

ARDEX GUIDE SPECIFICATION
ARDEX SD-P® Self-Drying, Trowelable Concrete Underlayment

SECTION 03 01 30
Maintenance of Cast-In-Place Concrete

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 fast setting patch for smoothing and repairing indoor concrete floors, ramps and stairways, as well as non-porous substrates such as terrazzo, ceramic and quarry tile, prior to the installation of floor covering.

- 1. ARDEX SD-P® Self-Drying, Trowelable Concrete Underlayment
- 2. ARDEX P 82™ Ultra Prime
- 3. ARDEX P 51™ Primer

- B. Related Sections include the following:

- 1. Section 03 30 00, Cast-In-Place Concrete
- 2. Section 09 05 61.13 Moisture Vapor Emission Control
- 3. Division 09 Flooring Sections

1.3 REFERENCES

- A. ASTM F2170, Relative Humidity in Concrete Floor Slabs Using in situ Probes
- B. ASTM F710, Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring

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 applicator, such as an ARDEX LevelMaster® Elite, Choice Contractor or INSTALL Substrate Prep Certified Installer, 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 be cement-based having an inorganic binder content which includes a minimum 80% Portland cement per ASTM C150: Standard Specification for Portland cement and other specialty hydraulic cements. Gypsum products are not acceptable.
- C. Manufacturer Experience: Provide products of this section by companies which have successfully specialized in production of this type of work for not less than 5 years. Contact Manufacturer Representative prior to installation.

1.6 WARRANTY: ARDEX SD-P® installed as part of a floor system, shall be installed in conjunction with the recommended ARDEX Tile & Stone Installation Materials or WW HENRY Flooring Adhesive, as appropriate, to provide the ARDEX SystemOne comprehensive warranty, depending on the system installed.

1.7 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. Handle products in accordance with manufacturer's printed recommendations.

1.8 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 MAINTENANCE OF CAST-IN-PLACE CONCRETE

A. Self-Drying, Trowelable Concrete Underlayment

1. Acceptable Products:

- a. ARDEX SD-P®; Manufactured by ARDEX Engineered Cements: 400 Ardex Park Drive, Aliquippa, PA, 15001, USA 724-203-5000, www.ardexamericas.com.

i. Primer

1. Other non-porous substrates, such as burnished concrete, epoxy coating systems, terrazzo, ceramic, quarry and porcelain tiles, concrete treated with silicate curing compounds: ARDEX P 82™ Ultra Prime
2. Porous concrete: ARDEX P 51™ Primer (not required)

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

PART 3 – EXECUTION

3.1 PREPARATION

A. General: Prepare substrate in accordance with manufacturer's instructions.

1. Concrete:

- a. Prior to proceeding please refer to ASTM F710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring. All concrete subfloors must be sound, solid, clean, and free of all oil, grease, dirt, curing compounds and any substance that might act as a bond breaker before priming. Mechanically clean if necessary using shot blasting or other. Acid etching and the use of sweeping compounds and solvents are not acceptable.
- b. Substrates shall be inspected in accordance with ASTM F2170 and corrected for moisture or any other conditions that could affect the performance of the underlayment or the finished floor covering. For areas where moisture vapor emissions exceed the required limits refer to Section 09 05 61.13, Moisture Vapor Emission Control and install the appropriate ARDEX Moisture Control System.

2. Crack and Joint Preparation

- a. Moving Joints and Moving Cracks – honor all moving joints and moving cracks up through the installation. A flexible sealing compound such as ARDEX ARDISEAL™ Rapid Plus Semi-Rigid Joint Sealant may be installed.

- b. Dormant Control Joints and Dormant Cracks – Fill all dormant control joints and dormant cracks with ARDEX ARDIFIX™ Low Viscosity Rigid Polyurethane Crack & Joint Repair or ARDEX FEATHER FINISH® as recommended by the manufacturer.
3. Other Non-Porous Substrates: The substrate must be clean, including complete removal of existing waxes and sealers, dust, dirt, debris and any other contamination that may act as a bond breaker. Substrate preparation must be by mechanical means, such as shot blasting.

