



Alumina-Silica Type ECO-1200

General Information

ZIRCAR Ceramics' Alumina-Silica Insulation Type ECO-1200 is a useful utility grade of refractory ceramic fiber (RCF) insulation board suitable for use to 1260°C (2300°F). ECO-1200 has good strength and machinability with relatively smooth surfaces. It is manufactured in two grades.

ECO-1200A: In addition to its inorganic amorphous (colloidal) silica binder ECO-1200A contains a few percent organic binder which aids in room temperature handleability and machinability.

ECO-1200B has had its organic binder burned out and is organic-free.

Both grades offer low thermal conductivity, excellent thermal shock resistance and are an effective thermal insulator in numerous thermal process systems. ECO-1200 exhibits 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

Type	ECO-1200A	ECO-1200B
Typical Composition, %		
Al ₂ O ₃	33	35
SiO ₂	61	64
Other Metal Oxides	1	
Organic Content	5	0
Bulk Density, g/cc (pcf)	0.31 (20)	0.30 (19)
Color	Off White	White
Loss On Ignition, %	5	0
Compressive Strength**, MPa (psi) at 10% compression	0.17 (25)	0.07 (10)
Flexural Strength**, MOR at room temp., MPa (psi)		
as received	0.66 (100)	0.23 (35)
24 hrs at 760°C (1400°F)	0.23 (35)	
24 hrs at 1200°C (2192°F)	0.21 (30)	
Maximum Use Temperature*, °C (°F)	1260 (2300)	
Linear Shrinkage, %		
24 hrs at 760°C (1400°F)	0.5 [‡]	
24 hrs at 1000°C (1832°F)	2.5 [‡] , 3.5 ^{**}	
24 hrs at 1200°C (2192°F)	4.0 [‡] , 6.0 ^{**}	
Dielectric Strength, volts/mil	27	

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Characteristics & Properties Continued

Thermal Conductivity,** W/mK (BTU/hr ft ² °F/in)	
200°C (392°F)	0.055 (.40)
600°C (1112°F)	0.110 (.85)
1000°C (1832°F)	0.205 (1.40)

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 perpendicular to thickness. ** Properties expressed parallel to thickness.

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 operating to high temperatures.

Expansion joints in gunned refractories.

Furnace and kiln flue and chimney linings.

Combustion chamber liners, baffles and muffles.

High-temperature setters, supports and process fixtures.

Electrical insulation in systems operating at elevated temperatures.

Thermal insulation in hot appliances.

Availability of Standard Boards

ITEM #	DESCRIPTION
D4000	ECO-1200A, 24"W x 36"L x 1"T
D4002	ECO-1200A, 24"W x 36"L x 2"T
A21501	ECO-1200B, 24"W x 36"L x 1"T
A21503	ECO-1200B, 24"W x 36"L x 2"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 +/- 1/4" on length and width and +/- 1/8" on thickness.

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.



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Revision Date Dec. 6, 2016