

# MCP ENGINEERING PLASTICS LIMITED

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### Product: Virgin PTFE (Polytetrafluoroethylene)

### Material Specification (Typical Properties)

Property	Method	Units	Specification
Specific Graphic	ISO 13000-2	g/cm <sup>3</sup>	2,130 – 2,180
Tensile Strength	ISO13000-2	MPa	>20
Elongation	ISO13000-2	%	>200
Hardness	ISO13000-2	Shore D	>54
Ball Hardness	ISO13000-2	MPa	>23
Compression Strength @ 1% deformation		KG/cm <sup>2</sup>	>70
Deformation under load (140kg/cm <sup>2</sup> for 24hr. At 23°C)	ASTM D621	%	10 - 17
Permanent deformation (After 24hrs. Relaxation at 23°C)	ASTM D621	%	6 – 7,5
Coefficient of static friction	ASTM D621		0,08 - 0,10
Coefficient of dynamic friction	ASTM D621		0,06 – 0,08
Thermal Conductivity	ASTM D621	W / m.K	0,24
Dielectric Constant (ε) At 60Hz to 2Ghz	ASTM D621	/	2,1
Dielectric Strength	ASTM D621	KV/mm	20 – 70
Volume Resistivity	ASTM D621	Ohm∙cm	10 18
Flammability	UL 94		V-0
Water Absorption	ASTM D621	%	0,01

#### Service Temperature

Excellent resistance to continuous service temperatures up to 260 °C and, for limited periods, even to higher temperatures; the low temperature resistance of the product allows satisfactory performance at as low as -200 °C.

#### Chemical Resistance

PTFE Processes 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 pressure

#### Solvent 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<sup>st</sup> 1991 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

Disclaimer. These figures are typical values for the material and do not represent a product specification. Properties will vary depending on source of raw material, method of processing, physical from of product, direction of measurement etc.