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

Chemical Designation
PPS (Polyphenylensulfide)

Colour
beige opaque

Density
1.36 g/cm^3

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	13,980	psi	ASTM D 638	
Modulus of elasticity (tensile test)	@73°F	673,400	psi	ASTM D 638	
Tensile strength at break	@73°F	13,920	psi	ASTM D 638	
Elongation at break (tensile test)	@73°F	4.2	%	ASTM D 638	
Flexural strength	@73°F	22,040	psi	ASTM D 790	
Modulus of elasticity (flexural test)	@73°F	636,000	psi	ASTM D 790	
Compression strength	@ 10% strain	5,500	psi	ASTM D 695	
Compression strength	@ 1% strain	19,960	psi	ASTM D 695	
Compression modulus		484,200	psi	ASTM D 695	
Impact strength (Izod)	@73°F	0.55	ft-lbs/in	ASTM D 256	
Rockwell hardness	M scale	103.3		ASTM D 785	

Thermal properties	condition	value	unit	test method		comment
Glass transition temperature		194	°F	DIN EN ISO 11357	1)	(1) Found in public sources. (2) Public source injection molding data (3) Public Source Injection molding data (4) Public Source Injection molding data (5) Found in public sources. Individual testing regarding application conditions is recommended. (6) Public Source Injection molding data
Melting temperature		536	°F	DIN EN ISO 11357	2)	
Deflection temperature	@ 264 psi	239	°F	ISO-R 75 Method A	3)	
Deflection temperature	@ 65 psi	320	°F	ISO-R 75 Method B	4)	
Service temperature	short term	500	°F	-	5)	
Service temperature	long term	446	°F	-		
Thermal expansion (CLTE)		2.8	*10^{-5} in/in/°F	ASTM E 831	6)	

Electrical properties	condition	value	unit	test method		comment
Dissipation factor	@ 1 MHz	0.0011		DIN IEC 60250	1)	(1) Public source injection molding data (2) Public source injection molding data (3) Public source injection molding data
Dielectric constant	@ 1 kHz	2.8		DIN IEC 60250	2)	
Dielectric constant	@ 1 MHz	4.6		DIN IEC 60250	3)	

Other properties	condition	value	unit	test method		comment
Water absorption	@ 24 hrs	0.02	%	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 recommended.
Resistance to hot water/ bases		+		-	1)	
Resistance to weathering		-		-	2)	
Flammability (UL94)	@ 3 mm	V0		-	3)	

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