



FortisArbor[®]
Wood Mosaics



Use and Care
Installation Instructions

Thank you for
choosing our tiles

This booklet will guide you through a successful tile installation and provide guidelines for the use and care of your product to ensure generations of enjoyment.



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Inspiration

I grew up on a small, beautiful island 12 miles off the coast of Maine. It was only fitting that my first job was in a boatyard, caretaking for fishing and pleasure boats. Many of the boats in our care were subjected to the harsh New England climate; often times after years of commercial fishing use. It never failed to amaze me that many of the teak decks could be restored with a simple good cleaning, looking beautiful and virtually new again.

Years later in the studio, I realized that by creating tiles from teak, bamboo and rosewood, I could bring the natural variation, depth, durability and beauty I found in those wooden decks to a tile line that would be truly unique. Fortis Arbor Wood Mosaics is the result of this inspiration.

Sustainability Durability

Fortis Arbor Wood Mosaics are made strictly from sustainable lumber so our grandchildren can enjoy our forests as well as our tiles. By partnering with a small furniture company we reclaim our rosewood and teak from sustainably harvested and plantation grown lumber too small to be used in fine furniture making. All our tiles have a living finish that is easily maintained and enhances the wood's natural beauty. Each tile is cut and finished by hand, so every installation is unique.

Whether our tiles are used in a contemporary or traditional setting, Fortis Arbor mosaics bring a depth and aesthetic harmony to the environment that is unrivaled by other materials.

All the finishing and netting of Fortis Arbor tiles is done in our Chicago studio, USA.

Wood Expands and Contracts -- So Does Our Grout

The fact that our tiles are made from real wood is what gives them their striking beauty, yet it also poses a unique technical issue: wood expands and contracts with changes in humidity.

Fortis Arbor Grout -- *patent pending* -- was developed specifically to move with the natural expansion and contraction of Fortis Arbor wood tiles to allow beautiful concepts in flooring, walls, countertops, back splashes, fireplace surrounds, kitchens and bathrooms.

We are the pioneers of wood tile mosaics and only our grout allows for maximum performance and easy installation.

Although other grouts are designed to flex, they are not designed to rebound after being compressed. Other grouts may have the flexibility needed for traditional tile applications, but only Fortis Arbor Grout can perform under the extreme compression and expansion presented in a wood tile application.

Wood

Our wood tiles are handcrafted from solid bamboo, teak and rosewood. These three woods were chosen not only for their pleasing color range, but also for their strength and durability.

Bamboo: Actually considered a grass plant and not wood, bamboo has been used by the Japanese for thousands of years for everything from simple tools to home building. It is only recently that the technology to turn bamboo into a veneer board of incredible stability and hardness has been realized.

Rosewood: Rosewood is a common western name for what is called Fa-lee by the Chinese and Pradu or Praduak in Thailand. It gets its western name from its incredibly vibrant red color, which is similar but richer in color than cherry and mahogany. Our rosewood ranges in tone from deep red to chocolate brown. Rosewood is used extensively for outdoor carved sculpture because of its density, rot resistance and natural beauty.

Teak: Ancient civilizations in the East prized teakwood as one of their most valuable resources. Teak's ability to withstand rust when combined with metal, as well as its resistance to rot, have made it the superior wood for shipbuilding. It has been used in some capacity for this purpose since before the middle ages. Often teak flooring from old ships was recycled into park benches for European cities. Today, there are some teak benches in English towns that are centuries old.

Truth in Materials

One of the most important concepts at Flux Studios is "truth in materials": Let the designs be a simple complement to an already beautiful material and let the characteristics of that material be foremost in informing your design decisions.



Use and Care

Use

Fortis Arbor Wood Mosaics can be used in virtually any interior application with limited water exposure. They can be used on walls, ceilings, back splashes, countertops, fireplace surrounds, bathroom, kitchen and high traffic floors.

