

# Halar<sup>®</sup> Ethylene- Chlorotrifluoroethylene (ECTFE)

## KEY FEATURES

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

## DESCRIPTION

Halar<sup>®</sup> is a high molecular weight crystalline thermoplastic polymer, Ethylene-ChloroTriFluoro-Ethylene (ECTFE). Halar<sup>®</sup> 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<sup>®</sup> 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	Density		g/cm <sup>3</sup>	1.68	D792
	Chemical Designation			ECTFE	
	Filler				

	Properties	Condition	Units	Value	ASTM Test
Mechanical	Tensile Modulus	@ 73 °F	PSI	240,000	D638
	Tensile Strength	@ 73 °F	PSI	4,500	D638
	Compressive Modulus	@ 73 °F	PSI		
	Tensile Elongation @ Brk	@ 73 °F	%	200	D638
	Flexural Modulus	@ 73 °F	PSI	240,000	D790
	Flexural Strength	@ 73 °F	PSI	7,000	D790
	Izod (Charpy) Impact Strength	@ 73 °F	ft-lbs/in	no break	D256
	Rockwell Hardness	@ 73 °F	M (R) Scale	93	D785
	Coefficient of Friction	Static			

	Properties	Condition	Units	Value	ASTM Test
Thermal	Heat Deflection Temperature	@ 66 PSI	°F		D648
	Heat Deflection Temperature	@ 264 PSI	°F	240	
	Service Temperature	Intermittent	°F		
	Thermal Conductivity		BTU-in/hr-ft <sup>2</sup> -°F	1.09	C177
	Thermal Expansion (CLTE)		in/in/°F	5.6*10 <sup>-5</sup>	D696

	Properties	Condition	Units	Value	ASTM Test
Electrical	Surface Resistivity	@50% RH	ohms/square	>10 <sup>15</sup>	D257
	Volume Resistivity		ohm-cm	10 <sup>15</sup>	
	Dielectric Strength		V/mil	500	D149
	Dielectric Constant	@ 1MHz		2.5	D150
	Dissipation Factor	@ 1kHz			

	Properties	Condition	Units	Value	ASTM Test
Other	Moisture Absorption		%	< 0.1	D570
	Food Grade				
	Flammability	UL 94		V-0	UL94
	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