



Technical Products, Inc.

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Semitron® ESd 520HR Material Specifications

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

Physical Properties	Units	Test	ESd 520HR
Density	lb/in ³ g/cm ³	D792	0.057 1.58
Water Absorption, 24 hrs.	%	D570	0.6
Water Absorption, Saturation	%	D570	-

Mechanical Properties	Units	Test	ESd 520HR
Tensile Strength	psi	D638	12,000
Tensile Modulus	psi	D638	800,000
Tensile Elongation at Break	%	D638	3
Flexural Strength	psi	D790	20,000
Flexural Modulus	psi	D790	850,000
Compressive Strength	psi	D695	30,000
Compressive Modulus	psi	D695	600,000
Hardness Rockwell	-	D785	M108
Izod Impact Notched	ft-lb/in	D256	0.8

Thermal Properties	Units	Test	ESd 520HR
Coefficient of Linear Thermal Expansion	X 10 ⁻⁵ in./in./°F	D696	1.5
Heat Deflection Temperature	@264 psi °F/°C	D648	520 / 271
Melting Temperature	°F/°C	D3418	520 / 271
Max. Operating Temperature	°F/°C	-	500 / 260
Thermal Conductivity	BTU- in/ft ² -hr.-°F x 10 ⁻⁴ cal/cm-sec-°C	C177	- -
Flammability Rating	-	UL94	V - 0

Electrical Properties	Units	Test	ESd 520HR
Dielectric Strength	(V/mil) short time, 1/8" thick	D149	-
Dielectric Constant	@1 KHz	D150	-
Surface Resistivity	Ohms/Square	EOS/ESD S11.11	10 ¹⁰ – 10 ¹²
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.