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

Chemical Designation
PPSU (Polyphenylsulfone)

Colour
black

Density
1.29 g/cm^3

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)	(1) Injection molded sample (2) Data obtained from public source (3) Data obtained from public source (4) Data obtained from public source (5) data obtained from public source (6) data obtained from public source
Deflection temperature	@264 psi	405	°F	ASTM D 648	2)	
Service temperature	Intermittent	360	°F	-		
Service temperature	Long Term	300	°F	-	3)	
Thermal expansion (CLTE)		3.1* 10^{-5}	in/in/°F	ASTM D 696	4)	
Specific heat		0.27	BTU/lb-F°	-	5)	
Thermal conductivity		1.74	BTU-in/hr-ft^2-°F	-	6)	

Electrical properties	condition	value	unit	test method		comment
volume resistance		9*10^{15}	Ω*cm	ASTM D 257	1)	(1) Data obtained from public source (2) Data obtained from public source (3) Data obtained from public source
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 6394-21 SP0311
  Shapes specification:
  none

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