

**Product: Virgin PTFE (Polytetrafluoroethylene)
Material Specification 101
(Typical Properties)**

In accordance with ISO 13000-1

Property	Method	Units	Specification
Specific gravity	ISO 1183	g/cc	2.13 – 2.18
Tensile strength	ISO 527	MPa	25 - 35
Elongation	ISO 527	%	250 - 350
Hardness	ISO868	Shore D	54 - 60
Flexural modulus	23°C	N/mm ²	600 - 700
Deformation under load (140 kg/cm ² for 24 hrs at 23°C)	ASTM D695	%	10 - 13
Permanent deformation (After 24 hrs Relaxation at 23°C)	ASTM D695	%	6 – 7.5
Thermal conductivity	ASTM C177	W./m.K	0.24
Friction Coefficient	ASTM D1894	/	0.07 (Dynamic)
Dielectric constant At 60 Hz to 2 GHz	ASTM D150	/	2.1
Dielectric Strength	ASTM D149	KV/mm	20 - 70
Volume Resistivity	ASTM D257	Ohm cm	> 10 ¹⁰
Service Temperature		°C	-200 to + 260
Excellent resistance to continuous service temperature up to 260°C and, for limited periods, even to higher temperatures. The low temperature resistance of the product allows satisfactory performance at -200°C.			
Flammability	UL 94		V-0
Melting Point		°C	325 - 335
Water Absorption	ASTM D570	%	0.01

Chemical Resistance

PTFE possesses a high inertness towards nearly all known chemicals. It is only attacked by elemental alkali metals, chlorine trifluoride and elemental fluorine at high temperatures and pressures.

Solvents resistance:

PTFE is insoluble in all solvents up to temperatures as high as 300°C (572°F). Certain highly fluorinated oils only swell and dissolve PTFE at temperatures close to the crystalline melting point.

FDA Approved

(Code of Federal regulation 21 CFR Ch.1, revised as of April 1, 1999 edition)

Sections 175.105 – 175.300 – 176.170 – 176.180 – 177.1520 – 177.1550 - 177.2600 – 178.3570.

“Perfluorocarbon resins” of the Food and Drug Administration/USA