Fortis Arbor tiles are not intended for use in areas subject to water saturation or extreme humidity fluctuations. These areas include outdoor applications, pools and fountains, steam rooms, saunas and shower stalls.

Floors

Fortis Arbor mosaics are a durable and beautiful choice for flooring. They provide a richness and depth that is unrivaled by standard flooring options. They are easily maintained and, if scuffed or dulled over time, they may be easily returned to their original luster and beauty by a light sanding and additional coat of Fortis Arbor Sealer/Clear Coat.

Although our tiles are suitable for bathroom floors, pooling water on floors should be wiped up immediately.

We recommend padding the bottom of furniture to prevent damage to Fortis Arbor mosaics used on floors.

Countertops

Our mosaic wood tiles are a unique and beautiful choice for countertop applications. Pooling water and spills should be wiped up immediately.

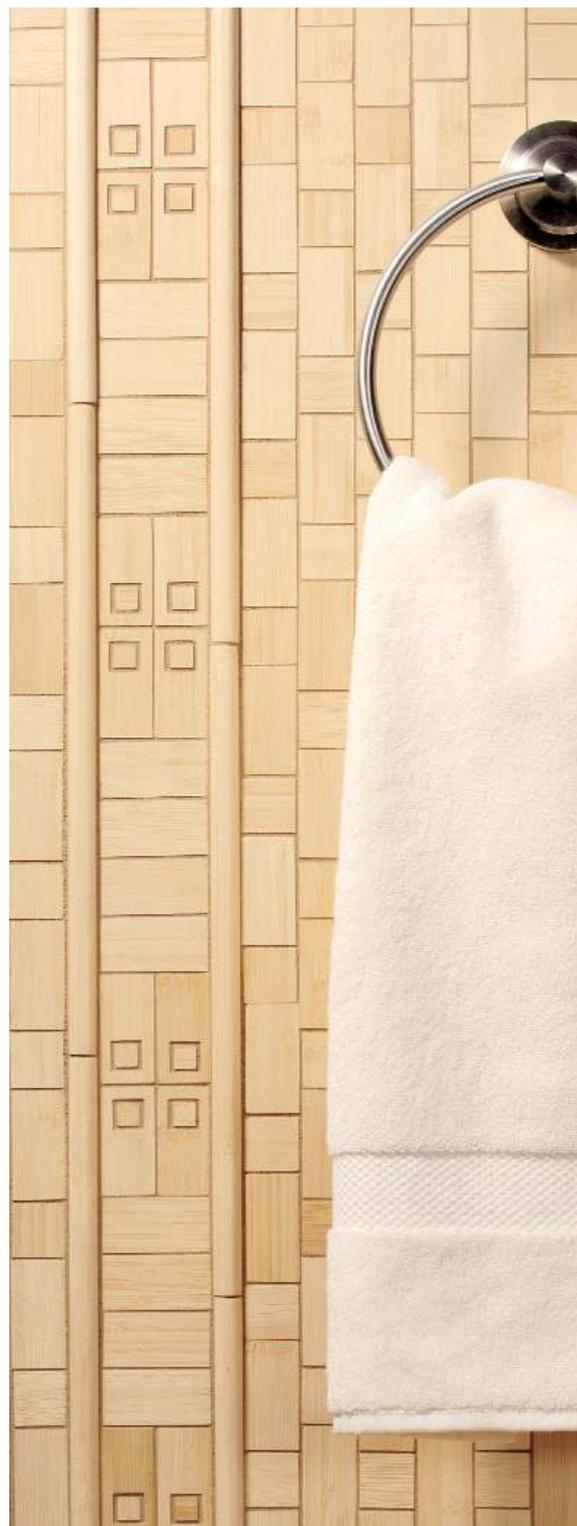
Fireplace and Cooktop Clearance

Our tiles are made from real wood and are combustible. Please refer to your appliance or fireplace manufacturer for recommended clearances.

