



## Silica Rigidizer Type SI-RIG

### General Information

ZIRCAR Ceramics' Silica Rigidizer Type SI-RIG is a single-part water-based suspension of colloidal silica. The silica is non-agglomerated and completely dispersed. This negatively-charged ammonium-stabilized suspension requires no mixing or dilution.

Silica Rigidizer Type SI-RIG can be used as the inorganic component in numerous vacuum-formed ceramic fiber products exhibiting useful properties to temperatures as high as 1825°C (3317°F). SI-RIG should be stored at temperatures between 5°C (41°F) and 32°C (90°F) to prevent irreversible precipitation of the silica.



### Characteristics & Properties

Color	White
Particle Size, nm	20
Surface Area, m <sup>2</sup> /g	150
Composition, wt. %	
SiO <sub>2</sub>	40
Na <sub>2</sub> O	~0.08
pH, @ 25°C (77°F)	9.3
Specific Gravity	1.29
Viscosity, @ 25°C (77°F)	20
Stabilizing Ion	Ammonium
Surface Charge	Negative
Shelf Life	2 years

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.

### Suggested Applications

Inorganic refractory component in vacuum-formed ceramic fiber bodies.

Surface hardening of ceramic fiber boards, blankets and papers for improved handleability, abrasion & chemical attack resistance.

Forming of shapes (rigid tubes, boats, setters, supports, process fixtures etc.) by rigidization of flexible fibrous ceramic papers, textile and blankets

Bonding agent in manufacture of ceramic-fiber-containing refractories, composites and laminates.

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Technical Data Bulletin

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[www.zircarceramics.com](http://www.zircarceramics.com)

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## Use Instructions

SI-RIG can be introduced directly into slurries for the production of vacuum-formed low-mass Alumina-Silica shapes. When used alone, the colloidal silica particles in SI-RIG migrate to the surfaces from which water evaporates during drying. Drying of treated parts can typically be accomplished at temperatures of 150°C for one hour.

SI-RIG readily impregnates most low-density alumina and alumina-silica fiber-based materials. It may be thinned with water to aid in impregnation of high-density fiber materials or to add less silica to the body. SI-RIG is easily applied by brushing, rolling, dipping, sponging or spraying. Coverage depends upon the desired hardness.

ZIRCAR Ceramics offers several levels of surface treatment using SI-RIG - known as Surface Treatment #3.

## Availability of Standard Rigidizer

ITEM #	DESCRIPTION
D3201	SI-RIG, 1 GAL
D3202	SI-RIG, 5 GAL

## To Order

**Standard items:** order online or specify quantity, item # and description.

Standard items are available for immediate shipment from stock.

**Custom preparations** such as 55-gallon drums or 2855 lb. tote packaging, as well as custom dilution ratios, can be considered.



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