



ARDEX S 28™ MICROTEC®

Rapid-Set, Rapid-Dry, Super-Format Tile and Uncoupling Membrane Mortar

Unmatched performance and protection for super-format tile
and uncoupling membrane installations!

Rapid-drying and hardening - Walk on and grout in just 4 hours

Extended open time of 45 minutes

Perfect for large and super-format tile and stone installations

Semi-pourable consistency easily enables full tile
and uncoupling membrane coverage

Ideal for use with moisture-sensitive tile and stone;
virtually eliminates staining and warping

Shrinkage free - thin to medium bed installation up to 5/8" (15 mm)

75-minute pot life

For use on interior floors and walls

Now available in Gray and White



ARDEX Engineered Cements
400 Ardex Park Drive
Aliquippa, PA 15001 USA
Tel: 724-203-5000
Toll Free: 888-512-7339
Fax: 724-203-5001
www.ardexamericas.com

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Description and Usage

ARDEX S 28™ MICROTEC® Rapid-Set, Rapid-Dry, Super-Format Tile and Uncoupling Membrane Mortar is a high-performance, rapid drying and rapid hardening, microfiber-reinforced, polymer-modified tile and stone mortar for interior installations. ARDEX S 28 is highly flexible with virtually no shrinkage and has an extended open time, making it perfect for large and super-format tile and stone installations. Due to its semi-pourable consistency, ARDEX S 28 is excellent when used with ARDEX FLEXBONE® Uncoupling Membranes and other approved uncoupling membranes. ARDEX S 28 is ideal for moisture-sensitive tile and stone such as green and light marbles* because it is formulated with ARDEX proprietary self-drying technology where the mix water is completely bound into the matrix. This technology eliminates water evaporation, which virtually prevents staining and warping of moisture-sensitive tile and fully cures quickly between even the largest, most dense tiles and substrates.

Suitable uses for ARDEX S 28:

Substrates:	Interior or Exterior:	Horizontal or Vertical:	Tile Type:
Concrete and other cementitious surfaces, existing tiles, metal, glass, in-floor heating systems	Interior	Horizontal and vertical	Porcelain, quarry, ceramic, glass, most natural stone tiles and approved resin-backed tiles
Exterior-grade plywood	Interior	Horizontal	Porcelain, quarry, ceramic, glass, most natural stone tiles and approved resin-backed tiles

Substrate Preparation

ARDEX S 28 adheres to both dry and damp substrates (no standing water) that are structurally sound, solid and free from oil, grease, wax, dirt, asphalt, curing compounds, sealers, releasing agents, gypsum patching compounds, dust, latex, paint and any contaminant that can act as a bond breaker. Plywood substrates must be dry, APA-rated, Type 1 exterior-grade plywood. Refer to ANSI A108.01 "General Requirements: Subsurface and Preparation by Other Trades," the most current version of the Tile Council of North America's "Handbook for Ceramic Tile Installation" and the Terrazzo Tile & Marble Association of Canada's guidelines for detailed information on surface preparation and guidelines for substrate construction. Floor surfaces must have minimal variation in the plane or slope as outlined by the Tile Council of North America and the Terrazzo Tile & Marble Association of Canada. Should pre-leveling or subfloor repair be required, use one of the materials listed below, as appropriate. Observe the instructions and dry times in the ARDEX technical data sheets.

Product	Substrate
ARDEX A 38™ Rapid Set Screed or ARDEX A 38 MIX™ Rapid Set, Premixed Screed	Concrete
	Wood
ARDEX AM 100™ Rapid Set Pre-Tile Smoothing and Ramping Mortar	Concrete
ARDEX Liquid BackerBoard® Self-Leveling Underlayment for Interior Wood and Concrete Subfloors	Concrete
	Wood
ARDEX TL 1000™ Self-Leveling Underlayment	Concrete
ARDEX SKM™ Skimcoat Patch and Finishing Underlayment	Concrete
	Wood

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, and non-porous substrates, such as existing tiles, 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 S 28. Allow the scratch coat to cure 4 hours for wall tiles and 4 hours for floor tiles 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)

Option 1: Mechanically abrade the tiles to create a bonding profile. Apply a scratch coat of ARDEX S 28, and let the scratch coat cure 4 hours for wall tiles and/or 4 hours for floor tiles before proceeding with the new 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: Mix ARDEX S 28 with ARDEX E 90™ Mortar Admix in accordance with the technical data sheet, and install directly over the existing tile installation.

Metal, Glass and Certain Other Non-Porous Surfaces

Option 1: For all non-porous surfaces except for approved uncoupling membranes, 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 (Dry Areas Only): For all non-porous surfaces except for approved uncoupling membranes, prime with ARDEX P 82™ Ultra Prime in accordance with the technical data sheet, 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 Technical Data Sheet at www.ardexamericas.com. For questions regarding uncoupling membranes, please contact the ARDEX Technical Services Department.

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 S 28, use 5.5 - 7 quarts (5 - 6.5 L) of clean water.

