



Semitron® ESd 490HR, PEEK, static dissipative, compression molded

Physical Properties	Metric	English	Comments
Specific Gravity	1.5 g/cc	0.0542 lb/in ³	ASTM D792
Water Absorption	0.18 %	0.18 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	1.65 %	1.65 %	Immersion; ASTM D570(2)
Mechanical Properties			
Hardness, Rockwell M	105	105	ASTM D785
Hardness, Rockwell R	123	123	ASTM D785
Tensile Strength, Ultimate	96.5 MPa	14000 psi	ASTM D638
Elongation at Break	2.3 %	2.3 %	ASTM D638
Tensile Modulus	6.48 GPa	940 ksi	ASTM D638
Flexural Modulus	6.55 GPa	950 ksi	ASTM D790
Flexural Yield Strength	145 MPa	21000 psi	ASTM D790
Compressive Strength	179 MPa	26000 psi	10% Def.; ASTM D695
Compressive Modulus	4.14 GPa	600 ksi	ASTM D695
Coefficient of Friction	0.2	0.2	Dry vs. Steel; QTM55007
Limiting Pressure Velocity	0.596 MPa-m/sec	17000 psi-ft/min	4:1 safety factor; QTM 55007
Izod Impact, Notched	0.534 J/cm	1 ft-lb/in	ASTM D256 Type A
Electrical Properties			
Surface Resistivity per Square	1e+010 - 1e+012 ohm	1e+010 - 1e+012 ohm	EOS/ESD S11.11
Dielectric Constant	5.33	5.33	1MHz; ASTM D150
Dissipation Factor	0.227	0.227	1MHz; ASTM D150
Thermal Properties			
CTE, linear 68°F	50.4 μm/m-°C	28 μin/in-°F	(-40°F to 300°F); ASTM E831
Melting Point	340 °C	644 °F	Crystalline, Peak; ASTM D3418

Maximum Service Temperature, Air	246 °C	475 °F	Long Term
Deflection Temperature at 1.8 MPa (264 psi)	260 °C	500 °F	ASTM D648
Flammability, UL94*	V-0	V-0	1/8 inch

Qualitative Processing Properties

Compliance - FDA	Not Compliant	
Machinability	4	1-10, 1=Easier to Machine
Service in Alcohols	Acceptable	
Service in Aliphatic Hydrocarbons	Acceptable	
Service in Aromatic Hydrocarbons	Acceptable	
Service in Chlorinated Solvents	Acceptable	
Service in Ethers	Acceptable	
Service in Ketones	Acceptable	
Service in Strong Acids	Limited	
Service in Strong Alkalies	Acceptable	
Service in Sunlight	Acceptable	
Service in Weak Acids	Acceptable	
Service in Weak Alkalies	Limited	

All statements, technical information and recommendations contained in this database are presented in good faith, based upon tests believed to be reliable and practical field experience. The reader is cautioned, however, that Professional Plastics cannot guarantee the accuracy or completeness of this information, and it is the customer's responsibility to determine the suitability of Professional Plastics' products in any given application.

* This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

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