



ARDEX K 15

Self-Leveling Underlayment Concrete

Portland cement-based

Install up to 5" thick

Designed specifically for fast leveling of floors

**Use to level and smooth interior concrete,
terrazzo, quarry and ceramic tile,
cutback adhesive residue, wood, and metal**

Walk on in 2-3 hours

Install floor covering after 16 hours

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Self-Leveling Underlayment Concrete

Usage

ARDEX K 15® is a self-leveling Portland cement-based underlayment. Use to level and smooth interior concrete, terrazzo, quarry and ceramic tile substrates – on, above or below grade. Can also be used over cutback adhesive residue, metal decking, and wooden substrates. ARDEX K 15® will level and smooth concrete and other substrates prior to the installation of resilient flooring, ceramic tile, carpeting, wood parquet, athletic floors, etc. ARDEX K 15® can be used for a wide variety of indoor applications above, on, or below grade, including: (new construction) unlevel concrete, rough concrete, rained-on concrete, frozen concrete, unfinished concrete, rough-screeded concrete, and camber problems; (rehabilitation projects) terrazzo, quarry and ceramic tile, old concrete, smoothing of floors over cutback and non water-soluble adhesive residues on concrete, wooden floors, and steel decking.

Description

Designed specifically for fast leveling of floors, ARDEX K 15® provides a durable, flat and smooth floor surface with minimum labor and installation time. ARDEX K 15® is recommended or specified by many quality flooring manufacturers, architects, and contractors. 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.

Subfloor Preparation

All concrete substrates must be solid, thoroughly clean and free of oil, wax, grease, asphalt, latex compounds, 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, the use of adhesive removers or solvents, and sweeping compounds are not acceptable means of cleaning the substrate. The use of sanding equipment is not an effective method to remove curing and sealing compounds. Substrates must be dry and properly primed for a successful installation. Substrate temperatures must be a minimum of 50°F for the installation of ARDEX products. For further information, please refer to the ARDEX Substrate Preparation Brochure.

Recommended Tools

ARDEX T-1 Mixing Paddle, ARDEX T-10 Mixing Drum, ARDEX T-4 Spreader, ARDEX T-5 Smoother, ARDEX MB-7.0 Measuring Bucket (7.0 qts. for 55 lb. bag), and a ½" heavy-duty drill (min. 650 rpm).

Priming

Standard absorbent concrete must be primed with ARDEX P 51 PRIMER diluted 1:1 with water. Apply evenly with a soft pushbroom. Do not use paint rollers, mops or spray equipment. Do not leave any bare spots. Brush off puddles and excess primer. Allow primer to dry to a clear, thin film (min. 3 hours, max. 24 hours).

Extremely absorbent concrete may require two applications of ARDEX P 51 to avoid the formation of bubbles and pinholes in the ARDEX K 15®. In such cases, make an initial application of ARDEX P 51 diluted with 3 parts by volume of water. Let dry thoroughly (1 to 3 hours) and install a second application of ARDEX P 51 mixed 1:1 with water as stated above.

Non-porous substrates, burnished concrete, terrazzo, quarry and ceramic tile, and epoxy coatings must be primed with ARDEX P 82 ULTRA PRIME. Follow mixing instructions on container and apply with a short-nap or sponge paint roller, leaving a thin coat of primer. Do not leave any bare spots. Brush off puddles and excess primer. Allow primer to dry to a thin, slightly tacky film (min. 3 hours, max. 24 hours).

Mixing And Application – Manually

ARDEX K 15® is mixed in 2-bag batches at one time. Mix each 55 lb. bag with 7.0 quarts (6.5 liters) of water. Put the water in the mixing drum first, then add each bag of ARDEX K 15® while mixing with an ARDEX T-1 Paddle and a ½" heavy-duty drill (min. 650 rpm). Mix thoroughly for approximately 2 to 3 minutes to obtain a lump-free mix. Do not overwater! Yellowish foam while mixing, or settling of the sand aggregate while placing, indicates overwatering.

ARDEX K 15® has a flow time of 10 minutes at 70°F. Pour the liquid mix on the floor 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 15®.

When installing ARDEX K 15® in high-stress areas or over wood, cutback or metal, the addition of ARDEX E 25 RESILIENT EMULSION is required to increase the resiliency of the ARDEX K 15®. Please refer to the ARDEX K 15® AND ARDEX E 25 UNDERLAYMENT SYSTEM section for specific installation instructions.

Mixing And Application – Pumping

ARDEX K 15® can be pumped using the ARDEX Levelcraft Automatic Mixing Pump. The Levelcraft Pump provides for high productivity and a smooth, consistent installation. The pump may be rented from an authorized ARDEX Distributor and is supported by the Ardex Technical Service Department.