Pour water in the mixing container first, and then add the ARDEX S 28 while mixing for 2 - 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 small batches 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 S 28 is approximately 75 minutes at 70°F (21°C). Jobsite conditions and temperature may affect pot life. If the material begins to harden within this time, remix 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 notched trowel (keying in) to obtain a solid mechanical bond. Next, comb the mortar on the surface with the notched side of a

trowel of sufficient depth to ensure that the tile or stone is covered uniformly over the entire surface. The type and size of the tile or stone will dictate the size of the notched trowel to be used to achieve proper transfer of the mortar and proper coverage. Follow the recommendations of the Tile Council of North America and the Terrazzo Tile & Marble Association of Canada for proper transfer of ARDEX S 28 from the substrate to the tile or stone.

Apply to an area no greater than that which can be covered with tiles while the mortar remains plastic (approx. 45 minutes). Do not set tile or stone into skinned over mortar. The position of the tile or stone may be adjusted for up to 20 - 25 minutes after installation.

Grouting

Tiles can be grouted after 4 hours in accordance with ANSI A 108.10 using ARDEX FL™ Rapid Set, Flexible, Sanded Grout, ARDEX FH™ Sanded Floor and Wall Grout, ARDEX FG-C™ Unsanded Floor and Wall Grout or ARDEX WA™ High Performance, 100% Solids Epoxy Grout and Adhesive, as appropriate. For soft joints, ARDEX recommends ARDEX SX™ 100% Silicone Sealant for Tile and Stone Applications.

Notes

FOR PROFESSIONAL USE ONLY.

*When installing translucent stone tiles, use ARDEX N 23™ MICROTEC® Rapid Set Natural Stone and Tile Mortar White.

Always comply with local building codes when installing large format or super-large format tile and stone.

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 tiles. Please note that it is the installer's responsibility to follow TCNA recommendations and periodically set a tile and remove it immediately to ensure that adequate transfer of the mortar is being achieved.

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" or ARDEX SK 175™ Waterproofing Membrane and Vapor Retarder for Tile & Stone Installations or ARDEX UI 740™ FLEXBONE® Uncoupling Membrane. ARDEX S 28 is not for use in permanent, horizontal wet areas, such as shower floors.

Where uncoupling is required, ARDEX recommends the use of ARDEX UI 720™ FLEXBONE® Floating Uncoupling Membrane or ARDEX UI 740 FLEXBONE.

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

ARDEX S 28 is intended for use at material and surface temperatures between 50° and 85° F (10° - 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 non-ARDEX 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.

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.

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:	5.5 - 7 quarts (5 - 6.5 L) of water per 40 lb. (18 kg) bag For smaller batches, use 2.5 parts powder to 1 part water by volume
Approximate Coverage:	1/4" x 1/4" x 1/4" Sq. Notch Trowel (6 mm x 6 mm x 6 mm) 103 sq. ft. (9.5 sq. m) 1/4" x 3/8" x 1/4" Sq. Notch Trowel (6 mm x 9 mm x 6 mm) 80 sq. ft. (7.4 sq. m) 1/2" x 1/2" x 1/2" Sq. Notch Trowel (12 mm x 12 mm x 12 mm) 57.5 sq. ft. (5 sq. m)
Open Time:	Up to 45 minutes
Pot Life:	Approx. 75 minutes
Adjustment Time:	Approx. 20 - 25 minutes
Time to Grout:	4 hours
Color:	Gray and White
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.

Made in the USA.

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IMPORTANT TECHNICAL UPDATES

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

[CLICK HERE](#)

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

[CLICK HERE](#)

ISO 13007 Classification	Classification Requirement
C1 (cementitious, adhesion)	≥ 72.5 psi (0.5 MPa / 5 kg/cm ²) after standard aging, heat aging, water immersion and freeze/thaw cycles
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" (2.5mm) but < 0.2" (5mm)

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)	668 psi (4.6 MPa / 46.8 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)	491 psi (3.4 MPa / 34.4 kg/cm ²)
Impervious ceramic (porcelain) mosaics with heat aging	ANSI A 118.15	>400 psi (2.76 MPa / 28 kg/cm ²)	569 psi (3.93 MPa / 39.8 kg/cm ²)
Glazed wall tile shear strength	ANSI A 118.15	>450 psi (3.11 MPa / 31.5 kg/cm ²)	548 psi (3.8 MPa / 38.4 kg/cm ²)
Quarry tile shear strength	ANSI A 118.15	>150 psi (1 MPa / 10.5 kg/cm ²)	266 psi (1.8 MPa / 18.6 kg/cm ²)
Quarry tile to plywood shear strength	ANSI A 118.11	>150 psi (1 MPa / 10.5 kg/cm ²)	230 psi (1.6 MPa / 16 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)	408 psi (2.8 MPa / 28.6 kg/cm ²)

ARDEX S 28™ MICROTEC® meets and exceeds all ANSI 118.15 Standards for interior installations.

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.



ARDEX Engineered Cements
400 Ardex Park Drive
Aliquippa, PA 15001 USA
Tel: 724-203-5000
Toll Free: 888-512-7339
Fax: 724-203-5001
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