

## **ARDEX GUIDE SPECIFICATION**

### **ARDEX S 28™ MICROTEC® Rapid-Set, Rapid-Dry, Super-Format Tile and Uncoupling Membrane Mortar**

Installation Materials for Tile and Stone Applications

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#### **SECTION 09 30 00 ARDEX TILE & STONE INSTALLATION MATERIALS AND SYSTEMS**

##### **PART 1 - GENERAL**

###### **1.1 RELATED DOCUMENTS**

- A. Drawings, general provisions of the Contract, and other related construction documents such as Division 01 specifications apply to this Section

###### **1.2 SUMMARY**

- A. This Section includes installation includes a rapid-set, rapid-dry, super-format tile mortar that 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.

1. ARDEX 8+9™ Waterproofing and Crack Isolation Membrane
2. ARDEX UI 740™ FLEXBONE® Uncoupling Membrane
3. ARDEX UI720™ FLEXBONE® Floating Uncoupling Membrane
4. ARDEX S 28™ MICROTEC® Rapid-Set, Rapid-Dry, Super-Format Tile and Uncoupling Membrane Mortar
5. ARDEX FL™ Rapid Set, Flexible, Sanded Grout
6. ARDEX WA™ High Performance, 100% Solids Epoxy Grout and Adhesive
7. ARDEX SX™ 100% Silicon Sealant for Tile and Stone Applications

- B. Complete ARDEX product and system installation details are provided in their corresponding Technical Brochure available at [www.ardexamericas.com](http://www.ardexamericas.com).

- C. Related Sections include the following:

1. Division 09 Tile & Stone Sections

### 1.3 REFERENCES

#### A. AMERICAN NATIONAL STANDARDS INSTITUTE (A.N.S.I.)

1. A-118.4 Modified Dry-Set Cement Mortar
2. A-118.11 EGP latex Portland cement mortar
3. A-118.15 Improved Modified Dry-Set Cement Mortar
4. A-118.7 High Performance Cement Grouts for Tile Installation
5. A-108.01 General Requirements for Subsurfaces and Preparations by Other Trades
6. A-108.10 Installation of Grout in Tilework
7. A-108.17 Installation of Crack Isolation Membrane
8. A-108.5 Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar Installation of Ceramic Tile with Latex Thin-Set Mortar

#### B. TILE COUNCIL OF AMERICA, INC.

1. Handbook for Ceramic Tile Installation

#### C. INTERNATIONAL STANDARDS ORGANISATION (ISO)

1. ISO 13007 – Ceramic Tile-Grouts & Adhesives

### 1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used. Include manufacturer's Safety Data Sheets.
- B. Qualification Data: For Installer

### 1.5 QUALITY ASSURANCE

- A. Installation of the ARDEX product must be completed by a factory-trained, certified applicator, such as an ARDEX LevelMaster<sup>®</sup> Elite or Choice Contractor, using mixing equipment and tools approved by the manufacturer. Please contact ARDEX Engineered Cements (724) 203-5000 for a list of recommended installers.

### 1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in original packaging, labeled with product identification, manufacturer, batch number and shelf life.

- B. Store products in a dry area with temperature maintained between 50° and 85°F (10° and 29°C) and protect from direct sunlight.
- C. Please note the following regarding ARDEX FLEXBONE materials:
  - 1. It is the responsibility of the installation contractor to inspect the ARDEX FLEXBONE materials for visual defects and to verify that it is the correct thickness and type before beginning the tile or stone installation. Refer to the tile or stone manufacturer's specific recommendations.
  - 2. Acclimate the area, setting material, ARDEX FLEXBONE materials and tile or stone in an enclosed building at a minimum of 65°F (18°C) for at least 24 to 48 hours before, during and for 24 to 48 hours after installation. Lay the ARDEX UI 720 FLEXBONE flat during acclimation.
- D. Handle products in accordance with manufacturer's printed recommendations.

## 1.7 PROJECT CONDITIONS

- A. Do not install material below 50°F (10°C) surface and air temperatures. These temperatures must also be maintained during and for 48 hours after the installation of products included in this section. Install quickly if substrate is warm and follow warm weather instructions available from the ARDEX Technical Service Department.

