

# KYNAR® POLYVINYLIDENE FLUORIDE (PVDF)

## KEY FEATURES

- Strong Chemical Resistance
- Remarkable Fire Resistant Properties
- UV and Gamma Radiation Stability
- Very High Dielectric and Piezoelectric Constants
- Good Surface Hardness and Resilience
- Does Not Swell or Alter in a Wet Environment
- Absolutely Non-Toxic
- Good Mechanical Properties in Tension, Deflection, Torsion, and Compression Compared to other Fluorinated Polymers
- Uses Standard Machining and Welding Techniques

## DESCRIPTION

Kynar® Polyvinylidene fluoride (PVDF) is a high molecular weight crystalline thermoplastic. Kynar® has excellent corrosion and chemical resistance and performs in many applications up to 300°F (149°C). It is used extensively in chemical processing applications because of its unique combination of properties. Kynar® PVDF is tough and durable, and is easily fabricated into finished parts.

## TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
Physical	Chemical Designation			PVDF	
	Filler				
	Density		g/cm <sup>3</sup>	1.77	D792
Mechanical	Tensile Modulus	@ 73 °F	PSI	290,000	D638
	Tensile Strength	@ 73 °F	PSI	6,300	D638
	Elongation @ Yld	@ 73 °F	%		
	Elongation @ Brk	@ 73 °F	%	50	D638
	Flexural Modulus	@ 73 °F	PSI	290,000	D790
	Flexural Strength	@ 73 °F	PSI	9,700	D790
	Compressive Modulus	@ 73 °F	PSI		D695
	Compressive Strength	@ 73 °F	PSI	9,000	D695
	Izod (charpy) Impact Strength	@ 73 °F	ft-lbs/in	3.0	D256
	Shore Hardness	@ 73 °F		D75	D2240

## TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
<b>Thermal</b>	Vicat Softening Point		°F		
	Melting Temperature		°F	332	D3418
	Heat Deflection Temperature	@ 66	°F		
	Heat Deflection Temperature	@ 264	°F	230	D648
	Service Temperature	Intermittent	°F		
	Service Temperature	Long Term	°F	275	
	Thermal Expansion (CLTE)		in/in/°F	6.6 x 10 <sup>-5</sup>	D696
	Specific Heat		BTU/lb-°F		
	Thermal Conductivity		BTU-in/ft <sup>2</sup> -hr-°F	1.2	C177
<b>Electrical</b>	Surface Resistivity		ohms/square		
	Volume Resistivity		ohm-cm@50% RH	1.5 x 10 <sup>15</sup>	D257
	Dielectric Strength (1/8" thick)		V/mil	1,700	D149
	Dielectric Constant	@ 1 MHz		8.5	D150
	Dissipation Factor	@ 1 MHz		0.05	D150
<b>Other</b>	Moisture Absorption	@ 24 hrs, 73 °F	%	0.03	D570
	Moisture Absorption	@ Saturation, 73 °F	%		
	Flammability	UL 94		V-0	UL94
	Food Grade			Y	
	Relative Cost			\$\$\$	

\*The data stated above are typical values intended for reference and comparison purposes only.

\*The data should not be used as a basis for design specifications or quality control.

\*The information is provided as a guide to the best of our knowledge and given without obligation or liability.

\*Testing under individual application circumstances is recommended.