



Alumina-Silica Type RNKO

General Information

ZIRCAR Ceramics' Alumina-Silica Type RNKO is a combination of low-shot refractory ceramic fibers (RCF) and inorganic refractory binders. RNKO's uniformly distributed binders work to create a structure that exhibits low thermal conductivity and at the same time gives RNKO high compressive strength and exceptional machinability. These unique properties combine to make RNKO a product of choice for the fabrication of baffles, side dams and other structural components built into hard, ceramic-fiber-based castertips and caster nozzle assemblies. RNKO can also be a very effective backup thermal insulation layer in conventionally bricked or cast refractory systems.

RNKO is 100% inorganic, does not outgas and is readily coated with non-wetting release agents such as Boron Nitride or Alumina-Silica mortars and Alumina Cements. RNKO is free of 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

Typical Composition, %	
Al ₂ O ₃	27
SiO ₂	73
Organics	0
LOI, at 800°C, %	2
Density, g/cc (pcf)	0.61(38)
Maximum Use Temperature*, °C (°F)	1260 (2300)
Color	White
Linear Shrinkage‡,%	
24 hrs at 800°C (1472°F)	0.35
24 hrs at 1000°C (1832°F)	1.8
Flexural Strength**, MPa (psi)	2.91 (422)
Compressive Strength**, MPa (psi) at 10% Compression	1.77 (257)
Hardness, A Scale	82

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Characteristics & Properties Continued

Thermal Conductivity**, ASTM C1113 (Hot Wire), W/m ² K (BTU/hr ft ² °F/in)	
400°C (752°F)	0.15 (1.06)
796°C (1466°F)	0.21 (1.44)
1197°C (2187°F)	0.30 (2.11)

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

Casting nozzles for continuous aluminum sheet casting.

Castertips, baffles, spacers, side and end dams for continuous aluminum strip casting.

High-strength backup insulation in conventionally bricked or precast refractory lining systems.

Electrical insulation in hot appliances.

Furnace tray liners.

Hot glass handling sheet.

Structural thermal insulation in low-mass furnaces and scientific instrumentation with temperatures to 1260°C

Availability

RNKO is manufactured on a custom basis in flat sheets in a maximum size of 15"W x 93"L x 1"T. Smaller, cut down sheets are readily available as well.

Custom Thicknesses are manufactured ranging from 0.6"T to 1.13"T.

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

To Order

Contact ZIRCAR Ceramics, provide drawings or describe requirements and we will provide an offer.



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