Maintenance and Cleaning

Fortis Arbor Wood Mosaics are easily cleaned using any mild, non-acidic and non-abrasive cleanser. We recommend using a mild soap and water. If the surface of the tiles becomes worn or dull from time or neglect, they can be lightly sanded and refinished with a coat of Fortis Arbor Sealer/Clear Coat. (Although other wood finishes can be used, we recommend using Fortis Arbor Sealer/Clear Coat to recoat the surface of our tiles. If using a wood finish other than Fortis Arbor Sealer/Clear Coat, check for compatibility on tiles and grout in an inconspicuous area.)

Do not use acid based cleaning products, cleaning products containing ammonia or abrasive cleaning products on Fortis Arbor tiles.



Install Our Tiles With Confidence

Our wood mosaic tiles and patent pending grout were tested in environments fluctuating from 10% to 90% humidity and 0° to 125° Fahrenheit with no effect to the grout or finish. (Most interior wood furniture and flooring has a comfort level of between 30% to 60% humidity and a temperature range of 60° to 80° Fahrenheit.)

Preventing Scratches and Stains

Stains can be prevented by maintaining a protective finish on the wood surface and by consistent cleaning. Scratches may be removed by sanding and refinishing the tiles with a coat of Fortis Arbor Sealer/Clear Coat.

Fortis Arbor mosaics provide a very forgiving surface. Marks from wear and use that may otherwise ruin or permanently mar many other wood surfaces are not a problem for our mosaics tiles. (That said, as with all wood surfaces, if our tiles are scraped with a sharp, hard object, they can be damaged.)

Repairing Water Damage

Unlike conventional wood plank flooring where moisture or humidity problems can mean buckled floors or irreparable cracks between boards, the expansion and contraction in our wood tiles does not compound over

distances. If problems were to occur they could be easily repaired by pushing additional grout into the grout joints.

Our wood tiles are especially resistant to water damage caused by flooding, leaking pipes, pooling water, excessive moisture, etc. If damage were to occur, allow the area to dry completely. Moisture readings should be taken to determine that the tiles are at the moisture content relative to normal occupied building conditions. Check the grout joints for any cracks caused by over-expansion of the wood tiles. If there are cracks in the grout joints, push Fortis Arbor Grout into the affected grout joints. If necessary, after the grout dries, gently sand the area and apply 1 to 2 coats of Fortis Arbor Sealer/Clear Coat.



Installation Instructions

These installation instructions are provided as a general guideline to cover most installations: some installations may require different specifications. **Read and understand these installation instructions before beginning any work.**

Installation of Fortis Arbor Wood Mosaics are limited to installations that are not subject to water saturation or extreme humidity fluctuations. We do not recommend installation of Fortis Arbor tiles in outdoor applications, pools and fountains, steam rooms or in shower stalls.

Installing Fortis Arbor tiles is very much like installing any conventional tile and stone:

- Ensure a suitable substrate
- Adhere the tiles to the substrate
- Grout the installation
- Clean and seal the installation

Important differences are:

- **DO NOT** install Fortis Arbor tiles in abnormally humid conditions relative to normal occupied building temperature and humidity conditions. See *Delivery and Storage page 7*.
- **DO NOT** use thinset mortar. Use only moisture cured urethane adhesive. See *Setting page 7*.
- **DO NOT** use conventional grout. Use only Fortis Arbor Grout. See *Grouting page 8*.
- **DO NOT** use excessive amounts of water during grout clean up. See *Grouting page 9*.
- Remove **ALL** grout residue before sealing. See *Sealing page 10*.
- **DO NOT** seal with conventional tile and stone sealer. Use only Fortis Arbor Sealer/Clear Coat. Use 2 coats on walls, 2 to 3 coats on floors with hardener additive. See *Sealing page 10*.

Delivery and Storage

Fortis Arbor tiles should be unsealed from their plastic packaging and acclimated to the installation area for at least 5 days prior to grouting. The tiles can be adhered to the substrate and then left to acclimate before grouting.

