

>> HIGH PERFORMANCE, LOW MOISTURE ABSORPTION, EASILY MACHINED

SEMITRON® MDS 100

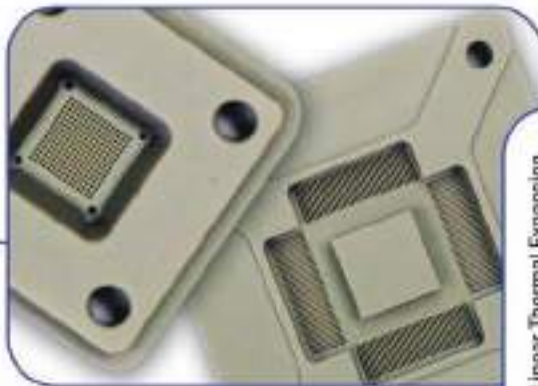
Key Benefits

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- Very low moisture absorption
- Easily machined to precise dimensions
- Very strong and stiff
- Low CLTE means parts stay in spec
- Available in thin cross-sections

Common Applications

- Test sockets for the semiconductor manufacturing industry
- Fixtures for electronics testing
- Mounting points for precision diagnostic equipment
- Positioning platforms for miniature motion control devices

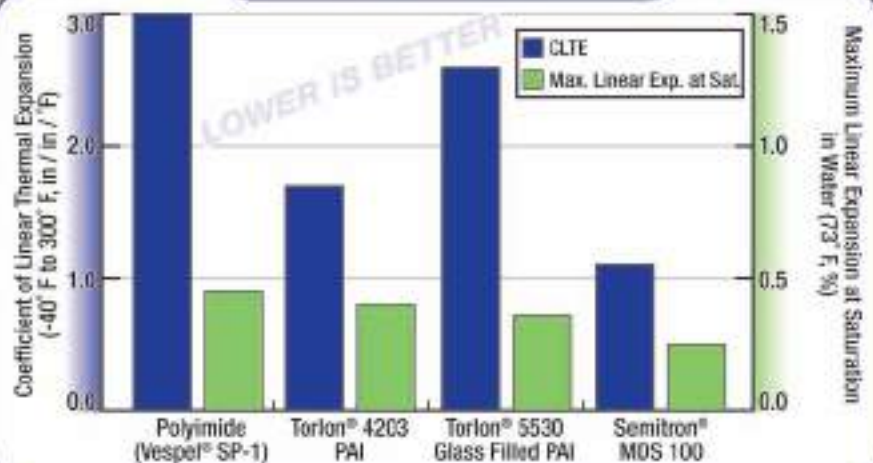


Semitron® MDS 100

Semitron® MDS 100 was developed specifically to provide a highly rigid, stable, moisture-resistant platform for precision structural applications. Its unique, proprietary polymer matrix makes it ideal for use in parts where fine machining and precise tolerances are critical. With flexural modulus performance greater than 1,000,000 psi, Semitron® MDS 100 sets a new performance level for machinable polymers. Quadrant's new technology allows the production of shapes that reduce the amount of machining required for thinner parts. ●

Learn more at www.quadrantplastics.com

Dimensional Stability



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Quadrant Engineering Plastic Products

Data Sheet - Semitron® MDS 100

**Typical
Average
Value**

Property

Units

Test Method

Mechanical
Properties

Specific Gravity, 73°F	-	ASTM D792	1.51
Tensile Strength, 73°F	psi	ASTM D638	14,700
Tensile Modulus of Elasticity, 73°F	psi	ASTM D638	1,500,000
Tensile Elongation (at break), 73°F	%	ASTM D638	1.5
Flexural Strength, 73°F	psi	ASTM D790	20,500
Flexural Modulus of Elasticity, 73°F	psi	ASTM D790	1,420,000
Shear Strength, 73°F	psi	ASTM D732	-
Compressive Strength, 10% Deformation, 73°F	psi	ASTM D695	-
Compressive Modulus of Elasticity, 73°F	psi	ASTM D695	-
Hardness, Rockwell, Scale as noted, 73°F	-	ASTM D785	R121
Hardness, Durometer, Shore "D" Scale, 73°F	-	ASTM D2240	-
Izod Impact (notched), 73°F	ft. lb./in.	ASTM D256 Type "A"	-
Coefficient of Friction (Dry vs. Steel) Dynamic	-	QTM 55007	-
Limiting PV (with 4:1 safety factor applied)	ft. lbs. in. ² min.	QTM 55007	-
Wear Factor "k" x 10 ⁻¹¹	in. ³ -min./ft. lbs. hr.	QTM 55010	-

Thermal
Properties

Coefficient of Linear Thermal Expansion (-40°F to 300°F)	in./in./°F	ASTM E-831 (TMA)	1.1 x 10 ⁻⁴
Heat Deflection Temperature 264 psi	°F	ASTM D648	410
Tg-Glass Transition (amorphous)	°F	ASTM D3418	N/A
Melting Point (crystalline) peak	°F	ASTM D3418	635
Continuous Service Temperature in Air (Max.) (1)	°F	-	480
Thermal Conductivity	BTU in./hr. ft. ² °F	-	-

Electrical
Properties

Dielectric Strength, Short Term	Volts/mil	ASTM D149	362
Service Resistivity	ohms/square	EOS/ESD S11.11	>10 ¹¹
Dielectric Constant, 10 ⁶ Hz	-	ASTM D150	3.37
Dissipation Factor, 10 ⁶ Hz	-	ASTM D150	0.007
Flammability @ 3.1 mm (1.8 in.) (3)		UL94	

Miscellaneous

Water Absorption Immersion, 24 Hours	% by wt.	ASTM D570 (2)	0.10
Water Absorption Immersion, Saturation	% by wt.	ASTM D570 (2)	

(1) Data represents Quadrant's estimated maximum long-term service temperature based on practical field experience.

(2) Specimens: 1/8" thick x 2" diameter or square.

(3) Estimated rating based on available data. The UL94 Test is a laboratory test and does not relate to actual fire hazard. Contact Quadrant for specific UL "Yellow Card" recognition number.

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

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