

## **SECTION 03540**

### **RECOMMENDED SPECIFICATION FOR ARDEX FORTI FINISH HIGH-STRENGTH, SELF-DRYING UNDERLAYMENT**

#### **PART I – GENERAL**

##### **1.01 SUMMARY**

- A. This is the recommended specification for ARDEX FORTI FINISH, High Strength, Self-Drying Finishing Underlayment.

##### **1.02 SECTION INCLUDES**

- A. ARDEX FORTI FINISH, Self-Drying, Cement-Based Finishing Underlayment.
- B. ARDEX P 82 Ultra Prime

##### **1.03 QUALITY ASSURANCE**

- A. Installation of the ARDEX FORTI FINISH must be by an applicator using mixing equipment and tools approved by the manufacturer.
- B. Provide ARDEX FORTI FINISH as manufactured by Ardex Engineered Cements, 400 Ardex Park Drive, Aliquippa, PA 15001.
- C. Underlayment shall be able to be installed from a true featheredge to 1/2" thick over large areas and to any thickness in well-defined areas such as filling holes or gouges and for making ramps.
- D. Underlayment shall not require that standard porous substrates be primed. Some non-porous substrates may require the addition ARDEX P 82 Ultra Prime
- E. Underlayment shall be formulated with a Portland cement matrix, which develops a compressive strength of 7800 psi when tested in accordance with ASTM C109/mod. (air cure only).
- F. Underlayment shall be able to be covered by most finish flooring materials as soon as the surface hardens (usually within 1 hour). Parquet, athletic flooring and floor covering requiring specialized adhesives can be installed after 16 hours.
- G. Underlayment shall not require the addition of latex or any additive other than potable water.

##### **1.04 DELIVERY, STORAGE AND HANDLING**

- A. Deliver materials in their original, unopened packages and protect from extreme temperatures and moisture.

#### **PART I – GENERAL**

##### **1.05 SITE CONDITIONS**

- A. ARDEX FORTI FINISH is a cementitious material. Observe the basic rules of concrete work. Do not install below 50°F surface temperature. Install quickly if floor is warm and follow hot weather precautions available from the ARDEX Technical Service Department. Never mix with cement or additives other than ARDEX-approved products.

## **PART 2 – PRODUCTS**

### **2.01 MATERIALS**

- A. The hydraulic cement-based, high strength, self-drying, trowelable finishing underlayment shall be ARDEX FORTI FINISH.
- B. No primer required over porous substrates.
- C. ARDEX P 82 primer may be required over certain non-porous substrates.
- D. Water shall be clean, potable, and sufficiently cool (not warmer than 70°F).

### **2.02 MIX DESIGNS**

- A. Mix ARDEX FORTI FINISH powder with water to the desired trowelable consistency. The recommended mixing ratio is 3 1/2 parts powder to 1 part water by volume.
- B. Apply ARDEX FORTI FINISH to the prepared substrate using a steel trowel using sufficient pressure to achieve the desired thickness and to provide a perfect featheredge, where necessary.
- C. Install ARDEX FORTI FINISH from a true featheredge up to a maximum thickness of 1/2 inch or as required to fill gouges, scratches or small holes.
- D. When the underlayment can be worked on without adversely affecting the surface, proceed with the installation of floor covering. Note: The surface of the ARDEX FORTI FINISH does not have to be dry to receive ceramic tile, carpet, or vinyl floor coverings. It only needs to be hard enough to permit application of the adhesive with a notched trowel damaging the surface. Typical times range from 15 minutes to 1 hour depending upon ambient conditions.

## **PART 3 – EXECUTION**

### **3.01 PREPARATION**

- A. All subfloors, regardless of composition, must be solid, sound and thoroughly cleaned.
  - 1. All concrete substrates must be solid, thoroughly clean and free of oil, wax, grease, asphalt, patching materials, curing and sealing compounds, and any contaminant that might act as a bond breaker. If necessary, mechanically clean the floor down to sound, solid concrete by shot blasting, scarifying or similar. Overwatered, frozen or otherwise weak concrete surfaces must also be cleaned down to sound, solid concrete by mechanical methods. Acid etching, adhesive removers, solvents and sweeping compounds are not acceptable means of cleaning the substrate. The use of sanding equipment is not an effective method for removing curing and sealing compounds.
  - 2. Non-porous subfloors, such as ceramic tile and terrazzo must be clean and free of all sealers, waxes, or other surface treatments that may act as a bond breaker. Professionally strip where necessary.

