ARDEX S 48™

Rapid-Set Mortar / Mastic Hybrid Tile and Stone

Ideal for fast setting of glass tiles and backsplashes

Highly versatile

Polymer-modified mortar for setting porcelain, quarry, ceramic and most natural stone (moisture insensitive) tiles

Grout in just 1 to 5 hours; install tile and grout in the same day*

Unique consistency; cement based, but creamy and smooth like a mastic

Excellent bond strength and outstanding flexibility

Great coverage; up to 80 sq. ft. per 10 lb. bag

Perfect for quick fixes and unexpected tile repairs

Ideal for intermittent wet areas, such as residential kitchens and bathrooms

Use for interior floors, walls and countertops

Use over all common substrates, including drywall, wood, plastic laminates and concrete

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ARDEX S 48™

Rapid-Set Mortar / Mastic Hybrid Tile and Stone Mortar

Suitable Substrates

- Common building substrates (concrete that has cured for at least 28 days, CBU in accordance with manufacturer guidelines, etc.)
- Existing tiles (tile over tile)*
- Approved waterproofing and uncoupling membranes*
  - Horizontal (Floors): Interior Only
  - Vertical (Walls): Interior Only
- Plywood (interior, horizontal applications)
- Plastic laminates
- Metal (non-aluminum; Interior Only).* Contact the ARDEX Technical Service Department before proceeding further.
- Approved, properly prepared, non-water-soluble adhesive residue on concrete; Properly primed (ARDEX P 4)

* Must be sound, solid and well-bonded to underlying, structurally sound substrates. Some substrates require priming.

Suitable Applications

- Interior Only
  - Dry or damp substrates (no standing water)
  - Interior areas (not submerged)
- Installation of most common tile types:
  - Not for moisture-sensitive tile and stone
  - Not for glass tiles in submerged applications
  - For highly absorbent tile and for resin-backed tile and stone: Contact the ARDEX Technical Service Department before proceeding further

Jobsite Conditions

During installation and cure, substrate and ambient temperatures must be a minimum of 50 F / 10 C. If installing over an in-floor heating system, turn the heating system off 48 hours before, during and at least 48 hours after completion of the installation.

Step 1: Substrate Preparation (Proper Prep™)

Mechanically clean substrate, if necessary, by shot blasting or similar means. Do not use acid etching, adhesive removers, solvents or sweeping compounds, as these are bond breakers. Sanding is not an effective method to remove contaminants from concrete.

Substrate must be dry and alkali free. All substrates must be sound, solid and thoroughly clean of all bond-breaking contaminants, including but not limited to: overwatered or otherwise loose or weak material; dirt, dust, wax, grease, paints and oils: unapproved curing compounds and sealers; and unsuitable adhesive residues.

Following preparation, thoroughly vacuum to remove all excess dirt and debris.

Handle and dispose of asbestos and other hazardous materials in accordance with prevailing regulations, which supersede the recommendations in this document.

For full details on Proper Prep, reference the following articles at www.ardexamericas.com/services/properprep:

- Article 1: Preparing Concrete for Bonded ARDEX or HENRY Applications
- Article 1.1: Preparing Concrete for ARDEX Underlayments
- Article 2: Preparing Wood for Bonded ARDEX Applications
- Proper Prep Brochure

Non-water-soluble adhesive residue must be wet scraped to a thin, well-bonded residue (rfci.com). For additional information, see Article 1 above.

The plane of wall surfaces must be plumb and true. Floor surfaces must have minimal variation in the plane or slope as outlined by the Tile Council of North America (TCNA). Refer to ANSI A108.01 "General Requirements: Subsurface and Preparation by Other Trades" and the most current version of the TCNA "Handbook for Ceramic Tile Installation" for detailed information on surface preparation and guidelines for substrate construction.

Honor joints and cracks as needed in accordance with TCNA EJ171, to include the incorporation of movement joints.

