

SECTION 03 54 00

RECOMMENDED SPECIFICATION FOR ARDEX K-15® SELF-LEVELING UNDERLAYMENT CONCRETE

PART I – GENERAL

1.01 SUMMARY

- A. This is the recommended specification for ARDEX K 15® SELF-LEVELING UNDERLAYMENT CONCRETE for use over specified interior substrates.

1.02 SECTION INCLUDES

- A. ARDEX K 15® SELF-LEVELING UNDERLAYMENT CONCRETE
- B. ARDEX P 51™ PRIMER
- C. ARDEX P 82™ ULTRA PRIME
- D. ARDEX E 25™ RESILIENT EMULSION

1.03 QUALITY ASSURANCE

- A. Installation of ARDEX K 15 must be by a factory-trained applicator, such as an ARDEX LevelMaster® or LevelMaster Elite® Installer, using mixing equipment and tools approved by the manufacturer. Please contact ARDEX at (888) 512-7339 for a complete list of Installers.
- B. Underlayment shall be able to be installed from 1/8" to 1 1/2" in one pour and up to 5" with the addition of aggregate. It may also be feathered to match existing elevations.
- C. Underlayment to be applied to a minimum thickness of 1/8" over highest point in the subfloor, with an average typical thickness of 1/4".
- D. Underlayment compressive strength shall be 4100 psi after 28 days per ASTM C109/mod (air cure only).
- E. Underlayment shall be walkable after 2 hours and allow floor covering to be installed after 16 hours at 70°F.
- F. Manufacturer's certification that the product is cement-based having an inorganic binder content which is 100% cement, to include Portland cement per ASTM C150: Standard Specification for Portland Cement and other specialty hydraulic cements.

1.04 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in their unopened packages and protect from extreme temperatures and moisture. Protect liquids from freezing.

1.05 SITE CONDITIONS

- A. ARDEX K 15 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 cement-based self-leveling underlayment shall be ARDEX K 15 SELF-LEVELING UNDERLAYMENT CONCRETE.
- B. Primer for standard absorbent concrete shall be ARDEX P 51 PRIMER.
- C. Primer for non-porous subfloors such as burnished concrete, terrazzo, quarry and ceramic tile shall be ARDEX P 82 ULTRA PRIME.
- D. Primer for non-porous subfloors, cutback and other non-water soluble adhesive residues, metal, and wooden subfloors shall be ARDEX P 82 ULTRA PRIME.
- E. The additive to be mixed with ARDEX K 15 when used over cutback adhesive, metal or wood subfloors shall be ARDEX E 25 Resilient Emulsion.
- F. Aggregate shall be well graded, washed gravel (1/8" to 1/4" or larger) for use when underlayment is installed over 1 1/2" thick.
- G. Water shall be clean, potable, and sufficiently cool (not warmer than 70°F).

2.02 MIX DESIGNS

- A. Standard mixing ratio: ARDEX K 15 is mixed in 2-bag batches at one time. Mix each bag of ARDEX K 15 (55 lb.) with 7 quarts of water. Product shall be mixed in an ARDEX T-10 Mixing Drum using an ARDEX T-1 Mixing Paddle and a 1/2" heavy-duty drill (min. 650 rpm). Mix thoroughly for approximately 2-3 minutes to obtain a lump-free mixture. Follow written instructions per the ARDEX K 15 bag label.
- B. Resilient mix for applications over cutback and non-water soluble adhesive residues, wood and metal: Use 6 qt. of water and 2 qt. of ARDEX E 25 Resilient Emulsion for each bag of ARDEX K 15.
- C. Aggregate mix: For areas to be installed over 1 1/2" thick, aggregate may be added to reduce material costs. Mix ARDEX K 15 with water first, then add from 1/3 up to 1 part by volume of aggregate (1/8" to 1/4" or larger). Do not use sand.
- D. For pump installations, ARDEX K 15 shall be mixed using the ARDEX Levelcraft Automatic Mixing Pump. Start the pump at 210 gallons of water per hour, and then adjust to the minimum water reading that 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 subfloors must be sound, solid, cleaned, and primed:
1. All concrete subfloors must be of adequate strength, clean, and free of all oil, grease, dirt, curing compounds and any substance that might act as a bondbreaker before priming. Mechanically clean if necessary using shot blasting or other. Acid etching and the use of sweeping compounds and solvents are not acceptable.
 2. Wood subfloors must be clean and free of all foreign matter. Sand to bare wood then vacuum to remove all dust. Re-nail any loose boards exhibiting movement.
 3. Metal subfloors must be clean and free of all rust and foreign matter. Where required, a corrosive resistant coating should be applied and allowed to dry before priming.
 4. Cutback and other non-water soluble adhesive residues must be wet scraped to a thin, well-bonded layer.
 5. Non-porous subfloors such as ceramic and quarry tile as well as terrazzo should be clean and free of all waxes and sealers. If necessary, have the surface professionally cleaned.
 6. All cracks in the subfloor shall be repaired to minimize telegraphing through the underlayment.
 7. Substrates shall be inspected and corrected for moisture or any other conditions that could affect the performance of the underlayment or the finished floor covering.
- 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 FEATHER FINISH[®] or ARDEX SD-P as required.
- C. PRIMING
1. Primer for standard absorbent concrete subfloors: Mix ARDEX P 51, 1:1 with water and apply evenly with a soft push broom. Do not leave any bare spots. Remove all puddles and excess primer. Allow to dry to a clear, thin film (min. 3 hours, max. 24 hours). Underlayment shall not be applied until the primer is dry. Primer coverage is approximately 400 to 600 sq. ft. per gallon.
 2. Primer for extremely absorbent concrete subfloors: Make an initial application of ARDEX P 51 mixed with 3 parts water using a soft push broom. Do not leave any bare spots. Remove all puddles and excess primer. Allow to dry thoroughly before proceeding with the standard application of primer as described above for standard absorbent concrete.
 3. Primer for non-porous subfloors, wood or metal subfloors, or cutback and other non-water soluble adhesive residues over concrete: Prime with ARDEX P 82. 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.

4. Minimum drying time for ARDEX P 82 over cutback adhesive is 18 hours.

3.02 APPLICATION OF UNDERLAYMENT

A. INSTALLATION

1. Pour or pump the liquid ARDEX K 15 and spread in place 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 liquid ARDEX K 15. Underlayment can be walked on in 2-3 hours at 70°F.
2. Wood subfloors require the use of the mesh-reinforced ARDEX K 15 + E 25 Underlayment System. After priming, install 3.4 galvanized diamond metal lath by stapling to the wooden subfloor approximately every 6 inches on center.
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.

3.03 PREPARATION FOR FLOORING INSTALLATION

- A. Underlayment can accept finish floor covering materials, to include Carpet, after 16 hours at 70°F and 50% relative humidity.
- B. Due to the wide range of adhesives that are used to install floor coverings, some adhesives may dry more quickly over Ardex underlayments than over other substrates. If this condition occurs, priming the surface of the underlayment with ARDEX P 51 Primer diluted 1:3 with water will even out the drying of the adhesive. Allow the primer to dry 1-3 hours before proceeding with the adhesive installation.

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