

FUSED SILICA
HOT PRESS PLATENS
CASTABLE CERAMICS
FIRED SHAPES
AEROSPACE TOOLING

Foundry Service & Supplies, Inc.

HI-TEMP INSULATIONS
CALCIUM SILICATE BOARDS
MILLBOARD AND BLANKET
PAPERS AND CEMENTS
CUTTING AND FABRICATING

11808 E. Burke Street, Santa Fe Springs, CA 90670
Telephone: (562) 945-6511
Fax: (562) 696-1633

DENSE CERAMIC REFRACTORY: SG-70 TECHNICAL DATA

PRODUCT DESCRIPTION

SG-70 is a non-asbestos ceramic refractory reinforced with continuous fibers to increase the toughness, structural reliability and overall performance of the ceramic composite. Supplied in sheets, boards, cylinders and other geometric shapes, SG-70 exhibits non-brittle behavior and can withstand extreme thermal shock and cycling within its specified temperature range. Chemically inert, unaffected by moisture and non-wetting to non-ferrous metals, SG-70 is machinable with standard tools. Thermally and electrically insulating, SG-70 is an excellent material choice for a variety of structural applications. Compared to SG-50, the SG-70 material has a more homogeneous fiber reinforcement structure which allows for intricate machining (i.e., counter-boring). It also has a higher service and ultimate use temperature than the SG-50 material.

PROPERTIES

Typical Composition		Thermal Conductivity	
Al ₂ O ₃	70%	W/m-°K(BTU in/hr°F sq.ft.)	
SiO ₂	20%	205°C(400°F)	0.60(4.20)
Other Metal Oxides	10%	425°C(800°F)	0.63(4.41)
		625°C(1200°F)	0.67(4.69)
		1000°C(1825°F)	0.70(4.90)
Density g/cc(pcf)	2.0(130)	Linear Shrinkage	
Porosity (%)	30	24 hr. isothermal soak	
Color	white	@ 870°C(1500°F)	1/2%
Flexural Strength MPa(psi)	58(8400)	@ 1260°C(2300°F)	1%
Compressive Strength MPa(psi)	85(12325)	Dielectric Constant	5.5
Structural Use Temp. °C(°F)	816(1500)	Dielectric Strength Volts/mil	91
Maximum Use Temp. °C(°F)	1260(2300)	Electrical Resistivity ohm-cm	52x10 ¹⁰

STANDARD SIZES*

SHEETS		CYLINDERS & SHAPES	
Thickness	1/32", 1/16", 1/8", 3/16", 1/4", 3/8", 1/2", 3/4", 1" (to 3")	Inner Diameter	2" - 36"
Area	4' x 4'	Thickness	1/8" - 1/2"
Other Sheet Sizes	Upon Request	Length	up to 84"
		Engineered Shapes	Upon Request
		Machined Parts	Upon Request

* Other sheet/cylinder sizes and thickness and geometric shapes are available upon request - please inquire.

Order Instruction: **Example (Standard)** **20 Sheets SG-70 1/4"**
 Example (Custom) **10 Sheets SG-70 3"x48"x56"**

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PRODUCT HIGHLIGHTS: SG-70

COMPETITIVE PRODUCTS

- RS100/101, 200/201
- Metal / Steel
- Plastics
- Dense Asbestos
- Machinable Ceramic
- Cordierite
- Vacuum-formed Shapes
- Castable Ceramics

ADVANTAGES

- Asbestos-Free
- Use Temperatures to 1260°C(2300°F)
- Chemical Inertness
- Non-Wetting to Non-Ferrous Metal
- Unaffected by Moisture or Water
- Non-Brittle
- Abrasion Resistance
- Thermal Shock Resistance
- Good Reflectivity
- Low to Negligible Shrinkage
- Excellent Dimensional Stability
- Machinable with Standard Tools
- High Dielectric Strength / Electrical Resistivity
- Little or No Outgassing
- Good Bending Strength
- Good Compressive Strength

APPLICATIONS

MARKETS	SPECIFIC APPLICATIONS
Specialty Furnace Components	Bottom Supports for Quartz Furnaces Hard Face Furnace Lining Low Temperature Kiln Furniture
Specialty High Temperature & Electrical Insulation	Corona Plastic Treating in Printing Process Internal Lining for Glass Tempering Furnaces Electrical Resistor Grids in Locomotive Dynamic Systems
Specialty Metal Working Components	Insulator Between Press Platens in Plastic Forming of Titanium
Compression Plate Insulation	Electric Insulator for Induction Pressing Diamond Saw Segment Platen or Mold Insulation for High Temperature Presses
Non-Ferrous Metal Handling Equipment	Aluminum Filter, Homogenizer and Purifier Crustbreaker Plunger Face Aluminum Holding Furnace Skimmer Dams & Baffles Specialty Structural Insulation Components
Induction Furnace Components	Channel Melter Components (Brass Foundry) Coil Liners, Channel Melters, Box Plates Coreless Induction Furnace Components Cover, Top, Base, Side, Front and Back Plates, Coil Posts Coil Support, Upper Fitting, Spacer, Riser Blocks, Splash and Coil Shields, Crucible Hold Downs, Coil Support Spacer Rings
Utility/Energy	Tubesheets, Candle Filters

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