

POLYMAT PVDF

BASIC MATERIAL FOR ENGINEERING

PVDF (POLYVINYLIDENE FLUORIDE)

POLYVINYLIDENE FLUORIDE engineering plastic extruded stock shapes are part of a range of high performance engineering plastic products offered under trade name **POLYMAT** for machining into industrial components. These products are made using best raw materials in modern production facility under strict quality control regime. The result is crystalline, stress relieved products of consistent quality conforming to international standards.

PVDF is a crystalline fluorinated thermoplastic of very high purity which exhibits excellent chemical resistance to mineral and organic acids, hydrocarbons and solvents. It's mechanical toughness, very low moisture absorption, wide range of service temperature from -40 deg C to 150 deg C, good wear resistance, low coefficient of friction, resistance to UV, self extinguishing nature and transparency to radiation renders it useful in host of applications in chemical processing, food, pharmaceutical and paper manufacturing.

PVDF is amenable to standard metal working machine tools and can be fabricated with ease to yield smooth surface finish and close tolerances. Information on technical properties for designers is provided on the back side. More specific data and engineering assistance is available upon request.

ADVANTAGES

- Excellent Chemical Resistance
- High Mechanical strength and toughness
- Good Dimensional Stability
- Wide Range of Service Temperature
- Approved for Food Contact Applications
- Resistance to UV Radiation
- Non contaminating

APPLICATIONS

- Chemical Manufacturing
- Food Processing
- Pharmaceutical Machinery
- Pulp and Paper processing
- Medical Devices
- Textile Machinery
- Semicon Processing

MECHANICAL

<i>PROPERTY</i>	<i>TEST METHOD ASTM</i>	<i>UNITS</i>	<i>PVDF</i>
Tensile Strength	D 638	MPa	48
Elongation at Break	D 638	%	>30
Modulus of Elasticity	D 638	MPa	1840
Compressive Strength	D 695	MPa	85
Hardness - Shore D	-	-	75 - 78
Izod Impact Strength (Notched)	D 256	J/m	160

THERMAL

<i>PROPERTY</i>	<i>TEST METHOD ASTM</i>	<i>UNITS</i>	<i>PVDF</i>
Coefficient Of Linear Thermal Expansion	D 638	m/m° K	12 X 10 ⁻⁶
Melting Point	D 2117	°C	168
Heat Distortion Temperature	D 648	°C	135
Min. Service Temperature	-	°C	(-40)
Max. Service Temperature	-	°C	150

ELECTRICAL

<i>PROPERTY</i>	<i>TEST METHOD ASTM</i>	<i>UNITS</i>	<i>PVDF</i>
Dielectric Constant 10 ⁶ Hz	D 150		8.05
Dielectric Strength	D 149	KV/mm	67
Volume Resistivity	D 257	Ohm.cm	2.0 E x 10 ¹⁴

MISCELLANEOUS

<i>PROPERTY</i>	<i>TEST METHOD ASTM</i>	<i>UNITS</i>	<i>PVDF</i>
Specific Gravity			1.78
Moisture Absorption - 24 Hrs.	D 570	%	0.03 – 0.04
Flammability			Self Extinguishing

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