

# QUADRANT EPP PRODUCT DATA SHEET

## PVDF 1000

May 1999

### Polyvinylidene Fluoride (PVDF)

PVDF 1000 is a highly crystalline unreinforced fluoropolymer combining good mechanical, thermal and electrical properties with excellent chemical resistance.

- Excellent chemical and hydrolysis resistance
- High toughness (even at low temperatures)
- High strength / stiffness
- Good sliding properties and wear resistance
- Outstanding UV-resistance
- Good resistance against high energy radiation
- Good electrical insulating properties
- Continuous temperature 150°C (max. 160°C)

Common applications: Valve & pump components; Pipe linings; Wire covering; Seals; Components for the petrochemical, pharmaceutical, food and nuclear industries.

### Delivery Programme

Rod 1m long			
Diameter (mm):	10 (Min)	250 (Max)	
Rod 3m long			
Diameter (mm):	10 (Min)	60 (Max)	
Plate 1m long			
Thickness (mm)	8 (Min)	100 (Max)	
Width (mm):	610		
Plate 3m long			
Thickness (mm):	8 (Min)	25 (Max)	
Width (mm):	610		

### Distributor

## Gilbert Curry Industrial Plastics Co Ltd

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### Technical Specification

Property	ISO Methods	Units	PVDF 1000
Colour	-	-	White
Specific gravity	1183	g/cm <sup>3</sup>	1.79
Water absorption			
Saturation in air (23°C / 50% RH)	-	%	0.05
Saturation in water (23°C)	-	%	0.05
Tensile strength* <sup>1</sup>	527	N/mm <sup>2</sup>	50
Tensile modulus of elasticity* <sup>1</sup>	527	N/mm <sup>2</sup>	2300
Elongation at break* <sup>1</sup>	527	%	>20
Impact - Charpy* <sup>1</sup>	179/1eU	kJ/m <sup>2</sup>	no break
Impact - Charpy notched* <sup>1</sup>	179/1eA	kJ/m <sup>2</sup>	10
Hardness	Rockwell	-	M75
	Shore D	-	-
Melt Point	-	°C	175
Max allowable service temp in air			
for short periods	-	°C	160
continuously for 20000hrs	-	°C	150
Linear thermal expansion coefficient	-	K <sup>-1</sup> x 10 <sup>-5</sup>	13.0
Thermal Conductivity	-	W/(K.m)	0.19
Flammability* <sup>2</sup> (3mm thickness)	-	-	V-0
Volume Resistivity* <sup>1</sup>	IEC93	Ohm.cm	10 <sup>15</sup>
Dielectric Strength* <sup>1</sup>	IEC243	kV/mm	18
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.

\*<sup>1</sup> Measured on dry test specimens (where applicable)

\*<sup>2</sup> 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.