

717 4445

# Polypenco: Product data sheet



## PTFE

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### Polytetrafluoroethylene

This material provides the ultimate in chemical resistance, extremes of operating temperature, very low friction and superb electrical properties.

- Tough/flexible
- Wide operating range (-260°C to +250°C)
- Poor creep resistance
- Excellent chemical resistance (ph 0 -14)
- Very low coefficient of friction
- Non-stick surface
- Natural white colour
- Superb electrical/dielectric performance

Application: Gaskets, chute linings, insulators, valve seats, 'O' rings.

### Delivery Programme

Extruded Rod 2m long		
Diameter (mm):	5 (Min)	40 (Max)
Extruded Rod 1m long		
Diameter (mm):	45 (Min)	100 (Max)
Moulded Rod 300mm long		
Diameter (mm):	38.1 (Min)	152.4 (Max)
Moulded Rod 150mm long		
Diameter (mm):	165.1 (Min)	304.8 (Max)
Extruded Tube 2m long		
O.D. (mm):	16 (Min)	75 (Max)
I.D. (mm):	10 (Min)	60 (Max)
Moulded Tube 300mm long		
O.D. (mm):	60 (Min)	220 (Max)
I.D. (mm):	30 (Min)	200 (Max)
Thin wall tubing		
I.D. (mm):	0.33 (Min)	25.4 (Max)
Wall thickness (mm)	0.15 (Min)	1.27 (Max)
Sheet 1.2m Square		
Thickness (mm):	1 (Min)	50 (Max)
Plate 610mm Square		
Thickness (mm):	6 (Min)	75 (Max)

### Technical specification

Property	ASTM Test Method	Units	PTFE
Colour	-	-	White
Specific Gravity	D792	-	2.2 - 2.3
Water Absorption			
Saturation in water	D570	%	0.02
Tensile Strength	D638	N/mm <sup>2</sup>	12 - 24
Tensile Modulus	D638	N/mm <sup>2</sup>	340 - 638
Elongation	D638	%	100 - 500
Flexural Strength	D790	N/mm <sup>2</sup>	97 - 99
Flexural Modulus	D790	N/mm <sup>2</sup>	-
Hardness			
	Rockwell	-	-
	Shore D	-	80 - 85
Melt Point	D2117	°C	327
Max allowable service temp in air			
for short periods (1)	-	°C	300
continuously for 20000hrs (2)	-	°C	250
Minimum Service Temperature	-	°C	-260
Linear thermal expansion coefficient	D696	K <sup>-1</sup> x 10 <sup>4</sup>	10 - 12
Thermal Conductivity	C117	W/K.m	0.28
Flammability	D635	-	Non Flammable
UL (thickness in mm)	UL-94	-	-
Volume Resistivity	D257	Ohm.cm	>10 <sup>14</sup>
Dielectric Strength (3)	D149	kV/mm	>24
Outside applications - UV resistance	-	-	A
Acids - Strong (pH < 3)	-	-	A
Alkalis - Strong (pH > 11)	-	-	A
Chlorinated Hydrocarbons	-	-	A
Hot Water	-	-	A

- (1) Only a few hours, with little or no load applied
- (2) After these periods mechanical properties reduce by approx 50%.  
Note, however, that service temperatures are load and time dependent.
- (3) Test specimen 1.6mm thick unless otherwise stated.

- 'A' No attack
- 'B' Mild attack by absorption
- 'C' Dimensional change due to absorption
- 'D' Decomposition in short time
- 'E' In steam - at 160C, decomposition after short time

### Authorized Distributor

**Barkston Plc**  
 POLYMER PRODUCTS  
 CROSS GREEN  
 LEEDS LS9 0DX

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