

## TECASON® P black (Radel 5500) - Stock Shapes (rods, plates, tubes)

### Chemical Designation

PPSU (Polyphenylsulfone)

### Colour

black

### Density

1.29 g/cm<sup>3</sup>

### Main features

- high strength
- high thermal and mechanical capacity
- very resistant to autoclaving
- high dielectric strength
- good machinability

### Target Industries

- medical technology
- electronics
- food processing
- process engineering

Mechanical properties	condition	value	unit	test method	comment
Modulus of elasticity (tensile test)	@ 73 °F	340,000	psi	ASTM D 638	(1) data obtained from public source
Tensile strength at yield	@ 73 °F	11,500	psi	ASTM D 638	
Elongation at break (tensile test)	@ 73 °F	60	%	ASTM D 638	
Flexural strength	@ 73 °F	13,200	psi	ASTM D 790	
Modulus of elasticity (flexural test)	@ 73 °F	350,000	psi	ASTM D 790	
Compression strength	@ 73 °F, 10% strain	14,350	psi	ASTM D 695	1)
Compression strength	@ 73 °F, 1% strain	1990	psi	ASTM D 695	
Compression modulus	@ 73 °F	234,000	psi	ASTM D 695	
Impact strength (Izod)	@ 73 °F	3	ft-lbs/in	ASTM D 256	
Rockwell hardness	@ 73 °F R Scale	123		ASTM D 785	
Rockwell hardness	@ 73 °F, M scale	96		ASTM D 785	
Thermal properties	condition	value	unit	test method	comment
Vicat softening point		424	°F	-	1)
Deflection temperature	@264 psi	405	°F	ASTM D 648	2)
Service temperature	Intermittent	360	°F	-	3)
Service temperature	Long Term	300	°F	-	3)
Thermal expansion (CLTE)		3.1* 10 <sup>-5</sup>	in/in/°F	ASTM D 696	4)
Specific heat		0.27	BTU/lb-F°	-	5)
Thermal conductivity		1.74	BTU-in/hr-ft <sup>2</sup> -°F	-	6)
Electrical properties	condition	value	unit	test method	comment
volume resistance		9*10 <sup>15</sup>	Ω*cm	ASTM D 257	1)
Dielectric strength	thickness 0.125"	381	V/mil	ASTM D 149	2)
Dielectric constant	@ 60 Hz, 73 °F, 50% RH	3.44		ASTM D 150	3)
Other properties	condition	value	unit	test method	comment
Moisture absorption	@ 24 hrs, 73 °F	0.37	%	ASTM D 570	(1) injection molded sample thickness greater than 0.790 mm
Moisture absorption	@ saturation, 73 °F	1.1	%	ASTM D 570	
Flammability (UL94)		V0		-	1)

→ Resin specification:  
ASTM D 6394-10 SP0311  
Shapes specification:  
NONE

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