Fortis Arbor tiles should not be unsealed or installed until:

- HVAC systems have been operating for at least 48 hours to stabilize the ambient temperature and humidity.
- Storage and installation conditions match temperature and humidity conditions when the building is occupied.

- All concrete in the installation area has cured for at least 60 days.

DO NOT store or install Fortis Arbor Wood Mosaic Tiles in abnormally humid conditions relative to normal occupied building temperature and humidity conditions.

Substrate

Floor and Wall Applications:

We recommend following the substrate specifications as outlined in the Handbook for Ceramic Tile Installation published by the Tile Council of America (www.tileusa.com).

Suitable substrates include well laminated plywood, cement board and Densshield tile backer. Tape and mud all seams using a mesh tape and thinset mortar.

Due to possible delamination of the paper layer, we do not recommend drywall as a suitable substrate material.

Concrete Slab Applications:

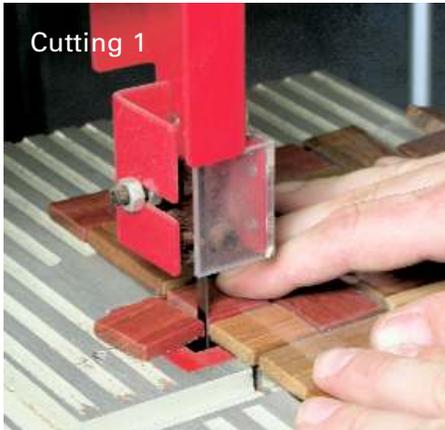
The maximum water emissions of a concrete slab should be less than 3 pounds per 1000 square feet per 24 hours. We recommend a moisture barrier be used on any concrete slab where moisture content is questionable. Slab temperature should be between 50° and 100° Fahrenheit during installation.

Variation

Our tiles are cut, finished and netted by hand. The techniques we employ encourage variation and ensure that no two Fortis Arbor tiles are exactly alike.

Fortis Arbor tiles are made from natural wood. Variations in color range should be expected. There may also be variation in color range from order to order. Please lay out and inspect all tile sheets, insets and liners to select appropriate color range and variation before setting any material.

Installation Demonstration



You can cut Fortis Arbor tiles with any saw suitable for cutting wood. A coping saw can be used to cut curves or shapes. Trimming sheets can be done with a bandsaw or jigsaw.



A belt sander, drill or grinder equipped with a sanding disc can also be used to quickly shape tiles.

Setting 1

We recommend using a quality moisture cured urethane adhesive to bond Fortis Arbor tiles.

Suitable moisture cured urethane adhesives include: Bostik Inc.'s Bostik's Best, Basic Adhesives' DriTac 7600, Sika Corporation's SikaBond T55, and Roberts Consolidated Industries, Inc.'s Roberts 1405.

See suppliers and resources on page 11 of this booklet.

Bostik's Best Urethane Adhesive is the preferred adhesive for Fortis Arbor tiles. Bostik's Best Urethane Adhesive is available through your Fortis Arbor tile showroom and is also carried nationally by Lumber Liquidators: www.lumberliquidators.com



Use a $1/8 \times 3/32 \times 3/32$ inch U notched trowel to apply the adhesive. Apply a thin coat of adhesive with the flat side of the trowel to ensure a good mechanical bond. Comb adhesive with U notched trowel listed above. Periodically check for at least 80% adhesive coverage on the bottom of the tiles.

Clean up any adhesive spilled on tiles or finished surfaces immediately with mineral spirits as dried adhesive is VERY difficult to remove. DO NOT allow mineral spirits to sit on wood tile finish. Mask off all areas surrounding installation. Clean tools and equipment often with mineral spirits.



