

Semitron® ESd 500HR
(PTFE, mica-filled, static dissipative)

Semitron ESd 500HR is 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	ASTM Test Method	Units	Semitron® Esd 500HR
Physical			
Specific Gravity	D792	—	2.3
Water Absorption Immersion, 24 hr.	D570	%	0.03
Water Absorption Immersion, Sat	D570	%	2
Mechanical			
Tensile Strength	D638	psi	1,500
Tensile Modulus	D638	psi	250,000
Elongation	D638	%	50
Flexural Strength	D790	psi	2,200
Flexural Modulus	D790	psi	350,000
Shear Strength	D732	psi	1,700
Compressive Strength	D695, 10% Def.	psi	3,800
Compressive Modulus	D695	psi	225,000
Hardness, Rockwell	D785		R 50
Hardness, Durometer, Shore D Scale	D2240		65
Izod Impact (Notched)	D256 Type A	ft-lb/in	1
Coefficient of Friction, Dynamic	Dry vs. Steel, PTM55007		0.1
Limiting PV	PTM55007	psi-fpm	6,000
k (wear) factor	PTM55007	in ³ -min/lb-ft-hr	30 x 10 ⁻¹⁰
Thermal			
Coefficient of Thermal Expansion	E831 (TMA)	in/in/°F	0.57 x 10 ⁻⁴
Deflection Temperature, 264 psi	D648	°F	210
Melting Point (Crystalline) Peak	D3418	°F	621
Continuous Service in Air (Max) Without Load		°F	500
Flammability, UL94			V-0
Electrical			
Surface Resistance	10 ¹⁰ - 10 ¹² Ohm; EOS/ESD S11.11	ohm/square	10 ¹¹

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.