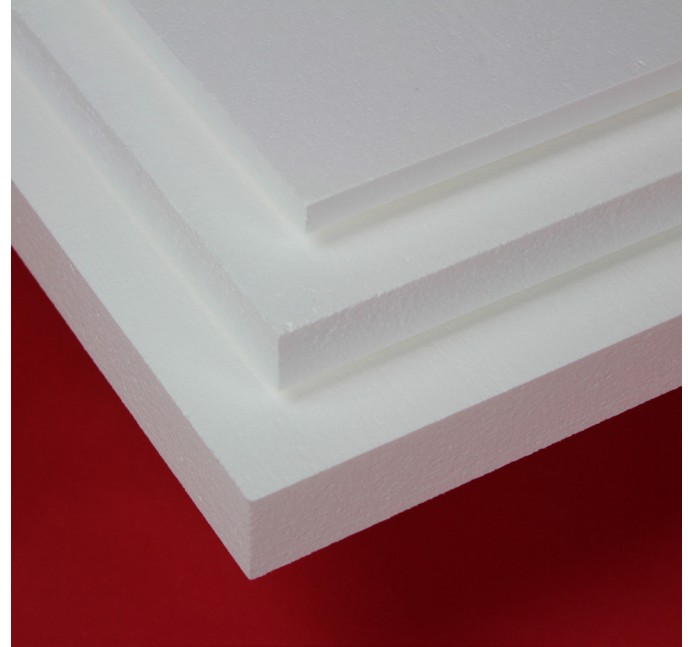




Alumina-Silica Type ASQ-20

General Information

ZIRCAR Ceramics' Alumina-Silica Type ASQ-20 is a premium-grade, medium-density combination of shot-free refractory ceramic fibers (RCF) and high-purity inorganic alumina binder. Initially designed for use as baffles and spacers in injection nozzles on SCAL thin-strip casters, ASQ-20 exhibits low density and low thermal conductivity. ASQ-20 exhibits good hot strength and resiliency making it virtually immune to thermal shock and changes in molten aluminum head pressure. As its alumina binder is uniformly distributed ASQ-20 is machinable to very well controlled dimensional tolerances. When used in contact with molten aluminum it does not require a coating of Boron Nitride. Its fine colloidal alumina particles also make it suitable for use as a glass slumping and fusing mold. ASQ-20 is pre-fired contains no organic binders and will produce no smoke or odors when heated. ASQ-20 shows 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

Composition, wt %	
Al ₂ O ₃	60
SiO ₂	40
Density, g/cc (pcf)	0.32 (20)
Compressive Resistance**, MPa (psi)	
at 2% strain	0.17 (25.3)
at 5% strain	0.31 (45.4)
at 10% strain	0.42 (61.1)
Flexural Strength** MOR, MPa (psi)	1.47 (213.9)
Linear Shrinkage †, %	
after 24 hours at 760°C (1400°F)	0.3
after 24 hours at 1000°C (1832°F)	2.2
Thickness Shrinkage, %	
after 24 hours at 760°C (1400°F)	0.5
after 24 hours at 1000°C (1832°F)	2.6

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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

Baffles, spacers, side and end dams in castertip and injector nozzle assemblies for continuous casting of aluminum strip. Hot glass fusing and slumping sheet.

Availability

ASQ-20 is manufactured on a custom basis in flat sheets in a number of sizes ranging from 24"W x 36"L x 1"T and up to 24"W x 78"L x 2"T (610mm x 1982mm x 50mm)

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 Boron Nitride or alumina cement (AL-CEM) are all available.

To Order

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



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