

## **ARDEX GUIDE SPECIFICATION**

### **ARDEX PANDOMO® Floor**

#### **ARDEX PANDOMO® CF1 Commercial Design Leveling Compound**

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## **SECTION 09 62 00 ARDEX PANDOMO® Floor System**

### **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 cement-based self-drying, self-leveling topping to receive a mechanical process, color additive and sealer. This system is designed for resurfacing indoor concrete producing high-end, creatively designed ARDEX PANDOMO® Floor surfaces.

1. ARDEX PANDOMO® CF1 Self-Leveling Concrete Topping (White)
2. ARDEX EP 2000™ Substrate Preparation Epoxy Primer
3. ARDEX MC Rapid™ for Use as a Fast Track Primer
4. ARDEX PANDOMO® CC, Color Concentrate
5. ARDEX PANDOMO® SL, Stone Oil Sealer
6. ARDEX PANDOMO® ES, Epoxy Sealer
7. ARDEX PANDOMO® PS Polyurethane Sealer

- B. Related Sections include the following:

1. Section 03 30 00, Cast-In-Place Concrete
2. Section 07 62 00, Topical Moisture Vapor Mitigation
3. Division 09 Flooring Sections

#### **1.3 REFERENCES**

- A. ASTM C 109M, Compressive Strength Air-Cure Only

- B. ASTM C348, Flexural Strength of Hydraulic-Cement Mortars
- C. ASTM F2170, Relative Humidity in Concrete Floor Slabs Using in situ Probes
- D. ASTM F1869, Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride
- E. ASTM 710 - 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 Material Safety Data Sheets.
- B. Reference Samples: Provided by Contractor and as requested by Architect
- C. Mock-up: Signed approval by Architect
- D. Qualification Data: For Installer

#### 1.5 QUALITY ASSURANCE

- A. Installation of the ARDEX PANDOMO<sup>®</sup> product must be completed by a certified ARDEX PANDOMO<sup>®</sup> Contractor using mixing equipment and tools approved by the manufacturer. Contact [Specifier Note: ENTER ARDEX CONTACT], ARDEX Engineered Cements (724) 203-5000 [Specifier Note: or MODIFY FOR CONTACT PHONE#] for a list of certified installers. Note: ONLY certified contractors are qualified to source PANDOMO<sup>®</sup> product and to perform the work of this section.
- B. 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.
- C. Reference Samples: Size and quantity to be determined by Architect. Samples shall represent mix design, finish and color formula as specified [Specifier Note: ENTER COLOR FORMULA SELECTED BY ARCHITECT]. Reference samples should be approved by Architect prior to proceeding with installation.
- D. Mock-Up: Location to be determined by Architect. Mock-up shall represent mix design, finish, and color as specified by Architect. Area for mock-up shall be a minimum 4'X4'. Written approval from Architect, Designer, Owner or other as appropriate is required.

#### 1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in original packaging, labeled with product identification, manufacturer, batch number and shelf life. ARDEX PANDOMO<sup>®</sup> products are ordered on a project basis and contractor shall allow for minimum 15 business day shipping lead time.

- B. Store products in a dry area with temperature maintained between 50° and 85° F (10° and 29° C) and Protect from direct sunlight. Prior to application, products must be acclimated to between 50° and 77° F (10° and 25° C).
- C. Handle products in accordance with manufacturer's printed recommendations.

## 1.7 PROJECT CONDITIONS

- A. Do not install material below 50° F (10° C) or above 77°F (25° C) surface and air temperatures and an ambient relative humidity of 40% - 60% RH. These temperatures and humidity 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.
- B. When possible, ARDEX PANDOMO® CF1 installation shall be scheduled at the end of construction to minimize potential for damage from other work.

