

TECATRON PVX

Chemical Designation :

DIN–Abbreviation:

Colours, fillers:

Polyphenylene sulfide

PPS

black, carbon fibres, PTFE, graphite

Main features

- | high thermal and mechanical capacity
- | excellent sliding properties
- | very good chemical resistance
- | inherent low flammability (UL94 V–O)
- | high hardness and rigidity
- | high dimensional stability
- | continuous service temperature up to 230°C
- | low creep

Preferred Fields

- | mechanical engineering
- | vacuum technology
- | pumps and instrument manufacture
- | packaging and paper processing machinery
- | construction industry
- | automotive engineering
- | transport and conveyor technology
- | textile machinery
- | precision engineering
- | aircraft and aerospace industries

Applications

Friction bearings, wear strips, static/dynamic high bearing, gears, strength parts, thrust washers, slide shoes, ball valve seals, sealing rings, slide rings, pump housings/parts, valve housings/parts

Properties

Mechanical

	dry / moist		standard
Tensile strength at yield		MPa	
Elongation at yield		%	
Tensile strength at break	115	MPa	DIN EN ISO 527
Elongation at break	1,5	%	DIN EN ISO 527
Modulus of elasticity in tension	10000	MPa	DIN EN ISO 527
Modulus of elasticity after flexural test		MPa	
Hardness	203		DIN 53 456 (Kugeldruckhärte, 961N)
Impact strength 23° C (Charpy)	20	KJ/m ²	DIN EN ISO 179 (Charpy)
Creep rupture strength after 1000 h with static load		MPa	
Time yield limit for 1% elongation after 1000 h		MPa	
Co-efficient of friction p = 0,05 N/mm ² v=0,6 m/s on steel, hardened and ground	0,21		
Wear p = 0,05 N/mm ² v=0,6 m/s on steel, hardened and ground	0,69	µm/km	

Thermal

	dry / moist		standard
Crystalline melting point	280	°C	DIN 53 765
Glass transition temperature	90	°C	DIN 53 765
Heat distortion temperature HDT, Method A		°C	
Heat distortion temperature HDT, Method B		°C	
Max. service temperature			
short term	260	°C	
long term	230	°C	
Thermal conductivity (23° C)		W/(K·m)	
Specific heat (23° C)		J/g·K	
Coefficient of thermal expansion (23–55°C)	3–4	10 ⁻⁵ 1/K	DIN 53 752

Properties

Electrical	dry / moist		standard
Dielectric constant (10^6 Hz)			
Dielectric loss factor (10^6 Hz)			
Specific volume resistance	$4 \cdot 10^5$	$\Omega \cdot \text{cm}$	DIN IEC 60093
Surface resistance	$1 \cdot 10^6$	Ω	DIN IEC 60093
Dielectric strength		kV/mm	
Resistance to tracking			

Miscellaneous	dry / moist		standard
Density	1,47	g/cm^3	DIN 53 479
Moisture absorption (23°C/50RH)	0,02	%	DIN EN ISO 62
Water absorption to equilibrium		%	
Flammability acc. to UL standard 94	V0		

(1) Testing of semi-finished products

The above information corresponds with our current knowledge and indicates our products and possible applications. We cannot give a legally binding guarantee of chemical resistance, of certain properties and the suitability of our products and their applications. Our products are not destined for use in medical and dental implants. Existing commercial patents must be observed. Unless otherwise stated, these values represent averages taken from injection moulding samples, dry as moulded. We reserve the right to make technical alterations.