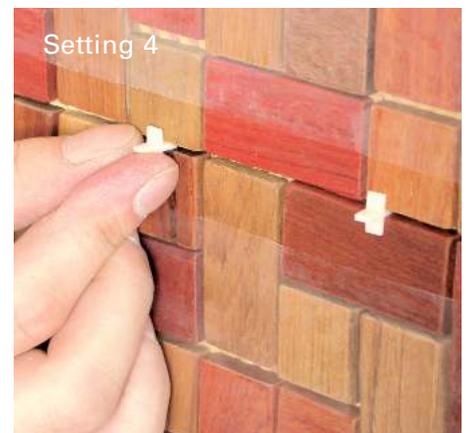
When setting tiles in a vertical application, comb an area of a few square feet at a time as instructed above and then let the adhesive set until the adhesive no longer "sags" before applying the tile sheets.

When setting tiles in a floor or other horizontal application, tile sheets can be immediately pressed into the adhesive.

Press the tiles down by hand or with a roller.

Fortis Arbor tile sheets are constructed using either a recycled paper netted backing, or a clear face tape depending on the pattern supplied.

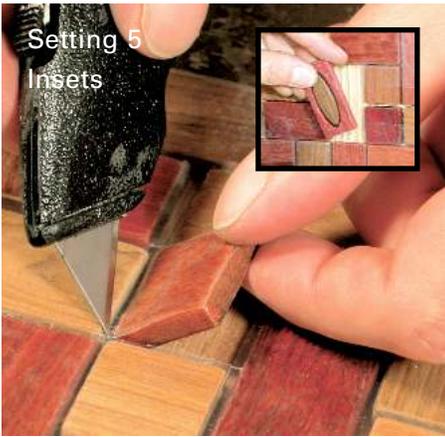
If the tiles are supplied with a clear face tape the tile sheets are glued with the clear tile tape up and NOT down in the adhesive.



Work from the bottom of the installation up, using spacers between tile sheets. Allow time for the lower sheets to firmly set, if this is not done the weight of the sheets above can compress the face mounted tile tape on the sheets below and ruin the spacing between the tiles.

Do not push the tile sheets across the adhesive as it can "plow" up into the grout joints.

Adhesive in the grout joints can be easily removed with the back of a utility knife blade after it has stiffened but NOT fully cured.



When setting our insets into a sheet of mosaic simply cut the tile out of the tile tape or paper backing in the desired location of the inset and insert the inset piece at the same time the sheet is glued down.

You can use tape or shims to secure the inset in the proper location while the adhesive is setting.

Similarly, you can make any adjustments necessary to individual tiles in a sheet by cutting the tile tape or paper backing and manipulating the spacing of the tiles.



When installing Fortis Arbor tiles next to $\frac{3}{8}$ inch stone or tile you can "shim" up the wood tiles with Schluter Ditra Universal Underlayment. Once the underlayment is applied you must fill the "waffle" side of the underlayment with thinset mortar and let it thoroughly dry. At that point you can set the wood mosaics tiles on the underlayment as previously described.

Cement backer board or well bonded plywood can also be used to raise the Fortis Arbor tiles flush with surrounding materials.

Grouting 1

Use only Fortis Arbor Tile Grout -- patent pending -- supplied by Flux Studios Inc. to grout Fortis Arbor tiles.

Fortis Arbor Grout uses a special blend of binders and fillers to achieve a non-compacting, flexible grouting system that is water proof, resists staining, is non toxic and approved for indirect food contact.

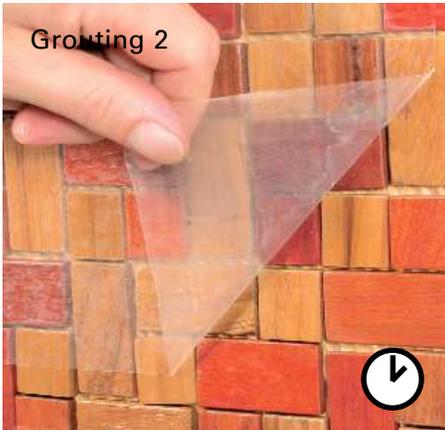
Available in three convenient pre-mixed sizes:

- ½ gallon: covers approximately 25 sqft
- 1 gallon: covers approximately 50 sqft
- 2 gallon: covers approximately 100 sqft

Available in three colors to compliment our wood mosaics:

- Brick: compliments rosewood
- Coffee: compliments teak and rosewood
- Sand: compliments bamboo and teak

DO NOT use Fortis Arbor Grout stored more than 6 months after the manufactured date marked on the lid of the grout container.