## PART 2 - PRODUCTS

### 2.1 SPECIALITY FLOORING SYSTEM

- A. Cement Topping: White, Self-Leveling Concrete Topping for PANDOMO® Floor
  - 1. Acceptable Products:
    - a. ARDEX PANDOMO® CF1; Manufactured by ARDEX Engineered Cements: 400 Ardex Park Drive, Aliquippa, Pa 15001 USA, (724) 203-5000, [www.ardex.com](http://www.ardex.com)
      - i. Primer: ARDEX EP 2000™ SUBSTRATE PREPARTION EPOXY.
      - ii. Alternate Primer: For fast track applications ARDEX MC Rapid with a sand broadcast can be used. Please contact ARDEX Technical Services for full installation details.
  - 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 or Pump
    - b. Flow Time: 10 minutes
    - c. Initial Set: Approx. 10 minutes
    - d. Final Set: Approx. 45 minutes
    - e. Compressive Strength: 5000 psi at 28 days, ASTM C109M.
    - f. Flexural Strength: 1000 psi at 28 days, ASTM C348.
    - g. Base Colors: White
    - h. Coverage: 25 sq. ft./50 lb. bag

- B. Dye: PANDOMO<sup>®</sup> CC Color Concentrate [Specifier Note: ADD COLOR] as selected by Architect or Designer.
- C. Equipment:
1. ARDEX ToolKit – T-1, T-4, T-5
  2. Laegler TRIO Machine
  3. Festool ROTEX RO 150 FEQ-Plus Hand Sander & Vacuum
  4. Sanding Disks – Grit 120 to 150
  5. Burnisher & White Burnish Pads
  6. Other equipment as needed to properly install the PANDOMO
- D. Sealer: [Specifier Note: ADD SEALER] Recommended sealer as determined by intended use of the PANDOMO<sup>®</sup> CF1.
1. Acceptable Products:
    - a. ARDEX PANDOMO<sup>®</sup> SL, Stone Oil Sealer – Residential Only
    - b. ARDEX PANDOMO<sup>®</sup> ES, Epoxy Sealer
    - c. ARDEX PANDOMO<sup>®</sup> PS, Polyurethane Sealer
- 2.2 WATER: Water shall be clean, potable, and sufficiently cool (not warmer than 70°F).

## **PART 3 – EXECUTION**

### **3.1 PREPARATION**

- A. Concrete Subfloors: Prepare substrate in accordance with manufacturer's instructions.
1. 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.
  2. Mechanically prepare concrete surface to a concrete surface profile (CSP) 3 in accordance with the standards set by the International Concrete Repair Institute using shot blasting or other methods. Acid etching and the use of sweeping compounds and solvents are not acceptable.
  3. All cracks in the subfloor shall be repaired with ARDEX ARDIFIX<sup>™</sup> Low Viscosity Rigid Polyurethane Crack & Joint Repair to minimize telegraphing through the topping.
  4. Substrates shall be inspected in accordance with ASTM F2170 and corrected for moisture or any other conditions that could affect the performance of the topping or sealer. For areas where moisture vapor emissions exceed 75% RH install the appropriate ARDEX Moisture Control System or call ARDEX Technical Services for product recommendations. ARDEX PANDOMO<sup>®</sup> CF1 is intended for use over dry substrates only. Do not use in areas of constant water exposure, or in areas exposed to permanent

or intermittent substrate moisture, as this may jeopardize the performance of the topping and coating.

B. Joint Preparation:

7. Moving Joints and Control Joints – must be honored up through the topping. Under no circumstances should ARDEX PANDOMO® CF1 be installed over any joints or moving cracks. Failure to do so may result in cracking and/or disbonding of the topping. Joints may be filled with ARDEX ARDISEAL™ Rapid Plus Semi-Rigid Joint Sealant.

3.2 APPLICATION OF ARDEX PANDOMO® CF1

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. Install ARDEX EP 2000™ SUBSTRATE PREPARATION EPOXY. Apply the freshly mixed epoxy to the prepared surface (CSP 3) using a short-nap paint roller for smoother surfaces and a longer nap for more uneven substrates. ARDEX EP 2000™ can also be applied with a paintbrush for hard-to-get-to areas and in corners.
  - a. While in a fresh state, broadcast an excess of fine sand (“play sand” that is less than 1/32 of an inch in grain size) consistently over the entire area. Figure about 2/3lb. of sand per square foot of the area. Avoid all traffic over the surface for a minimum of 6 hours.
  - b. After 16 hours, broom sweep and vacuum the surface to remove all loose sand.
2. Alternate Primer: Install ARDEX MC Rapid in a one coat application with a sand broadcast. Contact ARDEX Technical Services for complete installation details. Note: this application is not intended to be used as a moisture vapor reduction system. ARDEX PANDOMO® CF1 can be applied 4 hours after the installation of ARDEX MC Rapid in a primer application.

