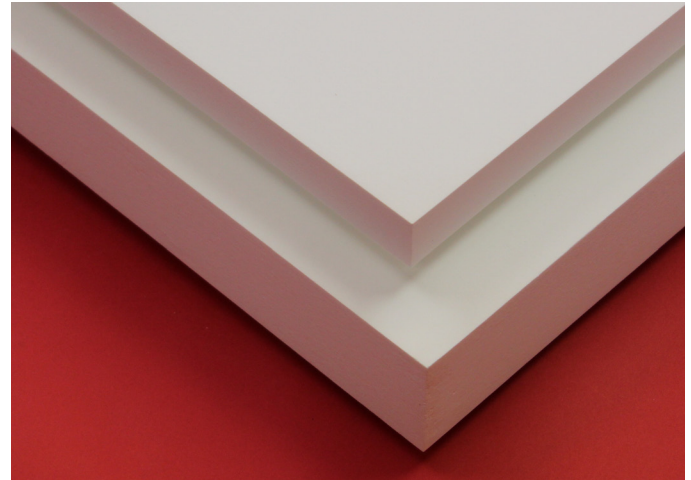




Alumina Type SALI-2

General Information

ZIRCAR Ceramics' Alumina Type SALI-2 is a premium grade combination of polycrystalline alumina fibers tightly bound in a high-purity inorganic mullite binder matrix. SALI-2 exhibits superior hot strength and dimensional stability in applications with temperatures to 1800°C (3192°F). SALI-2's fine, open-pore, low-density structure gives it excellent thermal insulating properties. Its low CTE gives SALI-2 very good thermal shock resistance in severe conditions. SALI-2 is machinable to tight dimensional tolerances. SALI-2 is pre-fired, contain no organic binders and will produce no smoke or odors when heated. It has excellent resistance to chemical attack and is not affected by oil or water. It is, however, affected by hydrofluoric acid, phosphorous acid and strong alkalis.



Characteristics & Properties

Color	White
Typical Composition, %	
Al ₂ O ₃	80
SiO ₂	20
Moisture & Organic Content	0
Bond	Silica
Density, g/cc (pcf)	0.51 (32)
Open Porosity, %	84
Maximum Use Temperature*, °C (°F)	
Continuous	1800 (3292)
Intermittent	1830 (3326)
Melting Point, °C (°F)	1870 (3392)
Linear Shrinkage‡, %	
24 hrs at 1700°C (3092°F)	0
24 hrs at 1800°C (3272°F)	3
Flexural Strength**, MPa (psi)	2.14 (310)
Compressive Strength**, MPa (psi) at 10% Compression	1.04 (150)
Specific Heat, J/kg°K (BTU/lb °F)	1047 (0.25)
Softening Temperature [§] , °C (°F)	1340 (2444)
SAG/Distortion, 6"x 1" x 1", 5" Span, % after 24 hrs. at 1650°C (3002°F)	2
CTE‡ ^a , Room Temperature to 1100°C, x 10 ⁻⁶ /°C (10 ⁻⁶ /°F)	6.2 (3.4)

ZIRCAR Ceramics, Inc.

PO Box 519
100 N. Main St., Florida, NY 10921-0519
Telephone: (845) 651-6600
E-mail: sales@zircarceramics.com

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Characteristics & Properties Continued

Thermal Conductivity,** ASTM C177-76 W/m K (BTU/hr ft ² °F/in)	
400°C (752°F)	0.25 (1.7)
600°C (1112°F)	0.27 (1.9)
800°C (1472°F)	0.31 (2.2)
1200°C (2192°F)	0.38 (2.6)
1400°C (2552°F)	0.43 (3.0)
1650°C (3002°F)	0.48 (3.3)

The data presented herein is intended to help the user to determine the appropriateness of this material for their application. This data is a nominal representation of this product's properties and characteristics and therefore should not be used in preparing specifications.

* Maximum use temperature is dependent on variables such as stresses, both thermal and mechanical, and the chemical environment that the material experiences. ** Properties expressed parallel to thickness. ‡ Properties expressed perpendicular to thickness. ^a CTE per ASTM C-372, 0.5 psi load on 1/2" square sample, 3°C/min. heating / cooling rate, air atmosphere. ^b Temperature sample yields under load of push rod in CTE determination

Suggested Applications

Primary thermal insulation in low-mass furnaces and thermal process systems operating to 1820°C (3308°F).

Backup thermal insulation in furnaces and thermal process systems operating to temperatures exceeding 2000°C (3632°F).

High-temperature setters, supports and process fixtures.

Electrical insulation in high-temperature systems operating to 1800°C (3272°F).

Availability of Standard Boards

ITEM #	DESCRIPTION
A18105	SALI-2, 12"W x 18"L x 1.00"T
A18106	SALI-2, 12"W x 18"L x 1.50"T
A18107	SALI-2, 12"W x 18"L x 2.00"T

To Order

Standard boards: order online or specify quantity, item # and description.

Standard boards are available for immediate shipment from stock.

Standard tolerances for boards are +/- 1/8" on length and width and +/- 1/16" on thickness.

Custom boards as large as 16"W x 22"L x 2.5"T have been manufactured.

Custom shapes: our state-of-the-art tight-tolerance machining techniques allow a wide variety of sizes and shapes to be made.

Cylinders can be manufactured with IDs from 1" to 10" with 1/2" to 2" wall thickness and length up to 12"

Surface treatments including rigidization with colloidal alumina (AL-R/H) or colloidal silica (SI-RIG) or coating with alumina cement (AL-CEM) are all available.



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