

QUADRANT EPP PRODUCT DATA SHEET

TECHTRON® HPV PPS

May 1999

Polyphenylene Sulphide (PPS, Internally Lubricated)

This reinforced, internally lubricated polyphenylene sulphide advanced material offers excellent wear resistance, load bearing capabilities and dimensional stability, even when exposed to aggressive chemicals and continuous operating temperatures up to 220°C. TECHTRON® HPV PPS has proved to be a cost effective alternative to KETRON® PEEK, which may be over specified for certain applications.

- Excellent chemical & hydrolysis resistance
- Excellent resistance to high energy radiation
- Good electrical insulating properties
- High mechanical strength / stiffness
- Continuous temperature 220°C (max. 260°C)
- Very good dimensional stability
- Excellent wear and frictional behaviour
- Inherent low flammability

Common applications: Pump components; Valve seats; Bearings; Rollers; Gears; High temperature insulation; Components in boiling water or steam.

Delivery Programme

Rod 500mm long			
Diameter (mm):	60 (Min)	100 (Max)	
Rod 1m long			
Diameter (mm):	6 (Min)	100 (Max)	
Rod 3m long			
Diameter (mm):	6 (Min)	60 (Max)	
Plate 500mm, 1m long			
Width (mm):	625		
Thickness (mm):	5 (Min)	80 (Max)	
Plate 3m long			
Width (mm):	625		
Thickness (mm):	5 (Min)	25 (Max)	
Tube 1m & 3m long			
O.D. (mm):	50 (Min)	200 (Max)	
I.D. (mm):	30 (Min)	160 (Max)	

Distributor

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Technical Specification

Property	ISO Methods	Units	TECHTRON® HPV PPS
Colour	-	-	Deep blue
Specific gravity	1183	g/cm ³	1.43
Water absorption			
Saturation in air (23°C / 50% RH)	-	%	0.03
Saturation in water (23°C)	-	%	0.09
Tensile strength* ¹	527	N/mm ²	75
Tensile modulus of elasticity* ¹	527	N/mm ²	3700
Elongation at break* ¹	527	%	5
Impact - Charpy* ¹	179/1eU	kJ/m ²	25
Impact - Charpy notched* ¹	179/1eA	kJ/m ²	3.5
Hardness	Rockwell	-	M84
	Shore D	-	-
Melt Point	-	°C	280
Max allowable service temp in air			
for short periods	-	°C	260
continuously for 20000hrs	-	°C	220
Linear thermal expansion coefficient	-	K ⁻¹ x 10 ⁻⁵	5.0
Thermal Conductivity	-	W/(K.m)	0.30
Flammability* ² (3mm thickness)	-	-	V-0
Volume Resistivity* ¹	IEC93	Ohm.cm	10 ¹⁵
Dielectric Strength* ¹	IEC243	kV/mm	24
Outside applications - UV resistance	-	-	A
Acids - Strong (pH < 3)	-	-	A
Alkalis - Strong (pH > 11)	-	-	A
Chlorinated Hydrocarbons	-	-	A
Hot Water	-	-	A

'A' - Acceptable service; 'B' - Limited service; 'C' - Unacceptable.

*¹ Measured on dry test specimens (where applicable)

*² Tests completed by Quadrant EPP, using UL test methods

Not all material sizes shown within the delivery programme section of this data sheet are available as standard. Please contact Quadrant Engineering Plastic Products UK for further details.

The data shown are typical values and are not intended to represent specifications. Their aim is to guide the user toward a material choice.