Step 2: Pre-Leveling / Smoothing Options

- ARDEX AM 100™ Rapid Set Pre-Tile Smoothing and Ramping Mortar
- ARDEX A 38™ Rapid Set Screed
- ARDEX Liquid BackerBoard® Self-Leveling Underlayment for Interior Wood and Concrete Subfloors
- ARDEX TL 1000™ Self-Leveling Underlayment
- ARDEX TL 1400™ Self-Leveling Underlayment
- ARDEX TL 2000™ Fiber Reinforced, Self-Leveling Underlayment
- ARDEX SKM™ Skim Finish - Skimcoat Patch & Finishing Underlayment

Observe the substrate preparation, mixing, application and drying instructions in the appropriate ARDEX technical data sheet. Per ANSI A 108 AN-3.7, expansion joints must be provided over existing moving joints and moving cracks and where substrate materials change composition or direction.

Step 3: Waterproofing / Crack Isolation / Uncoupling; Priming / Treating Certain Substrates

Note

Membrane application limits the allowable mortar thickness. See "Thickness of Application" under "Step 4" below.

Waterproofing / Crack Isolation Options

- ARDEX 8+9™ Rapid Waterproofing and Crack Isolation Compound
- ARDEX S 1-K™ One-Component Waterproofing and Crack Isolation Membrane
- ARDEX TLT™ Waterproofing Membrane and Vapor Retarder for Tile & Stone Installations
- ARDEX FLEXBONE® HEAT In-Floor Heating Systems
- ARDEX UI 740™ FLEXBONE® Uncoupling Membrane

Follow the instructions in the respective technical data sheet.

Approved, properly prepared, non-water-soluble adhesive residue on concrete

Apply a coat of ARDEX P 4™ Pre-Mixed, Rapid-Drying, Multipurpose Primer, which must dry 30 - 60 minutes before proceeding with the tile installation.

Existing Tiles and Other Non-Porous Surfaces

- Option 1: Apply a coat of ARDEX P 4™ Pre-Mixed, Rapid-Drying, Multipurpose Primer, which must dry 30 - 60 minutes before proceeding with the tile installation.
- Option 2: Cover the entire surface with a scratch coat of the tile mortar. Allow the scratch coat to harden and dry completely before proceeding with the tile installation.

Metal (non-aluminum; Interior Only)

Contact the ARDEX Technical Service Department before proceeding further

Gypsum (Interior Only)

- Option 1: Apply a coat of ARDEX P 4™ Pre-Mixed, Rapid-Drying, Multipurpose Primer, which must dry 30 - 60 minutes before proceeding with the tile installation.
- Option 2: ARDEX P 51 Double prime. Follow the instructions in the respective technical data sheet.

Drywall

Prime with a PVA primer prior to installation, following manufacturer instructions for application, curing, etc.

Other Highly Absorbent Substrates (plaster, etc.)

- Option 1: Cover the entire surface with a scratch coat of the tile mortar. Allow the scratch coat to harden and dry completely before proceeding with the tile installation.
- Option 2: Apply a coat of ARDEX P 4™ Pre-Mixed, Rapid-Drying, Multipurpose Primer, which must dry 30 - 60 minutes before proceeding with the tile installation.

Option 3 (Dry areas only; Interior applications only): ARDEX P 51 Double prime. Follow the instructions in the respective technical data sheet.

Step 4: Mixing and Application

Recommended Tools

ARDEX T-2 Mixing Paddle; Mixing Container; 1/2" (12 mm) heavy-duty drill (min. 650 rpm); appropriate measuring bucket; Margin trowel; Appropriate notched trowel.

Safety and OSHA Compliance

Handle each bag with care, emptying it in a manner that avoids creating a plume of dust. While mixing, use a standard "gutter hook" vacuum attachment in combination with a heavy-duty, bucket-style vacuum (Shop-Vac or similar) and HEPA dust extraction vacuum system.

