

Solvay Specialty Polymers Halar® 1400LC Polyethylene, Chlorotrifluoroethylene (ECTFE) (Unverified Data**)

Category : Polymer , Thermoplastic , Fluoropolymer , ETFE/ECTFE , ECTFE Fluoropolymer

Material Notes:

Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Halar-1400LC-Polyethylene-Chlorotrifluoroethylene-ECTFE-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.68 g/cc	1.68 g/cc	ASTM D792
Water Absorption at Saturation	<= 0.10 %	<= 0.10 %	ASTM D570
Linear Mold Shrinkage, Flow	0.025 cm/cm	0.025 in/in	ASTM D955
Melt Flow	430 - 550 g/10 min @Load 2.16 kg, Temperature 275 °C	430 - 550 g/10 min @Load 4.76 lb, Temperature 527 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	73	73	R-Scale; ASTM D785
Hardness, Shore D	69	69	ASTM D2240
Tensile Strength at Break	19.0 - 29.0 MPa @Temperature 23.0 °C	2760 - 4210 psi @Temperature 73.4 °F	50 mm/min; ASTM D638
Tensile Strength, Yield	30.0 MPa @Temperature 23.0 °C	4350 psi @Temperature 73.4 °F	50 mm/min; ASTM D638
Elongation at Break	1.0 - 10 % @Temperature 23.0 °C	1.0 - 10 % @Temperature 73.4 °F	50 mm/min; ASTM D638
Elongation at Yield	1.0 - 10 % @Temperature 23.0 °C	1.0 - 10 % @Temperature 73.4 °F	50 mm/min; ASTM D638
Tensile Modulus	1.78 GPa @Temperature 23.0 °C	258 ksi @Temperature 73.4 °F	50 mm/min; ASTM D638
Flexural Strength	45.0 - 47.0 MPa @Temperature 23.0 °C	6530 - 6820 psi @Temperature 73.4 °F	2.5 mm/min; ASTM D790
Flexural Modulus	1.69 GPa	245 ksi	2.5 mm/min; ASTM D790

Mechanical Properties	@Temperature 23.0 °C Metric	@Temperature 73.4 °F English	Comments
Izod Impact, Notched	0.190 J/cm @Thickness 3.20 mm, Temperature -40.0 °C	0.356 ft-lb/in @Thickness 0.126 in, Temperature -40.0 °F	ASTM D256
	0.250 J/cm @Thickness 3.20 mm, Temperature 23.0 °C	0.468 ft-lb/in @Thickness 0.126 in, Temperature 73.4 °F	ASTM D256
Coefficient of Friction, Dynamic	0.20	0.20	vs. Itself; ASTM D1894
Coefficient of Friction, Static	0.20	0.20	vs. Itself; ASTM D1894
Taber Abrasion, mg/1000 Cycles	5.0 @Load 0.500 kg	5.0 @Load 1.10 lb	CS-17 Wheel

Thermal Properties	Metric	English	Comments
Heat of Fusion	40.0 J/g	17.2 BTU/lb	Crystallization Heat; ASTM D3418
	42.0 J/g	18.1 BTU/lb	ASTM D3418
CTE, linear, Parallel to Flow	100 µm/m-°C	55.6 µin/in-°F	ASTM D696
Specific Heat Capacity	0.962 J/g-°C @Temperature 23.0 °C	0.230 BTU/lb-°F @Temperature 73.4 °F	ASTM D3418
Thermal Conductivity	0.150 W/m-K @Temperature 40.0 °C	1.04 BTU-in/hr-ft ² -°F @Temperature 104 °F	ASTM C177
Melting Point	242 °C	468 °F	ASTM D3418
Crystallization Temperature	222 °C	432 °F	Peak, DSC; ASTM D3418
Deflection Temperature at 0.46 MPa (66 psi)	109 °C	228 °F	Unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	68.0 °C	154 °F	Unannealed; ASTM D648
Brittleness Temperature	20.0 °C	68.0 °F	ASTM D746A
Glass Transition Temp, Tg	85.0 °C	185 °F	DMA
Decomposition Temperature	300 °C	572 °F	1% mass loss, N2; TGA
Flammability, UL94	V-0	V-0	UL 94
Oxygen Index	52 %	52 %	ASTM D2863

Electrical Properties	Metric	English	Comments
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Electrical Properties	Metric 16 ohm-cm	English 6 ohm-cm	Comments
Volume Resistivity	@Temperature 23.0 °C	@Temperature 73.4 °F	50% RH, ASTM D257
Dielectric Constant	2.57 @Frequency 1.00e+6 Hz, Temperature 23.0 °C	2.57 @Frequency 1.00e+6 Hz, Temperature 73.4 °F	ASTM D150
Dielectric Strength	14.0 kV/mm @Thickness 3.20 mm, Temperature 23.0 °C	356 kV/in @Thickness 0.126 in, Temperature 73.4 °F	ASTM D149

Descriptive Properties	Value	Comments
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	
Features	Low Viscosity	
Forms	Pellets	
Generic	ECTFE	
Processing Method	Extrusion	
Uses	Fibers	

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