

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

<i>Mechanical properties</i>		<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Tensile strength			22	MPa	ASTM D 4894	1) (1) Tested on extruded and machined specimen
Elongation at break (tensile test)			220	%	ASTM D 4894	2) (2) Tested on extruded and machined specimen
Compression strength		1% strain	5	MPa	ASTM D 695	
Shore hardness		D	59		DIN EN ISO 868	
<i>Thermal properties</i>		<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Glass transition temperature			- 20	°C	DIN EN ISO 11357	1) (1) Found in public sources.
Service temperature		short term	260	°C	-	2) (2) Found in public sources. Individual testing regarding application conditions is mandatory.
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	
<i>Electrical properties</i>		<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
surface resistivity			10 ¹⁶	Ω	ASTM D 257	1) (1) Without defects
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	
<i>Other properties</i>		<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Water absorption		23°C	< 0.01	%	ASTM D 570	(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.
Flammability (UL94)		corresponding to	V0		DIN IEC 60695-11-10;	1)

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