



ARDEX N 23™ MICROTEC®

Rapid Set Natural Stone and Tile Mortar

Install moisture-sensitive natural stone, marble and granite, including mosaics, over plywood and other interior surfaces without discoloration, efflorescence, or warp.

Use for setting porcelain, quarry and ceramic tile, mosaics, ungauged stone, translucent marble, glass and natural stone tile

Fast setting - grout in two hours

Ideal for moisture-sensitive natural stone tile

Self-drying technology - will not contribute to staining, warping or efflorescence

Outstanding coverage – 103 sq. ft. (9.5 sq. m) per bag with 1/4" sq. notch trowel

Thin- to medium-bed installation up to 5/8" (15 mm)

1-hour pot life

Use for interior floors and walls

Extended open time of 30 minutes

Excellent bond strength and sag resistance

Available in 40 lb. bags (gray or white)

Meets or exceeds ANSI 118.15. For interior use only



systemONE™
warranty

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Rapid Set Natural Stone and Tile Mortar

Suitable uses for ARDEX N 23

Tile Type

Porcelain, quarry and ceramic tile, mosaics, ungauged stone, translucent marble, glass and natural stone tile

Substrates

Concrete and other cementitious surfaces, plywood, plaster, existing tiles, metal and glass

Description and Usage

ARDEX N 23 is a rapid-setting, thin-to-medium-bed mortar that is ideal for interior installations of moisture-sensitive natural stone, marble, granite, porcelain, quarry and ceramic on horizontal or vertical surfaces. Recommended for all tile sizes, including mosaics, ARDEX N 23 is suitable for use over concrete floors with in-floor heating systems. ARDEX N 23 has proprietary ARDEX self-drying technology to prevent staining, discoloration, warping and efflorescence. Easy to mix and apply with excellent bond strength and sag resistance, ARDEX N 23 has an open time of up to 30 minutes and a 60 minute pot life.

Substrate Preparation

ARDEX N 23 adheres to both dry and damp substrates that are structurally sound, solid and free from any contaminant that can act as a bond breaker. Plywood substrates must be dry, APA-rated, Type 1 exterior-grade plywood. Refer to ANSI A 108 AN-2 "General Requirements for Subsurfaces" and the Tile Council of North America's "Handbook for Ceramic Tile Installation" for detailed information on surface preparation and guidelines for substrate construction. Wallboards must be dry, sound and solidly anchored to structural components in the wall. 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.

Should pre-leveling or subfloor repair be required, use ARDEX Liquid BackerBoard® Self-Leveling Underlayment for Interior Wood and Concrete Subfloors, ARDEX AM 100™ Rapid Set Pre-Tile Smoothing and Ramping Mortar, ARDEX TL 1000™ Tile Leveler, Self-Leveling Underlayment, ARDEX TL PATCH® Tile Leveler, Underlayment Patch and Skimcoat or ARDEX EB 2™ Fast Setting Screed Cement, as appropriate. Observe the instructions and dry times in the ARDEX technical brochures.

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.

Priming / Treating the Substrate

Highly absorbent substrates, such as plaster, existing tiles and certain non-porous substrates must be primed or treated as detailed below before proceeding with the tile installation.

HIGHLY ABSORBENT SUBSTRATES

Option 1: Apply a scratch coat of ARDEX N 23. Allow the scratch coat to harden and dry completely before proceeding with the tile installation.

Option 2: Prime with ARDEX P 51™ Primer diluted 1:3 with water and allow this course to dry thoroughly (min. 3 hours, max. 24 hours) before proceeding with the tile installation.

EXISTING TILES (TILE OVER TILE APPLICATIONS)

Option 1: Apply a scratch coat of ARDEX N 23, and let the scratch coat harden and dry completely before proceeding with the tile installation.

Option 2: Apply a coat of ARDEX 8+9™ Rapid Waterproofing and Crack Isolation Compound, which must dry 1-2 hours before proceeding with the tile installation.

Option 3: Prime the existing tiles with ARDEX P 82™ Ultra Prime, and allow this course to dry thoroughly (min. 3 hours, max. 24 hours) before proceeding with the tile installation.

EXISTING METAL, GLASS, AND CERTAIN OTHER NON-POROUS SURFACES

Option 1: Apply a coat of ARDEX 8+9 Rapid Waterproofing and Crack Isolation Compound, which must dry 1-2 hours before proceeding with the tile installation.

