

TECAFLON PTFE natural - Stock Shapes (rods, plates, tubes)

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	1% strain	5	MPa	ASTM D 695	
Shore hardness	D	59		DIN EN ISO 868	
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		- 20	°C	DIN EN ISO 11357	1)
Service temperature	short term	260	°C	-	2)
Service temperature	long term	260	°C	-	
Thermal expansion (CLTE)	23-100°C, long.	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	In air, 0.125mm thick	80	kV/mm	ASTM D 149	
Dielectric constant	50-109Hz	2.1		ASTM D 150	
Other properties	parameter	value	unit	norm	comment
Water absorption	23°C	< 0.01	%	ASTM D 570	
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	1)

Our information and statements reflect the current state of our knowledge and shall inform about our products and their applications. They do not assure or guarantee chemical resistance, quality of products and their merchantability in a legally binding way. Our products are not defined for use in medical or dental implants. Existing commercial patents have to be observed. The corresponding values and information are no minimum or maximum values, but guideline values that can be used primarily for comparison purposes for material selection. These values are within the normal tolerance range of product properties and do not represent guaranteed property values. Therefore they shall not be used for specification purposes. As the properties depend on the dimensions of the semi-finished products and the orientation in the component (esp. in reinforced grades), the material may not be used without a separate testing under individual circumstances. The customer is solely responsible for the quality and suitability of products for the application and has to test usage and processing prior to use. Data sheet values are subject to periodic review, the most recent update can be found at www.ensingerplastics.com. Technical changes reserved.