

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

Chemical Designation

PPS (Polyphenylensulfide)

Colour

beige opaque

Density

1.36 g/cm³

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	unit	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	(2)
Tensile strength at yield	@ 73 °F	15,120	psi	ASTM D 638	
Elongation at break (tensile test)	@ 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	unit	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 ⁻⁵ in/in/°F	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	73-212 °F, long.	3.89	*10 ⁻⁵ in/in/°F	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	212-302 °F, long.	6.67	*10 ⁻⁵ 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 ² -°F	ISO 22007-4:2008	
Electrical properties	condition	value	unit	test method	comment
surface resistivity		10 ¹⁴	Ω	DIN IEC 60093	
volume resistivity		10 ¹⁴	Ω*cm	DIN IEC 60093	
Other properties	condition	value	unit	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)

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