Ensure that adhesive is firmly set before grouting. This time can range from between 8 to 24 hours depending on ambient temperature and humidity.

Remove any spacers, debris or adhesive from tile joints.

Fortis Arbor tiles should be acclimated to the installation area prior to grouting. DO NOT grout Fortis Arbor Wood Mosaic Tiles in abnormally humid conditions relative to normal occupied building temperature and humidity conditions. See Delivery and Storage on page 6.



The area to be grouted before starting initial clean up will depend on ambient temperature and humidity conditions and air flow at the installation site. **Start by grouting a few square feet at a time to check grout drying time before grouting a large area.**



Spread grout over the face of the tiles using a rubber grout float. Holding the float at a 45° angle to the face of the tile, work in a parallel motion to the grout lines to ensure completely filling the joints.

For best results grout and room temperature should be above 60° Fahrenheit.

DO NOT add water to the grout.



Remove excess grout by holding the float at a 90° angle to the face of the tile and working diagonally across the grout lines.



Begin initial cleaning when the grout film just starts to dry on the surface of the tiles. Depending on temperature, humidity and air flow at the installation site, this could be between 5 and 10 minutes. Using one of the provided scotchbrite pads, dampen -- **NOT WET**-- the pad and scrub the residue on the tile surface working in a diagonal motion to the grout joints. This will create a uniform slurry of grout residue on the surface of the tiles.

DO NOT introduce excess water to the grout or tiles. Use only a damp, -- NOT WET -- scotchbrite pad and sponge to clean the grout from the surface of the tiles. DO NOT let water sit on the surface of the tiles.



Using a new, clean, slightly damp -- **NOT WET**-- sponge, clean off the surface film by working in a diagonal motion to the grout joints. Be careful not to remove excess grout from the grout joints. Rinse the sponge frequently using 2 buckets of water: one for rinsing out the heavy residue, the next for rinsing the sponge with clean water.

Use a clean, dry cloth working in a diagonal motion to the grout joints to remove any final grout residue and moisture.

DO NOT allow grout residue to dry on the surface of the tiles.

Grouting 8
Final Clean Up



When abutting very thick stone, wood, or porous ceramic tile, or if excessive moisture is introduced into the grout there may be slight gaps or cracks that develop in the grout when it has dried. If this occurs simply apply another application of grout over the first.

DO NOT clean with excessive water or introduce excessive water into the grout or tiles.

Once the installation is grouted, keep air moving over the drying grout. This will speed curing and keep excess moisture from soaking into the tiles.

Keep all traffic off the installation and do not start final clean up until the grout is fully cured (approximately 24 hours). Clean tools with soap and warm water.



Using the provided 220 grit sandpaper lightly sand the surface of the tiles using a random circular motion. For 1x2 inch mosaic patterns and liners sanding in the direction of the grain is recommended.

The purpose of this light sanding step is not to aggressively sand the tiles but to simply remove any grout residue left on the surface of the tiles. If the surface was cleaned well during the previous step this sanding step may not be necessary.

For floor applications **DO NOT** use drum sanders or standard wood floor sanding methods. A random orbital palm-type sander equipped with 220 grit paper can be used if desired.



Using the 2nd provided scotchbrite pad lightly buff the surface of the tiles using a random circular motion.

