

Mariana Soapstone™ Firebrick

Frequently Asked Questions & Installation Tips

November 2025

What is Soapstone?

A metamorphic rock, primarily made of the mineral talc. It is not anything like limestone, marble, granite, slate or sandstone, it's a totally different animal. It's also not the rock "Talc" which is translucent and used primarily for carving. Real Soapstone is technically called "Steatite", and is related to serpentine (green marble). It is reasonably soft and can be scratched with metal. There are so-called "Hard Soapstones" being offered in the market, particularly for the countertop trade, but these are not true soapstone and may not have the same thermal properties as soapstone.

Mariana Soapstone™ is quarried in Brazil. Philadelphia Soapstone Co has been importing Brazilian Soapstone to the US for almost 30 years.

Can I get Soapstone in a different color ?

All varieties of true steatite soapstone are gray. The stone varies somewhat in the amount of patterning and white veining, but overall it is a very consistently colored stone. If you want the soapstone to be darker, you could apply a mineral oil/wax formulation, or a color enhancing stone sealer. However, these products are not rated for use in high heat applications, and so should only be considered for decorative fireplaces that will not be actually used.

What's so special about Soapstone and heat?

The mineral talc has a very low thermal coefficient of expansion. So when it is heated and cooled, the stone stays static, and it is therefore much less likely to crack and spall than other natural stones like granite. Plus, soapstone is extremely dense, and its molecular structure permits it to absorb and retain heat for long periods of time. Soapstone is of course non-flammable with a super high melting point, and talc is not chemically reactive to the caustic gasses emitted by burning wood, so it won't stain or discolor in the same way as marble or limestone. Soapstone is also non-porous so it won't trap soot.

How long has Soapstone being used for heating applications?

Soapstone stoves have been used in Russia and Scandinavia for centuries, and many cultures worldwide, takes advantage of soapstone's ability to absorb and retain heat without cracking. Philadelphia Soapstone Co has been selling soapstone to North American wood-stove manufacturers for almost three decades. Typically, Soapstone tiles are slotted into the cast iron frame of the stove, and provide more "thermal mass". Soapstone stoves stay hotter for significantly longer than cast iron models. For more, go to www.hearthstonestoves.com.

Soapstone firebrick can also be used as a lining for ovens, increasing their efficiency. We've had several customers use them to make pizza ovens, and we sell (in volume) soapstone pizza stones that will keep the pie hot long after it is brought to the table.

Will Soapstone Firebrick meet code?

Yes, we have tested our soapstone and it meets ASTM C-1261 (Standard Specification for Firebox Brick for Residential Fireplaces). If your fire inspector requires it, we can provide a copy of the test results.

What are the advantages over regular firebrick?

Regular (yellow or red) firebrick is a ceramic product, pressed and fired. It is intended only to insulate and protect the masonry structure behind it. It has virtually no heat storage capacity and is brittle and friable. It's quite porous and will trap soot on its exposed surfaces. It is available in a limited range of colors and finishes, and can have a raw, unfinished look.

Soapstone firebrick is sawn from large blocks of natural stone and is extremely dense. While it too will protect the masonry behind it from the flames, it also functions as a heat storage system, saving calories that otherwise would go straight up the chimney, and radiating that heat back into the room.

Honed soapstone bricks show natural veining and texture, and give a crisp, finished and refined look to the lining of a fireplace. If you've made the effort to make the surround and mantel look great, why not make the firebox look great as well? After all, you actually spend the most time looking at the firebox!

How many bricks do I need ?

The first thing to decide is what layout you want. This will determine what face of the bricks you want to show. You'll need the dimensions of your firebox walls and floor. See our **Layout Guide** for some ideas.

The bricks are honed on two faces, one large and one small, which gives the mason the flexibility to lay each of them in several different configurations. For example, our Standard bricks (9" x 4 ½" x 2 ½") can be installed showing the 9" x 4 ½" face, which results in a soapstone wall thickness of 2 ½". Or you could lay the same bricks showing the 9" x 2 ½" face, in which case the wall thickness would be 4 ½".

Soapstone is better than any other natural stone with heat, but bricks can and do occasionally crack, and a thicker brick will resist cracking better than a thin one. Plus, a thicker wall gives more soapstone mass to absorb and radiate heat. 2 ½" is the recommended firebrick thickness for lining wood-burning fireplaces. Decorative fireplaces and gas log fireplaces may call for 1 ¼" firebrick wall thickness, but be sure to check that meets your local fire code. Pre-manufactured modular fireplace kits like Isokern™ have their own recommendations as to what thickness firebrick you can use with their models.

When you've come up with a layout plan, use our **Firebrick Calculator** to determine how many bricks you will need to order. Remember to always order extra bricks for cutting waste, especially in complicated layouts like Herringbone.

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How should Soapstone Firebricks be installed?

