

TECATRON PVX

Chemical Designation:	Polyphenylene sulphide
DIN Abbreviation:	PPS
Colour, Filler:	Black 10% carbon fibre, 10% graphite, 10% PTFE

TECATRON PVX is a semi-crystalline high performance thermoplastic with optimised tribological properties for demanding bearing and friction requirements.

- Main characteristics:
- Very good sliding properties even without lubrication
 - Good thermal mechanical bearing strength
 - Good chemical and hydrolysis resistance even against superheated steam
 - Very wear resistant
 - Very rigid
 - Creep resistant
 - Not electrically insulating
 - Easily machined
 - Resistant to gamma radiation
 - Flame retardant UL94 V-0

Preferred fields: Mechanical and automotive engineering, nuclear and vacuum technology, transport and conveyor technology, pump technology, textile, packaging and paper processing machinery, precision and chemical engineering, plant construction, aircraft and aerospace industry.

- Applications:
- Friction bearings
 - Static / dynamic high bearing strength parts
 - Slide shoes
 - Sealing rings
 - Pump housings / parts
 - Wear strips
 - Gears
 - Thrust washers
 - Ball valve seals
 - Slide rings
 - Valve housings

Ensinger Ltd
Wilfried Way
Tonyrefail
Mid Glam CF39 8JQ

Tel: 01443 678400
Fax: 01443 675777
Web: www.ensinger.ltd.uk
Email: sales@ensinger.ltd.uk

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The following information corresponds with our current knowledge and indicates our products and possible applications. We cannot give a legally binding guarantee of certain properties or the suitability for a specific application. Existing commercial patents must be observed. A definitive quality guarantee is given in our general conditions of sales. Unless otherwise stated, these values represent averages taken from injection moulding samples. We reserve the right of technical alterations.

Properties	Unit	Test method DIN EN ISO / ASTM	
Mechanical			
Density	g/cm ³	527 / D 792	1.47
Tensile strength at yield	MPa	527 / D 638	
Tensile strength at break	MPa	527 / D 638	115
Elongation at break	%	527 / D 638	1.5
Modulus of elasticity in tension	MPa	527 / D 638	10000
Modulus of elasticity in flexure	MPa	178 / D 790	
Ball indentation hardness	MPa	2039 / 1	203
Impact strength	kJ/m ²	179 / D 256	20
Creep rupture strength after 1000 hrs with static load	MPa		
Time yield limit for 1% elongation after 1000 hrs.	MPa		
Coefficient of friction against hardened and ground steel $p = 0,05 \text{ N/mm}^2, v = 0,6 \text{ m/s}$	-		0.21
Wear conditions as above	$\mu\text{m}/\text{km}$		0.69
Thermal			
Crystalline melting point	°C	DIN 53 736	280
Glass transition temperature	°C	DIN 53 736	90
Heat distortion temperature Method A Method B	°C °C	R 75 R 75	

Properties	Unit	Test method DIN EN ISO / ASTM	
Thermal			
Max. service temperature short term long term	°C °C		260 230
Coefficient of thermal conductivity	W/(m · K)		
Specific heat	J/(g · K)		
Coefficient of thermal expansion	10 ⁻⁵ /K	DIN 53 483 / D 696	3 - 4
Electrical			
Dielectric constant at 10 ⁵ Hz		DIN 53 483	
Dielectric loss factor at 10 ⁵ Hz		DIN 53 483	
Specific volume resistance	$\Omega \cdot \text{cm}$	DIN 60093	4 x 10 ⁵
Surface resistance	Ω	DIN 60093	1 x 10 ⁶
Dielectric strength 1 mm	kV/mm	ASTM 149	
Tracking resistance		53 480	
Miscellaneous			
Moisture absorption: Equilibrium in standard atmosphere (23 °C / 50 % relative humidity)	%	62	0.02
Water absorption at saturation at 23 °C	%	62	
Resistance to hot water, washing soda			resistant
Flammability according to UL standard 94			V-0
Resistance to weathering			resistant

ENSINGER: Production and stock programme

- Semi-finished product, finished parts, injection moulded parts and profiles in more than 500 materials and modifications.
- Engineering plastics: PA extruded or cast, POM, PC, PET, PBT, PPE, PP, PE
- High temperature plastics: PI, TPI, PEEK, PPS, PES, PPSU, PEI, PSU, PVDF, PCTFE, PTFE
- Stock length: Standard 3 metres. PE, PP, PVC and PTFE 2 metres
- Pressed/sintered semi-finished product: PI, PEEK, PPS, PTFE/PI and modifications, as well as PCTFE in special sizes ie, large discs, tubes and rings with diameters up to about 1400 mm
- Material modifications: eg. glass, carbon and aramid fibre, talc, MoS₂, graphite, PTFE, PE, silicone oil, internal lubrication