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

Chemical Designation
PPS (Polyphenylensulfide)

Colour
beige opaque

Density
1.36 g/cm^3

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) (2)
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. (2) Found in public sources. Individual testing to application recommended
Melting temperature		543	°F	-		
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		test method	comment
surface resistivity		10^{14}	Ω	DIN IEC 60093	
volume resistivity		10^{14}	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 (3) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
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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