Experienced masons should have no difficulty in working with soapstone. Soapstone firebricks can be sawn using an ordinary tile saw with a diamond blade and enough horsepower to cut through 2 ½” of solid stone. It should always be sawn wet, to reduce the powdery saw dust. Follow OSHA guidelines to avoid inhaling the stone dust, and protect your eyes and hands.

Any nicks and scratches on the face of the stones that occur in sawing or installation can be buffed out with fine grit sandpaper. A random orbital palm sander works best.

A refractory mortar that is rated for use in fireplaces should always be used. We recommend Heat-Stop™. Premixed HeatStop is rated for interior applications, but for both interior & exterior use the best product is HeatStop 50, which comes unmixed in a 50 lb bag, or HeatStop II. HeatStop is gray in color and goes well with soapstone. An admixture like Acryl-60 or K-88 will promote additional adhesion of the mortar to the soapstone. Follow HeatStop’s guidelines and always mix using cold water.

It is important that the bricks not be very cold when installed, as this will interfere with the mortar adhesion. Because of their density, the bricks can take hours to warm up – so give them time. Also, be sure to wipe the bricks clean of any dust before installing, as the dust can interfere with the mortar bond.

Because Soapstone is non-porous, when wet the mortar won’t grab soapstone in the same way as it does porous yellow firebrick, so usually a mason can lay fewer courses of soapstone firebrick in a day, and some extra care needs to be taken to avoid the bricks slipping out of position. Once the mortar has set the bond should be strong. Joints should be 3/16” to ¼” and you should strike the joints. Never install soapstone firebricks without a joint.

Soapstone can be cleaned up using muriatic acid or any of the typical chemicals masons use to remove mortar stains or efflorescence. In fact, Soapstone has historically been used for laboratory work-surfaces because of its resistance to acids and alkalis. Be careful using abrasive cleaners or tools to clean up soapstone as they will scratch the surface (although it can be restored with fine grit sandpaper).

Use in masonry fireplaces only !

Soapstone firebricks should only ever be used to line masonry fireplaces that meet code requirements for minimum clearances to combustibles.

Soapstone firebricks should never be used by consumers to line the inside of “zero clearance” steel fireplace units, because changing the lining material of such units voids the manufacturer’s warranty and changes the performance characteristics of these UL tested appliances and may create a fire hazard.

For similar reasons, do not replace ordinary ceramic firebrick inside a woodstove with soapstone firebrick without checking with the stove manufacturer first.

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Soapstone – Typical technical information:

Melting Point = approximately 1,000° C (1832° F)

Density = 2.9 MT/M3 (approximately 180 lbs/cubic foot)

Hardness = 1.5 to 2.8 (Mohs Scale)

Linear coefficient of expansion from 20° to 500° = 0.0000079

	English	Metric	ASTM Test
Absorption by weight, %	0.2	0.20	C97
Density, lbs/ft ³ , (kg/m ³)	185.0	2,963.42	C97
Compressive Strength, psi, (bar)	4,870.0	335.77	C170
Abrasion resistance, hardness	4.5		C241
Pyrometric Cone Equivalency	13-14		C24 PCE
Modulus of Rupture, psi, (bar)	2509	172.98	C133

Note: The above information reflects typical values and data. Soapstone is a product of nature and variations may be expected in deliveries.

If you are considering using soapstone firebrick in an unusual or industrial application, please give us a call to discuss your idea further.

Please give us a call if you would like more information and samples!

SAFETY DATA SHEET

Effective Date March 1, 2019

SECTION 1: PRODUCT IDENTIFICATION

Material Name: NOT A CONTROLLED PRODUCT

Company: Philadelphia Soapstone Co
100 Roma

I 02852

Emergency Contact Information: Poison Control Center- 1-800-222-1222 or 911

Recommended use: Building material, Slab Countertops, Firebrick, Floor and Wall Tile, and other applications

SECTION 2: HAZARD IDENTIFICATION

This product is made from natural stone, containing an assortment of naturally occurring minerals, and is quarried/mined in various locations. The products are processed in facilities experienced in natural stone fabrication, using specialized tooling. The finished products are odorless, stable, nonflammable, and pose no known health hazard. When cut, ground or during demolition this product can produce airborne particulates containing Silica which can lead to lung cancer.

GHS Classification:

Global Harmonization Identification System GHIS: Health: 3 Fire: 4 Reactivity: 4

Carcinogenicity Category 1A (H350)

Specific Target Organ toxicity, single exposure; Respiratory tract irritation- Category 3A (H335)

Specific target organ toxicity- repeated exposure- Category 1A (H372)

GHS Pictogram:

Crystalline Silica



Category 3 (Respiratory Tract Irritation) (H335)



Category 1A (Carcinogenicity) (H372)

Signal Word: DANGER

SECTION 2: HAZARD IDENTIFICATION (CONT)**Hazard Statements:**

(H350) May cause CANCER (Inhalation)

(H335) May cause Respiratory Irritation

(H372) Causes damage to organs (Lung/respiratory) through repeated or prolonged exposure

Precautionary Statements:

Do not handle until all safety precautions have been read and understood (P202)

Do not breath dusts (P260) when cutting, use water and/or exhaust ventilation to minimize exposure.