Start the pump at a water setting of 210 gallons per hour, and then adjust to the minimum water reading that 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. Conditions during the installation such as variations in water, powder, substrate and ambient temperature, require that the water setting be adjusted during installation to avoid overwatering.

ARDEX K 15® has a flow time of 10 minutes at 70°F. Pump the liquid mix on the floor 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 15®. Contact the Ardex Technical Service Department for complete pump installation instructions.

When installing ARDEX K 15® in high-stress areas or over wood, cutback or metal, the addition of ARDEX E 25 RESILIENT EMULSION is required to increase the resiliency of the ARDEX K 15®. Please refer to the ARDEX K 15® AND ARDEX E 25 UNDERLAYMENT SYSTEM section for specific installation instructions.

Thickness Of Application

ARDEX K 15® must be installed at a minimum thickness of 1/8" over the highest point in the floor, which typically results in an average thickness of 1/4" over the entire floor. ARDEX K 15® can be installed up to 1 1/2" over large areas in one pour, and up to 5" with the addition of proper aggregate. ARDEX K 15® can also be installed to a featheredge to match existing elevations.

For areas with a thickness greater than 1 1/2", mix ARDEX K 15® with washed and well-graded 1/8"-1/4" pea gravel. Mix ARDEX K 15® with water first, then add up to 1 part by volume of aggregate, mixing until the aggregate is completely coated. Do not use sand. If aggregate is wet, reduce the amount of water to avoid overwatering.

The addition of aggregate will diminish the workability of the product and make it necessary to install a finish coat to obtain a smooth surface. Allow the initial application to dry for 12-16 hours. Prime this layer with ARDEX P 51 mixed 1:1 with water. Allow the primer to dry (min. 3 hours, max. 24 hours) before installing the finish coat.

ARDEX K 15® is not to be used as a permanent wear surface, even if coated or sealed. ARDEX K 15® must be covered by a suitable floor covering material such as carpet, vinyl flooring, ceramic tile, etc. For resurfacing and leveling indoor concrete floors in warehouses, storage areas, hallways, or other areas where a wear surface is required, use ARDEX SD-T® SELF-DRYING, SELF-LEVELING CONCRETE TOPPING.

The ARDEX K 15® and ARDEX E 25 Underlayment System: Over Cutback And Other Adhesive Residues

Asphalt-based cutback adhesive remaining on a concrete floor after removing old vinyl tile and other flooring represents one of the most difficult and risky subfloors for the installation of new flooring. Bleed-through of the cutback adhesive residue can adversely affect the new adhesive and floor covering being installed.

Problems

Complete mechanical removal of cutback (i.e. grinding, sanding, blasting) can be hazardous as old cutback adhesive may contain asbestos. Do not sand or grind adhesive residue. Harmful dust may result. Inhalation of asbestos dust may cause asbestosis or other serious bodily harm. Please consult the adhesive manufacturer and all applicable government agencies for rules and regulations concerning the removal of flooring and adhesives that contain asbestos.

Floor covering manufacturers, the Resilient Floor Covering Institute, and ASTM F710 specifically recommend against the use of solvents and adhesive removers to treat adhesive coated subfloors. Residues from their use have been cited as contributing to numerous floor covering failures.

The use of trowelable cementitious patching compounds to mask the presence of adhesive residues can be used successfully, but only when the new adhesive to be used does not react with the old residue, and the floor covering to be installed will not be affected by adhesive bleed-through.

The Solution

For over 20 years, the ARDEX K 15® AND ARDEX E 25 UNDERLAYMENT SYSTEM has allowed the installation of a high-quality concrete underlayment without complete removal of the cutback adhesive down to bare concrete. This system has been successful on every jobsite when properly installed.

Preparation and Installation

Thick accumulations, powdery, brittle or otherwise weak adhesive layers must be removed, but only with extreme caution. Use the wet-scraping method as outlined in the Resilient Floor Covering Institute's "Recommended Work Procedures for Resilient Floor Coverings" to remove thick areas and build-ups of adhesive, and any areas that are weak and not well bonded to the substrate. (A reproduction of the procedures is available from the Ardex Technical Service Department.) The remaining residue should appear like a stain on the concrete and should be transparent. Check the substrate for hollow spots, latex patches or other weak areas and remove them. Wet-mop the floor to remove all debris and loose material.

It is the responsibility of the installation contractor to ensure that the subfloor is properly prepared prior to the installation of the ARDEX material.

