

Technical films

Halar® ECTFE | TC 00161

Properties:

Halar® ECTFE | TC 00161 is a semi-crystalline and melt-processable fluoropolymer resin. Because of its chemical structure – a 1:1 alternating copolymer of ethylene and chlorotrifluoroethylene - Halar® ECTFE | TC 00161 offers a unique combination of properties.

Halar® ECTFE | TC 00161 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® ECTFE | TC 00161 films also have good tensile, flexural and wear resistant properties.

In addition, Halar® ECTFE | TC 00161 films have demonstrated excellent weathering properties and are extremely resistant to UV radiation and common industrial or environmental pollutants.

Halar® ECTFE | TC 00161 films are an excellent barrier to water vapor in a wide range of temperatures. This lower permeability is a key advantage in applications where protection from water as well as oxygen or other small gaseous molecules are required.

Halar® ECTFE | TC 00161 films exhibit high bulk and surface resistivity, high dielectric strength, low dielectric constant and moderate dissipation factor. The dissipation factor varies slightly with frequencies above 1 kHz. The dielectric constant of Halar® ECTFE | TC 00161 is stable across broad temperature and frequency ranges.

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properties	testmethod	unit	Value
Density	ASTM D-1505	g/cm ³	1.66 – 1.70
Thickness range		µm	25 - 200
Melting point	ASTM D-3418	°C	240 - 244
Thermal conductivity @ 40°C	ASTM C-177	W/(m K)	0.15
Water vapor transmission rate @ 38°C and 90% RH / for a 50 µm film cast film	ASTM F-1249	g/m ² d	1.6
Stress at break @ 23°C			
MD	ASTM D 882	MPa	53
TD			50
Elongation at break @ 23°C			
MD	ASTM D 882	%	280
TD			280
Modulus @ 23°C			
MD	ASTM D 882	MPa	1550
TD			1500
Free shrink % @ 200°C			
MD	30 min. in oven	%	4.4
TD			0
Surface resistivity at 23°C	ASTM D 257	Ohm	>10 ¹⁷
Volume resistivity	ASTM 257		
@ 23°C		Ohm cm	6 10 ¹⁶
@ 80°C		Ohm cm	4 10 ¹⁵
@ 130°C		Ohm cm	2 10 ¹³
Dielectric constant at 1 kHz	ASTM D 150		
@ 23°C			2.5
@ 100°C			2.6
Dissipation factor at 1 kHz	ASTM D 150		
@ 23°C			1 10 ⁻³
@ 100°C			2 10 ⁻³

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Brand information: Halar® is a registered trademark of Solvay Solexis S.p.A.

Please note: The information in this data sheet is based on our current knowledge and experience. They do not disengage the fabricator and user from own tests and inspections because of plenty of possible effects. There is no judicial binding assurance of certain properties or of the qualification for a concrete application in our declaration. We recommend consulting us in individual cases. The acceptor of our products has to observe possible industrial property rights as well as present laws by himself.

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