



PTFE 100 (Polytetrafluoroethylene)

This material provides the ultimate in chemical resistance, extremes of operating temperature, very low friction and superb electrical properties. Application: Gaskets, chute linings, insulators, valve seats, 'O' rings.

Tough / flexible
 Poor creep resistance
 Very low coefficient of friction
 Natural white colour

Wide operating range (-260°C to + 250 °C)
 Excellent chemical resistance (ph 0-14)
 Non-stick surface
 Superb electrical / dielectric performance

Technical Specification

Property	ASTM Test Method	Units	PTFE 100
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	-
Impact - Izod Notched [23°C, 50% RH]	D256	J/M	156
Hardness	Rockwell	-	-
	Shore D	-	60 - 65
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 ⁻⁵	10 - 12
Thermal Conductivity	C117	W/K.M	0.26
Flammability	D635	-	Non Flammable
UL (thickness in mm) [Tests carried out using UL - - test methods by DSM EPP].	UL-94	-	V - 0
Volume Resistivity	D257	Ohm.cm	>10 ¹⁸
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 dependant.

(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 160°C, decomposition after short time

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