The STEBBINS Engineering and Manufacturing Company Watertown, NY USA http://www.StebbinsEng.com	# SCI BRICK ## PRODUCT INFORMATION

DESCRIPTION

SCI Fireclay Brick are manufactured from selected clays extruded and fired to a high degree of vitrification. This assures an exceptionally dense, low absorption brick that meets ASTM C-279 Type III specifications. All brick is manufactured under an ISO Quality System.

SCI Brick are being used successfully in many types of applications where resistance to liquid and gaseous acid media is required. Typical applications include Sulfuric Acid Drying, Absorption Towers, Gas Scrubbing Towers and acid resistant floors.

SCI Type III Brick exhibit very low water absorption and stringent dimensional tolerances. These attributes have made SCI Type III Brick the material of choice for the Magnesium Metal Extraction Industry.

SCI Brick have a long history of performance in strong oxidizing Acid Bleach Towers in the Pulp and Paper Industry. They are the material of choice for lining ClO_2 Bleach Towers, ClO_2 Generating Tanks and Waste Acid Tanks. SCI Brick have also been utilized extensively throughout the Metals and Minerals Industry in highly acidic applications.

COMPONENT PACKAGING

Standard Brick Sizes:	
Straight:	9” x 4 1/2” x 3” (229 mm x 114 mm x 76 mm)
No. 1 Arch:	9” x 4 1/2” x 3” (229 mm x 114 mm x 76-70 mm)
Stretcher (2 1/8”) (54 mm):	9” x 6” x 2 1/8” (229 mm x 152 mm x 54 mm)
Stretcher (3’’) (76 mm):	9” x 6” x 3” (229 mm x 152 mm x 76 mm)
Pavers:	9” x 6” x 1 1/4” (229 mm x 152 mm x 32 mm)

TYPICAL PHYSICAL PROPERTIES

Physical State	Solid
Composition	Fireclay Chemical Resistant Brick
Color	Yellow
Density	147 lb./ft^3 (2355 kg/m^3)
Cold Water Absorption	2.5%, maximum
Cold Crushing Strength	15000 psi (103.42 MPa), average
Modulus of Rupture	2200 psi (15.17 MPa)
Modulus of Elasticity	3.0 – 3.5 x 10^6 psi (2.1 x 10^4 MPa – 2.4 x 10^4 MPa)
Thermal Conductivity	8.0 – 9.0 BTU x in. / sq. ft. x hr. x °F (1.15-1.30 W/m ˚C)
Coefficient of Thermal Expansion	3.0 x 10^{-6} in. / in. / °F (5.4 x 10^{-6} mm/mm/˚C)

CHEMICAL ANALYSIS (APPROXIMATE)

COMPONENT	PERCENTAGE
Silicon Dioxide	50 - 80
Aluminum Oxide	20 - 50
Iron Oxide	<3
Calcium Oxide	<1
Magnesium Oxide	<1
Sodium Oxide	<1
Potassium Oxide	<3
Titanium Dioxide	<3
Phosphorous Pentoxide	<1
Sulfur	<1
Loss on Ignition	<1

The above chemical analysis is based on random sampling. Results will vary due to variations found in naturally occurring raw materials. These results cannot be taken as requirements for specification purposes.

STORAGE

The brick should be dry before use, so optimal storage is a dry, clean area.

SAFETY PRECAUTIONS/DISCLAIMER

Mixes and applications of this product present a number of hazards. The purchaser and user must read and follow the hazard information, precautions and first aid directions on the individual product labels and safety data sheets before using.

All data contained in this Product Information sheet are averaged results of ASTM tests on laboratory prepared samples. Reasonable variations can be expected. The data should not be used for specification purposes.

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