress cracking resistance. These properties make Radel® R stock shapes attractive for a variety of demanding applications. The standard color of Radel® R is off white, but a transparent grade is available.

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



	Units	ASTM Test	Result
<b>Mechanical</b>			
Tensile Strength @yield	psi	D638	10,100
Tensile Strength @break	psi	D638	—
Tensile Modulus	psi	D638	340,000
Tensile Elongation @yield	%	D638	7.2
Tensile Elongation @break	%	D638	60.0-120.0
Flexural Strength @yield	psi	D790	13,200
Flexural Modulus	psi	D790	350,000
Compressive Strength @yield	psi	D695	14,350
Compressive Modulus	psi	D695	251,000
Izod Impact Strength			
Un-Notched	ft•lbs/in	D256	No Break
Notched @73°F	ft•lbs/in	D256	13.0
Hardness (R, M, L or D)	—	D7852	—
		D2240	
<b>Thermal</b>			
Heat Deflection Temperature			
@66 psi	°F	D648	417
@264 psi	°F	D648	405
Coefficient of Thermal Expansion	in/in/°F	D696	3.1x10 <sup>-5</sup>
Flammability Rating-UL94 @.031"	—	—	V-0
Thermal Conductivity	(BTU•in)/(hr•ft <sup>2</sup> •°F)	C177	2.42
Limiting Oxygen Index	%	D2863	38.0
<b>Electrical</b>			
Dielectric Strength	V/mil	D149	360
Dielectric Constant @1kHz	—	D150	3.45
Dissipation Factor @1kHz	—	D150	0.0009
Volume Resistivity	ohm•cm	D257	>10 <sup>17</sup>
<b>Optical</b>			
Haze	%	D1746	15.0
Transparency	%	D1746	50
<b>Other</b>			
Specific Gravity	—	D792	1.29
Water Absorption @24 hours	%	D570	0.37

**Applications Include:**

- Dairy connectors
- Automotive fuses
- Food service trays
- Aircraft interior parts
- Sockets and connectors

**Advantages of Radel® R:**

- Outstanding impact resistance
- Resistance to hydrolysis
- Transparent grade available
- Excellent thermal stability
- Combustion resistance without additives

**Manufacturing Capabilities:**

- Rod:** 1/4" to 8" diameter
- Sheet:** .035" to 1/4" thick
- Slab:** 3/8" to 4" thick
- Film:** .001" to .029" thick

**Colors/Grades:**

Off white or transparent

\*In addition to our standard capabilities, Westlake also has the ability to process custom resins in various sizes and colors with some exceptions.



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