



Semikon - 42- ESD

Typical
Data Sheet
5/12/17

Semikon-42-ESD is an electrostatic dissipative Polyetherimide (PEI) polymer product designed for static management applications up to 340F in the semiconductor and solar cell industries. The filler package in the Polyetherimide resin imparts high strength and stiffness over a wide temperature range while preventing discharge to or from human contact. Semikon 42-ESD is a compression molded, and fully annealed PEI product offering high degree of dimensional stability during and after machining of intricate components. The product is available in rod, tube, and plate.

	Properties	Metric	English	Test Method
Physical	Specific Gravity	1.52 g/cc	0.055 lb/in ³	ASTM D-792
	Water Absorption			
	24 hours	0.20%	0.20%	ASTM D-570
	At Saturation	1.50%	1.50%	ASTM D-570
Mechanical	Tensile Strength, Ultimate	62 MPa	9,100 psi	ASTM D-638
	Tensile Modulus	6.27 GPa	910 ksi	ASTM D-638
	Elongation at Break	1.50%	1.50%	ASTM D-638
	Flexural Strength	109 MPa	15,800 psi	ASTM D-790
	Flexural Modulus	6.27 GPa	910 ksi	ASTM D-790
	Compressive Strength	3.50 GPa	22,300 psi	10% Def. ; ASTM D-695
	Compressive Modulus	4.0 Gpa	580 ksi	ASTM D-695
	Izod Impact, Notched	0.3J/cm	0.6 ft-lb/in	ASTM D-256 Type A
	Hardness, Rockwell M	120	120	ASTM D-785
Electrical	Surface Resistivity per Square	1e+006 – 1e+009 ohms	1e+006 – 1e+009 ohms	EOS/ESD S11.11
	Dissipation Factor 10 ⁶ Hz			
	Dielectric Constant 10 ⁶ Hz			
Thermal	CTE, Linear 68°F	30 µm/-°C	1.6x10 ⁻⁵ in/in-°F	(-40°F to 300°F) ASTM E381
	Max Service Temperature, Air	170 °C	338 °F	Long Term
	Deflection Temperature at 1.8 Mpa (264psi)	200°C	392 °F	ASTM D-648
	Glass Transition Temperature	216 °C	420 °F	ASTM D-3418
	Flammability, UL94 (Estimated Rating)	V-0	V-0	1/8 in
Chemical Resistance	Alcohols	Acceptable	Acceptable	
	Hydrocarbons - Aliphatic	Limited	Limited	
	Hydrocarbons - Aromatic	Unacceptable	Unacceptable	
	Chlorinated Solvents	Unacceptable	Unacceptable	
	Ethers	Acceptable	Acceptable	
	Ketones	Unacceptable	Unacceptable	
	Strong Acids	Unacceptable	Unacceptable	
	Strong Alkalies	Unacceptable	Unacceptable	
	Continuous Sunlight	Acceptable	Acceptable	
	Acids, Weak	Acceptable	Acceptable	
Alkalies, Weak	Acceptable	Acceptable		

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