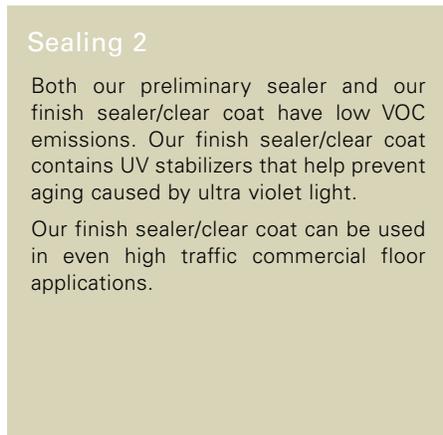
This light buffing will remove any final grout residue and prepare the tiles for the final sealer/clear coat. The tiles at this stage may appear duller than when initially set. The final sealer/clear coat will bring the surface back to life.



Vacuum and use a damp cloth or tack cloth to thoroughly remove any dust or residue from the surface of the installation.

Make sure ALL grout residue has been removed from the surface of the tiles before applying the Preliminary Sealer.

We recommend using only Fortis Arbor Preliminary Sealer and Finish Sealer/Clear Coat supplied by Flux Studios Inc. to finish Fortis Arbor Tiles.



Walls: 1 coat of preliminary sealer and 2 thin coats of finish sealer/clear coat.

Floors & Countertops: 1 coat of preliminary sealer and 2 to 3 thin coats of finish sealer/clear coat.

Do not allow Fortis Arbor sealers to thicken: If the finishes have been left in an open container, or stored for a long time, thin by adding up to 5% water.



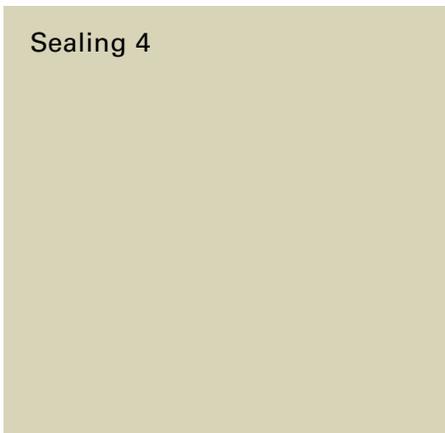
Stir the provided preliminary sealer well.

Using a clean brush, apply the preliminary sealer onto the surface of the tiles and into the grout joints. **Be sure to work a generous amount of the preliminary sealer into the grout joints.**

Follow up by brushing with very light pressure and work in a parallel motion to the grout lines.

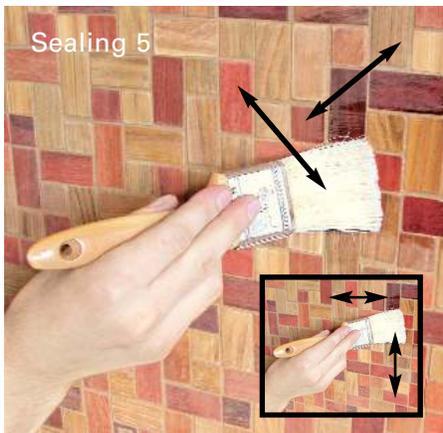
The preliminary sealer may appear whitish or milky in the grout joints. this will dissipate as the sealer dries.

Allow at least 2 to 4 hours of drying time then apply the finish sealer/clear coat.



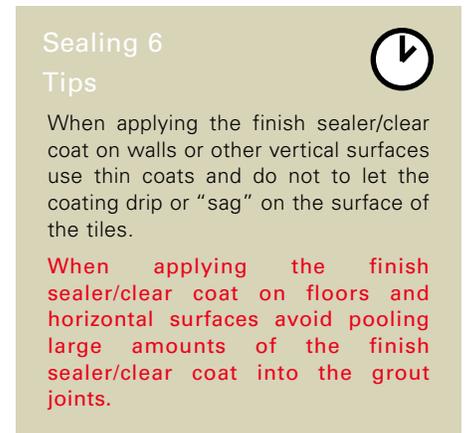
Stir the finish sealer/clear coat well.

Apply 2 thin coats of finish sealer/clear coat for walls and 2 to 3 thin coats of finish sealer/clear coat for floors and countertops.