## PART 2 - PRODUCTS

### 2.1 WATERPROOFING & CRACK ISOLATION MEMBRANE

- A. Acceptable Products:
  - 1. ARDEX 8+9™; Manufactured by ARDEX Engineered Cements: 400 Ardex Park Drive, Aliquippa, PA, 15001, USA, (724) 203-5000, [www.ardexamericas.com](http://www.ardexamericas.com)
  - 2. Performance and Physical Properties: Meet or exceed the following values for material cured at 70° F+/-3°F (21° C+/-3°C) and 50% +/-5% relative humidity:
    - 1. Pot Life: 45 Minutes
    - 2. Coats: 2
    - 3. Dry Time: 1 hr. – coat 1, 2-hr coat 2
    - 4. Crack Isolation: Meets or Exceeds ANSI A 118.12

### 2.2 FLOATING UNCOUPLING MEMBRANE

- A. Acceptable Products:
  - 1. ARDEX UI 720™ FLEXBONE®; Manufactured by ARDEX Engineered Cements: 400 Ardex Park Drive, Aliquippa, PA, 15001, USA, (724) 203-5000, [www.ardexamericas.com](http://www.ardexamericas.com)

## 2.3 UNCOUPLING MEMBRANE

### A. Acceptable Products:

1. ARDEX UI 740™ FLEXBONE®; Manufactured by ARDEX Engineered Cements: 400 Ardex Park Drive, Aliquippa, PA, 15001, USA, (724) 203-5000, [www.ardexamericas.com](http://www.ardexamericas.com)

## 2.4 MORTAR

### A. Acceptable Products:

1. ARDEX S 28™; Manufactured by ARDEX Engineered Cements: 400 Ardex Park Drive, Aliquippa, PA, 15001, USA, (724) 203-5000, [www.ardexamericas.com](http://www.ardexamericas.com)

### B. Performance and Physical Properties: Meet or exceed the following values for material cured at 70° F+/-3°F (21° C+/-3°C) and 50% +/-5% relative humidity:

1. Open Time: up to 45 Minutes
2. Pot Life: 75 minutes
3. Adjustment Time: Approx. 20 – 25 minutes
4. ISO 13007: C1 C2 FT E S1
5. Thin Set: Meets or Exceeds ANSI A 118.11 & ANSI A 118.4 & 118.15

## 2.5 CEMENTITIOUS GROUT

### A. Acceptable Products:

1. ARDEX FL™; Manufactured by ARDEX Engineered Cements: 400 Ardex Park Drive, Aliquippa, PA, 15001, USA, (724) 203-5000, [www.ardexamericas.com](http://www.ardexamericas.com)

### B. Performance and Physical Properties: Meet or exceed the following values for material cured at 70° F+/-3°F (21° C+/-3°C) and 50% +/-5% relative humidity:

1. Pot Life: Approx. 30 minutes
2. Working Time: Approx. 30 minutes
3. Open to Traffic: 90 minutes

## 2.6 EPOXY GROUT

### A. Acceptable Products:

1. ARDEX WA™; Manufactured by ARDEX Americas: 400 Ardex Park Drive, Aliquippa, PA, 15001, USA, (724) 203-5000, [www.ardexamericas.com](http://www.ardexamericas.com)

### B. Performance and Physical Properties: Meet or exceed the following values for material cured at 70° F+/-3°F (21° C+/-3°C) and 50% +/-5% relative humidity:

1. Pot Life: Approx. 40 minutes
2. Working Time: Approx. 1 hour

3. Open to Traffic: Light Foot Traffic - 12 hours, Full Traffic Loads - 2 days

## 2.7 SILICONE SEALANT

1. ARDEX SX™ Silicone Sealant for Tile and Stone Applications; Manufactured by ARDEX Engineered Cements: 400 Ardex Park Drive, Aliquippa, PA 15001 USA, (724) 203-5000, [www.ardexamericas.com](http://www.ardexamericas.com)
2. Performance and Physical Properties: Meet or exceed the following values for material baed on ¼” wide by ¼” deep joint at 77° F/25°C and 55% relative humidity:
  - a. Joint Movement: +/- 25%
  - b. Slump: None
  - c. Shore A Hardness: 20 (+/- 5)
  - d. Skin Time: 10 mins
  - e. Tack-Free Time: 20 mins
  - f. Tensile Strength: 255 psi (1.76 N/mm<sup>2</sup>)
  - g. Open to Traffic/Submersion in Water: 24 hours
  - h. VOC 2.7% VOC, per CARB calculation

