

Halar® 500LC

Ethylene Chlorotrifluoroethylene Copolymer

Solvay Specialty Polymers

Message:

Halar® 500LC is an Ethylene Chlorotrifluoroethylene Copolymer (ECTFE) material. It is available in Africa & Middle East, Asia Pacific, Europe, Latin America, or North America for extrusion or injection molding.

Important attributes of Halar® 500LC are:

Flame Rated

Low Viscosity

Typical application of Halar® 500LC: Wire & Cable

General Information			
Features	Low Viscosity		
Uses	Wire & Cable Applications		
Forms	Pellets		
Processing Method	Extrusion		
	Injection Molding		

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.68	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (275°C/2.16 kg)	18	g/10 min	ASTM D1238
Molding Shrinkage - Flow	2.5	%	ASTM D955
Water Absorption (Equilibrium)	< 0.10	%	ASTM D570

Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	90		ASTM D785
Durometer Hardness (Shore D)	75		ASTM D2240

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ¹ (23°C)	1660	MPa	ASTM D638
Tensile Strength ²			ASTM D638
Yield, 23°C	30.0	MPa	
Break, 23°C	47.0	MPa	
Tensile Elongation ³			ASTM D638
Yield, 23°C	5.0	%	
Break, 23°C	250	%	
Flexural Modulus ⁴ (23°C)	1690	MPa	ASTM D790
Flexural Strength ⁵ (23°C)	47.0	MPa	ASTM D790
Coefficient of Friction			ASTM D1894
vs. Itself - Dynamic	0.20		
vs. Itself - Static	0.20		
Taber Abrasion Resistance (1000 Cycles, 500 g, CS-17 Wheel)	5.00	mg	

Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			ASTM D256
-40°C, 3.20 mm	210	J/m	
23°C, 3.20 mm	No Break		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	90.0	°C	
1.8 MPa, Unannealed	65.0	°C	
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
Crystallization Heat	40.0	J/g	ASTM D3418
Heat of Fusion	42.0	J/g	ASTM D3418
Thermal Stability - 1% mass loss, N2	405	°C	TGA
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity ⁶ (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
Flame Rating	V-0		UL 94
Oxygen Index	52	%	ASTM D2863
NOTE			
1.	50 mm/min		
2.	50 mm/min		
3.	50 mm/min		
4.	2.5 mm/min		
5.	2.5 mm/min		
6.	50% RH		

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