

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 ²	12 - 24
Tensile Modulus	D638	N/mm ²	340 - 638
Elongation	D638	%	100 - 500
Flexural Strength	D790	N/mm ²	97 - 99
Flexural Modulus	D790	N/mm ²	-
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 ⁻¹ x 10 ⁴	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 ¹⁴
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
PONTFRAC TUNEL
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.