



**PTFE**  
**POLYTETRAFLUORIETHYLENE**

## Design Description

100% pure PTFE, white with hardness 55 D, is resistant to almost all chemicals apart from fluorine, molten alkali metals and halogens. It also has very good sliding properties.

Due to its low elasticity, PTFE virgin is not suitable with high mechanical loads. PTFE has a poor thermal conductivity, a high expansion coefficient and a low loading capacity as bearing material. It also has low resistance to abrasive wear.

### Features

- Good mech resistance if reinforced with glass, carbon or bronze
- Excellent chem resistance to almost all commercial fluids & chems
- Highly stable electrical insulating properties
- Has weather resistant properties
- Excellent resistance to extreme heat & cold
- Self-lubricating
- Temperature range: -200 to 260°C
- Grades: virgin, carbon filled, glass filled, bronze or PPS filled

Properties	Standard	Unit	Value
Ball Indentation Hardness	DIN 53456	N/mm <sup>2</sup>	25
Density	DIN 53479	N/cm <sup>3</sup>	2.16
Tensile strength – longitudinal	DIN 53455	N/mm <sup>2</sup>	27
Tensile strength – diagonal	ASTM D1457-81	N/mm <sup>2</sup>	26
Elongation at break – longitudinal	DIN 53455	%	390
Elongation at break – diagonal	ASTM D1457	%	450
Tensile E – Modulus		N/mm <sup>2</sup>	750
Dimensional stability under heat acc to ISO 75B	DIN 53461	°C	121
Linear coefficient of thermal expansion		K <sup>-1</sup>	1.2 x 10 <sup>-4</sup>
Coefficient of friction against hard polish steel			0.13
Glass temperature		°C	127
Melting point		°C	327
Thermal conductivity		W/Km	0.25
Spec. thermal capacity		J/gk	1
Specific resistance		Ohm/cm	Oct-18
Dielectric coefficient 10 <sup>3</sup> - 10 <sup>6</sup>		Hz	2.1
Elongation coefficient	DIN 53328	K <sup>-1</sup>	16 x 10 <sup>-4</sup>