Using a new, clean, high quality paint brush apply a thin, even coat of the sealer/clear coat. Brush the sealer/clear coat onto the surface by working in a diagonal motion to the grout joints. This diagonal motion will help keep excess finish sealer/clear coat from pooling into the grout joints. Follow up by brushing with very light pressure and work in a parallel motion to the grout lines.

Alternately you can use a short nap roller suitable for urethane varnishes to apply a thin, even coat of the sealer/clear coat to the surface of the tiles. After rolling immediately sweep a high quality paint brush across the rolled area to eliminate any "orange peel" surface, or bubbles left by the roller. Work with very light pressure in a parallel motion to the grout lines.



Allow at least 2 to 4 hours between coats and at least 24 hours before introducing light traffic or use. Full hardness of our finish sealer clear coat is achieved in approximately 7 days. Do not place carpet, rugs, or cover the finish for at least 2 weeks.

Mask off or avoid applying the preliminary sealer or the finish sealer/clear coat on other tile or stone. If sealer does get on other tile and stone remove it immediately with a damp rag. DO NOT let the sealer/clear coat dry on other tile and stone.

Reference

Grout and Sealer Packages

Except for the readily available adhesive (See **Setting** on page 7 of this booklet), everything needed for a successful installation of Fortis Arbor tiles is supplied in our grout and sealer package. Each grout and sealer package comes with a pre-mixed container of Fortis Arbor Grout, a container of preliminary sealer and a corresponding container of finish sealer/clear coat, 2 scotchbrite pads, 1 piece of 220 grit sandpaper and an optional hardener for the finish sealer/clear coat.

Additional grout and sealer is available through your Fortis Arbor showroom or online at fluxstudios.com.



Suppliers and Resources

General

Tile Council of America

100 Clemson, Research Blvd.
Anderson, SC 29625
phone: (864) 646-8453
www.tileusa.com

James Hardie Interior Products

Hardi Backerboard
26300 La Alameda, Suite 250
Mission Viejo, California 92691
phone: (888) JHARDIE
www.hardibacker.com

Schluter Systems L.P.

Schluter Ditra Universal Underlayment
for Ceramic and Stone Tile
194 Pleasant Ridge Road
Plattsburgh, NY 12901
phone: (800) 472-4588
www.schluter.com

Grout

Fortis Arbor Grout --*patent pending*

is available through your Fortis Arbor tile showroom

Moisture Cured Urethane Adhesives

Bostik, Inc.

Bostik's Best Urethane Adhesive
1740 County Line Road
Huntington Valley, PA 19006
phone: (888) 592-8558
www.bostik-us.com

Bostik's Best Urethane Adhesive is the preferred adhesive for setting Fortis Arbor tiles. It is available through your Fortis Arbor tile showroom and is also carried nationally by Lumber Liquidators: www.lumberliquidators.com

Basic Adhesives

DriTac 7600
316 20th Street
Carlstadt, NJ 07072
(800) 394-9310
www.basicadhesives.com

Roberts Consolidated Industries, Inc.

Roberts 1408
1081 Holland Drive
Boca Raton, FL 33487
phone: (800) 423-6545
www.robertsconsolidated.com
Roberts 1408 is available through Home Depot stores

Sika Corporation

SikaBond T55
201 Polito Ave
Lyndhurst, NJ 07071
phone: (800) 933-SIKA
www.sikaconstruction.com

Water Based Wood Finishes

Basic Coatings, Inc.

Hydroline Sealer, StreetShoe Satin XL
2124 George Flagg Parkway
Des Moines, IA 50321
phone: (800) 441-1934
www.basiccoatings.com

AFM Safecoat

Lock in Wood Sealer, Polyureseal BP
3251 Third Avenue
San Diego, CA 92103
phone: (800) 239-0321
www.afmsafecoat.com

The above products are water based wood finishes that are compatible with Fortis Arbor wood mosaics.

FortisArbor®

Wood Mosaics

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