

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

Chemical Designation

PPS (Polyphenylensulfide)

Colour

beige opaque

Density

1.36 g/cm³

The values in this data sheet are tested on a dimension outside of the standard reference dimension (rod Ø 40-60 mm).

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

parameter	value	unit	norm	comment
Tensile strength	50mm/min	102	MPa	DIN EN ISO 527-2
Modulus of elasticity (tensile test)	1mm/min	4100	MPa	DIN EN ISO 527-2 1)
Tensile strength at yield	50mm/min	100	MPa	DIN EN ISO 527-2
Elongation at yield (tensile test)	50mm/min	4	%	DIN EN ISO 527-2
Elongation at break (tensile test)	50mm/min	4	%	DIN EN ISO 527-2
Flexural strength	2mm/min, 10 N	151	MPa	DIN EN ISO 178 2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	4000	MPa	DIN EN ISO 178
Compression strength	1% / 2% / 5% 5mm/min, 10 N	20/38/96	MPa	EN ISO 604 3)
Compression modulus	5mm/min, 10 N	3300	MPa	EN ISO 604 4)
Impact strength (Charpy)	max. 7,5J	29	kJ/m ²	DIN EN ISO 179-1eU 5)
Shore hardness	D	87		DIN EN ISO 868

Thermal properties

parameter	value	unit	norm	comment
Glass transition temperature	97	°C	DIN EN ISO 11357	1)
Melting temperature	281	°C	DIN EN ISO 11357	
Service temperature	short term	260	°C	2)
Service temperature	long term	230	°C	-
Thermal expansion (CLTE)	23-60°C, long.	6	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2
Thermal expansion (CLTE)	23-100°C, long.	7	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2
Thermal expansion (CLTE)	100-150°C, long.	12	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2
Specific heat	1.0	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity	0.25	W/(K*m)	ISO 22007-4:2008	

Electrical properties

parameter	value	unit	norm	comment
surface resistivity	10 ¹⁴	Ω	DIN IEC 60093	
volume resistivity	10 ¹⁴	Ω*cm	DIN IEC 60093	

Other properties

parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	<0.01 / 0.01	%	DIN EN ISO 62 1)
Resistance to hot water/ bases	+	-		2)
Resistance to weathering	-	-		3)
Flammability (UL94)	corresponding to	V0	DIN IEC 60695-11-10;	4) (1) Ø ca. 50mm, h=13mm (2) + good resistance (3) - poor resistance (4) 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.

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