ARDEX X 4™
LFT - Large Format Tile and Stone Mortar
Delivering performance and value for today’s tile installations.

Ideal for large format tile and stone
Use for porcelain, quarry, ceramic and most natural stone tile*
Use above and below uncoupling membranes
Easy to mix and apply
Interior or exterior use; water and frost resistant
3-hour pot life

ISO CLASSIFICATION: C2
**Description and Usage**

ARDEX X 4 is a polymer modified mortar for setting most types of tile including mosaics and natural stone* over common interior surfaces including exterior grade plywood, as well as over exterior concrete and masonry surfaces. ARDEX X 4 mortar can be used to set porcelain tiles on horizontal exterior concrete or masonry surfaces.

**Substrate Preparation**

ARDEX X 4 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 AM 100™ Rapid Set Pre-Tile Smoothing and Ramping Mortar for exterior or interior use, or use ARDEX Liquid BackerBoard® Self-Leveling Underlayment for Interior Wood and Concrete Subfloors, ARDEX TL 1000™ Tile Leveler, Self-Leveling Underlayment for interior use, 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 X 4. Allow the scratch coat to harden and dry completely before proceeding with the tile installation.

Option 2 (interior, dry applications only): 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. Or prime with ARDEX P 4™ Pre-mixed, Rapid-Drying Multipurpose Primer. Apply a thin, even layer to the substrate using a short-nap roller, sponge paint roller or paintbrush. Allow the primer to dry to a thin, opaque white film (min. 30 - 60 minutes; 70°F /21°C).

**Existing tiles (tile over tile applications), metal, glass, and certain other non-porous surfaces**

Option 1: Apply a coat of ARDEX P 4. Apply a thin, even layer to the substrate using a short-nap roller, sponge paint roller or paintbrush. Allow the primer to dry to a thin, opaque white film (min. 30 - 60 minutes; 70°F / 21°C).

Option 2 (interior, dry applications only): 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.

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

**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 X 4, use 5 - 5 1/2 quarts (4.7 - 5.2 L) of clean water. To mix smaller quantities by hand, use 2.75 parts powder to 1 part water by volume. Pour water in the mixing container first, and then add the ARDEX X 4 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 X 4 is approximately 3 hours 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.
ARDEX X 4 is classified as having an extended open time of
not less than 30 minutes. For optimum performance under
typical site conditions, tiles should be fixed within 10 minutes
and tiles can then be adjusted for up to 20 minutes
(70°F / 21°C). 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 X 4
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 - 20 minutes after installation.

Grouting

Wall tiles can be grouted after 8 hours; floor tiles after
24 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™ 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. Please refer to ANSI and TCNA guidelines for back
buttering tile. 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 Waterproofing and Crack Isolation or the
ARDEX S 1-K One Component Waterproofing and Crack
Isolation Membrane technical data sheets.

*For setting moisture-sensitive natural stone or
agglomerate tile, use ARDEX X 32™ MICROTEC® Fiber
Reinforced Rapid Setting Thin to Thick Bed Mortar, ARDEX
N 23 MICROTEC® Rapid Set Natural Stone and
Tile Mortar (interior, dry applications only) or ARDEX
S 28™ MICROTEC® Rapid Set, Rapid Dry, Super
Format Tile Mortar.

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 for vertical or horizontal applications or
ARDEX X 78™ MICROTEC® Fiber Reinforced, Semi-
Pourable Thin Set Mortar for horizontal applications.

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

ARDEX X 4 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.

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
Technical Data According To ARDEX Quality Standards

All data based on a mixing ratio of 2.75 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 1/2 quarts (4.7 - 5.2 L) of water per 40 lb. (18 kg) bag
For smaller batches, use 2.75 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
  85 - 90 sq. ft. (7.8 - 8.3 sq. m)
- 1/4” x 3/8” x 1/4” Sq. Notch Trowel
  60 sq. ft. (5.5 sq. m)
- 1/2” x 1/2” x 1/2” Sq. Notch Trowel
  40 sq. ft. (3.7 sq. m)

Open Time: Up to 10 - 15 minutes
Pot Life: Approx. 3 hours
Working Time: Approx. 15 - 20 minutes
Time to Grout: Walls: 8 hours
Floors: 24 hours
Colors: Gray, 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 L.P. Standard Limited Warranty applies. Also eligible for the ARDEX SystemOne™ Warranty when used in conjunction with ARDEX grouts and ARDEX caulks.

ISO 13007 Classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Classification Requirement</th>
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</thead>
<tbody>
<tr>
<td>C2 (cementitious, improved adhesion)</td>
<td>≥ 145 psi (1 MPa / 10.2 kg/cm²) after standard aging, heat aging, water immersion and freeze/thaw cycles</td>
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<td>T (vertical slip resistance)</td>
<td>≤ 0.019” (0.5 mm)</td>
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<tr>
<td>E (extended open time)</td>
<td>≥ 72.5 psi (0.5 MPa / 21.25 kg/cm²) after 20 - 30 minutes</td>
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</table>

Suitable uses for ARDEX X 4

<table>
<thead>
<tr>
<th>Substrates</th>
<th>Interior or Exterior</th>
<th>Horizontal or Vertical</th>
<th>Tile Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete and other cementitious surfaces; existing tiles, metal and glass on concrete</td>
<td>Interior</td>
<td>Horizontal or vertical</td>
<td>Quarry, ceramic, porcelain and most natural stone*</td>
</tr>
<tr>
<td></td>
<td>Exterior</td>
<td>Vertical</td>
<td>Quarry, ceramic and most natural stone*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Horizontal</td>
<td>Quarry, ceramic, porcelain and most natural stone*</td>
</tr>
<tr>
<td>Plywood, plaster</td>
<td>Interior</td>
<td>Horizontal or vertical</td>
<td>Quarry, ceramic, porcelain and most natural stone*</td>
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IMPORTANT TECHNICAL UPDATES

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

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

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

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