Option 2: Prime with ARDEX P 82, and allow this course to dry thoroughly (min. 3 hours, max. 24 hours) before proceeding with the tile installation.

For more information, refer to the ARDEX Substrate Preparation Brochure at www.ardexamericas.com.

Preparation: Translucent Natural Stone

In order to avoid irregular marks in translucent natural stone installations, it is recommended that a scratch coat of ARDEX N 23 White be applied to the back of the tile.

Recommended Tools

Margin trowel, mixing container, ARDEX T-2 Ring Mixing Paddle, 1/2" (12 mm) heavy-duty drill (min. 650 rpm) and appropriate notched trowel.

Mixing and Application

For one 40 lb. (18 kg) bag of ARDEX N 23, use 6 1/4 - 6 3/4 quarts (6-6.5 liters) of clean water. To mix smaller quantities by hand, use 2.5 parts powder to 1 part water by volume. Pour water in the mixing container first, and then add the ARDEX N 23 while mixing for 2 to 3 minutes. For best results, mix with an ARDEX T-2 Ring Mixing Paddle and 1/2" heavy-duty drill (12 mm, min. 650 rpm). If mixing 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.



The pot life of ARDEX N 23 is approximately 1 hour at 70°F (21°C). Jobsite conditions and temperature may affect pot life. If the material begins to harden within this time, retemper with a drill and mixing paddle. **DO NOT ADD MORE WATER!**

Installation should proceed in accordance with ANSI A 108.5. After mixing, apply the 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 (approx. 30 minutes). 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. Follow the recommendations of the Tile Council of North America for proper transfer of ARDEX N 23 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. The position of the tile or stone may be adjusted for up to approximately 15 minutes after installation.

Grouting

Floor and wall tiles can be grouted after 2 hours in accordance with ANSI 108.10 using ARDEX FL™ Rapid Set, Flexible, Sanded Grout, ARDEX FG-C™ Unsanded Floor and Wall Grout or ARDEX WA™ Epoxy Grout and Adhesive, as appropriate.

Notes

FOR PROFESSIONAL USE ONLY.

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.

For cases requiring waterproofing, please refer to the ARDEX 8+9 Rapid Waterproofing and Crack Isolation Compound technical data sheet and the ARDEX 8+9 “5 Step Application Guide.” For setting glass tile in swimming pools and other submerged areas, use ARDEX WA. For setting glass tile in non-submerged applications, use ARDEX X 77™ MICROTEC® Fiber Reinforced Thin Set Mortar for interior or exterior applications or use ARDEX S 48™ Rapid-Set Thin Set Mortar / Mastic Hybrid for interior applications only

For setting tile other than glass tile in swimming pools and other submerged areas, use ARDEX X 77 or ARDEX WA.

Balconies, terraces and building facades experience a great deal of movement due to temperature changes. For the best resistance to this movement, use ARDEX X 77, ARDEX X 78™ MICROTEC® Fiber Reinforced, Semi-Pourable Thin Set Mortar or ARDEX FB 9 L™ Pourable ShearFlex® Mortar.

Please contact the ARDEX Technical Service Department before proceeding with any of the above demanding applications.

ARDEX N 23 is intended for use at material and surface temperatures between 50° and 85° F (10° to 29° C). Do not install below 50°F (10°C) surface and air temperatures. For warm weather installation instructions, please contact the ARDEX Technical Service Department.

Never mix with cement or additives. Observe the basic rules of tile work

ARDEX recommends the installation of test areas to confirm the suitability of the product for its intended use.

Dispose of packaging and residue in accordance with federal, state and local waste disposal regulations. Do not flush material down drains.

Technical Data According to ARDEX Quality Standards

All data based on a mixing ratio of 2.5 parts powder to 1 part water by volume at 70°F (21°C). Physical properties are typical values and not specifications.

Mixing Ratio: 6 1/4 - 6 3/4 quarts (6-6.5 liters) of water per 40 lb. (18 kg) bag

For smaller batches, use 2.5 parts powder to 1 part water by volume

Approximate Coverage per 40 lb. (18 kg) bag:

1/4" x 1/4" x 1/4" Sq. Notch Trowel
103 sq. ft. (9.5 sq. m)

1/4" x 3/8" x 1/4" Sq. Notch Trowel
80 sq. ft. (7.4 sq. m)

1/2" x 1/2" x 1/2" Sq. Notch Trowel
57.5 sq. ft. (5 sq. m)

Open Time: Up to approx. 30 minutes

Pot Life: Approx. 1 hour

Working Time: Approx. 15 minutes

Time to Grout: 2 hours

Colors: White
Gray

VOC: 0

Packaging: 40 lb. (18 kg) bag

Storage: Store in a cool, dry area. Do not leave bags exposed to sun.

