

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

### Chemical Designation

PPSU (Polyphenylsulfone)

### Colour

bone

### Density

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

### Main features

- resistant to autoclaving
- biocompatible
- compliant with cytotoxicity according to ISO 10993-5
- meets requirements for USP Class VI
- excellent impact strength

### Target Industries

- medical technology
- pharmaceutical industry

<i>Mechanical properties</i>	<i>condition</i>	<i>value</i>	<i>unit</i>	<i>test method</i>	<i>comment</i>
Modulus of elasticity (tensile test)	@ 73 °F	350,000	psi	ASTM D 638	
Tensile strength at yield	@ 73 °F	11,000	psi	ASTM D 638	
Elongation at break (tensile test)	@ 73 °F	80	%	ASTM D 638	
Flexural strength	@ 73 °F	15,500	psi	ASTM D 790	
Modulus of elasticity (flexural test)	@ 73 °F	325,000	psi	ASTM D 790	
Compression strength	10% Strain @ 73 °F	13,500	psi	ASTM D 695	
Compression strength	@ 1% strain	1,500	psi	ASTM D 695	
Compression modulus		225,000	psi	ASTM D 695	
Impact strength (Izod)	@ 73 °F	2.5	ft-lbs/in	ASTM D 256	
Rockwell hardness	@ 73 °F M Scale	85		ASTM D 785	
<i>Thermal properties</i>	<i>condition</i>	<i>value</i>	<i>unit</i>	<i>test method</i>	<i>comment</i>
Vicat softening point		424	°F	-	1) (1) Injection molded data
Deflection temperature	@264 psi	405	°F	ASTM D 648	2) (2) Injection molded data
Deflection temperature	@ 66 psi	417	°F	ASTM D 648	3) (3) Injection molded data
Service temperature	Intermittent	360	°F	-	4) (4) Data obtained from public source
Service temperature	Long Term	300	°F	-	5) (5) Injection molded data
Thermal expansion (CLTE)		3.1*10 <sup>-5</sup>	in/in/°F	ASTM D 696	6) (6) Injection molded data
Specific heat		0.27	BTU/lb-F°	-	
<i>Electrical properties</i>	<i>condition</i>	<i>value</i>	<i>unit</i>	<i>test method</i>	<i>comment</i>
volume resistance		1.0*10 <sup>15</sup>	Ω*cm	ASTM D 257	1) (1) Injection molded data
Dielectric strength		360	V/mil	ASTM D 149	2) (2) Injection molded data
Dielectric constant	@ 60 Hz, 73 °F, 50% RH	3.44		ASTM D 150	3) (3) Injection molded data
<i>Other properties</i>	<i>condition</i>	<i>value</i>	<i>unit</i>	<i>test method</i>	<i>comment</i>
Moisture absorption	@ 24 hrs, 73 °F	0.37	%	ASTM D 570	(1) estimated
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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