

Product Data Sheet

Semitron® ESd 500HR



Semitron ESd 500HR is part of the Quadrant EPP family of products designed for use in the semiconductor industry, where electrostatic dissipation is a requirement. It is a compression-molded, static dissipative PTFE, reinforced with synthetic mica. This material has the chemical resistance, temperature resistance, and wear properties of PTFE, with the added benefits of dimensional stability and stiffness.

Property	Method	Unit	Value
Mechanical			
Specific Gravity, 73°F	D792		2.30
Tensile Strength, 73°F	D638	psi	1,500
Tensile Modulus of Elasticity, 73°F	D638	psi	250,000
Elongation, 73°F	D638	%	50.0
Flexural Strength, 73°F	D790	psi	2,200
Flexural Modulus, 73°F	D790	psi	350,000
Shear Strength, 73°F	D732	psi	1,700
Compressive Strength, 10% Def., 73°F	D695	psi	3,800
Compressive Modulus of Elasticity, 73°F	D695	psi	225,000
Hardness, Rockwell, Scale as noted, 73°F	D785		R50
Hardness, Durometer, Shore D scale, 73°F	D2240		D65
Izod Impact (notched), 73°F	D256 Type A	ft-lb/in	1.0
Coefficient of Friction (Dry vs Steel) Dynamic	PTM55007		0.10
Limiting PV, 73°F	PTM55007	psi-fpm	6,000
k (wear) factor	PTM55010		30
Thermal			
Coefficient of linear Thermal Expansion	E-831(TMA)	in/in/°F	5.70 x 10 ⁻⁵
Deflection Temperature 264 psi	D648	°F	210
Melting Point (crystalline) peak	D3418	°F	621
Continuous Service Temperature in Air (Max.)		°F	500
Electrical			
Surface Resistivity	EOS/ESD S11.11	Ohm/square	10 ¹⁰ - 10

For additional information about our products call 1-800-366-0300 or via e-mail at select.support@qplas.com

All statements, technical information and recommendations contained in this publication are presented good faith, based upon tests believed to be reliable and practical field experience. The reader is cautioned, however, that Quadrant EPP cannot guarantee the accuracy or completeness of this information, and it is the customer's responsibility to determine the suitability of Quadrant EPP's products in any given application. Fluorosint, Nylatron, Ertalyte, Acetron, MC and Techtron are all registered trademarks of Quadrant EPP. Delrin and Teflon are registered trademarks of E. I. DuPont, Torlon - Solvay Advanced Polymers, Ultem-GE Plastics.

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Chemical			
Acids, Weak, 73°F/23°C, acetic acid, dilute hydrochloric or sulfuric			Acceptable Service
Acids, Strong, 73°F/23°C, conc. hydrochloric or sulfuric			Acceptable Service
Alkalies, Weak, 73°F/23°C, dilute ammonia or sodium hydroxide			Acceptable Service
Alkalies, Strong, 73°F/23°C, conc. ammonia or sodium hydroxide			Acceptable Service
Hydrocarbons-Aromatic, 73°F/23°C, benzene, toluene			Acceptable Service
Hydrocarbons-Aliphatic, 73°F/23°C, gasoline, hexane, grease			Acceptable Service
Ketones, Esters, 73°F/23°C, acetone, methyl ethyl ketone			Acceptable Service
Ethers, 73°F/23°C, diethyl ether, tetrahydrofuran			Acceptable Service
Chlorinated Solvents, 73°F/23°C, methylene chloride, chloroform			Acceptable Service
Alcohols, 73°F/23°C, methanol, ethanol, anti-freeze			Acceptable Service
Inorganic Salt Solutions, 73°F/23°C, sodium chloride, potassium cyanate			Acceptable Service
Continuous Sunlight, 73°F/23°C			Acceptable Service
Miscellaneous			
Water Absorption Immersion, 24 hr	D570	%	0.03
Water Absorption Immersion, Sat.	D570	%	2.00
Ionic Impurities - Na (Sodium)	Total Digestion	ppm	22.00
Ionic Impurities - K (Potassium)	Total Digestion	ppm	1,276.00
Ionic Impurities - Fe (Iron)	Total Digestion	ppm	44.00
Outgassing TML (Total Mass Loss)	E595	%	0.00
CVCM (Collected Volatile Condensable Material)	E595	%	0.00
WVR(Water Vapor Regained)	E595	%	0.00
Compliance			
UL94			V-0

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