

TECAFLON® PVDF - Stock Shapes

Chemical Designation

PVDF (Polyvinylidene fluoride)

Colour

white

Density

1.78 g/cm³

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

Mechanical properties	condition	value		test method	comment
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	@ 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	

Thermal properties	condition	value		test method	comment
Melting temperature		342	°F	-	1) (1) per ASTM D3418 (2) publicly sourced data
Deflection temperature	@264 psi	235	°F	ASTM D 648	2) (3) Injection molded samples
Deflection temperature	@ 66 psi	300	°F	ASTM D 648	3) (4) Data obtained from public source
Service temperature	Long Term	300	°F	-	4) (5) Data obtained from public source
Service temperature	short term	300	°F	-	5) (6) publicly sourced data
Thermal expansion (CLTE)		7.1*10 ⁻⁵	in/in/°F	ASTM D 696	6) (7) publicly sourced data
Thermal conductivity		1.32	BTU-in/hr-ft ² -°F	ASTM C 177	7)

Electrical properties	condition	value		test method	comment
Volume resistivity	@ 73 °F	5*10 ¹⁴	Ω*cm	ASTM D 257	1) (1) publicly sourced data
Dielectric strength		280	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

Other properties	condition	value		test method	comment
Moisture absorption	@ 24 hrs, 73 °F	0.02	%	ASTM D 570	(1) Thickness greater than 0.1 mm Injection molded samples
Flammability (UL94)		V-0		-	1)

- Resin specification:
ASTM D3222-05 (Reapproved 2010) Type II
Shapes specification:
ASTM D 6713-01 (Reapproved 2009) S-PVDF0110 X0000000

This information reflects the current state of our knowledge and is intended only to assist and advise. It is given without obligation or liability. It does not assure or guarantee chemical resistance, quality of products or their suitability in any legally binding way. Values are not minimum or maximum values, but guidelines that can be used for comparative purposes in material selection. They are within the normal range of product properties and do not represent guaranteed property values. Testing under individual application circumstances is always recommended. Data is obtained from extruded shapes material unless otherwise noted. References to FDA compliance refer to the resins from which the products were made unless otherwise noted. All trade and patent rights should be observed. All rights reserved. Data sheet values are subject to periodic review, the most recent update can be found at www.ensinger-inc.com.

KYNAR® 740 - Stock Shapes

Chemical Designation

PVDF (Polyvinylidene fluoride)

Colour

white translucent

Density

1.78 g/cm³

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

<i>Mechanical properties</i>	<i>condition</i>	<i>value</i>	<i>test method</i>	<i>comment</i>
Modulus of elasticity (tensile test)	@ 73 °F	300,000 psi	ASTM D 638	(1) Data obtained from public source
Tensile strength at yield	@ 73 °F	8,000 psi	ASTM D 638	1)
Tensile strength at break	@ 73 °F	8,000 psi	ASTM D 638	
Elongation at break	@ 73 °F	35 %	ASTM D 638	
Flexural strength	@ 73 °F	13,000 psi	ASTM D 790	
Modulus of elasticity (flexural test)	@ 73 °F	400,000 psi	ASTM D 790	
Compression strength	@ 73 °F, 1% strain	1,200 psi	ASTM D 695	
Compression strength	@ 73 °F, 10% strain	10,500 psi	ASTM D 695	
Compression modulus	@ 73 °F	160,000 psi	ASTM D 695	
Impact strength (Izod)	@ 73 °F	1.9 ft-lbs/in	ASTM D 256	
Rockwell hardness	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	221-239 °F	ASTM D 648	2) (2) Injection molded samples
Deflection temperature	@ 66 psi	257-284 °F	ASTM D 648	3) (3) Injection molded samples
Service temperature	Long Term	300 °F	-	4) (4) Data obtained from public source
Thermal expansion (CLTE)		7.3*10 ⁻⁵ in/in/°F	ASTM D 696	5) (5) injection molded samples
Specific heat		0.28-0.36 BTU/lb-F°	*** new ***	6) (6) Injection molded data
Thermal conductivity		1.18-1.32 BTU-in/hr-ft ² -°F	ASTM C 177	7) (7) injection molded data

<i>Electrical properties</i>	<i>condition</i>	<i>value</i>	<i>test method</i>	<i>comment</i>
Volume resistivity	@ 73 °F, 65% RH	2*10 ¹⁴ Ω*cm	ASTM D 257	1) (1) Injection molded data
Dielectric strength		1700 V/mil	ASTM D 149	2) (2) Injection molded samples
Dissipation factor	@ 100 Hz, 73 °F	0.01--0.21	ASTM D 150	3) (3) injection molded data
Dielectric constant	@ 100 MHz, 73 °F	4.5	ASTM D 150	4) (4) injection molded 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 0.1mm Injection molded samples
Flammability (UL94)		V-0	-	1)

→ Resin specification:
ASTM D3222-05 (Reapproved 2010) Type II
Shapes specification:
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