

# DATASHEET

## PVDF

PVDF is a highly crystalline unreinforced fluoropolymer combining good mechanical, thermal, and electrical properties with excellent chemical resistance. Its property profile makes PVDF a versatile engineering material, especially suitable for the manufacture of components for the petrochemical, chemical, metallurgical, pharmaceutical, food, paper, textile, and nuclear industries.

### Applications

- Petrochemical & Nuclear Industries
- Food, Paper, and Textile Industries
- Pharmaceutical & Chemical Industries

### Availability

- Colour – Natural
- Type – Sheet & Rod
- Regularly produced in a wide variety of thicknesses

### Typical Properties

General Properties	Method	Unit	Test Result
<b>Physical Properties</b>			
Colour	-	-	Black
Density	ISO 1183	g/cm <sup>3</sup>	1.79
Water Absorption:			
- After 24h immersion in water of 23°C	ISO 62	mg	1/3
-		%	0.01/0.03
- At saturation in air of 23°C	-	%	0.05
- At saturation in water of 23°C			0.05
<b>Thermal Properties</b>			
Melting Temperature (DSC, 10°C/min)	ISO 11357 – 1/-3	°C	175
Thermal Conductivity at 23°C	-	W/(K.m)	0.19
Coefficient of Linear Thermal Expansion:			
- Average value between 23 and 100°C	-	W/(K.m)	130x10 <sup>(-6)</sup>
- Average value between 23 and 150°C	-	W/(K.m)	145x10 <sup>(-6)</sup>
Temperature of Deflection Under Load:			
- Method A: 1.8 MPa	ISO 75-1/-2	°C	105
Max Allowable Service Temperature in Air:			
- For Short Periods		°C	160
- Continuously: for 5,000 to 20,000h	-	°C	150
Flammability:			
- Oxygen Index	ISO 4589	%	44

- According to UL94 (1.5/3mm thickness)	-	-	V-0
<b>Mechanical Properties</b>			
Tension Test:			
- Tensile Stress at Yield	ISO 527-1/-2	%	50
- Tensile Strain at Break	ISO 527-1/-2	%	>20
- Tensile Modulus of Elasticity	ISO 527-1/-2	MPa	2300
Compression Test:			
- Compressive Stress @ 1/2% Nominal Strain	ISO 604	MPa	17/32
Charpy Impact Strength - Unnotched	ISO 179-1-1eU	kJ/m <sup>2</sup>	No break
Charpy Impact Strength - Notched	ISO 179-1-1eU	kJ/m <sup>2</sup>	10
Ball Indentation Hardness	ISO 2039-1	N/mm <sup>2</sup>	110
Rockwell Hardness	ISO 2039-2	-	M 75
<b>Electrical Properties</b>			
Electric Strength	EC 60243-1	kV/mm	18
Volume Resistivity	IEC 60093	Ohm.cm	>10(14)
Surface Resistivity	IEC 60093	Ohm	>10(13)
Relative Permittivity – at 100Hz	IEC 60250	-	7.4
Relative Permittivity – at 1MHz	IEC 60250	-	6.0
Dielectric Dissipation Factor – at 100Hz	IEC 60250	-	0.025
Dielectric Dissipation Factor – at 1MHz	IEC 60250	-	0.165
Comparative Tracking Index	IEC 60112	-	600