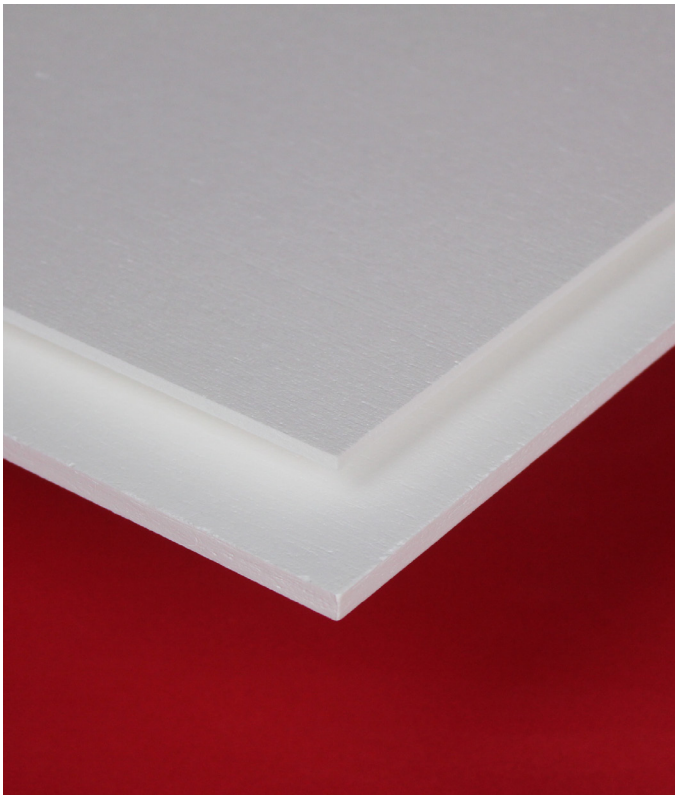
Alumina-Silica Type HASH-60



General Information

ZIRCAR Ceramics' Alumina-silica Insulation Type HASH-60 is a high-strength, uniform, rigid, refractory board composed of shot-free refractory ceramic fibers (RCF) and high-purity alumina binders. HASH-60's fine open-pore structure delivers excellent high-temperature thermal and electrical insulating properties with very good hot strength and dimensional stability to 1093°C (2000°F). Its homogeneous microstructure and consistent binder distribution allow it to be machined to tight dimensional tolerances.

HASH-60 is used extensively as an insulator in high-powered electrical switch gear due to its high-temperature dielectric strength and arc-quenching ability. The "All Alumina" bond provides high surface area for the adsorption of water, a key factor in high-power arc quenching. Its high electrical resistivity at elevated temperatures makes it ideal for use in direct contact with many different resistance heating elements.

HASH-60 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. It is, however, affected by hydrofluoric acid, phosphoric acid and strong alkalis.

Characteristics & Properties

Color	White
Typical Composition, %	
Al_2O_3	68
SiO_2	32
Organic Content	0
Density, g/cc (pcf)	0.72 (45)
Maximum Use Temperature*, °C (°F)	1093 (2000)
Melting Point, °C (°F)	1815 (3300)
Shrinkage‡, %,	
24 hr. 982°C (1800°F)	1.8
24 hr. 1093°C (2000°F)	3
Modulus of Rupture**, MPa (psi)	5.2 (750)

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Charactertistics & Properties Continued

Volume Resistivity, ohm/cm, ASTM D-257	2.2×10^8
Surface Resistivity, ohms, ASTM D-257	4.6×10^7
Compressive Strength**, MPa (psi)	
at 10% compression	4.1 (600)
at 20% compression	6.9 (1000)
Arc Resistance, second, ASTM-D495	>420

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.

Suggested Applications

Arc chute liner in high-voltage electrical switch gear.
High-temperature setters, supports and process fixtures.
Electrical insulation in systems operating at elevated temperatures.
Resistance wire heating element support.
Thermal insulation in hot appliances.

Availability of Standard Boards

ITEM #	DESCRIPTION
A4001	HASH-60, 16" x 24" x 1/8"
A4002	HASH-60, 16" x 24" x 1/4"

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 .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.

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.

Zircar® CERAMICS

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