

## Material Specification 115

(Typical Properties)

Product: **25% Carbon Filled PTFE (polytetrafluoroethylene)**

Property	Method	Units	Specification
Specific gravity	ISO 1183	g/cc	2,11
Tensile strength	ISO 527	MPa	15
Elongation	ISO 527	%	180
Hardness	ISO 868	Shore D	66
Flexural modulus	23°C	N/mm <sup>2</sup>	
Deformation under load (140 Kg/cm <sup>2</sup> for 24 hrs. At 23°C)	ASTM D695	%	8.5
Permanent deformation (after 24 hrs. Relaxation at 23°C)	ASTM D695	%	
Thermal conductivity	ASTM C 177	W./m.K	0.6
Coefficient of linear thermal Expansion (T=25 - 100°C)		10 <sup>-5</sup> /°C	7 - 12,5
Friction Coefficient	ASTM D1894	/	
Dielectric constant At 60 Hz to 2GHz	ASTM D150	/	
Dielectric Strength	IEC 60243-1	KV/mm	
Volume Resistivity	IEC 60093	Ohm cm	10 <sup>3</sup>
Surface Resistivity	IEC 60093	Ohm	10 <sup>3</sup>
Service Temperature		C°	-200 / +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

Flamability	UL 94	%	V-0
Melting Point		C°	325 - 335
Water adsorption	ASTM D570	%	

### 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 temperature 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.