



Technical Products, Inc.

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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	D792	0.048
	g/cm ³		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	-

**The information provided in this table is a compilation of publicly available data. This information is provided for comparison purposes only, and is not intended to be warrantable. Further, Technical Products, Inc. disclaims any and all liability from errors, in accuracies, or omissions.