

Chemical Designation

PTFE (Polytetrafluorethylene)

Colour

white opaque

Density

2.15 g/cm³

Main features

- very good chemical resistance
- inherent flame retardant
- continuous service temperature up to 260 °C
- good UV and weather resistance
- very good electrical insulation
- very good slide and wear properties

Target Industries

- aircraft and aerospace technology
- chemical technology
- cryogenic engineering
- food technology
- mechanical engineering
- semiconductor technology

Mechanical properties

parameter	value	unit	norm	comment
Tensile strength	22	MPa	ASTM D 4894	1)
Elongation at break (tensile test)	220	%	ASTM D 4894	2)
Compression strength	5	MPa	ASTM D 695	
Shore hardness	D		DIN EN ISO 868	

Thermal properties

parameter	value	unit	norm	comment
Glass transition temperature	- 20	°C	DIN EN ISO 11357	1)
Service temperature	260	°C	-	2)
Service temperature	260	°C	-	
Thermal expansion (CLTE)	13	10 ⁻⁵ K ⁻¹	ASTM D 696	
Thermal conductivity	0.20	W/(K*m)	ASTM C 177	

Electrical properties

parameter	value	unit	norm	comment
surface resistivity	10 ¹⁶	Ω	ASTM D 257	1)
volume resistivity	10 ¹⁷	Ω*cm	ASTM D 257	
Dielectric strength	80	kV/mm	ASTM D 149	
Dielectric constant	2.1		ASTM D 150	

Other properties

parameter	value	unit	norm	comment
Water absorption	< 0.01	%	ASTM D 570	
Flammability (UL94)	V0		DIN IEC 60695-11-10;	1)

