

HALAR®

ETHYLENE-CHLOROTRIFLUOROETHYLENE (ECTFE)

KEY FEATURES

- High Purity
- Good Thermal Stability
- Excellent Impact Resistance
- Good Tensile Strength
- Machinable, Weldable, and Thermoformable

DESCRIPTION

Halar® is a high molecular weight crystalline thermoplastic polymer, Ethylene-ChloroTriFluoro-Ethylene (ECTFE). Halar® has excellent corrosion and chemical resistance and performs in many applications up to 300°F (149°C). Made from the toughest of all fluoropolymers, this material has nylon-like durability with excellent mechanical properties and impact strength. In addition, it has extremely low permeability to liquids, gases, and vapors. Halar® ECTFE is resistant to most chemicals (including acids, alkalines, and organic solvents) except for hot amines and ketones.

TYPICAL PROPERTY VALUES

		Properties	Condition	Units	Value	ASTM Test
Physical		Chemical Designation				ECTFE
		Filler				
		Density		g/cm ³	1.68	D792
Mechanical		Tensile Modulus	@ 73 °F	PSI	240,000	D638
		Tensile Strength @ Yld	@ 73 °F	PSI	7,000	D638
		Tensile Strength @ Brk	@ 73 °F	PSI		
		Tensile Elongation @ Brk	@ 73 °F	%	200	D638
		Flexural Modulus	@ 73 °F	PSI	240,000	D790
		Flexural Strength	@ 73 °F	PSI		
		Compressive Modulus	@ 73 °F	PSI		
		Izod (charpy) Impact Strength	@ 73 °F	ft-lbs/in	no break	D256
		Rockwell Hardness	@ 73 °F	R Scale	93	D785
		Coefficient of Friction	Static			

TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
Thermal	Vicat Softening Point		°F		
	Melting Temperature		°F	460	D3418
	Heat Deflection Temperature	@ 66	°F		D648
	Heat Deflection Temperature	@ 264	°F	240	
	Service Temperature	Intermittent	°F		
	Thermal Conductivity		BTU-in/ft ² -hr-°F	1.09	C177
	Thermal Expansion (CLTE)		in/in/°F	5.6x10 ⁻⁵	D696
Electrical	Surface Resistivity	@50% RH	ohms/square	>10 ¹⁵	D257
	Volume Resistivity		ohm-cm	10 ¹⁵	
	Dielectric Strength		V/mil	500	D149
	Dielectric Constant	@ 1MHz		2.5	D150
	Dissipation Factor	@ 1kHz			
Other	Moisture Absorption		%	< 0.1	D570
	Flammability	UL 94		V-O	UL94
	Food Grade				
	Relative Cost				

*The data stated above are typical values intended for reference and comparison purposes only.

*The data should not be used as a basis for design specifications or quality control.

*The information is provided as a guide to the best of our knowledge and given without obligation or liability.

*Testing under individual application circumstances is recommended.