



ARDEX K 301™

Exterior Self-Leveling Concrete Topping

Portland cement-based

Smooth new or existing concrete, porous tile and certain non-porous surfaces

Install from 1/4" to 3/4" neat, and up to 2" with aggregate

Walk on in 2 to 3 hours

Freeze-thaw resistant

Suitable for use in wet areas

For commercial, light industrial and residential applications

Use for exterior and interior applications

Suitable for use under the ARDEX MC™ Moisture Control System

Can be used as an underlayment prior to installing floor covering

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ARDEX K 301™

Exterior Self-Leveling Concrete Topping

Description and Usage

ARDEX K 301 is a self-leveling Portland cement-based topping and underlayment for fast-track resurfacing and smoothing for exterior and interior applications over concrete, porous tile and certain non-porous surfaces when properly prepared – on, above or below grade. ARDEX K 301 can be sealed to create a concrete wear surface for commercial, light industrial and residential applications, including storage rooms, workshops, parking garages, parking decks, driveways, patios and plazas. It can also be used as an underlayment for finish flooring, as well as on permanently wet areas and under moisture remediation systems such as the ARDEX MC™ Moisture Control System.

Installs from 1/4" to 3/4" in one application, and up to 2" with the addition of appropriate aggregate. Pourable or pumpable when mixed with water. Seeks its own level and produces a smooth, flat, hard surface. Hardens quickly and dries fast without shrinking, cracking or spalling.

Substrate Preparation

All substrates must be solid, thoroughly clean and free of oil, wax, grease, asphalt, existing patching materials, curing and sealing compounds, and any contaminant that might act as a bond breaker. Over watered, frozen or otherwise weak concrete surfaces must also be cleaned down to sound, solid concrete by mechanical methods. All substrates must be mechanically roughened to a minimum ICRI surface profile of CSP 3. Mechanically prepare the substrate down to a sound, solid surface by shot blasting, scarifying or similar method. Acid etching, adhesive removers, solvents and sweeping compounds are not acceptable means of cleaning the substrate. Sanding equipment is not an effective method to prepare the substrate. Substrate and ambient temperatures must be a minimum of 50°F (10°C) during and for 48 hours after the installation of ARDEX K 301. For further information, please refer to the ARDEX Substrate Preparation Brochure or call the ARDEX Technical Service Department at 1-888-512-7339.

Cracks and Joints

Existing cracks in the concrete can telegraph up through the topping. Although repairing cracks in the substrate is always recommended prior to installing ARDEX K 301, Ardex cannot warrant that cracks will not reappear.

For the treatment of cracks, Ardex recommends the use of a two-part epoxy crack and joint filler such as MM 80, manufactured by Metzger/McGuire. Use the epoxy to fill non-moving (dormant) cracks in existing concrete surfaces.

Cracks greater than a hairline in width (1/32") must be filled with MM 80 or similar in strict accordance with the installation instructions provided by the epoxy manufacturer. The filling of dormant cracks as described above is recommended to help prevent the cracks from showing through the topping; however, should movement occur, cracks will reappear.

All moving joints, such as expansion, isolation and construction joints, must be carried up through the topping. Honor all moving joints!

Recommended Tools

ARDEX T-1 Mixing Paddle, ARDEX T-10 Mixing Drum, ARDEX T-4 Spreader, ARDEX T-5 Smoother, ARDEX MB-5.0 Measuring Bucket (5 qts. (4.75 liters) for 50 lb. (22.7 kg) bag), and a 1/2" heavy-duty drill (min. 650 rpm).

Priming

The mechanically roughened substrate must be primed with ARDEX EP 2000 with SAND BROADCAST. This primer layer must be uniformly applied and sand broadcast to refusal to minimize pinhole formation (approximately 2/3 pound per square foot).

Mixing and Application

ARDEX K 301 is mixed 2 bags at a time. Each 50 lb bag is mixed with 5 quarts (4.75 liters) of water. Put the water in the mixing drum first, then add each bag of ARDEX K 301 while mixing with an ARDEX T-1 Paddle and a 1/2" heavy-duty drill (min. 650 rpm). Mix thoroughly for approximately 2 minutes to obtain a lump-free mix. Do not over water! Yellowish foam while mixing, or settling of the sand aggregate while placing, indicates over watering. For smoothing inclined surfaces, contact the ARDEX Technical Service Department.

