

Chemical Designation

PTFE (Polytetrafluorethylene)

Colour

grey

Density

2.56 g/cm³

Main features

- very good slide and wear properties
- low static friction
- high dimensional stability
- low outgassing
- very good thermal stability
- good chemical resistance

Target Industries

- aircraft and aerospace technology
- cryogenic engineering
- vacuum technology
- propulsion technology

<i>Mechanical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Tensile strength	50 mm/min	13	MPa	DIN EN ISO 527-1	
Modulus of elasticity (tensile test)	1 mm/min	2300	MPa	DIN EN ISO 527-1	
Elongation at break (tensile test)	50 mm/min	20	%	DIN EN ISO 527-1	
Shore hardness	Shore D	67		DIN EN ISO 868	
Coefficient of friction		0,14 - 0,22		-	
Wear rate		1 - 10	10 ⁻⁶ mm ³ /Nm	-	
<i>Thermal properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Service temperature	long-term	260	°C	-	1) (1) Found in public sources. Individual testing regarding application conditions is mandatory.
Thermal expansion (CLTE)	23-100°C	53	10 ⁻⁶ K ⁻¹	DIN EN ISO 11359-1;2	2) (2) Expansión térmica eje XY
Thermal expansion (CLTE)	50-200°C	55	10 ⁻⁶ K ⁻¹	DIN EN ISO 11359-1;2	3) (3) Expansión térmica eje XY
Thermal expansion (CLTE)	100-150°C	52	10 ⁻⁶ K ⁻¹	DIN EN ISO 11359-1;2	4) (4) Thermal expansion XY axis
<i>Other properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Water absorption	24h / 96h (23°C)	0,003 / 0,016	%	DIN EN ISO 62	(1) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
Outgassing in high vacuum		passed		ECSS-Q-70-02	
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	1)

