SECTION 03540

RECOMMENDED SPECIFICATION FOR
ARDEX K-500 SELF-LEVELING CONCRETE TOPPING

PART I – GENERAL

1.01 SUMMARY

A. This is the recommended specification for ARDEX K-500 Self-Leveling Concrete Topping for use over new or old interior standard absorbent concrete: unfinished, rough, rained-on, frozen, spalled or otherwise deteriorated concrete.

1.02 SECTION INCLUDES

A. ARDEX K-500 Self-Leveling Concrete Topping

B. ARDEX P-51 Primer

1.03 QUALITY ASSURANCE

A. Installation of the ARDEX K-500 must be by an applicator using mixing equipment and tools approved by the manufacturer.

B. Topping shall be able to be installed from ¼□to 1 ½□in one pour and up to 5□with the addition of the appropriate aggregate. It can also be tapered to match existing elevations.

C. Topping to be applied to a minimum thickness of ¼□over highest point in the subfloor.

D. Topping material shall achieve compressive strength of 5300 psi after 28 days per ASTM C109/mod (air cure only).

E. Topping shall be walkable after 3 hours, and coated after 24 hours at 70°F.

F. Manufacturer□s certification that the product is cement-based having an inorganic binder content which is a minimum 80% Portland cement when tested per ASTM C150: Standard Specification for Portland Cement.

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-500 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 topping shall be ARDEX K-500 Self-Leveling Concrete Topping.

B. Primer for standard concrete shall be ARDEX P-51 Primer.

C. Aggregate shall be well graded, washed gravel (1/8" to 1/4" or larger) for use when topping is installed over 1 1/2" thick.

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

E. The finished K-500 surface must be coated with a sealer 24 hours after installation.

2.02 MIX DESIGNS

A. Standard mixing ratio: ARDEX K-500 is mixed in 2-bag batches at one time. Mix each bag of ARDEX K-500 (55 lb.) with 5 ½ quarts of water. Product shall be mixed in an ARDEX T-10 Mixing Drum using an ARDEX T-1 Mixing Paddle and a ½□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-500 bag label.

B. Aggregate mix: For areas to be installed over 1 ½□thick, aggregate may be added to reduce material costs. Mix ARDEX K-500 with water first, then add from 1/3 up to 1 part by volume of aggregate (1/8□to ¼□or larger). Do not use sand.

C. For pump installations, ARDEX K-500 shall be mixed using the ARDEX Levelcraft Automatic Mixing Pump. Start the pump at 165 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 standard absorbent concrete surfaces must be sound, solid, cleaned, and primed.

1. All 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 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. All cracks in the subfloor shall be repaired to minimize telegraphing through the topping.

3. Substrates shall be inspected and corrected for moisture or any other conditions that could affect the performance of the topping or the finish coating.

B. JOINT PREPARATION

1. Moving Joints □ honor all expansion and isolation joints up through the topping.

2. Saw Cuts and Control Joints □ fill all non-moving joints with ARDEX SD-F Feather Finish or ARDEX SD-P InstantPatch 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 drying 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-51mixed with 3 parts water using a soft push broom. Do not leave any bare spots. Remove all puddles and excess primer. Allow drying thoroughly before proceeding with the standard application of primer as described above for standard absorbent concrete.

3.02 APPLICATION OF CEMENTITIOUS TOPPING

A. Pour or pump the liquid ARDEX K-500 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-500.

B. Topping can be walked on in 3 hours at 70°F.

3.03 SEALING OF CEMENTITIOUS TOPPING

A. Topping shall be protected from wear, oil, salt and water by applying a suitable concrete wear protection system. Thin-layer coating (20 mils or less) can proceed 24 hours after installation of ARDEX K-500 at 70°F and 50% relative humidity. Surface traffic can proceed once the coating has thoroughly dried per the coating manufacturer's recommendation. Please consult ARDEX prior to installing thicker coatings or epoxy systems.

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 sealer, 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