

## TECAFLON® PVDF natural - Stock Shapes (rods, plates, tubes)

### Chemical Designation

PVDF (Polyvinylidene fluoride)

### Colour

white

### Density

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

### Main features

- excellent chemical resistance
- inherent flame resistance
- high gamma radiation resistance
- good UV and weather resistance
- good mechanical properties
- low moisture absorption
- good machinability

### Target Industries

- chemical plant engineering
- process engineering
- medical technology
- cleanroom technology
- food processing
- food engineering

<i>Mechanical properties</i>	<i>condition</i>	<i>value</i>		<i>test method</i>	<i>comment</i>
Modulus of elasticity (tensile test)	@ 73 °F	350,000	psi	ASTM D 638	
Tensile strength at yield	@ 73 °F	8,100	psi	ASTM D 638	
Tensile strength at break	@ 73 °F	7,800	psi	ASTM D 638	
Elongation at break (tensile test)	@ 73 °F	35	%	ASTM D 638	
Flexural strength	@ 73 °F	14,700	psi	ASTM D 790	
Modulus of elasticity (flexural test)	@ 73 °F	410,000	psi	ASTM D 790	
Compression strength	@ 73 °F, 10% strain	11,600	psi	ASTM D 695	
Compression	@ 73 °F, 1% strain	1,200	psi	ASTM D 695	
Compression modulus	@ 73 °F	160,000	psi	ASTM D 695	
Impact strength (Izod)	@ 73 °F	1.97	ft-lbs/in	ASTM D 256	
Rockwell hardness	@ 73 °F, M scale	79		ASTM D 785	
<i>Thermal properties</i>	<i>condition</i>	<i>value</i>		<i>test method</i>	<i>comment</i>
Melting temperature		342	°F	-	1) (1) per ASTM D3418
Deflection temperature	@264 psi	235	°F	ASTM D 648	2) (2) publicly sourced data
Deflection temperature	@ 66 psi	300	°F	ASTM D 648	3) (3) Injection molded samples
Service temperature	short term	300	°F	-	4) (4) Data obtained from public source
Service temperature	Long Term	300	°F	-	5) (5) Data obtained from public source
Thermal expansion (CLTE)		7.1*10 <sup>-5</sup>	in/in/°F	ASTM D 696	6) (6) publicly sourced data
Thermal conductivity		1.32	BTU-in/hr-ft <sup>2</sup> -°F	ASTM C 177	7) (7) publicly sourced data
<i>Electrical properties</i>	<i>condition</i>	<i>value</i>		<i>test method</i>	<i>comment</i>
volume resistance	@ 73 °F	5*10 <sup>14</sup>	Ω*cm	ASTM D 257	1) (1) publicly sourced data
Dielectric strength		510	V/mil	ASTM D 149	2) (2) Injection molded samples
Dissipation factor	@ 60 Hz, 73 °F	0.06		ASTM D 150	3) (3) publicly sourced data
Dielectric constant	@ 60 Hz, 73 °F, 50% RH	9		ASTM D 150	4) (4) publicly sourced data
<i>Other properties</i>	<i>condition</i>	<i>value</i>		<i>test method</i>	<i>comment</i>
Moisture absorption	@ 24 hrs, 73 °F	0.02	%	ASTM D 570	(1) Thickness greater than 0.1 mm Injection molded samples
Flammability (UL94)		V0		-	1)

→ Resin specification:  
ASTM D3222-05 (Reapproved 2015) Type II  
Shapes specification:  
ASTM D 6713-14 S-PVDF0111

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