

Halar 902 ECTFE

High Viscosity - Extrusion - Semi-Finished Products

Typical Physical Properties

Typical Properties	Test Method	US Unit	SI Unit		
Physical Properties					
Density @ 23°C/73°F	ASTM D792	lb/ft ³	107	g/cm ³	1.71
Water Absorption (%), 24hrs Immersion	ASTM D570	%	0.0027		
Melt Flow Index @ 275°C, 5 kg	ASTM D1238	g/10 min	0.8 to 1.3		
Mechanical Properties					
Tensile					
Tensile Yield Strength	ASTM D638 23°C/73°F 2in/min (50mm/min)	psi	4300 - 4600	MPa	30 - 32
Tensile Break Strength		psi	6500 - 7400	MPa	45 - 51
Elongation at Yield		%	4 - 5		
Elongation at Break		%	250 - 300		
Tensile Modulus		psi	265,000	MPa	1827
Flexural					
Flexural Strength	ASTM D790 23°C/73°F 0.1in/min (2.5mm/min)	psi	7840	MPa	54
Flexural Modulus		psi	252,000	MPa	1737
Impact					
Notched Izod Strength, 23°C/73°F	ASTM D256 0.125 in (3.2 mm)	ft.lbf/in	No Break	J/m	No Break
Notched Izod Strength, -40°C/-40°F		ft.lbf/in	2.0	J/m	207
Hardness, Shore D	ASTM D2240		68		
Hardness, Rockwell R	ASTM D785		90		
Abrasion Resistance, CS 17 (0.5kg)	Taber			mg/1000 rev	5
Friction Coefficient					
Static	ASTM D1894		0.2		
Dynamic			0.2		
Thermal Properties					
Melting Point	DSC	°F	428 - 445	°C	220 - 230
Heat of Fusion		BTU/lb	12	J/g	28
Crystallization Point		°F	400	°C	205
Crystallization Heat		BTU/lb	12	J/g	28
Specific Heat @ 23°C/73°F		BTU/lb-°F	0.23	J/g.K	0.95

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Thermal Properties (cont'd)					
DTUL, 66 psi (0.46 MPa)	ASTM D648	°F	180	°C	82
DTUL, 264 psi (1.82 MPa)	ASTM D648	°F	172	°C	78
Glass Transition Temperature (T _g)	DMA	°F	185	°C	85
Brittleness Temperature	ASTM D746A	°F	<-105	°C	<-76
Mold Shrinkage	ASTM 955	%	2.5		
Thermal Stability, 1% Mass Loss, N ₂	TGA	°F	760	°C	405
Linear Thermal Exp. Coefficient	ASTM D696	10 ⁻⁶ /°F	51	10 ⁻⁶ /K	92
Thermal Conductivity @ 40°C/104°F	ASTM C177	BTU-in/h-ft ² -°F	1.05	W/m.K	0.15
Electrical Properties					
Volume Resistivity @ 23°C, 50% RH	ASTM D257	ohm-in.	>4.2 x 10 ¹⁶	ohm.cm	10.7 x 10 ¹⁶
Dielectric Strength @ 23°C/73°F @ 3.2 mm thickness	ASTM D149	V/mil	385	kV/mm	15
Dielectric Constant @ 1 KHz @ 1 MHz	ASTM D150		2.39		
			2.59		
Dissipation Factor @ 1 KHz @ 1 MHz	ASTM D150		0.0018		
			0.0134		
Fire Resistance					
UL-94 Flammability Test	UL-94	Class	V-0		
Limiting Oxygen Index	ASTM D2863	%	52		

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