

Semitron® ESd 420 Material Specifications

Semitron® is a high performance material for use in the semiconductor industry.

Physical Properties	Units	Test	ESd 420
Density	lb/in ³ g/cm ³	D792	0.048 1.34
Water Absorption, 24 hrs.	%	D570	0.5
Water Absorption, Saturation	%	D570	2.9

Mechanical Properties	Units	Test	ESd 420
Tensile Strength	psi	D638	11,500
Tensile Modulus	psi	D638	640,000
Tensile Elongation at Break	%	D638	2
Flexural Strength	psi	D790	14,500
Flexural Modulus	psi	D790	650,000
Compressive Strength	psi	D695	23,800
Compressive Modulus	psi	D695	370,000
Hardness Rockwell	-	D785	M118
Izod Impact Notched	ft-lb/in	D256	1.0

Thermal Properties	Units	Test	ESd 420
Coefficient of Linear Thermal Expansion	X 10 ⁻⁵ in./in./°F	D696	1.9
Heat Deflection Temperature	@264 psi °F/°C	D648	410 / 210
Melting Temperature	°F/°C	D3418	410 / 210
Max. Operating Temperature	°F/°C	-	340 / 171
Thermal Conductivity	BTU- in/ft ² -hr.-°F x 10 ⁻⁴ cal/cm-sec-°C	C177	1.51 5.2
Flammability Rating	-	UL94	V - 0

Electrical Properties	Units	Test	ESd 420
Dielectric Strength	(V/mil) short time, 1/8" thick	D149	-
Dielectric Constant	@1 KHz	D150	-
Surface Resistivity	Ohms/Square	EOS/ESD S11.11	10 ⁶ – 10 ⁹
Max Static Decay	sec	Mil-B-81705C	-

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