

Ajedium™ Films -- Halar® 500LC

Ethylene Chlorotrifluoroethylene Copolymer

Solvay Specialty Polymers

Message:

Halar® ECTFE is a semi-crystalline fluoropolymer with a chemical structure of a 1:1 alternating copolymer of ethylene and chlorotrifluoroethylene. Halar® film is a strong, hard, tough, abrasion resistant film that retains its useful properties over a broad range of temperatures. Its low temperature properties, especially those related to impact, are particularly outstanding. Halar® films have demonstrated excellent weathering properties and are extremely resistant to UV radiation and common industrial and environmental pollutants. The film also is an excellent barrier to water vapor at a wide range of temperatures. This lower permeability is a key advantage in applications where protection from water, oxygen, or other small gas molecules is required.

General Information			
Features	Low viscosity		
Uses	Electrical/Electronic Applications		
	Industrial application		
	Aerospace applications		
	Outdoor application		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.68	g/cm ³	ASTM D792
Water Absorption (Equilibrium)	< 0.10	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Coefficient of Friction			ASTM D1894
With self-dynamics	0.20		ASTM D1894
With Self-Static	0.20		ASTM D1894
Taber Abrasion Resistance (1000 Cycles, 500 g, CS-17 Wheel)	5.00	mg	
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	50	µm	
secant modulus			ASTM D882
MD	1550	MPa	ASTM D882
TD	1500	MPa	ASTM D882
Tensile Strength			ASTM D882
MD: Fracture	53.0	MPa	ASTM D882
TD: Fracture	50.0	MPa	ASTM D882
Tensile Elongation			ASTM D882
MD: Fracture	280	%	ASTM D882
TD: Fracture	280	%	ASTM D882
Water Vapor Transmission Rate	1.6	g · mm/m ² /atm/24 hr	ASTM F1249
Free Shrinkage (200°C)	4.4	%	ASTM D2732
Area coefficient	115	ft ² /lb/mil	
Thermal	Nominal Value	Unit	Test Method

Brittleness Temperature	< -76.0	°C	ASTM D746A
Glass Transition Temperature	85.0	°C	DMA
Melting Temperature	242	°C	ASTM D3418
Peak Crystallization Temperature (DSC)	222	°C	ASTM D3418
CLTE - Flow	1.0E-4	cm/cm/°C	ASTM D696
Specific Heat (23°C)	962	J/kg/°C	ASTM D3418
Thermal Conductivity (40°C)	0.15	W/m/K	ASTM C177
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity ¹ (23°C)	5.5E+16	ohms·cm	ASTM D257
Dielectric Strength (23°C, 3.20 mm)	14	kV/mm	ASTM D149
Dielectric Constant (23°C, 1 MHz)	2.57		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Oxygen Index	52	%	ASTM D2863
Additional Information			

Standard Thicknesses and Widths

Widths are available from 22" (559 mm) to 56" (1422 mm).

Products with widths 56 inches are available upon request.

Tolerances for widths are +/- 4mm.

For Halar® film, the standard thicknesses are 8 microns (0.3 mil) to 1016 microns (40 mil).

Surface Finishes

Standard surface finish is P/M (polished / matte).

Custom finishes of P/P (polished / polished) and M/M (matte / matte) are available.

Packaging

Film is supplied in a roll form of high quality, cardboard core of 3" (76mm) or 6" (152mm).

PVC cores are available upon request in 3" and 6" sizes.

Labeling

Products are labeled to comply with national and international standards.

Labels include product grade, unique batch number, roll length, roll width, product thickness, and net weight.

NOTE

1. 50% RH

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