# Westlake PVDF Film

### Polyvinylidene Fluoride

#### Westlake Plastics Company

#### Message:

PVDF is strong and tough as reflected by its tensile properties and impact strength. Compared to many thermoplastics, PVDF has excellent resistance to creep and fatigue, yet in thin sections such as films, PVDF components are flexible and transparent. Applications Include: Filters Diaphragms Release films Piezoelectric films Chemical resistant tank linings Fuel cell seals Medical bags Advantages of PVDF Film: Excellent chemical resistance Stable to UV and the effects of weather Low NBS smoke generation and superior LOI Excellent transmittance of solar energy Excellent dielectric strength High heat resistance Excellent physical and mechanical properties for a fluoropolymer **Resin FDA compliant** FM 4910 approved

#### General Information

Features	Fatigue Resistant
	Food Contact Acceptable
	Good Chemical Resistance
	Good Creep Resistance
	Good Flexibility
	Good Strength
	Good Toughness
	Good UV Resistance
	Good Weather Resistance
	High Heat Resistance
	Low Gas Permeability
	Low Smoke Emission
	Ultrasonic Weldable

Uses

#### Bags

Diaphragms
Film
Filters
Liners
Medical/Healthcare Applications

Agency Ratings	FDA Unspecified Rating		
	FM 4910		
Appearance	Clear/Transparent		
Forms	Film		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.78	g/cm³	ASTM D792
Water Absorption (24 hr)	0.010	%	ASTM D570
Films	Nominal Value	Unit	Test Method
Elastic Modulus - MD	1720	MPa	ASTM D882
Tensile Strength - MD (Yield)	52.1	MPa	ASTM D882
Tensile Elongation - MD (Break)	160	%	ASTM D882
Flexural Modulus - MD	1790	MPa	ASTM D790
Oxygen Permeability	5.5	cm <sup>3</sup> ·mm/m <sup>2</sup> /atm/24 hr	
Water Vapor Transmission Rate	1.0	g·mm/m²/atm/24 hr	
Area Factor	15500	in²/lb/mil	
Carbon Dioxide Permeability	2.2	cm <sup>3</sup> ·mm/m <sup>2</sup> /atm/24 hr	
Nitrogen Permeability	3.5	cm <sup>3</sup> ·mm/m <sup>2</sup> /atm/24 hr	
Tear Strength - prop	283.8	kN/m	ASTM D1004
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	118	°C	ASTM D648
Continuous Use Temperature	129	°C	
Melting Temperature			
	165 to 170	°C	DSC
Electrical	165 to 170 Nominal Value	°C Unit	DSC Test Method
Electrical Surface Resistivity	165 to 170 Nominal Value > 1.0E+16	°C Unit ohms	DSC Test Method ASTM D257
Electrical Surface Resistivity Dielectric Strength (0.0762 mm)	165 to 170   Nominal Value   > 1.0E+16   76	°C Unit ohms kV/mm	DSC Test Method ASTM D257 ASTM D149
Electrical Surface Resistivity Dielectric Strength (0.0762 mm) Dielectric Constant (1 kHz)	165 to 170   Nominal Value   > 1.0E+16   76   8.15 to 10.5	°C Unit ohms kV/mm	DSC Test Method ASTM D257 ASTM D149 ASTM D150
Electrical Surface Resistivity Dielectric Strength (0.0762 mm) Dielectric Constant (1 kHz) Dissipation Factor (1 kHz)	165 to 170   Nominal Value   > 1.0E+16   76   8.15 to 10.5   5.0E-3 to 0.019	°C Unit ohms kV/mm	DSC Test Method ASTM D257 ASTM D149 ASTM D150 ASTM D150
Electrical Surface Resistivity Dielectric Strength (0.0762 mm) Dielectric Constant (1 kHz) Dissipation Factor (1 kHz) Flammability	165 to 170   Nominal Value   > 1.0E+16   76   8.15 to 10.5   5.0E-3 to 0.019   Nominal Value	°C Unit ohms kV/mm Unit	DSC Test Method ASTM D257 ASTM D149 ASTM D150 ASTM D150 Test Method
ElectricalSurface ResistivityDielectric Strength (0.0762 mm)Dielectric Constant (1 kHz)Dissipation Factor (1 kHz)FlammabilityFlame Rating	165 to 170   Nominal Value   > 1.0E+16   76   8.15 to 10.5   5.0E-3 to 0.019   Nominal Value   VTM-0	°C Unit ohms kV/mm Unit	DSC Test Method ASTM D257 ASTM D149 ASTM D150 ASTM D150 Test Method UL 94
ElectricalSurface ResistivityDielectric Strength (0.0762 mm)Dielectric Constant (1 kHz)Dissipation Factor (1 kHz)FlammabilityFlame RatingOxygen Index	165 to 170   Nominal Value   > 1.0E+16   76   8.15 to 10.5   5.0E-3 to 0.019   Nominal Value   VTM-0   43	°C Unit ohms kV/mm Unit	DSC Test Method ASTM D257 ASTM D149 ASTM D150 ASTM D150 Test Method UL 94 ASTM D2863
ElectricalSurface ResistivityDielectric Strength (0.0762 mm)Dielectric Constant (1 kHz)Dissipation Factor (1 kHz)FlammabilityFlame RatingOxygen IndexOptical	165 to 170   Nominal Value   > 1.0E+16   76   8.15 to 10.5   5.0E-3 to 0.019   Nominal Value   VTM-0   43   Nominal Value	°C Unit ohms kV/mm Unit Unit	DSC Test Method ASTM D257 ASTM D149 ASTM D150 ASTM D150 Test Method UL 94 ASTM D2863
ElectricalSurface ResistivityDielectric Strength (0.0762 mm)Dielectric Constant (1 kHz)Dissipation Factor (1 kHz)FlammabilityFlame RatingOxygen IndexOpticalRefractive Index	165 to 170   Nominal Value   > 1.0E+16   76   8.15 to 10.5   5.0E-3 to 0.019   Nominal Value   VTM-0   43   Nominal Value   1.420	°C Unit ohms kV/mm Unit % Unit	DSC Test Method ASTM D257 ASTM D149 ASTM D150 ASTM D150 Test Method UL 94 ASTM D2863

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