D. Mixing: Comply with manufacturer's printed instructions and the following.

1. Add 5.25 quarts (5 liters) of clean potable water per 50 lb. (22.7 kg) bag of ARDEX PANDOMO® CF1.
2. ARDEX PANDOMO® CF1 is mixed 2 bags at a time. Mix using a ½” (650 rpm) low speed heavy-duty mixing drill with an ARDEX T-1 mixing paddle for approximately 2 to 3 minutes to obtain a lump free mix. Do not overwater.
3. For best results, pre-blend the total anticipated quantity of water with the prescribed amount of ARDEX PANDOMO® CC Color Concentrates to minimize color variation between batches.

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

1. ARDEX PANDOMO® CF1 can be installed from 1/4" up to a maximum 1" (6 to 24mm).
2. ARDEX PANDOMO® CF1 has a flow time of 10 minutes at 70°F (21°C). Pour the liquid mix on the floor and spread with the ARDEX T-4 Spreader. Immediately smooth the material with the ARDEX T-5 smoother in a wavy pattern to enhance the aesthetic appearance of the surface. Wear baseball or soccer shoes with non-metallic cleats to avoid leaving marks in the liquid ARDEX PANDOMO® CF1. For information on pumping, please consult the ARDEX Technical Department.
3. Once the ARDEX PANDOMO® CF1 has dried for a minimum of 24 hours 70° F (21° C), sand the dry surface using a Laegler TRIO machine and a standard wood finishing 120-150 grit sandpaper. The color selected and age of the installation will determine grit size. Sand with at least two passes, with subsequent passes always done at a 90° angle to the previous pass. For best results proceed with pass at a slow, steady walking pace. After the sanding process, buff the entire surface with a floor burnisher and a white pad to remove any residual dust. Please note in each stage of processing, the edges should be done using the Festool hand sander with the same grit sanding disk. Note: the ARDEX PANDOMO® CF1 Technical Data Sheet offers additional tips for a successful installation.

F. Sealing

1. The surface of ARDEX PANDOMO® CF1 must always be protected from oil, salt, water and surface wear by applying a suitable protection system. Follow manufacturer printed instructions for installation of the sealer specified by the Architect or Designer.
2. For certain residential and light commercial applications ARDEX SL® Stone Oil Sealer may be specified. Follow manufacturer recommendations for the application of ARDEX SL® Stone Oil Sealer.
3. For commercial applications and areas to receive heavier traffic seal ARDEX PANDOMO® CF1 with one of the following sealers as specified by Architect or Designer. Alternatively, a combination of the two may be specified to achieve the desired finish.
  - a. ARDEX PANDOMO® ES Epoxy Sealer
  - b. ARDEX PANDOMO® PS Polyurethane Sealer

### 3.3 FIELD QUALITY CONTROL

- A. Where specified, field sampling of the Ardex topping 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. ARDEX PANDOMO<sup>®</sup> CF1 wear surfaces should be adequately protected from damage resulting from construction traffic or other use that can affect the finish floor. Traffic shall be prohibited for 3 to 7 days after the installation is sealed. To protect, cover the installation with Surface Shields Builder Board<sup>™</sup>. Using other non-breathable covers may cause surface discoloration.
- B. ARDEX PANDOMO<sup>®</sup> CF1 wear surfaces are intended for foot traffic, moderate, rubber-wheeled forklift traffic and similar uses. Excessive service conditions, such as steel or hard plastic-wheeled traffic, or dragging heavy metal equipment or loaded pallets with protruding nails over the floor, will cause gouging and indentations. ARDEX PANDOMO<sup>®</sup> CF1 is not a resurfacing topping for heavy-duty manufacturing or industrial floors, or for chemical environments requiring customized industrial toppings.

### 3.5 MAINTENANCE

- A. Once installed, any finished floor surface requires routine cleaning and maintenance. After installing the initial coats of the sealer, the best way to ensure the long-term appearance of a newly installed floor is by the use of a sacrificial floor finish (“wax” or “polish”) applied over the surface of the newly installed and sealed floor. All floor coatings will wear as a function of traffic and maintenance, and the use of a sacrificial coating avoids wear on the original sealer while providing a simple maintenance solution.

**END OF SECTION**