ARDEX K 301 has a flow time of 10 minutes at 70°F (21°C). Pour the liquid mix onto the substrate and spread with the ARDEX T-4 Spreader. Immediately smooth the material with the ARDEX T-5 Smoother. Wear baseball or soccer shoes with non-metallic cleats to avoid leaving marks in the liquid ARDEX K 301. Elevated slab temperatures, direct sun at high temperatures, or wind or drafts moving across the surface will reduce working time. In warm weather, use cold water to extend the working time, and apply early in the day.

Thickness of Installation

ARDEX K 301 must be installed at a minimum thickness of 1/4". ARDEX K 301 can be installed up to 3/4" deep over large areas in one pour, and up to 2" with the addition of proper aggregate.

For thicknesses greater than 3/4", mix ARDEX K 301 with washed and well-graded 1/8"-1/4" pea gravel. Mix ARDEX K 301 with water first, then add up to 1 part by volume of aggregate, mixing until the aggregate is completely coated. If aggregate is wet, reduce the amount of water to avoid over watering. Do not use sand.

The addition of aggregate will diminish the workability of the product and may make it necessary to install a finish coat to obtain a smooth surface. Allow the initial application to dry for 24 hours. Install an application of ARDEX EP 2000 with sand broadcast as above and allow it to cure for 16 hours prior to removing all excess sand and installing the neat coat of ARDEX K 301.

Color

ARDEX K 301 is formulated from Portland cement and is a light gray color when dry. As concrete color and jobsite conditions vary widely, it is not intended that this product will match the color of the concrete being resurfaced or an adjacent concrete pad. Jobsite conditions such as direct sunlight and wind, as well as the surface of the topping being exposed to moisture before it completely sets, can lead to color variations in the appearance of the topping. Should this be undesirable, a pigmented sealer such as ARDEX CG Concrete Guard™ (gray) may be used. Consult the ARDEX Technical Service Department for additional information.

Curing

Although ARDEX K 301 requires no special curing procedures, avoid applying this product if rain is expected within 6-8 hours, or if freezing temperatures could occur within 48 hours of application. As with any cementitious material, the above conditions can alter the appearance and performance of the topping.

Finished Wear Surface

ARDEX K 301 will produce a flat, smooth, cementitious surface. It is always recommended that exterior wear surfaces be sealed with an appropriate sealer and subsequently maintained to provide the longest service life possible. If a reduced-slip surface is required, it can be obtained by using ARDEX CD CONCRETE DRESSING and then broom finishing, or by incorporating grit into the selected sealer. If a waterborne sealer such as ARDEX CG Concrete Guard™ is to be applied at a thickness not-to-exceed a total of 20 mils, the coating can be applied after the ARDEX K 301 has cured for 24 hours. When using a solvent-borne or 100% solids epoxy coating applied at a total thickness of 20 mils or less, the ARDEX K 301 must first cure for a minimum of 2 to 3 days. When the total application thickness of the protection layer will exceed 20 mils, the ARDEX K 301 must cure 7 days prior to sealing. If ARDEX CD is to be used, allow the ARDEX K 301 to dry for

a minimum of 24 hours. While priming is not required before installing ARDEX CD, the surface of ARDEX K 301 may be primed with ARDEX CG diluted 1:1 with water to extend working time and minimize the formation of pinholes.

When using ARDEX K 301 as a smoothing compound prior to installing the ARDEX MC™ MOISTURE CONTROL SYSTEM, or when using it as an underlayment in an exterior application to receive indoor/outdoor carpeting, allow the ARDEX K 301 to dry for a minimum of 24 hours at 70°F (21°C) prior to proceeding with the next phase of installation. Do not seal the ARDEX K 301 before installing ARDEX MC.

ARDEX K 301 wear surfaces are intended for foot and moderate, rubber-wheeled traffic and similar uses. Excessive service conditions, such as steel- or hard plastic-wheeled traffic, or the dragging of heavy metal equipment or loaded pallets with protruding nails over the floor, will cause gouging and indentations.

