

TECAFLON PTFE - Stock Shapes

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

- chemical plant engineering
- conveyor technology
- cryogenic engineering
- medical technology
- semiconductor technology
- food engineering
- mechanical engineering

<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)
Elongation at break		220	%	ASTM D 4894	2)
Compression strength	1% deformation	5	MPa	ASTM D 695	
Shore hardness	Shore D	55		ASTM D 2240	3)
					(1) Tested on extruded and machined specimen (2) Tested on extruded and machined specimen (3)
<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 53765	1)
Service temperature	short term	260	°C	-	2)
Service temperature	long term	260	°C	-	
Thermal expansion (CLTE)	25-100°C, long.	13	10 ⁻⁵ K ⁻¹	ASTM D 696	
Thermal conductivity		0.20	W/(K*m)	ASTM C 177	
					(1) Found in public sources. (2) Found in public sources. Individual testing regarding application conditions is mandatory.
<i>Electrical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Specific surface resistance		10 ¹⁶	Ω	ASTM D 257	1)
Specific volume resistance		10 ¹⁷	Ω*cm	ASTM D 257	
Dielectric strength	in air, thickness 0.125 mm	80	kV/mm	ASTM D 149	
Dielectric constant	50-109 Hz	2.1		ASTM D 150	
					(1) Without defects
<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	
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	1)
					(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.

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