

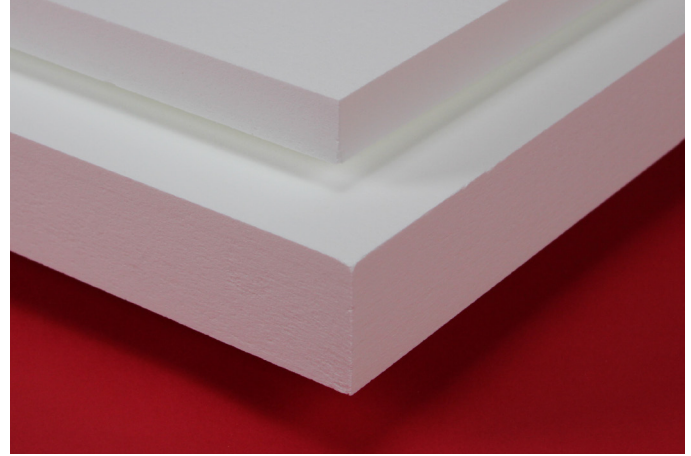


Alumina Type AL-25/1700

General Information

ZIRCAR Ceramics' Alumina Type AL-25/1700 is a combination of high-purity polycrystalline alumina fibers, refractory fillers and inorganic ceramic binders. AL-25/1700 exhibits low thermal conductivity, good hot strength and dimensional stability in rapid-cycle laboratory and production furnaces operating to continuous temperatures of 1700°C (3092°F).

AL-25/1700 is pre-fired, contains 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. However, it is affected by hydrofluoric acid, phosphoric acid and strong alkalis.



Characteristics & Properties

Composition, wt%	
Al ₂ O ₃	80
SiO ₂	20
Density, g/cc (pcf)	0.4 (25)
Modulus of Rupture**, MPa (psi) at Room Temperature	1.38 (200)
Compressive Strength**, MPa (psi) at 2% consolidation	0.24 (35)
Thermal Stability, % Shrinkage after 24 hrs. at 1700°C	
Length and Width	0.75
Thickness	3
Maximum Use Temperature*, °C (°F), continuous	1700 (3092)
Thermal Conductivity**, ASTM C177-76, W/m°K (BTU/hr ft ² °F/in)	
400°C (752°F)	0.20 (1.4)
600°C (1112°F)	0.22 (1.5)
800°C (1472°F)	0.26 (1.8)
1200°C (2192°F)	0.32 (2.2)
1400°C (2552°F)	0.38 (2.6)
1600°C (2912°F)	0.46 (3.2)
Specific Heat, J/kg°K (BTU/lb °F)	1047 (0.25)
Dielectric Loss in 2.45 GHz microwave to 1400°C (2552°F)	0.01

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.

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Technical Data Bulletin

Alumina Type AL-25/1700

www.zircarceramics.com

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Suggested Applications

Primary thermal insulation in low-mass furnaces and thermal process systems operating to 1700°C (3092°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 1700°C (3092°F).

Availability of Standard Boards

ITEM #	DESCRIPTION
A18201	AL-25/1700, 24"W x 36"L x 0.50"T
A18202	AL-25/1700, 24"W x 36"L x 0.75"T
A18203	AL-25/1700, 24"W x 36"L x 1.00"T
A18204	AL-25/1700, 24"W x 36"L x 1.50"T
A18205	AL-25/1700, 24"W x 36"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 24"W x 36"L x 4"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 12" with 1/2" to 1" wall thickness and length up to 20".

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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