

Quadrant EPP Symalit® ECTFE Ethylene-Chlorotrifluoroethylene (ASTM Product Data Sheet)

Category : Polymer , Thermoplastic , Fluoropolymer , ETFE/ECTFE , Fluorocarbon ETFE/ECTFE, Molded/Extruded

Material Notes:

Order this product through the following link:

http://www.lookpolymers.com/polymer_Quadrant-EPP-Symalit-ECTFE-Ethylene-Chlorotrifluoroethylene-ASTM-Product-Data-Sheet.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.68 g/cc	1.68 g/cc	ASTM D792
Water Absorption	0.010 %	0.010 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	0.010 %	0.010 %	Immersion; ASTM D570(2)

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	75	75	ASTM D2240
Tensile Strength	31.0 MPa	4500 psi	ASTM D638
Elongation at Break	200 %	200 %	ASTM D638
Tensile Modulus	1.65 GPa	240 ksi	ASTM D638
Flexural Strength	48.3 MPa	7000 psi	ASTM D790
Flexural Modulus	1.65 GPa	240 ksi	ASTM D790
Compressive Strength	34.5 MPa	5000 psi	10% Def.; ASTM D695
Izod Impact, Notched	NB	NB	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	119 $\mu\text{m/m-}^{\circ}\text{C}$ @Temperature -40.0 - 149 $^{\circ}\text{C}$	66.0 $\mu\text{in/in-}^{\circ}\text{F}$ @Temperature -40.0 - 300 $^{\circ}\text{F}$	ASTM E831
Thermal Conductivity	0.216 W/m-K	1.50 BTU-in/hr-ft ² - $^{\circ}\text{F}$	ASTM F433
Melting Point	240 $^{\circ}\text{C}$	464 $^{\circ}\text{F}$	Crystalline, Peak; ASTM D3418
Maximum Service Temperature, Air	149 $^{\circ}\text{C}$	300 $^{\circ}\text{F}$	Long Term
Deflection Temperature at 1.8 MPa (264 psi)	76.7 $^{\circ}\text{C}$	170 $^{\circ}\text{F}$	ASTM D648
Flammability, UL94	V-0	V-0	1/8 inch (Estimated Rating)

Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	>= 1.00e+13 ohm	>= 1.00e+13 ohm	EOS/ESD S11.11
Dielectric Strength	19.7 kV/mm	500 kV/in	Short Term; ASTM D149

Compliance Properties	Metric	English	Comments
3A-Dairy	No	No	
Canada AG	No	No	
FDA	Yes	Yes	
NSF	Yes	Yes	
USDA	No	No	
USP Class VI	Yes	Yes	

Chemical Resistance Properties	Metric	English	Comments
Acids, Strong (pH 1-3)	Acceptable	Acceptable	
Acids, Weak	Acceptable	Acceptable	
Alcohols	Acceptable	Acceptable	
Alkalies, Strong (pH 11-14)	Unacceptable	Unacceptable	
Alkalies, Weak	Limited	Limited	
Chlorinated Solvents	Limited	Limited	
Conductive / Static Dissipative	No	No	
Continuous Sunlight	Limited	Limited	
Hot Water / Steam	Acceptable	Acceptable	
Hydrocarbons - Aliphatic	Acceptable	Acceptable	
Hydrocarbons - Aromatic	Acceptable	Acceptable	
Inorganic Salt Solutions	Acceptable	Acceptable	
Ketones, Esters	Unacceptable	Unacceptable	

Descriptive Properties	Value	Comments
Machinability	3	1-10, 1=Easier to Machine

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