

TECHNICAL DATA SHEET

Semitron® (ESD)

The Semitron ESD family of static dissipative products is designed for use where ESD (electro-static discharge) becomes a problem. These materials are commonly used for sensitive electronic components including: integrated circuits, hard disk drives, and circuit boards (see applications below). Semitron products are also an excellent choice for material handling applications, and components in high speed electronic printing and reproducing equipment. Semitron ESD products are inherently dissipative and electrically stable unlike many other dissipative plastic shapes. They do not rely on atmospheric phenomena to activate, nor are surface treatments used to achieve dissipation. Static electricity is dissipated through these products as readily as it is dissipated along the surface.

Benefits

- Inherently dissipative
- Surface resistivity of $10^9 - 10^{12}$
- Broad chemical resistance
- Good wear resistance
- No degradation up to 225° F

Applications

- Electronic components
- Integrated circuits
- Hard disk drives
- Circuit boards
- Material handling applications
- Electronic printing and reproducing equipment

SHAPES AVAILABLE



TYPICAL PROPERTIES of Semitron®

Physical	Astm Test Method	Semitron® 225	Semitron® 410C	Semitron® 500HR
Density (lb/in ³)	D792	0.048	0.051	0.083
Specific Gravity	D792	1.33	1.41	2.3
Water Absorption @ 24 hours (%)	D570	2	0.3	0.03

SEE NEXT PAGE FOR ADDITIONAL INFORMATION

Semitron® is a registered trademark of Quadrant EPP

NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets. All values at 73°F (23°C) unless otherwise noted.

Mechanical

Tensile Strength (PSI)	D638	6,100	9000	1100
Tensile Modulus (PSI)	D638	225,000	850000	300000
Tensile Elongation at Yield (%)	D638	10	2	10
Flexural Strength (PSI)	D790	6,000	12000	2200
Flexural Modulus (PSI)	D790	190,000	850000	500000
Compressive Strength (PSI)	D695	-	19500	4000
Compressive Modulus (PSI)	D695	-	600000	250000
Izod Impact (Notched), ft-lb/in	D256	1.5	0.8	1
Rockwell Hardness	D785	M74 / R109	M115 / R125	R50

Thermal

Coefficient of Thermal Expansion, 10 ⁻⁵ /°F	D696	9.3	1.8	5.7
Heat Deflection Temperature 264 psi, °F	D648	225	410	270
Melting Temperature, °F	D3418	-	-	621
Continuous Service Temp (Operating), °F -		180	338	500
Flammability Rating	UL94	HB	V-0	V-0

Electrical

Dielectric Strength, Short Term, (Volts/Mil) @ .125" Thick	D149	275	-	390
Surface Resistivity (ohms/square)	EOS/ESD S11.11	10 ⁹ -10 ¹⁰	10 ⁴ -10 ⁶	10 ¹⁰ -10 ¹²
Dielectric Constant at 1 KHz	D150	4.3	-	2.9
Dissipation Factor at 1 KHz	D150	-	-	-

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