

TECATRON PVX black - Stock Shapes (rods, plates, tubes)

Chemical Designation

PPS (Polyphenylensulfide)

Colour

black opaque

Density

1.5 g/cm³

Fillers

carbon fibres, PTFE, graphite

Main features

- very good chemical resistance
- good heat deflection temperature
- very good slide and wear properties
- inherent flame retardant
- high dimensional stability
- high stiffness
- high creep resistance

Target Industries

- mechanical engineering
- oil and gas industry
- vacuum technology
- automotive industry
- aircraft and aerospace technology

Mechanical properties	parameter	value	unit	norm	comment
Tensile strength	50mm/min	53	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b
Modulus of elasticity (tensile test)	1mm/min	4600	MPa	DIN EN ISO 527-2	1) (2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	53	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
Elongation at yield (tensile test)	50mm/min	2	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break (tensile test)	50mm/min	2	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10 N	91	MPa	DIN EN ISO 178	2) (6) Specimen in 4mm thickness
Modulus of elasticity (flexural test)	2mm/min, 10 N	4800	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5mm/min, 10 N	19/36/89	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	3300	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	14	kJ/m ²	DIN EN ISO 179-1eU	5)
Ball indentation hardness		238	MPa	ISO 2039-1	6)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		94	°C	DIN EN ISO 11357	1) (1) Found in public sources.
Melting temperature		281	°C	DIN EN ISO 11357	2) Found in public sources.
Service temperature	short term	260	°C		2) Individual testing regarding application conditions is mandatory.
Service temperature	long term	230	°C		
Thermal expansion (CLTE)	23-60°C, long.	5	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	6	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	100-150°C, long.	13	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		0.9	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.58	W/(K*m)	ISO 22007-4:2008	
Electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 ⁴ - 10 ¹⁰	Ω	DIN EN 61340-2-3	
volume resistivity		10 ⁷ - 10 ¹²	Ω*cm	DIN EN 61340-2-3	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	<0.01 / <0.01	%	DIN EN ISO 62	1) (1) Ø ca. 50mm, h=13mm
Resistance to hot water/ bases		+	-		2) (+) good resistance
Resistance to weathering		(+)	-		3) (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.
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	4)

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