

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

Chemical Designation

PPSU (Polyphenylsulfone)

Colour

brown

Density

1.29 g/cm³

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

Mechanical properties	condition	value	unit	test method	comment
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	
Thermal properties	condition	value	unit	test method	comment
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 ⁻⁵	in/in/°F	ASTM D 696	6) (6) Injection molded data
Specific heat		0.27	BTU/lb-F°	-	
Electrical properties	condition	value	unit	test method	comment
volume resistance		1.0*10 ¹⁵	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
Other properties	condition	value	unit	test method	comment
Moisture absorption	@ 24 hrs, 73 °F	0.37	%	ASTM D 570	1) (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

This information reflects the current state of our knowledge and is intended only to assist and advise. It is given without obligation or liability. It does not assure or guarantee chemical resistance, quality of products or their suitability in any legally binding way. Values are not minimum or maximum values, but guidelines that can be used for comparative purposes in material selection. They are within the normal range of product properties and do not represent guaranteed property values. Testing under individual application circumstances is always recommended. Data is obtained from extruded shapes material unless otherwise noted. References to FDA compliance refer to the resins from which the products were made unless otherwise noted. All trade and patent rights should be observed. All rights reserved. Data sheet values are subject to periodic review, the most recent update can be found at www.ensingerplastics.com.