3.2 APPLICATION OF ARDEX SD-P®:

- 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. Porous concrete:
 - a. While no primer is required to obtain a solid bond when installing ARDEX SD-P over concrete, ARDEX P 51 can be used to prime a properly prepared concrete substrate prior to installing ARDEX SD-P. The use of ARDEX P 51 will improve the workability of the product, prevent it from drying out too fast, and help ensure that any residual dust on the surface of the concrete will be bound up so that it will not interfere with the bond.
 - b. For this application, mix ARDEX P 51 with an equal part of water, and prime the properly prepared concrete surface using a soft bristle push broom. Once the primer has dried (min. 30 minutes, max. 24 hours). It is critical to ensure that the ARDEX P 51 is dry prior to proceeding with the next installation step. To determine if the ARDEX P 51 is dry after a minimum of 30 minutes (max. 24 hours), pour water onto the surface of the primer in several areas and rub it with your finger. If the water remains clear, the primer is dry. If the water turns cloudy or milky, additional drying time is needed.
 2. Burnished concrete, epoxy coating systems, terrazzo, ceramic, quarry and porcelain tiles, concrete treated with silicate compounds shall be primed with ARDEX P 82. Do not leave any bare spots. Brush off puddles and excess primer. Allow primer to dry to a thin, slightly tacky film (min. 3 hours, max. 24 hours).
- D. Mixing: Comply with manufacturer's printed instructions and the following.
 1. Add 4 quarts (3.8 L) of clean potable water per 40-pound (18 kg) bag.
 2. Mix using a ½" (12 mm, 650 rpm) low speed heavy-duty mixing drill with an ARDEX T-2 ring mixing paddle. Do not overwater.

3. When mixing sanded materials, ARDEX recommends using the ARDEX DUSTFREE™ or a standard “gutter hook” vacuum attachment in combination with a wet/dry (Shop-Vac® style) vacuum and HEPA dust extraction vacuum system. Additionally, each bag should be handled with care and emptied slowly to avoid creating a plume of dust. Contact the ARDEX Technical Service Department for more details on ARDEX products and air quality management.

E. Application: Comply with manufacturer's printed instructions and the following.

1. ARDEX SD-P can be installed from a true featheredge up to 1” (25.4 mm) over large areas neat and up to 3” (7.6 cm) with the addition of proper aggregate. ARDEX SD-P can also be featheredged to match existing elevations. There is no minimum thickness requirement for this product. Use the least amount possible to attain the desired smoothness. The thickness of the application should be calculated based on the surface profile of the substrate and the specified tolerances of the floor covering.
2. For areas with a thickness greater than 1” (25.4 mm), mix ARDEX SD-P with washed and well-graded $\frac{1}{8}$ ” – $\frac{1}{4}$ ” (3 – 6 mm) pea gravel. Mix the ARDEX SD-P with water first, and then add part aggregate by volume, mixing until the aggregate is completely coated. Do not use sand. If the aggregate is wet, reduce the amount of water to avoid overwatering.
3. For applications of ARDEX SD-P over non-porous substrates, the maximum thickness is $\frac{1}{4}$ ” (6 mm).
4. Apply the ARDEX SD-P to the substrate with a wood or magnesium float to obtain a solid mechanical bond. Allow the material to take set (approx. 30 minutes) then finish the surface using a steel trowel.

F. Curing

1. As soon as the ARDEX SD-P can be worked on without damaging the surface (approx. 90 minutes), standard floor coverings such as ceramic tile, VCT, sheet vinyl and carpeting can be installed. If installing wood flooring, or, if high-performance adhesives will be used, such as epoxies or urethanes, ARDEX SD-P must first cure for 16 hours.

3.3 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.

3.4 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