



TECHNICAL DATA SHEET BLUE PTFE (TEFLON®)

		Units	Standard	Value
Mechanical properties				
Tensile Strength (Moulding Direction)		MPa	BS2782:Pt3	11 - 15
Elongation at break (Moulding Direction)		%	BS2782:Pt3	120 - 270
Density		g/cc	BS2782:Pt6	2.19 - 2.27
Hardness		Shore D	ASTM D2240	64 - 68
Deformation under load	@ 1hr, 23°C, 14.2MPa	%	ASTM D621	9
	@ 24Hrs, 23°C, 14.2MPa	%	ASTM D621	12.4
	@ Permanent Deformation	%	ASTM D621	6.4
	@ 1Hr, 150°C, 5MPa	%	ASTM D621	9.2
Flexural Yield Strength	@ 0.2% Offset, 23°C	MPa	ASTM D790	5.5
Flexural Modulus	@ 23°C	MPa	ASTM D790	1000
Compressive Strength	@ 0.2% Offset, 23°C	MPa	ASTM D695	7.2
	@ 0.2% Offset, 150°C	MPa	ASTM D695	1.8
Electrical properties				
Dielectric Strength	@ Air	KV/mm	ASTM D149	12.9
	@ Oil	KV/mm	ASTM D149	34.2
Dielectric Factor	@ 60 Hz	-	ASTM D150	2.63
	@ 10 ⁶ Hz	-	ASTM D150	2.85
Dissipation Factor	@ 60 Hz	-	ASTM D150	0.0718
	@ 10 ⁶ Hz	-	ASTM D150	0.0028
Resistivity	@ Surface	Ω	ASTM D257	10 ¹⁶
	@ Volume	Ω cm	ASTM D257	10 ¹⁷
Thermal properties				
Point of Fusion DSC		°C	ASTM D3417	327
Max. Working Temperature		°C	-	260
Max. Working Temperature	@ Short Periods	°C	-	300
Min. Working Temperature		°C	-	-200
Thermal Conductivity	@ Moulding Direction (MD)	W/(m.K)	ASTM C177	0.41
Coefficient of Linear Thermal Expansion	TMA (23-200°C) @ Moulding Direction (MD)	10 ⁻⁶ /°C	ASTM E831	136
	TMA (23-200°C) @ Right Angles to MD	10 ⁻⁶ /°C	ASTM E831	84
Flash Point		°C	ASTM D1929	630
Limiting Oxygen Index		%	ASTM D2863	98-100
Physical properties (Typical)				
Bond strength	Unetched - Lap Shear Strength @ PTFE / Stainless Steel	N/mm	RPS407	12
	Etched - Lap Shear Strength @ PTFE / Stainless Steel	N/mm	RPS407	16
	Etched - Peel Force @ PTFE / Stainless Steel	N/25mm	BS5350:PtC9	20
	Etched - Peel Force @ PTFE / PTFE	N/25mm	BS5350:PtC11	40
Test Conditions	Adhesive Ciba- Geigy Araldite 2001, PTFE Thickness 1mm, After 24 Hrs			

Chemical Resistance

- The strength of the carbon-fluorine bond and the shielding of the carbon chains by the fluorine atoms result in a chemical inertness which is virtually universal, except alkali metals, fluorine under certain conditions, and some fluorine compounds at elevated temperatures. Resistant to organic solvent.
- This compound has a fair resistance to the following chemicals:
- Ammonium hydroxide, Bromine, Chromic acid, Hydrobromic acid, hydrochloric acid, Hydrocyanic acid, Nitric acid (0-50%), Phenol, Sodium hydroxide.
- This compound has an unsatisfactory resistance to the following chemicals:
 - Fluorosilicic acid, Hydrofluoric acid Hydrogen sulphide (solution) , Sodium silicate.

Applications and Industries

- 25% Glass fibre is the most widely used filler. It improves the creep resistance, compressive strength, rigidity, and wear of PTFE, both at low and high temperatures. It is chemically stable. 25% glass filler improves the wear resistance properties of PTFE.

Chemical:

- Dynamic and shaft seals.
- Seals and Gaskets. Flat gaskets are used to seal flanges in pipelines.

Construction:

- Bridge bearings.
- Slide Bearings.

Electrical:

- None. Not suitable.

Engineering:

- Anti-Friction bearing cages and plates.
- Bearings, bushes, shaft bearings/seals.
- Chain tension slide bearings. Film bearings. Multilayer composite bearings.
- Laboratory equipment. Measuring and control technology.
- Pipe supports. Glandless valves & pumps, valve seats.
- Piston rings in hydraulic systems.
- Piston rod packing's used in compressor plunger pumps and valves.

Food:

- None. Not suitable.

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