

# Halar® 500LC

## ethylene chlorotrifluoroethylene copolymer

### General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Low Viscosity		
Uses	• Wire & Cable Applications		
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

Physical	Typical Value	Unit	Test method
Specific Gravity	1.68		ASTM D792
Melt Mass-Flow Rate (MFR) (275°C/2.16 kg)	15 to 22	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 <sup>1</sup> (23°C)	1660	MPa	ASTM D638
Tensile Strength <sup>1</sup>			ASTM D638
Yield, 23°C	30.0	MPa	
Break, 23°C	47.0	MPa	
Tensile Elongation <sup>1</sup>			ASTM D638
Yield, 23°C	5.0	%	
Break, 23°C	250	%	
Flexural Modulus <sup>2</sup> (23°C)	1690	MPa	ASTM D790
Flexural Strength <sup>2</sup> (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	Typical Value	Unit	Test method
Notched Izod Impact			ASTM D256
-40°C, 3.20 mm	210	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

# Halar® 500LC

ethylene chlorotrifluoroethylene copolymer

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 <sup>3</sup> (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

## Notes

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

<sup>1</sup> 50 mm/min

<sup>2</sup> 2.5 mm/min

<sup>3</sup> 50% RH

[www.solvay.com](http://www.solvay.com)

[SpecialtyPolymers.EMEA@solvay.com](mailto:SpecialtyPolymers.EMEA@solvay.com) | Europe, Middle East and Africa

[SpecialtyPolymers.Americas@solvay.com](mailto:SpecialtyPolymers.Americas@solvay.com) | Americas

[SpecialtyPolymers.Asia@solvay.com](mailto:SpecialtyPolymers.Asia@solvay.com) | Asia and Australia

Safety Data Sheets (SDS) are available by emailing us or contacting your sales representative. Always consult the appropriate SDS before using any of our products.

Neither Solvay Specialty Polymers nor any of its affiliates makes any warranty, express or implied, including merchantability or fitness for use, or accepts any liability in connection with this product, related information or its use. Some applications of which Solvay's products may be proposed to be used are regulated or restricted by applicable laws and regulations or by national or international standards and in some cases by Solvay's recommendation, including applications of food/feed, water treatment, medical, pharmaceuticals, and personal care. Only products designated as part of the Solviva® family of biomaterials may be considered as candidates for use in implantable medical devices. The user alone must finally determine suitability of any information or products for any contemplated use in compliance with applicable law, the manner of use and whether any patents are infringed. The information and the products are for use by technically skilled persons at their own discretion and risk and does not relate to the use of this product in combination with any other substance or any other process. This is not a license under any patent or other proprietary right.

All trademarks and registered trademarks are property of the companies that comprise the Solvay Group or their respective owners.

© 2016 Solvay Specialty Polymers. All rights reserved.