Wear respiratory protection (If ventilation is inadequate) (P284)

Do not eat, drink, or smoke when using this product (P270)

Wash skin thoroughly after handling (P264)

Potential Health Effects:

Inhalation: Do not breathe dust. See Health Hazards in Section 11 for more information.

SECTION 3: COMPOSTION OF INGREDIENTS

Chemical Name	CAS#	% by Weight (approximate)
Magnesium Silicate (Talc)	14807-96-6	97-100
$\text{Mg}_3\text{Si}_4\text{O}_{10}\text{OH}_2$ Crystalline Silica SiO_2	14808-60-7	0.1-2.0
Calcite, CaCO_3	13397-26-7	0.0-2.0
Chlorite, ClO_2	1318-59-8	0.0-2.0

SECTION 4: FIRST AID MEASURES**Eyes:** (Dusts) Immediately flush with large amounts of water for a minimum of 15 minutes.

Seek medical attention if irritation persists.

Skin: Wash thoroughly after working with natural stone products.***Inhalation:** Remove to fresh air if exposed to large amounts of dusts. Administer artificial respiration if breathing has stopped. Seek medical attention immediately.**Ingestion:** Not applicable for intact natural stone products.***Always use methods to reduce dusts during cutting (wet cutting/grinding and/or exhaust ventilation) Use respiratory protection as necessary**

Always have emergency eyewash available in area where products are cut or ground.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point:	Not applicable
Auto Ignition Temperature:	Not applicable
Flammable Limits LEL & UEL:	Not applicable
Fire Extinguishing Media:	None required-Non-Flammable
Fire and Explosion Hazards:	None

SECTION 6: ACCIDENTAL RELEASE

Avoid creating excessive amounts of dusts. Clean up dusts with wet mop methods or use an approved HEPA vacuum system.

SECTION 7: HANDLING AND STORAGE

When cutting, or grinding, use equipment with integral dust collection and/or exhaust ventilation. Use wet cutting methods to reduce dusts. Use respiratory protection in the absence of effective engineering controls, or when PEL's are exceeded.

Do not store near acids. Natural stone products may be damaged or discolored

SECTION 8: EXPOSURE CONTROL PERSONAL PROTECTION

	OSHA PEL	ACGIH TLV
Magnesium Silicate (Talc)	(T) 15mg/m ³	(T) 10mg/m ³
Mg ₃ Si ₄ O ₁₀ OH ₂	(R) 2mg/m ³	(R) 1mg/m ³
SiO ₂ Crystalline Silica SiO ₂	(R) 0.05mg/m ³	(R) 0.025mg/m ³
	CAL/OSHA	
	(R) 0.01mg/m ³	
Calcite, CaCO ₃	Not Evaluated	Not Evaluated
Chlorite, ClO ₂	Not Evaluated	Not Evaluated
(T)= Total Dusts		
(R)= Respirable Dusts		

Engineering Controls: Use integral dust collection and/or exhaust ventilation, avoid inhalation of dusts. The highest probability of silica exposure occurs during installation using dry cutting methods or during removal of installed natural stone. Wet cutting methods to reduce or maintain dust levels below the PEL is highly recommended.

Skin: Wear impermeable gloves during cutting, sanding, or grinding

Eye: Wear approved Safety Goggles, or Safety Glasses and Face Shield when cutting, sanding, or grinding.

Respiratory: Wear a NIOSH approved respirator with N95 particulate filters or higher if PEL is exceeded or when engineering controls are not feasible. Higher levels of exposure will dictate the type of respiratory protection used. Review NIOSH chemical hazard guide for information on respiratory protection at cdc.gov/niosh/npg

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Solid, color may vary
Odor:	Odorless
Melting Point:	Not applicable
Boiling Point:	Not applicable
Vapor Pressure:	Not applicable
Vapor Density:	Not applicable
Solubility in Water:	Insoluble
Specific Gravity:	2.6-2.9
Percent Volatile by Volume:	Not applicable
Evaporation Rate:	Not applicable
Viscosity:	Not applicable

SECTION 10: STABILITY AND REACTIVITY

Stability:	Stable in current form
Conditions to Avoid:	Avoid contact with acids
Incompatibility:	Avoid contact with acids
Hazardous Polymerization:	Will not occur
Hazardous Decomposition Products:	None

