



Material Data Sheet

Product: Ethylene Chlorotrifluoroethylene	Base Material: Film
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Description

ECTFE is a strong, hard, tough, abrasion resistant film that retains its useful properties over a broad range of temperatures. ECTFE films have outstanding low temperature properties and have demonstrated excellent weathering properties in relation to UV radiation and common industrial or environmental pollutants. ECTFE films also exhibit high bulk and surface resistivity, high dielectric strength, low dielectric constant, and moderate dissipation factor. The dissipation factor varies slightly with frequencies > 1kHz.

Typical Properties

Physical and Thermal Properties	Test method	Typical values			
		SI Units		US Customary Units	
Density	ASTM D-1505	1.66-1.70 g/cm ²		132-135 lb/ft ³	
Thickness Range		25-200 µm		1-8 Mil	
Melting Point	ASTM D-3418	240-244 °C		464-471 °F	
Thermal Conductivity @ 40 °C (104 °F)	ASTM C-177	0.15 W/(mK)		0.9 BTU •in/(h•ft ² • °F)	
Water Vapor Transmission Rate @ 38 °C (100 °F) and 90% RH for a 50 µm film cast film	ASTM F-1249	1.6 g/m ² •d			
Mechanical Properties		MD	TD	MD	TD
Stress at Break @ 23°C (73°F)	ASTM D-882	53 MPa	50 MPa	7,770 psi	7,300 psi
Elongation at Break @ 23°C (73°F)	ASTM D-882	280%	280%	280%	280%
Modulus @ 23°C (73°F)	ASTM D-882	1,550 MPa	1,500 MPa	225 kpsi	218 kpsi
Free shrink % @ 200 °C	30 min in oven	4.4%	0%	4.4%	0%
Electrical Properties					
Surface Resistivity @ 23 °C	ASTM D-257	>10 ¹⁷ Ohm		>10 ¹⁷ Ohm	
Volume Resistivity @ 23°C- 73°F @80 °C- 176 °F @130 C- 266 F	ASTM D-257	6•10 ¹⁶ Ohm•Cm 4•10 ¹⁵ Ohm•Cm 2•10 ¹³ Ohm•Cm		6•10 ¹⁶ Ohm•Cm 4•10 ¹⁵ Ohm•Cm 2•10 ¹³ Ohm•Cm	
Dielectric Constant @ 1kHz @ 23 °C- 73 °F @100 °C- 212 °F	ASTM D-150	2.5 2.6		2.5 2.6	
Dissipation Factor @ 1kHz @ 23 °C- 73 °F @100 °C- 212 °F	ASTM D-150	1•10 ⁻³ 2•10 ⁻³		1•10 ⁻³ 2•10 ⁻³	

The information presented in this publication is believed to be accurate and is not intended to constitute a specification. The values given reflect average material characteristics and may vary slightly between base suppliers. Users should evaluate the material to determine the suitability for their own particular application.

Base on terms and conditions
 Seller's only obligation shall be to replace such quantity of the product proven to be defective. Seller shall not be liable for any injury, loss or damage, direct or consequential, arising out of the use, or inability to use the product for his/her use, and the user assumes all risk and liability whatsoever in connection therewith. The foregoing may not be changed, except by an agreement signed by an officer or seller. We hereby certify that goods covered by this quotation have been produced in compliance with the Fair Labor Standards Act of 1983, as amended. Any credit memos to purchaser shall expire if not used within one year from date of credit memo.