Halar® 513LC

ethylene chlorotrifluoroethylene copolymer

General		
Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Features	• Low Viscosity	
Uses	• Monofilaments	
Forms	• Pellets	
Processing Method	• Extrusion	

Physical	Typical Value	Unit	Test method
Density / Specific Gravity	1.68		ASTM D792
Melt Mass-Flow Rate (MFR) (275°C/2.16 kg)	19	g/10 min	ASTM D1238
Molding Shrinkage - Flow	2.5	%	ASTM D955
Water Absorption (Equilibrium)	< 0.10	%	ASTM D570

Mechanical	Typical Value	Unit	Test method
Tensile Modulus [1] (23°C)	1660	MPa	ASTM D638
Tensile Strength [1]			ASTM D638
Yield, 23°C	30.0	MPa	
Break, 23°C	54.0	MPa	
Tensile Elongation [1]			ASTM D638
Yield, 23°C	5.0	%	
Break, 23°C	250	%	
Flexural Modulus [2] (23°C)	1690	MPa	ASTM D790
Flexural Strength [2] (23°C)	47.0	MPa	ASTM D790
Coefficient of Friction			ASTM D1894
vs. Itself - Dynamic	0.20		
vs. Itself - Static	0.20		

Impact	Typical Value	Unit	Test method
Notched Izod Impact			ASTM D256
-40°C, 3.20 mm	50	J/m	
23°C, 3.20 mm	No Break		

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

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Thermal	Typical 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	Typical Value	Unit	Test method
Volume Resistivity [3] (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	Typical Value	Unit	Test method
Flame Rating	V-0		UL 94
Oxygen Index	52	%	ASTM D2863

Additional Information

Storage and Handling

- Halar® melt processable fluoropolymer resins can be stored without shelf life issues when kept in a clean and dry area at ambient temperatures. Opened containers should be tightly resealed to prevent any contamination.

Notes

Typical properties: these are not to be construed as specifications.

[1] 50 mm/min

[2] 2.5 mm/min

[3] 50% RH

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