

## TECATRON SX natural - Stock Shapes (rods, plates, tubes)

### Chemical Designation

PPS (Polyphenylsulfide)

### Colour

beige opaque

### Density

1.36 g/cm<sup>3</sup>

The compound is in the phase of validation.  
The characteristic values of this product may change.

### Main features

- good heat deflection temperature
- good chemical resistance
- resistance against high energy radiation
- high strength
- high dimensional stability
- high stiffness
- high creep resistance

### Target Industries

- semiconductor technology

Mechanical properties	condition	value	test method	comment
Tensile strength	@ 73 °F	14,200 psi	ASTM D 638	(1)
Modulus of elasticity (tensile test)	@ 73 °F	597,800 psi	ASTM D 638	1)
Tensile strength at yield	@ 73 °F	15,120 psi	ASTM D 638	
Elongation at break	@ 73 °F	4.98 %	ASTM D 638	
Flexural strength	@ 73 °F	22,400 psi	ASTM D 790	
Modulus of elasticity (flexural test)	@ 73 °F	596,800 psi	ASTM D 790	
Compression strength	10% strain	20,560 psi	ASTM D 695	
Compression strength	1% strain	4,376 psi	ASTM D 695	
Compression modulus	@ 73 °F	429,400 psi	ASTM D 695	2)
Impact strength (Izod)	@ 73 °F	0.58 ft-lbs/in	ASTM D 256	
Shore hardness	D scale	85.2	ASTM D 2240	
Rockwell hardness	M scale	103.9	ISO 2039-1	
Thermal properties	condition	value	test method	comment
Glass transition temperature		341 °F	-	(1) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		543 °F	-	(2) Found in public sources. Individual testing to application recommended
Service temperature	short term	500 °F	-	1)
Service temperature	long term	446 °F	-	2)
Thermal expansion (CLTE)	73-140 °F, long.	3.33	*10 <sup>-5</sup> in/in/°F	DIN EN ISO 11359-1;2
Thermal expansion (CLTE)	73-212 °F, long.	3.89	*10 <sup>-5</sup> in/in/°F	DIN EN ISO 11359-1;2
Thermal expansion (CLTE)	212-302 °F, long.	6.67	*10 <sup>-5</sup> in/in/°F	DIN EN ISO 11359-1;2
Specific heat		0.239	BTU/lb-F°	ISO 22007-4:2008
Thermal conductivity		1.74	BTU-in/hr-ft <sup>2</sup> -°F	ISO 22007-4:2008
Electrical properties	condition	value	test method	comment
surface resistivity		10 <sup>14</sup> Ω	DIN IEC 60093	
volume resistivity		10 <sup>14</sup> Ω*cm	DIN IEC 60093	
Other properties	condition	value	test method	comment
Water absorption	24 hr immersion	0.01 %	ASTM D 570	(1) + good resistance (2) - poor resistance
Resistance to hot water/ bases		+	-	1)
Resistance to weathering		-	-	2)
Flammability (UL94)	corresponding to	V0	DIN IEC 60695-11-10;	3) The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.

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](http://www.ensingerplastics.com).

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