Application Data

All dry times are calculated at 70°F (21°C). Drying time is a function of jobsite temperature and humidity conditions. Low substrate temperatures and/or high ambient humidity will extend the drying time. Adequate ventilation and heat will aid drying.

Water Ratio: 3 quarts (2.8 L) clean water Per bag; or 2 parts powder: 1 part clean water by volume

Pot life: 30 minutes

Open time: Up to 45 minutes

Adjustment time: 20 - 25 minutes

Thickness of Application

Application	Maximum Thickness of Application	Maximum notch trowel Size
Over membranes	3/8" (9.5 mm)	3/4" x 3/4"
All other cases	1/2" (12 mm)	(19 mm x 19 mm)

Pour the water in the mixing container first, and then add powder while mixing with the mixing paddle and a 1/2" (12 mm) heavy-duty drill (min. 650 rpm). Mix thoroughly for approximately 2 to 3 minutes to obtain a lump-free mix. Do not overwater! Additional water will weaken the compound and lower its strength.

Small batches may be mixed by hand. Use a margin trowel, and mix vigorously. Just prior to application on the substrate, the mixture should be stirred again to ensure a creamy, smooth, lump-free consistency.

Jobsite conditions and temperature may affect pot life. If the material begins to harden within published pot life, retemper with a drill and mixing paddle.

Installation should proceed in accordance with ANSI A 108.5. After mixing, apply mortar to the substrate with the flat side of a trowel to obtain a solid mechanical bond. Apply to an area no greater than that which can be covered with tile while the mortar remains plastic. Do not set tile or stone into skinned over mortar.

Comb the mortar with a notched trowel of sufficient depth to ensure that the tile or stone is covered uniformly over the entire surface (note thickness limitation over membranes as detailed above). Follow TCNA recommendations for proper transfer of mortar from the substrate to the tile or stone. The type and size of the tile or stone will dictate the size of the notched trowel to be used to achieve proper transfer.

When setting certain types of tile or stone, it may be necessary to trowel a layer of mortar on the back of each tile or stone prior to placement on the combed mortar bed in order to achieve the required mortar-to-tile contact. Press each tile firmly into the freshly combed mortar to ensure maximum mortar contact with the tile.

Step 5: Grouting Instructions and Options

All dry times are calculated at 70°F (21°C). Drying time is a function of jobsite temperature and humidity conditions. Low substrate temperatures and/or high ambient humidity will extend the drying time. Adequate ventilation and heat will aid drying. Forced drying can dry the surface of the product prematurely and is not recommended.

Location	Cure time prior to grouting
Floor Tiles	5 hours
Wall Tiles	1 - 3 hours

- ARDEX FL™ Rapid Set, Flexible, Sanded Grout
- ARDEX FH™ Sanded Floor and Wall Grout
- ARDEX FG-C™ MICROTEC® Unsanded Floor & Wall Grout
- ARDEX WA™ High-Performance, 100% Solids Epoxy Grout and Adhesive
- ARDEX DG 1™ One Component Grout

Follow the instructions in the respective technical data sheet and ANSI A 108.

Notes

Intended for use by professional contractors who are trained in the application of this product and/or similar products. Not sold by ARDEX through home improvement centers. For information on ARDEX Academy trainings, visit: www.ardexamericas.com.

Never mix with cement or additives outside of our written recommendations. In accordance with industry standards, and to determine the suitability of the products for the intended use, always install an adequate number of properly located test areas, including the tile flooring. As tiles vary, always contact and rely upon the tile manufacturer for specific directives, such as maximum allowable moisture content, mortar selection and intended end use of the product. If the installation is not proceeding as expected, Contact the ARDEX Technical Service Department before proceeding further.

Observe the basic rules of concrete work, including the minimum surface and air temperatures detailed above. Install quickly if the substrate is warm, and follow the warm weather installation guidelines available on our website. Observe the basic rules of tile work.

Dispose of packaging and residue in accordance with prevailing regulations. Do not flush material down drains. Do not reuse packaging.

