

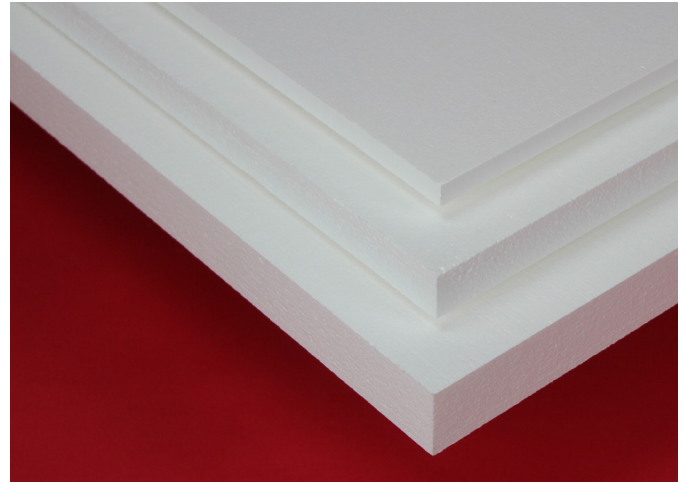


Alumina-Silica Type ASH

General Information

ZIRCAR Ceramics' Alumina-Silica Type ASH is a uniformly-bound combination of specially processed shot-free refractory ceramic fiber (RCF) and inorganic alumina binder. This very homogeneous product is designed to deliver low thermal conductivity, excellent thermal shock resistance and stability as hot face insulation in furnaces and thermal process systems operating to temperatures as high as 1260°C (2300°F). ASH exhibits very good machinability.

ASH is pre-fired, contains no organic binders and produces no smoke or odor when heated. ASH exhibits excellent resistance to chemical attack. It is unaffected by oil or water. It is, however, attacked by hydrofluoric acid, phosphoric acid and strong alkalis.



Characteristics & Properties

Color	White
Typical Composition, %	
Al ₂ O ₃	66
SiO ₂	34
Moisture & Organic Content	0
Bond	Alumina
Density, g/cc (pcf)	0.32 (20)
Maximum Use Temperature*, °C (°F)	1260 (2300)
Melting Point, °C (°F)	1900 (3452)
Linear Shrinkage‡, %	
24 hrs at 1100°C (2012°F)	2
24 hrs at 1400°C (2552°F)	4
Flexural Strength**, MPa (psi)	0.25 (36)
Compressive Strength**, MPa (psi) at 10% Compression	0.10 (14)
CTE, room temperature to 500°C (932°F)	3.5 x 10 ⁻⁶ /°C (2.0 x 10 ⁻⁶ /°F)
Thermal Conductivity, ASTM C177-76, W/m ² K (BTU/hr ft ² °F/in)	
300°C (572°F)	0.07 (0.5)
600°C (1112°F)	0.11 (0.7)
800°C (1472°F)	0.14 (1.0)
1100°C (2012°F)	0.20 (1.4)

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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Suggested Applications

Primary thermal insulation in low-mass furnaces and thermal process systems operating to 1260°C (2300°F).
 Backup thermal insulation in furnaces and thermal process systems requiring long-term dimensional and chemical stability such as in crystal growing and piezo electric processing applications.
 Reflector tiles in infrared paper-drying equipment.
 Furnace and kiln flue and chimney linings.
 Combustion chamber liners, baffles and muffles.
 High-temperature setters, supports and process fixtures.
 Electrical insulation in high-temperature systems operating to 1260°C (2300°F).
 Thermal insulation in hot appliances.

Availability of Standard Boards

ITEM #	DESCRIPTION
A20009	ASH, 24"W x 48"L x 0.50"T
A20010	ASH, 24"W x 48"L x 0.75"T
A20011	ASH, 24"W x 48"L x 1.00"T
A20012	ASH, 24"W x 48"L x 1.50"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 thick as 3"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 18" with 1/2" to 2" wall thickness and length up to 36"

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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