Shelf Life: 1 year, if unopened.

Warranty: ARDEX Engineered Cements Standard Limited Warranty applies. Also eligible for the ARDEX SystemOne™ Warranty when used in conjunction with ARDEX grouts and ARDEX caulks.

ANSI Specifications

28-Day Test	Test Method	ANSI Specification	Test Results
Impervious ceramic (porcelain) mosaics shear strength	ANSI A118.4	>200 psi (1.38 MPa / 14 kg/cm ²)	483 psi (33.33 MPa / 33.81 kg/cm ²)
Glazed wall tile shear strength	ANSI A118.4	>300 psi (2.07 MPa / 21 kg/cm ²)	450 psi (31.05 MPa / 31.5 kg/cm ²)
Quarry tile to plywood shear strength	ANSI 118.11	>151 psi (1.04 MPa / 10.6 kg/cm ²)	216 psi (14.9 MPa / 15.12 kg/cm ²)

ISO 13007 Classifications

ISO 13007 Classification	Classification Requirement
C2 (cementitious, improved adhesion)	≥ 145 psi (1 MPa / 10.2 kg/cm ²) 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/cm ²) after 20 - 30 minutes
F (fast setting)	≥ 72.5 psi (0.5 MPa / 5 kg/cm ²) at 6 hours
S1 (deformation)	Deform ≥ 0.1" (2.5 mm) but < 0.2" (5mm)

IMPORTANT TECHNICAL UPDATES

Technical update effective June 28, 2018:
ARDEX Tile Mortar Thicknesses over Membranes

[CLICK HERE](#)

Technical update effective June 23, 2017:
ARDEX Tile Setting Materials over Membranes in Exterior Applications

[CLICK HERE](#)

Technical update effective September 18, 2017:
Recommendations for Resin-Backed Tiles

[CLICK HERE](#)

Made in the USA by ARDEX Engineered Cements, Aliquippa, PA 15001

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AT-410 (09/17)

28-Day Test	Test Method	ANSI Specification	Test Results
Impervious ceramic (porcelain) mosaics shear strength	ANSI A 118.15 F	≥50 psi (0.35 MPa / 3.5 kg/cm ²)	Pass
Impervious ceramic (porcelain) mosaics shear strength	ANSI A 118.15	>400 psi (2.76 MPa / 28 kg/cm ²)	669 psi (4.61 MPa / 47 kg/cm ²)
Impervious ceramic (porcelain) mosaics shear strength with freeze-thaw cycling	ANSI A 118.15	>250 psi (1.73 MPa / 17.5 kg/cm ²)	620 psi (4.27 MPa / 43.6 kg/cm ²)
Impervious ceramic (porcelain) mosaics with heat aging	ANSI A 118.15	>400 psi (2.76 MPa / 28 kg/cm ²)	695 psi (4.79 MPa / 48.9 kg/cm ²)
Glazed wall tile shear strength	ANSI A 118.15	>450 psi (3.11 MPa / 31.5 kg/cm ²)	539 psi (3.72 MPa / 37.9 kg/cm ²)
Quarry tile shear strength	ANSI A 118.15	>150 psi (1 MPa / 10.5 kg/cm ²)	362 psi (2.50 MPa / 25.5 kg/cm ²)
Quarry tile to plywood shear strength	ANSI A 118.11	>150 psi (1 MPa / 10.5 kg/cm ²)	258 psi (1.78 MPa / 18.1 kg/cm ²)
7-Day Test	Test Method	ANSI Specification	Test Results
Impervious ceramic (porcelain) mosaics shear strength with water immersion	ANSI A 118.15	>200 psi (1.38 MPa / 14 kg/cm ²)	453 psi (3.12 MPa / 32 kg/cm ²)

Visit www.youtube.com/ARDEX101 to watch ARDEX Americas product videos.

For easy-to-use ARDEX Product Calculators and Product Information On the Go, download the ARDEX App at the iTunes Store or Google Play.



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