



## THERMASIL SILICA NEEDED MAT

### 1 DESCRIPTION

Thermasil Silica Needled Mat is a lightweight, high-temperature insulation composed of amorphous silica fiber that has been specially treated during the manufacturing process to reduce residual shrinkage at elevated temperatures.

### 2 APPLICATIONS

Thermasil Silica Needled Mat is intended for use in glass furnace crown insulation repair, nuclear insulation applications, acoustic insulation, insulating pads and blankets, high temperature & acid resistant gaskets, exhaust manifold insulation, stress-relieving pads, high-temperature pipe and valve insulation, welding protection, thermal and acoustic insulation for steam and gas turbines, expansion joints and more.

### 3 ADVANTAGES

The unique properties of Thermasil Silica Needled Mat make it binder-free, shotfree, highly resilient, non-respirable, fireproof, and cost-effective. Thermasil Silica Needled Mat also has outstanding chemical resistance, has excellent sound absorption, and low shrinkage.

### 4 PROPERTY DATA

Characteristics:	Method:	English Values:	Metric Values:
Raw Material (Silica Glass Fibres)		>99%	
Standard Thicknesses	ASTM-D-1777	0.25", 0.5", & 1"	6 mm, 12 mm, & 25 mm
Temperature Resistance		Short Time: 2912°F Continuous: 1832°F	Short Time: 1600°C Continuous: 1000°C
Loss on Ignition	ISO 1887 (1832°F/hour / 1000°C/hour)	Melting: 2912°F </- 12% Raw </- 1% Tempered	Melting: 1600°C </- 12% Raw </- 1% Tempered
Linear Shrinkage	1832°F/4 hours / 1000°C/4 hours	</- 8% Raw </- 1% Tempered	</- 8% Raw </- 1% Tempered

#### Thermal Conductivity (DIN EN 1094 (W\*m<sup>-1</sup>\*K<sup>-1</sup>))

Density	122°F / 50°C	392°F / 200°C	752°F / 400°C	1112°F / 600°C	1472°F / 800°C	1832°F / 1000°C
100 kg/m <sup>3</sup>	0,037	0,059	0,100	0,156	0,228	0,316
130 kg/m <sup>3</sup>	0,045	0,060	0,104	0,172	0,263	0,377
160 kg/m <sup>3</sup>	0,046	0,064	0,113	0,186	0,281	0,396
180 kg/m <sup>3</sup>	0,045	0,066	0,103	0,151	0,209	0,280

\*\*\*All values are nominal unless otherwise specified. All statements herein are expressions of opinion that we believe to be accurate and reliable but are presented without guarantee or responsibility on our part. Statements concerning the possible use of our products are not intended as recommendations for their use alone or in combination with any materials or elements to infringe any patents. No patent warranty of any kind, express or implied, is made or intended.