



Semitron® ESd 420V – Esd PEI

Physical Properties	Metric	English	Comments
Specific Gravity	1.51 g/cc	1.51 g/cc	ASTM D792
Water Absorption	0.210 %	0.210 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	1.40 %	1.40 %	Immersion; ASTM D570(2)

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	78	78	ASTM D785
Hardness, Rockwell M	110	110	ASTM D785
Tensile Strength, Ultimate	68.9 MPa	10000 psi	ASTM D638
Elongation at Break	1.50 %	1.50 %	ASTM D638
Tensile Modulus	6.27 GPa	910 ksi	ASTM D638
Flexural Modulus	6.27 GPa	910 ksi	ASTM D790
Flexural Yield Strength	109 MPa	15800 psi	ASTM D790
Compressive Strength	154 MPa	22300 psi	10% Def.; ASTM D695
Compressive Modulus	3.76 GPa	545 ksi	ASTM D695
Izod Impact, Notched	0.267 J/cm	0.500 ft-lb/in	ASTM D256 Type A

Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	1.00e+6 - 1.00e+9 ohm	1.00e+6 - 1.00e+9 ohm	EOS/ESD S11.11

Thermal Properties	Metric	English	Comments
CTE, linear	27.0 µm/m-°C @Temperature -40.0 - 149 °C	15.0 µin/in-°F @Temperature -40.0 - 300 °F	ASTM E831
Maximum Service Temperature, Air	171 °C	340 °F	Long Term
Deflection Temperature at 1.8 MPa (264 psi)	216 °C	420 °F	ASTM D648
Glass Temperature	216 °C	420 °F	ASTM D3418
Flammability, UL94	V-0	V-0	1/8 inch (Estimated Rating)

Descriptive Properties

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

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