

# TECAFLON™ PVDF

## PVDF (polyvinylidene fluoride)

Polyvinylidene fluoride, or PVDF, is a fluorinated thermoplastic resin which has outstanding resistance to most mineral and organic

acids, aliphatic and aromatic hydrocarbons, alcohols, halogenated solvents, and oxidizing environments. It also has outstanding aging

resistance, with its properties remaining constant after many years of continuous use.

- **Superior chemical resistance**  
PVDF has a high chemical resistance to strong acids, aliphatics, and aromatics, and to numerous mineral organic compounds.
- **Remarkable fire resistant properties**  
In the Underwriters' test, PVDF was given the highest classification (V-O), indicating that it was non-flammable and self-extinguishing.
- **UV and gamma radiation stability**
- **Very high dielectric and piezoelectric constants**
- **Tecaflon™ PVDF is FDA compliant**
- **Absolutely non-toxic**  
PVDF can be used in repeated contact with food products. Its surface, like glass, is unfavorable to the proliferation of microorganisms.
- **Good mechanical properties in tension as well as in deflection, torsion, and compression compared to other fluorinated polymers**
- **Does not swell or alter in a wet environment**
- **Uses standard machining and welding techniques**

*TECAFLON™ PVDF's excellent chemical and physical properties and the ease with which it can be processed make it especially suitable for components in the chemical, petrochemical, hydrometallurgical, pharmaceutical, food, nuclear, and paper and pulp industries, as well as the semiconductor processing industry.*

# TYPICAL PROPERTY VALUES

	PROPERTIES	ASTM Test Method	Units	TECAFLON™ PVDF
<b>PHYSICAL</b>	Density	D792	lbs/in <sup>3</sup>	0.064
	Specific Gravity	D792	-	1.78
	Water Absorption, 24 hours, 73°F	D570	%	.02
<b>MECHANICAL</b>	Tensile Strength, Break, 73°F	D638	psi	7,800
	Tensile Modulus, 73°F	D639	psi	350,000
	Elongation, Break, 73°F	D638	%	35
	Flexural Strength, 73°F	D790	psi	10,750
	Flexural Modulus, 73°F	D790	psi	310,000
	Izod Impact Strength, Notched, 73°F	D256	ft-lbs/in	3.0
	Rockwell Hardness	D785	"R" Scale	100
	Compressive Strength, 73°F	D695	psi	11,600
<b>THERMAL</b>	Deflection Temperature @ 66 psi	D648	°F	300
	@ 264 psi	D648	°F	235
	Coefficient of Linear Thermal Expansion	D696	in/in/°F	7.1 x 10 <sup>-5</sup>
	Melting Point	D3448	°F	342
	Thermal Conductivity	C177	BTU-in/hr-ft <sup>2</sup> -°F	1.32
	Flammability	UL94		V-O
<b>ELECTRICAL</b>	Dielectric Strength	D149	V/mil	280
	Dielectric Constant, 60 Hz, 73°F, 50% RH	D150	-	9
	Dissipation Factor, 60 HZ, 73°F	D150	-	0.06
	Volume Resistivity, 73°F	D257	ohm-cm	5 x 10 <sup>14</sup>

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## MATERIAL AVAILABILITY

**Rods:** Diameters: 1/4" to 9" diameter  
 Lengths: 3/16" to 4-3/4" diameters – 10'  
 5" and larger diameters – 5'

**Plates:** 1/4" to 4" thickness inclusive are 2' x 4'

*Profiles, tubes, and special sizes are custom-produced on request.*



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HEADQUARTERS  
 365 Meadowlands Boulevard  
 Washington, Pennsylvania 15301  
**Telephone:** 800-243-3221 *Sales*  
 800-869-4029 *Technical*  
**Fax:** 724-746-9209  
 e-mail: sales@ensinger-ind.com