

TECATRON PVX black - Stock Shapes

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
Modulus of elasticity (tensile test)	1mm/min	4600	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	53	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	53	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	2	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	2	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	91	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	4800	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	19 / 36	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 53765	1)
Melting temperature		281	°C	DIN 53765	
Service temperature	short term	260	°C		2)
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
Specific surface resistance		10 ⁴ - 10 ¹⁰	Ω	DIN EN 61340-2-3	
Specific volume resistance		10 ⁷ - 10 ¹²	Ω*cm	DIN EN 61340-2-3	1)

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)

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