## PART 3 – EXECUTION

### 3.1 PREPARATION

- A. Subfloors: Prepare substrate in accordance with manufacturer’s instructions.
  1. Prior to proceeding please refer to ANSI A 108.01 “General Requirements for Subsurface” and the TCNA’s “Handbook for Ceramic Tile Installation” for detailed information. Substrate and ambient temperatures must be a minimum of 50°F (10°C).
  2. Due to the size of the tile being installed, local building codes should also be consulted regarding any requirements for using mechanical fasteners in conjunction with tile setting mortars for the installation of large format tiles on vertical surfaces.
  3. Substrates must be load-bearing, flat and structurally sound. Vacuum or sweep all dust and debris. All substrates must be flat with a maximum variance of ¼” in 10’ or (6 mm in 3 m) from the required plane per TCNA or TTMAC guidelines or as recommended by the tile or stone manufacturer (default to the most stringent requirement).
  4. All subfloors must be clean and completely free of all contaminants, including dust, oil, grease, wax, sealers, paint, varnish, etc. Prepare floor as required by mechanical means. Do not use chemicals to clean the floor.
- B. Crack and Joint Preparation:

1. All existing expansion joints, isolation joints and construction joints must be honored up through the substrate, uncoupling membrane and tile or stone as indicated by TCNA or TTMAC guidelines.
2. Please note the following when installing ARDEX FLEXBONE materials:
  - a. Perimeter movement joints are essential for door areas, thresholds between rooms and geometric offsets. Arrange perimeter movement joints in accordance with industry standards. Interior areas exposed to direct sunlight, such as floors in front of floor-length windows, as well as underfloor heating areas require additional joints as required by TCNA OR TTMAC guidelines.
  - b. Please note that the tile or stone wall base should not be bonded to the tile or stone flooring. In these areas proper installation is achieved with ARDEX UD 146 Edge Insulation Strips, which have a self-sticking adhesive foot.
  - c. As needed, dormant cracks and dormant control joints can be filled with ARDEX TL Patch<sup>®</sup> Tile, Leveler, Underlayment Patch and Skimcoat.

### 3.2 APPLICATION OF INSTALLATION MATERIALS

- A. Examine substrates and conditions under which materials will be installed. Do not proceed with installation until unsatisfactory conditions are corrected.
- B. Coordinate installation with adjacent work to ensure proper sequence of construction. Protect adjacent areas from contact due to mixing and handling of materials.
- C. UNCOUPLING MAT INSTALLATION
  1. Comply with manufacturer's printed instructions for installation. For questions contact the ARDEX Technical Services Department at (724) 203-5000.
- D. FLOATING UNCOUPLING MAT INSTALLATION
  1. Comply with manufacturer's printed instructions for installation and cure. For questions contact the ARDEX Technical Services Department at (724) 203-5000.
- E. WATERPROOFING AND CRACK ISOLATION MEMBRANE INSTALLATION
  1. Comply with manufacturer's printed instructions for mixing of material, installation, and cure. For questions contact the ARDEX Technical Services Department at (724) 203-5000.
- F. INSTALL SUPER-FORMAT TILES WITH MORTAR
  1. Install tiles following the general office outline procedure set forth in ANSI A 108.5.

2. Comply with manufacturer's printed instructions for mixing of material, installation, and cure. For questions contact the ARDEX Technical Services Department at (724) 203-5000.

**B. INSTALL GROUT**

1. Install grout in accordance with ANSI A 108.10 or ANSI A 108.6.
2. Comply with manufacturer's printed instructions for mixing of material, installation, and cure. For questions contact the ARDEX Technical Services Department at (724) 203-5000.

**3.3 FIELD QUALITY CONTROL**

- A. Where required, contact manufacturer for field sampling methods and procedures.

**3.4 PROTECTION**

- A. Protect the installation from abuse by other trades by the use of plywood, Masonite or other suitable protection course.

**END OF SECTION**