

# STONE TILE INSTALLATION GUIDELINES

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## **APPROPRIATE AREAS OF USE**

Visit [stonepartnership.com](http://stonepartnership.com) for recommended applications for your specified stone.

## **SURFACE PREPARATION**

### **Substrate Preparation**

Appropriate substrates: fully cured concrete, masonry, cured cement mortar beds or leveling coats, gypsum wallboard, properly prepared unglazed ceramic tile, proper tiling underlayment.

### **General Substrate Requirements**

All substrates must be structurally sound, solid, flat, dry and thoroughly clean and free of oil, wax, grease, asphalt, latex and gypsum compounds, curing compounds, sealers and any contaminant that might act as a bond breaker. Per the Tile Council of North America (TCNA) guidelines, all natural stone substrates must meet a deflection rating of L/720. Overly absorbent as well as non-absorbent substrates require priming prior to installation. A maximum variation in the sub slab cannot exceed 1/8" in 10' from the required plane per MIA Guidelines. Subfloor must also be level with the maximum variation of 1/16" in 3'.

### **Crack Isolation**

All existing substrate cracks as well as any areas susceptible to future surface cracking require the installation of a crack isolation membrane meeting ANSI 118.12.

### **Wet Areas**

Wet Areas require the installation of a waterproofing membrane meeting ANSI 118.10 prior to installation. Steam Rooms (continuous use): require a waterproofing and vapor retarding membrane with a perm rating of .05 perms or less.

### **Substrate Preparation Products**

(self-leveling, screed, floor and wall patch, waterproofing, crack-isolation, uncoupling membrane)

- ARDEX Liquid BackerBoard® Self-Leveling Underlayment for Interior Wood and Concrete Subfloors
- ARDEX A 38™ MIX Rapid-Set Pre Mixed Screed
- ARDEX AM 100™ Rapid Set Pre-Tile Smoothing and Ramping Mortar
- ARDEX SKM™ Skimcoat Patch & Finishing Underlayment
- ARDEX 8+9™ Rapid Waterproofing and Crack Isolation Compound (interior, exterior, floor and wall)
- ARDEX S1-K™ One-Component Waterproofing and Crack Isolation Membrane (interior floor and walls)
- ARDEX SK 175™ Waterproofing Membrane and Vapor Retarder (Steam shower Applications)
- ARDEX UI 740™ FLEXBONE® Uncoupling Membrane
- ARDEX UH 900 FLEXBONE® HEAT Uncoupling Membrane

**For complete information regarding substrate preparation requirements, material selection, required installation tools and application, visit [www.ardexamericas.com](http://www.ardexamericas.com) and view the individual product technical data sheets or contact ARDEX technical support at 888.512.7339**

## **CUTTING**

Use a diamond blade and a wet saw intended for cutting natural stone.

## **SETTING**

You must inspect your material prior to installation to check the color variation, the veining or fossil markings, the thickness, the sizing, the finish, any possible damage and to make sure that what you received is what you ordered. It is the industry standard that all material is to be uncrated and inspected prior to installation so that any blending

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required to meet the owner/buyer approval can be accomplished before any material is set. Absolutely no claims will be accepted for any reason after the material has been installed.

Before being “set” all tiles must be “Viewed and Shuffled” by way of a dry layout. There is a natural range of color, veins and/or fossils that is inherent in this material and in order to get the proper mix this viewing and shuffling process is imperative. Failure to follow this procedure could leave you with ranges of shades that do not properly flow together.

Stone is a natural material and can react differently with different setting materials, grouts, sealers and sub-floors. Before setting any tiles, you must test your stone using the setting system and sub-flooring system you have selected for the project. To do this, a test patch must be made. This will assure you that you will be satisfied with the finished look of the product.

## **Radiant Heat**

After installation **Do NOT** turn on a radiant heated floor until the concrete setting bed has completely dried out (Cured).

Select a notched trowel based on the type, size and format of the stone you are installing. According to the MIA DSDM all natural stone should be back buttered to ensure there is a minimum coverage of 95% when 5/8” or thinner; 80% coverage when 3/4” or thicker with no voids exceeding 2 in<sup>2</sup> and no voids within 2” of the tile corners for all natural stone tile installations. Per ANSI A108.5, apply mortar to the substrate using a notched trowel, and place tiles while material is wet. Once setting materials have adequately set (see product specifications for dry time) grouting can proceed. Before grouting, you can treat the stone with a grout release product.

Honor all expansion and moving joints in accordance with TCNA EJ 171. In addition, all perimeter and change of plane areas must be filled with an appropriate flexible sealant (ARDEX SX™ 100% Silicone Sealant).

## **Resin/Mesh-Backed Tiles**

Resin/Mesh backing of natural stone tiles is common as the backing serves as a reinforcement and adds additional strength to the tile. Many mesh backings are adhered by using a resinous adhesive, such as: epoxy, urethane or polyester. As these materials can be potentially more difficult to bond to with traditional cements, proper setting material selection is critical. Stone Partnership recommends using a liquid admix with your thinset to achieve proper bonding (ARDEX X 77™ Microtec®+ ARDEX E90™ Mortar Admix) for interior, dry applications. When installing in exterior and/or continuously wet areas, install with ARDEX WA epoxy adhesive.

