

SECTION 03540

RECOMMENDED SPECIFICATION FOR ARDEX LU-100 SELF-LEVELING FLOORING UNDERLAYMENT

PART I – GENERAL

1.01 SUMMARY

- A. This is the recommended specification for ARDEX LU-100 SELF-LEVELING FLOORING UNDERLAYMENT for leveling and smoothing interior concrete above grade. When mixed with water, it produces a pourable or pumpable liquid compound that seeks its own level and produces a smooth, flat, hard surface.

1.02 SECTION INCLUDES

- A. ARDEX LU-100 SELF-LEVELING FLOORING UNDERLAYMENT
- B. ARDEX P 51™ PRIMER
- C. ARDEX P 82 ULTRA PRIME®
- D. ARDEX FEATHER FINISH® SELF-DRYING, CEMENT-BASED FINISHING UNDERLAYMENT

1.03 QUALITY ASSURANCE

- A. Installation of the hydraulic cement-based, self-leveling underlayment must be by an applicator using mixing equipment and tools approved by the manufacturer.
- B. Underlayment shall be able to be installed from a featheredge to 2" in one pour and up to 5" thick in small areas.
- C. Underlayment shall develop a compressive strength of approximately 4000 psi per ASTM C109/mod (air cure only).
- D. Underlayment shall be walkable after 3 hours at 70°F and be able to be covered by finish flooring material in 2-3 days, depending upon thickness of installation.

1.04 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in their unopened packages and protect from extreme cold, direct sun exposure, and exposure to moisture. Protect liquids from freezing.

1.05 SITE CONDITIONS

- A. ARDEX LU-100 contains blended hydraulic cements and powdered polymers. Do not install in applications on or below grade unless the concrete substrate has already been treated with ARDEX MC™ MOISTURE CONTROL SYSTEM or approved equal. 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.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. The hydraulic cement-based self-leveling underlayment shall be ARDEX LU-100 SELF-LEVELING FLOORING UNDERLAYMENT.
- B. Primer for standard absorbent concrete subfloors, well bonded patching compounds, and other porous surfaces shall be ARDEX P 51 PRIMER diluted 1:1 with water.
- C. Primer for well-bonded, non-water soluble adhesive residues shall be ARDEX P 51 PRIMER undiluted or ARDEX P 82 ULTRA PRIME.
- D. Primer for all other non-porous surfaces to include terrazzo, burnished or sealed concrete, ceramic and quarry tile, acrylic curing compounds, and epoxy coatings shall be ARDEX P 82 ULTRA PRIME.
- E. Water shall be clean, potable, and sufficiently cool (not warmer than 70°F).
- F. Repair of small gouges, indentations and holes, as well as skim coating large areas, can be done using ARDEX FEATHER FINISH® SELF-DRYING, CEMENT-BASED FINISHING UNDERLAYMENT.

2.02 MIX DESIGNS

- A. Mixing Ratio: ARDEX LU-100 is mixed in 2-bag batches at one time. Mix each bag of ARDEX LU-100 (50 lb.) with 4 quarts of water. Product shall be mixed in an ARDEX T-10 Mixing Drum using an ARDEX T-4 Mixing Paddle and a ½" heavy-duty drill (min. 650 rpm). Mix thoroughly for approx. 2-3 minutes to obtain a lump-free mixture. Follow written instructions per the ARDEX LU-100 bag label.
- B. For pump installations, ARDEX LU-100 shall be mixed using the ARDEX Levelcraft Automatic Mixing Pump. Start the pump at 130 gallons of water per hour, then adjust to the minimum water reading which still allows self-leveling properties. DO NOT OVERWATER! Check the consistency of the product on the floor to ensure a uniform distribution of the sand aggregate at both the top surface and bottom of the pour. If settling is occurring, reduce the water amount and recheck. Conditions during the installation, such as variations in water, powder, substrate, and ambient temperature, require that the water setting be monitored and adjusted carefully to avoid overwatering.

PART 3 – EXECUTION

3.01 PREPARATION

- A. All concrete subfloors and concrete floors with existing patching must be solid, sound, solid, thoroughly cleaned, and properly primed.
 - 1. All concrete subfloors must be of adequate strength, clean, and free of all oil, grease, dirt, curing compounds and any substance, which might act as a bondbreaker. Mechanically clean, if necessary, using shot blasting or other. Acid etching and the use of sweeping compounds and solvents are not acceptable.
 - 2. All cracks in the subfloor shall be repaired to minimize telegraphing into the underlayment.

3. Subfloors shall be inspected and corrected for moisture or any other conditions which could affect the performance of the underlayment or finished floor covering.

B. PRIMING

1. Extremely absorbent substrates
 - a. Mix ARDEX P-51 3:1 with water and apply evenly with a soft pushbroom. Do not leave any bare spots. Remove all puddles and excess primer. Allow to dry to a clear, thin film (One to three hours). Second coat of Primer shall not be applied until initial primer application is completely dry.
 - b. Mix ARDEX P-51 1:1 with water and apply evenly with a soft pushbroom. Do not leave any bare spots. Remove all puddles and excess primer. Allow to dry to a clear, thin film (minimum 3 hours, maximum 24 hours). ARDEX LU-100 Underlayment shall not be installed until second primer application is completely dry.
2. Non-water soluble adhesive residues – Use ARDEX P 51 PRIMER at full strength and install as in B. 1. b. above.
3. Non-porous substrates: 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.

3.02 APPLICATION OF UNDERLAYMENT

- A. Pour or pump the ARDEX LU-100 and spread with the ARDEX T-4 Spreader. Use the ARDEX T-5 Smoother for featheredge and touch-up. Wear baseball shoes with non-metallic cleats to avoid leaving marks in the ARDEX LU-100. Underlayment can be carefully walked on in 3 hours at 70°F.

3.03 PREPARATION FOR FLOORING INSTALLATION

- A. Underlayment can accept finish floor covering materials after 2-3 days at 70°F/50% R.H. depending upon thickness. Perform a moisture test in accordance with ASTM D4263 before installing the finish flooring.

3.04 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.

3.05 PROTECTION

- A. Prior to the installation of the finish topping, 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