3. Subfloors shall be tested and corrected for moisture or any other conditions which could affect the performance of the underlayment or finished floor covering.
4. Substrates must be dry for a successful installation. Substrate and air temperatures must be a minimum of 50°F (10°C) for the installation of ARDEX Products. For further information, please refer to the ARDEX Substrate Preparation Brochure.
5. Adhesive residue over concrete must first be tested to make certain it is not water-soluble and does not react with the new flooring adhesive. In addition, the new flooring must not be susceptible to bleed-through of the adhesive residue. If adhesive interaction and migration are a concern, install ARDEX K 15® SELF-LEVELING UNDERLAYMENT CONCRETE. If there are no such concerns, prepare the adhesive to a thin, well-bonded residue using the wet-scraping technique as recommended by the Resilient Floor Covering Institute ([www.rfci.com](http://www.rfci.com)).
6. Any existing patches below the adhesive must be completely, mechanically removed.
7. Wooden subfloors must be clean and free of all foreign matter. Sand the surface to bare wood and then vacuum to remove all dust. .

**B. JOINT PREPARATION**

1. Moving Joints – honor all expansion and isolation joints up through the underlayment.
2. Saw Cuts and Control Joints – fill all non-moving joints with ARDEX FORTI FINISH or ARDEX SDP as required.

**C. PRIMING**

1. No primer is required for standard absorbent concrete subfloors.
2. Primer for non-porous subfloors, wooden or metal subfloors prime with ARDEX P 82 Ultra Prime. Mix Part A (red) with Part B (white) and apply with a short-nap or sponge paint roller, leaving a thin coat of primer no heavier than a thin coat of paint. Do not leave any bare spots. Remove all puddles and excess primer. Allow to dry to a clear, slightly tack film (minimum 3 hours, maximum 24 hours). Underlayment shall not be installed until primer is dry. Primer coverage is approximately 200 to 400 square feet per gallon.
3. Steel subfloors require that the substrate first be primed with an anti-corrosive paint. After thorough drying of the paint, prime this surface with ARDEX P 82 Ultra Prime.

**3.02 APPLICATION OF UNDERLAYMENT**

**A. INSTALLATION**

1. After mixing, apply the ARDEX FORTI FINISH to the substrate with the flat side of a steel trowel to obtain a solid mechanical bond. Apply sufficient pressure to fill all defects and to feather the product onto the subfloor surface.

**B. THICKNESS OF APPLICATION**

1. ARDEX FORTI FINISH can be installed from a true featheredge up to 2" thick over large areas in a single application. It can also be placed to any thickness in small, well-defined areas such as thresholds and birdbaths, as well as for height transitions. There is no minimum thickness requirement for this product.

### **C. FLOORING INSTALLATION**

1. As soon as the ARDEX FORTI FINISH can be worked on without damaging the surface (usually 15 to 30 minutes, depending on jobsite conditions), sheet vinyl, solid vinyl tile and plank, vinyl-backed carpet tile, VCT and other standard floor coverings can be installed. Wood flooring, athletic flooring and flooring requiring special adhesives that are sensitive to the presence of moisture (such as epoxies or urethanes) can be installed after 16 hours.
2. All flooring adhesives that are compatible with concrete are compatible with ARDEX FORTI FINISH.
  - a. It is important to note that many different types of adhesives are used to install floor covering and their absorbency into cementitious substrates can vary significantly. If it is found that the adhesive being used is drying more quickly over the ARDEX FORTI FINISH than over adjacent concrete, ARDEX recommends that the surface of the underlayment be primed with ARDEX P 51™ PRIMER diluted 1:3 with water. Allow the primer to dry thoroughly (1 to 3 hours), and proceed with the installation of the adhesive.
  - b. The use of the primer will even out the open time of the adhesive without affecting the bond or the long-term performance of the floor covering.

### **3.04 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.

### **3.05 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**