

Westlake ECTFE Film

Ethylene Chlorotrifluoroethylene Copolymer

Westlake Plastics Company

Message:

ECTFE provides excellent chemical resistance, good electrical properties, a broad-use temperature range from cryogenic to 300°F (150°C), and meets the requirements of UL-94 V-0 vertical flame test in thicknesses as low as 7 mils (0.18 mm). It is a tough material with excellent impact strength and wear resistance.

Applications Include:

- Filters
- Diaphragms
- Release films
- Cable insulation
- Solar collector panels
- Coaxial and fiber optic wrap film
- Medical bags

Advantages of ECTFE Film:

- Excellent purity
- Excellent chemical resistance
- Low permeability
- Excellent abrasion resistance
- Excellent temperature resistance

General Information			
Features	Good Abrasion Resistance		
	Good Chemical Resistance		
	Good Electrical Properties		
	Good Toughness		
	Good Wear Resistance		
	High Heat Resistance		
	High Impact Resistance		
	High Purity		
	Low Gas Permeability		
Uses	Bags		
	Cable Jacketing		
	Diaphragms		
	Film		
	Filters		
	Medical/Healthcare Applications		
	Solar Panels		
Forms	Film		
Processing Method	Thermoforming		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.68	g/cm ³	ASTM D792

Water Absorption (24 hr)	< 0.10	%	ASTM D570
Films	Nominal Value	Unit	Test Method
Elastic Modulus - MD	1960	MPa	ASTM D882
Tensile Strength - MD (Yield)	34.1	MPa	ASTM D882
Tensile Elongation - MD (Break)	220	%	ASTM D882
Flexural Modulus - MD	1650	MPa	ASTM D790
Oxygen Permeability	2.4	cm ³ ·mm/m ² /atm/24 hr	
Water Vapor Transmission Rate	0.059	g·mm/m ² /atm/24 hr	
Area Factor	16400	in ² /lb/mil	
Carbon Dioxide Permeability	9.8	cm ³ ·mm/m ² /atm/24 hr	
Nitrogen Permeability	1.2	cm ³ ·mm/m ² /atm/24 hr	
Tear Strength - prop	198.1	kN/m	ASTM D1004
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (0.45 MPa, Unannealed)	116	°C	ASTM D648
Continuous Use Temperature	150	°C	
Melting Temperature	240	°C	DSC
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+16	ohms	ASTM D257
Dielectric Strength (0.0762 mm)	110	kV/mm	ASTM D149
Dielectric Constant (1 kHz)	2.56		ASTM D150
Dissipation Factor (1 kHz)	2.5E-3 to 5.0E-3		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating	VTM-0		UL 94
Oxygen Index	60	%	ASTM D2863

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