

# TECAFLON PVDF natural - Stock Shapes

## Chemical Designation

PVDF (Polyvinylidene fluoride)

## Colour

white opaque

## Density

1.78 g/cm<sup>3</sup>

## Main features

- very good chemical resistance
- inherent flame retardant
- continuous service temperature up to 150 °C
- good slide and wear properties
- very good weldable
- very good electrical insulation
- very good UV and weather resistance

## Target Industries

- chemical technology
- electronics
- energy industry
- food technology
- medical technology
- mechanical engineering

<b>Mechanical properties</b>	<b>parameter</b>	<b>value</b>	<b>unit</b>	<b>norm</b>		<b>comment</b>
Modulus of elasticity (tensile test)	1mm/min	2200	MPa	DIN EN ISO 527-2	1)	(1) For tensile test: specimen type 1b
Tensile strength	50mm/min	62	MPa	DIN EN ISO 527-2		(2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	62	MPa	DIN EN ISO 527-2		(3) Specimen 10x10x10mm
Elongation at yield	50mm/min	8	%	DIN EN ISO 527-2		(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break	50mm/min	17	%	DIN EN ISO 527-2		(5) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10 N	77	MPa	DIN EN ISO 178	2)	(6) Specimen in 4mm thickness
Modulus of elasticity (flexural test)	2mm/min, 10 N	2100	MPa	DIN EN ISO 178		
Compression strength	1% / 2% 5mm/min, 10 N	16 / 28	MPa	EN ISO 604	3)	
Compression modulus	5mm/min, 10 N	1900	MPa	EN ISO 604	4)	
Impact strength (Charpy)	max. 7,5J	150	kJ/m <sup>2</sup>	DIN EN ISO 179-1eU	5)	
Ball indentation hardness		129	MPa	ISO 2039-1	6)	
<b>Thermal properties</b>	<b>parameter</b>	<b>value</b>	<b>unit</b>	<b>norm</b>		<b>comment</b>
Glass transition temperature		-40	°C	DIN 53765	1)	(1) Found in public sources.
Melting temperature		171	°C	DIN 53765		(2) Found in public sources. Individual testing regarding application conditions is mandatory.
Service temperature	short term	150	°C		2)	
Service temperature	long term	150	°C			
Thermal expansion (CLTE)	23-60°C, long.	16	10 <sup>-5</sup> K <sup>-1</sup>	DIN EN ISO 11359-1;2		
Thermal expansion (CLTE)	23-100°C, long.	18	10 <sup>-5</sup> K <sup>-1</sup>	DIN EN ISO 11359-1;2		
Specific heat		1.3	J/(g*K)	ISO 22007-4:2008		
Thermal conductivity		0.25	W/(K*m)	ISO 22007-4:2008		
<b>Electrical properties</b>	<b>parameter</b>	<b>value</b>	<b>unit</b>	<b>norm</b>		<b>comment</b>
Specific surface resistance		10 <sup>14</sup>	Ω	DIN IEC 60093		
<b>Other properties</b>	<b>parameter</b>	<b>value</b>	<b>unit</b>	<b>norm</b>		<b>comment</b>
Water absorption	24h / 96h (23°C)	<0.01 / <0.01	%	DIN EN ISO 62	1)	(1) Ø ca. 50mm, h=13mm (2) + good resistance (3) 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.
Resistance to hot water/ bases		+		-	2)	
Resistance to weathering		+				
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	3)	

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