## **Recommended Mortar and Adhesive (Moisture Sensitive Stones)**

Prior to installation, be sure to determine if the natural stone being installed is prone to staining, discoloring, curling or warping. If the stone being installed is moisture sensitive, it is recommended to install with

- ARDEX N 23™ Microtec® Rapid-Set Mortar
- MAPEI Granirapid® System Rapid-Setting Mortar

## **Recommended Mortar and Adhesive (Non-Moisture Sensitive Stones)**

- ARDEX X 5™ – Flexible Tile and Stone Mortar – recommended for small format stone tiles
- ARDEX X 77™ Microtec® – Fiber Reinforced Tile and Stone Mortar – A Medium bed mortar appropriate for large format and heavy stones.

## **Recommended Mortar and Adhesive (Mesh/Resin Backed Stones)**

- ARDEX X 77™ Microtec®+ ARDEX E90™ Mortar Admix – Fiber Reinforced Tile and Stone Mortar - recommended for interior, dry applications
- ARDEX WA™ Epoxy Adhesive (Recommended for exterior and continuously wet areas)

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## **Recommended Mortar and Adhesive (Exterior Installations)**

- ARDEX X 90 OUTDOOR™ MicrotecC3- Rapid-Set, Flexible Tile and Stone Mortar (non-moisture sensitive stones)
- ARDEX X 32™ Microtec® - Universal Rapid Setting and Drying Thin-to-thick Bed Mortar (moisture sensitive stones)
- MAPEI Granirapid® System Rapid-Setting Mortar (moisture sensitive stones)
- MAPEI Kerabond/Keralastic™ System (non-moisture sensitive stones)

## **Recommended Grout**

- ARDEX FG-C™ Microtec® UnSanded Grout
- ARDEX FL™ Rapid Set, Flexible, Sanded Grout
- ARDEX WA™ High Performance, 100% Solids Epoxy Grout and Adhesive

## **Caulking**

- ARDEX SX™ 100% Silicone Sealant for Tile and Stone Applications

**For complete information regarding setting material product technical information and installation guidelines visit [www.ardexamericas.com](http://www.ardexamericas.com). or [www.mapei.com](http://www.mapei.com) and view the individual product technical data sheets or contact technical support for MAPEI at 800.992.6273 or 800.361.9309 in Canada; contact technical support for ARDEX at 888.512.7339**

**For complete installation instructions please refer to the Tile Council of North America (TCNA) Handbook.**

## **SEALING**

Using a soft, clean cloth, apply a penetrating natural stone sealer. For wet areas, two coats of sealer is recommended. Always follow the sealer manufacturer's guidelines.

**Recommended Sealers :** You must test the sealer prior to sealing the floor. Stone is a natural product and may absorb different sealers differently. Not every sealer will properly seal every stone.

- AQUA MIX® Sealer's Choice® Gold (natural look)
- Fila MP90 Eco Plus (water-based natural sealer for all stone surfaces - natural look)
- Fila Stoneplus Eco (water-based natural sealer for all stone surfaces - enhanced matte look)

## **CARE & MAINTENANCE**

For day-to-day cleaning, apply a pH neutral cleaner with a soft cloth. Remove the residue with a clean cloth and rinse thoroughly.

## **Recommended Maintenance Cleaner**

- AQUA MIX® Concentrated Stone & Tile Cleaner
- FILACLEANER

For complete information regarding care & maintenance products from FILA, visit [www.filasolutions.com](http://www.filasolutions.com) or call 305.513.0708; For Aqua Mix Contact Custom Building products at [www.custombuildingproducts.com](http://www.custombuildingproducts.com) or call 800.282.8786

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## NOTE:

Stone Partnership, Inc. will not accept claims for any reason after the material has been cut, modified or installed.

Stone Partnership, Inc. is not an installer or contractor and does not contract for the installation of any product.

You have chosen to install your purchased stone product. Neither Stone Partnership, Inc. ("Stone Partnership") nor the manufacturer shall have any responsibility for damage to property or for personal injury resulting from or related to the installation process. You have determined the appropriate product and measurements for your needs. Except as otherwise set forth in writing, Stone Partnership disclaims any and all representations and warranties regarding the suitability of the product for its intended use or the accuracy of measurements.

Please read all applicable instructions carefully before starting installation. The above guidelines and recommendations are only a guide to help prevent problems caused by errors during installation. The instructions should not be considered comprehensive. Many details of installation are learned through experience and general construction knowledge, which we cannot provide. The installation guidelines are intended to be recommendations only, and they are not meant to serve as a step-by-step installation guide.

Selecting a professional and experienced installer is your sole responsibility. Installers should refer to the most current industry standards and specifications for installation. You assume all risks of loss or damage in connection with the installation and use of the purchased Stone product.