ARDEX Tile and Stone Mortar Usage Guide

Moisture-sensitive natural stone or agglomerate tile (interior, dry applications only):

- ARDEX X 32™ MICROTEC® Universal Rapid Setting and Drying Thin-to-Thick Bed Mortar
- ARDEX S 28™ MICROTEC® Rapid-Set, Rapid-Dry, Super-Format Tile and Uncoupling Membrane Mortar
- ARDEX N 23™ MICROTEC® Rapid Set Natural Stone and Tile Mortar

Saltwater pools; glass tiles in swimming pools and other submerged areas:

- ARDEX 100% Solids Epoxy Adhesive

Glass tiles in non-submerged areas:

- ARDEX X 77™ MICROTEC® Fiber Reinforced Tile and Stone Mortar (Interior or Exterior)
- ARDEX X 65 Lightweight Universal Tile and Stone Mortar (Interior or Exterior)
- ARDEX S 48™ Rapid-Set Thin Set Mortar/ Mastic Hybrid (Interior Only)

Balconies, terraces and building facades that experience a great deal of movement due to temperature changes:

- ARDEX X 90 OUTDOOR™ MicroteC3 Rapid-Set, Flexible Tile and Stone Mortar
- ARDEX X 77™ MICROTEC® Fiber Reinforced Tile and Stone Mortar
- ARDEX X 78™ MICROTEC® Fiber Reinforced, Semi-Pourable, Polymer Modified Thin Set Mortar

ISO 13007 Classification

Classification	Requirements
C2 (cementitious, improved adhesion)	≥ 145 psi (1 MPa; 10.2 kg/ cm2) after standard aging, heat aging, water immersion and freeze/thaw cycles
T (vertical slip resistance)	≤ 0.019" (0.5 mm)
E (extended open time)	≥ 72.5 psi (0.5 MPa/5 kg/cm2) after 20 - 30 minutes
F (fast setting)	≥ 72.5 psi (0.5 MPa/5 kg/cm2) at 6 hours
S2 (improved deformation of mortar)	≥ 0.2" (5 mm)

28-days Test

Test	Test Method	ANSI Specification
Impervious ceramic (porcelain) mosaics shear strength	ANSI A118.4	>200 psi (1.38 MPa; 14 kg/cm²)
Glazed wall tile shear strength	ANSI A118.4	>300 psi (2.07 MPa; 21 kg/cm²)
Quarry tile to plywood shear strength	ANSI A118.11	>150 psi (1.04 MPa; 10.5 kg/cm²)

Technical Data According to Manufacturer Quality Standards

All data based on a partial, in-lab mix. Mixing and Testing completed at 70°F / 21°C. Physical properties are typical values and not specifications.

Coverage:	1/4" x 1/4" (6 mm) sq. notch trowel = 30 sq. ft. (2.7 m^2) Per bag; 5/32" (4 mm) V-notch trowel = 80 sq. ft. (7.4 m^2) Per bag; Dependent on surface profile, density and porosity.
Colors:	White
Packaging:	10 lb (4.5 kg) bag
Storage:	Store in a cool, dry area. Do not leave units exposed to sun. Protect unused material by removing air from container and sealing tightly.
Shelf Life:	12 months, if unopened and properly stored
Warranty:	ARDEX Standard Limited Warranty applies. Also eligible for ARDEX Tile and Stone SystemOne™ Warranty When used as a system. For full warranty details: www.ardexamericas.com/services/warranties.

Precautions

Carefully read and follow all precautions and warnings on the product label. For complete safety information, please refer to the Safety Data Sheet (SDS) available at: www.ardexamericas.com.

Visit www.youtube.com/ARDEX101 to watch ARDEX product demonstration videos. For recommended installation tools, visit DTA USA at www.dtausagroup.com. For easy-to-use ARDEX Product Calculators and Product Information On the Go, download the ARDEX App.

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