SECTION 11: TOXICOLOGICAL INFORMATION

Potential Health Effects

Primary Routes of Exposure

None for intact natural stone products. Inhalation and potential exposure to eyes, hands, and other body parts if contact is made with broken stone, and/or during procedures involving cutting, grinding, and removal of installed products

Acute Health Effects

No acute health effects from exposure to intact natural stone products. Working with broken or cut natural stone produces the potential for cuts to the hands or other exposed body parts. Acute effects such as eye irritation may occur if associated with high dust operations such as dry cutting, or during removal of installed stone. In rare cases, symptoms of acute silicosis, a form of silicosis associated with exposure to respirable crystalline silica, may develop following acute exposure to extremely dusty environments caused by generation of dusts. Signs such as labored breathing and early fatigue may indicate silicosis, however, these symptom may arise from other causes.

SECTION 11: TOXICOLOGICAL INFORMATION (CONT)

Chronic Effects

No chronic effects are known for exposure to intact natural stone products. Long-term, continual exposure to respirable crystalline silica at or above established permissible occupational exposure limits may lead to the development of silicosis, a nodular pulmonary fibrosis (NPF). NPFs are also associated with pulmonary tuberculosis, bronchitis, emphysema, and other airway diseases. This type of chronic exposure to silica dust may also result in the development of autoimmune disorders, chronic renal disease, and other adverse health effects. Epidemiologic studies demonstrate that workers exposed to elevated silica concentrations have a significant risk of developing chronic silicosis. Signs such as labored breathing and early fatigue may indicate silicosis; however, these same symptoms can also arise from many other causes.

Potential Adverse Interactions

Silicosis may be complicated by severe mycobacterial or fungal infections and result in tuberculosis (TB). Epidemiologic studies have established that silicosis is a risk factor for developing TB. Existing respiratory or pulmonary diseases may be complicated by exposure to respirable crystalline silica. Smoking may increase the risk of adverse effects in conjunction with occupational exposure to silica dust at or above permissible exposure limits.

Carcinogen Status

Respirable crystalline silica is classified by the International Agency for Research on Cancer (IRAC) as a Group I Carcinogen (carcinogenic to humans). The National Toxicology Program (9th Report) lists respirable crystalline silica as "Known to be a Human Carcinogen". USDOL/OSHA and NIOSH have recommended that crystalline silica be considered a potential occupational carcinogen.

California Proposition 65 Warning: Crystalline Silica is known in the state of California to be a human Carcinogen.

Overview of Animal Testing

Short term experimental studies of rats have found that intra-tracheal instillation of quartz particles leads to the formation of discrete silicotic nodules in rats, mice and hamsters.

Oral (silica) Lethality

LD50 Rat oral >22,500 mg/kg LD50

Mouse oral >15,000 mg/kg LC50

Carp >10,000 mg/l (per 72 hr.)

SECTION 12: ECOLOGICAL INFORMATION

None available at this time.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose all waste in accordance with federal, state, and local regulations. Material is non-hazardous Class III regulated material.

SECTION 14: TRANSPORT INFORMATION

D.O.T Shipping Name:	Not Applicable
Hazard Class:	Non Regulated
ID Number:	Not Applicable
Marking:	Not Applicable
Labels:	None
Placard:	None
Hazardous Substance/RQ:	Not Applicable
Shipping Description:	Natural Stone Products

SECTION 15: REGULATORY INFORMATION

This product and/or its components have been previously introduced into U.S. commerce and is listed in the Toxic Substances Control Act (TSCA) Inventory of Chemicals in Commerce. Hence, it is subject to all applicable provisions and restrictions under TSCA 40 CFR Section 721 and 723.250.

This natural stone product contains <1 percent by weight each of the following elements, which are SARA 313 Recordable: Antimony, Arsenic, Barium, Beryllium, Cadmium, Cobalt, Chromium, Copper, Manganese, Mercury, Nickel, Lead, Silver, Thallium, Tin, Titanium, Vanadium, and Zinc

Title 22 Division 2, California Code of Regulation Chapter 3 (Proposition 65): This product contains a chemical or chemicals known to the State of California to cause cancer and/or birth defects or other reproductive harm.

This product or its components meets the following hazard definition(s) as defined by the Occupational Safety and Health Hazard Communication Standard (29 CFR Section 1910.1200):
Health Hazard (Sections 2&11)

The information in this data sheet provides information related to the potential hazards associated with dusts which may be produced during cutting or otherwise changing the shape of the product during installation and/or removal

SECTION 16: OTHER INFORMATION

Global Harmonization Identification System GHIS: Health: 3 Fire: 4 Reactivity: 4

Hazardous Material Identification System HMIS: Health: 0 Fire: 0 Reactivity: 0

National Fire Protection Association NFPA: Health: 0 Fire: 0 Reactivity: 0

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Prepared By:

Date of preparation:

Philadelphia Soapstone Co

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