ARDEX K 301 is recommended for light industrial, commercial and residential use only. While light foot traffic can proceed after 2 to 3 hours, avoid rubber-wheeled traffic for the first 48 hours after installation. ARDEX K 301 is not intended for industrial uses such as heavy manufacturing or areas with heavy truck traffic, or in chemical environments requiring customized industrial toppings. ARDEX K 301 must be worked at temperatures over 50°F (10°C).

Notes

The flow time of ARDEX K 301 is approximately 10 minutes at 70°F (21°C). The flow time will vary with surface and ambient temperatures. At higher temperatures and/or under windy conditions, ARDEX K 301 will set much faster than normal.

Always install an adequate number of properly located test areas, including the sealer or finish flooring, to determine the suitability of the products for the intended use. As floor coverings and sealants vary, always contact and rely upon the floor covering or sealer manufacturer for specific directives such as maximum allowable moisture content, adhesive selection and intended end use of the product.

Low substrate temperatures and/or high ambient humidity require longer drying times for ARDEX primers. Do not install ARDEX K 301 before the primer has dried thoroughly.

Precautions

Never mix with cement or additives other than Ardex approved products. Observe the basic rules of concrete work. Do not install below 50°F (10°C) surface and ambient temperatures. Install quickly if substrate is warm and follow hot weather instructions available from the ARDEX Technical Service Department.

Technical Data According to Ardex Quality Standards

All data based on a mixing ratio of 5 parts powder to 1 part water by volume at 70°F (21°C)

Mixing Ratio:	5 quarts (4.75 liters) of water per one 50 lb bag.
Coverage:	24 sq. ft. per bag at 1/4"
Flow Time:	10 minutes
Compressive Strength (ASTM C109/mod – Air cure only):	4300 psi at 28 days
Flexural Strength (ASTM C348):	1000 psi at 28 days
Flammability (ASTM E84):	Flame Spread -0- Fuel Contribution -0- Smoke -0-
Walkable:	2 to 3 hours
Install Sealer:	Waterborne - 24 hours Solvent-borne and high solids (less than 20 mils): 2 to 3 days High build polymer coatings (greater than 20 mils): 7 days
Packaging:	50 lb/22.7 kg net weight in paper bags
Storage:	Store in a cool dry area. Do not expose bags to sun.
Shelf Life:	One year if unopened
Warranty:	Ardex Engineered Cements Standard Limited Warranty applies.

Limited Warranty

Ardex, L.P. warrants that if this product proves to have manufacturing defects and ARDEX is notified of such within six months from the date ARDEX shipped the product, ARDEX will replace the defective product f.o.b. factory. Such product replacement shall constitute the sole and exclusive remedy for any claim under this warranty. ARDEX does not authorize anyone, including ARDEX Representatives, to make any statements which supersede, modify or supplement the information provided on its printed literature or package labels without written confirmation from the Ardex Technical Service Department. Any installations proceeding without this confirmation, or misinstallations of the product, will void this warranty. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED, IMPLIED, OR STATUTORY, AND IS STRICTLY LIMITED TO ITS TERMS. ARDEX MAKES NO WARRANTY OF MERCHANTABILITY OR SUITABILITY OF ITS PRODUCTS FOR ANY PARTICULAR PURPOSE. All product demonstrations are placed for illustrative purposes only and do not constitute a warranty of any kind. ARDEX SELLS ITS PRODUCTS UPON THE CONDITION THAT CUSTOMERS SHALL CONDUCT THEIR OWN TESTS TO DETERMINE THE SUITABILITY OF THE PRODUCTS FOR THE CUSTOMERS' INTENDED PURPOSES. UNDER NO CIRCUMSTANCES WILL ARDEX BE LIABLE FOR ECONOMIC, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OR LOSSES OF ANY KIND WHATSOEVER ARISING OUT OF OR OCCASIONED BY THE SELECTION, USE, INSTALLATION, OR REPLACEMENT OF THESE PRODUCTS.

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AT210 (08/08)

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