

ARDEX GUIDE SPECIFICATION

ARDEX Liquid BackerBoard™ Self-Leveling Underlayment & ARDEX AM 100™ Pre-Tile Repair Mortar

Subfloor Preparation Materials for Interior Applications to Receive the Installation of Tile and Stone

SECTION 09 30 00 PORTLAND CEMENT-BASED SUBFLOOR PREPARATION MATERIALS To Recieve Tile & Stone Installation

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 a pourable, Portland cement-based self leveling underlayment used to smooth and level over interior wooden subfloors and a Portland cement-based mortar for the repair all concrete and masonry surfaces in preparation to receive tile. Suitable for use in wet areas such as swimming pools.
 - 1. ARDEX Liquid BackerBoard™ Self-Leveling Underlayment for Interior Wood Subfloors
 - 2. ARDEX AM 100™ Pre-Tile Repair Mortar
 - 3. ARDEX P 51™ Primer
- B. Complete ARDEX product and system installation details are provided in their corresponding Technical Brochure available at www.ardex.com.
- C. Related Sections include the following:
 - 1. Division 09 Tile & Stone Sections

1.3 REFERENCES

- A. ASTM C 109M, Compressive Strength Air-Cure Only
- B. ASTM C348, Flexural Strength of Hydraulic-Cement Mortars
- C. ASTM E84, Surface Burning Characteristics of Building Materials

- D. ASTM C627, Robinson-Type Floor Tester
- E. ANSI A108 AN-2 “General Requirements for Subsurfaces” and the Tile Council of America’s “Handbook for Ceramic Tile Installation”

1.3 SUBMITTALS

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

1.4 QUALITY ASSURANCE

- A. Installation of the ARDEX product must be completed by a factory-trained applicator, such as an ARDEX LevelMaster® 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.
- B. Product must have a hydraulic cement-based inorganic binder content to include Portland cement ASTM C150: Standard Specification for Portland Cement and other specialty hydraulic cements. Gypsum-based products are not acceptable.
- C. Manufacturer Experience: Provide products of this section by companies which have successfully specialized in production of this type for not less than 5 years. Contact Manufacturer Representative prior to installation.

- 1.5 Warranty: ARDEX Liquid Backerboard™ or ARDEX AM 100™ installed as part of a floor system, shall be installed in conjunction with the recommended ARDEX Tile & Stone Installation as appropriate, to provide the ARDEX SystemOne 10-year comprehensive warranty. The ARDEX SystemOne Warranty coverage is inclusive of the floor system replacement to include installation material, flooring, & labor.

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° and Protect from direct sunlight.
- C. 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 PORTLAND CEMENT-BASED SUBFLOOR PREPARATION MATERIALS

A. Portland Cement-based Self-Leveling Underlayment

1. Acceptable Products:

- a. ARDEX Liquid BackerBoard™; Manufactured by ARDEX Engineered Cements: 400 Ardex Park Drive, Aliquippa, Pa 15001 USA, (724) 203-5000, www.ardex.com
 - i. Primer: ARDEX P 51™ Primer

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:

- a. Application: Barrel Mix
- b. Flow Time: 10 minutes
- c. Initial Set: Approx. 30 minutes
- d. Final Set: Approx. 60 minutes
- e. Compressive Strength: 3000 psi at 28 days, ASTM C109M.
- f. Flexural Strength: 700 psi at 28 days, ASTM C78.

B. Portland Cement-based Pre-Tile Repair Mortar

1. Acceptable Products:

- a. ARDEX AM 100™; Manufactured by ARDEX Engineered Cements: 400 Ardex Park Drive, Aliquippa, Pa 15001 USA, (724) 203-5000, www.ardex.com
 - i. Primer: ARDEX P 51™ Primer

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:

- a. Application: Trowel
- b. Open Time: 10 minutes
- c. Pot Life: 30-45 minutes
- d. Working Time: 30 minutes

2.2 WATER: Water shall be clean, potable, and sufficiently cool (not warmer than 70°F).

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 AN-2 “General Requirements for Subsurfaces” 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. All subfloors must be clean and completely free of all contaminants, including dust, oil, grease, wax, sealers, paint, varnish, etc. Do not use chemicals to clean the floor.
 - a. Wood subfloors must either be solid hardwood flooring, a minimum of ¾” tongue and groove, APA-rated Type 1, exterior exposure plywood, or an OSB equivalent.
 - b. Prepare wooden subfloors by sanding and then vacuum to remove all dust. Re nail any loose boards exhibiting movement. The substrate must be dry and properly primed for a successful installation.
 3. Prior to Application: Use 1/2” weather-stripping, caulking or similar to keep the ARDEX Liquid BackerBoard from flowing under cabinets or drywall, around plumbing or into adjacent rooms. Protect wall base and door moldings with painter’s tape and plastic sheeting. Remove after the product has hardened (approx. 3 hours at 70°F/21°C).
- B. Joint Preparation:
1. Fill non-moving joints with appropriate ARDEX patching compound prior to the installation of ARDEX Liquid BackerBoard.
 2. Expansion joints must be provided over existing moving joints and cracks, and where substrate materials change composition or direction per ANSI A108 AN-3.7.

3.2 APPLICATION OF PORTLAND CEMENT-BASED SELF LEVELING UNDERLAYMENT

- 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. Priming:
1. For plywood substrate: Apply ARDEX P 51™ undiluted with a short-nap or sponge paint roller, leaving a thin coat of primer. Do not leave bare spots. Brush off puddles and

excess primer. Allow drying to a clear, thin film (min. 3 hours, max. 24 hours). Low substrate temperatures and/or high ambient humidity may require longer drying times. **Do not install ARDEX Liquid BackerBoard™ before the primer has dried thoroughly.**

- D. Application: 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.
1. Pour ARDEX Liquid BackerBoard™ onto the floor at a minimum thickness of 1/8" over highest point in the floor, which typically results in an average thickness of 1/4" over the entire floor. ARDEX Liquid BackerBoard™ can be installed up to 1 1/4" and can be tapered to match existing room elevations. Let dry overnight.
 2. For installations up to 1/2" thick, install tile and stone flooring after 6 hours.
 3. For installations thicker than 1/2", as well as for the installation of moisture sensitive stone, test for dryness as follows: 48 hours after installing ARDEX Liquid BackerBoard, place a piece of heavy plastic or a smooth rubber mat down over a 2' x 2' area. Wait 24 hours, then lift and inspect for surface darkening. Surface darkening means further drying is needed. Repeat this test at regular time intervals until no darkening is observed.

3.3 APPLICATION OF PORTLAND CEMENT-BASED PRE-TILE REPAIR MORTAR

- B. Substrate shall be clean, sound, solid and free of contaminants. If necessary prepare surface by mechanical means, do not use chemicals or acid to clean.
- C. Prime ARDEX Liquid BackerBoard™ or other cementitious subfloor with ARDEX P-51™ Primer diluted 1:1, 1 part water & 1 part primer.
- D. Application: 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.
1. Apply ARDEX AM 100™ Pre-Tile Repair Mortar to the primed substrate with the flat side of a trowel to obtain a solid mechanical bond. Once placed to the desired thickness, allow the material to take set prior to finishing with a steel trowel (approx. 1 hour). Note: Attempting to finish the surface with a steel trowel before it has taken a firm set will result in blistering.
 2. Let ARDEX AM 100™ Pre-Tile Repair Mortar dry for a minimum of 24 hours prior to installing a waterproofing membrane. Place a smooth rubber mat down over a 2' x 2' area. Wait 24 hours, then lift and inspect for surface darkening. Surface darkening means further drying is needed. Repeat this test at regular time intervals until no darkening is observed.

3.4 FIELD QUALITY CONTROL

- A. Where specified, field sampling of the Ardex underlayment is to be done by taking an entire unopened bag of the product being installed to an independent testing facility to perform compressive strength testing in accordance with ASTM C 109/modified: air-cure only. There are no in situ test procedures for the evaluation of compressive strength.

3.5 PROTECTION

- A. Prior to the installation of the finish flooring, the surface of the underlayment should be protected from abuse by other trades by the use of plywood, Masonite or other suitable protection course.

END OF SECTION