Broom and vacuum clean the resulting cutback surface. Prime the subfloor with ARDEX P 82 ULTRA PRIME. Mix Part A with Part B and apply in as thin a layer as possible with a squeegee or 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. Brush off puddles and excess primer. Allow drying for a minimum of 18 hours to a thin, slightly tacky film. ARDEX P 82 should be applied in a thin layer within 1 hour of mixing. A thick coat will produce a soft, rubbery surface that can result in cracking of the ARDEX K 15®. Low surface temperatures and/or high ambient humidity require a longer drying time for ARDEX primers. Do not install the ARDEX K 15® before the primer has dried thoroughly.

ARDEX K 15® is mixed in 2-bag batches at one time. For each bag, mix 2 quarts (1.9 liters) of ARDEX E 25 RESILIENT EMULSION with 6 quarts (5.7 liters) of water. Put the liquid in the ARDEX T-10 Mixing Drum, and then add each bag of ARDEX K 15® powder while mixing at full speed with an ARDEX T-1 Mixing Paddle and a ½" heavy-duty drill (min. 650 rpm). Mix thoroughly for 2 to 3 minutes to obtain a lump-free mixture. Install at no less than ⅛" thickness over the highest point in the floor, following installation instructions.

When installing material with the ARDEX Levelcraft Automatic Mixing Pump, contact the ARDEX Technical Service Department for instructions.

The floor can be walked on in 2-3 hours and floor covering can be installed in 16 hours. Low substrate temperatures and/or high ambient humidity will extend the drying time.

Precautions

The ARDEX K 15® AND ARDEX E 25 UNDERLAYMENT SYSTEM is intended for application over adhesive residues on concrete subfloors only. Avoid installation over very warm floors (i.e., over hot machine shops or concrete floors containing heating systems, etc.), as heat might soften the remaining residue resulting in failure.

Always install an adequate number of properly located test areas, which include the finish flooring, to ensure the suitability of the system for its intended use. As floor coverings vary, contact and rely upon the floor covering manufacturer for specific directives, to include requirements such as maximum allowable moisture content, adhesive selection, and intended end use of the product.

Other Adhesive Residues

The ARDEX K 15® AND ARDEX E 25 UNDERLAYMENT SYSTEM is also suitable for installation over any non-water-soluble adhesive residue when prepared in accordance with the above recommendations. Water-soluble adhesive residues must be completely removed. Test installations are always required.

The Mesh-Reinforced ARDEX K 15® and ARDEX E 25 Underlayment System: Over Wood Subfloors

One of the most common problems in renovation and remodeling of existing buildings is the flattening and smoothing of wood subfloors such as plywood and strip flooring prior to the installation of a new floor covering.

Problems

Wood floors move under stress and expand with temperature and humidity changes. Joints between boards can be very pronounced. The surfaces are often rough and uneven with deviations up to several inches in ten feet.

Covering these wood subfloors with a layer of plywood underlayment or other underlayment board is labor-intensive and can result in floor elevation problems at doorways and in hallways. In addition, if the floor is already uneven, the use of such overlays will not produce a surface that will meet the flooring manufacturer's flatness tolerance.

Traditional latex-modified cement and gypsum patches will crack along joints, break bond with the lateral wood movement, and often disintegrate under traffic stress.

Solution

THE MESH-REINFORCED ARDEX K 15® AND ARDEX E 25 UNDERLAYMENT SYSTEM is a successful fast-track method which allows the installation of a high-quality concrete underlayment in a thin layer ($\frac{3}{8}$ " minimum), with the strength and flexibility to withstand normal wood movement and traffic stress. The resulting concrete surface is smooth, hard, and suitable for any type of flooring material, including resilient flooring, wood parquet and ceramic tile.

Preparation And Installation

The wood subfloor must either be solid hardwood flooring, a minimum of $\frac{3}{4}$ " tongue-and-groove, APA-rated, Type 1, exterior exposure plywood, or OSB equivalent. The subfloor should be solid and fixed securely to provide a rigid base. Any boards exhibiting movement should be re-nailed. The surface of the wood must be clean and free of oil, grease, wax, dirt, varnish, shellac, or any contaminant that might act as a bond breaker. If necessary, sand down to bare wood. A commercial drum sander can be used to sand large areas. Do not use solvents, strippers, or cleaners. Vacuum all dust and debris. Open joints should be filled with ARDEX FEATHER FINISH® SELF-DRYING, CEMENT-BASED FINISHING UNDERLAYMENT.

It is the responsibility of the installation contractor to ensure that the subfloor is thoroughly clean and secure prior to the installation of ARDEX material. Prime the wood subfloor with ARDEX P 82 ULTRA PRIME. Mix Part A with Part B and apply in as thin a layer as possible with a squeegee or 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. Brush off puddles and excess primer. Allow drying to a thin, slightly tacky film (min. 3 hours, max. 24 hours). ARDEX P 82 should be applied in a thin layer within 1 hour of mixing. A thick coat will produce a soft and rubbery surface that can result in cracking of the ARDEX K 15®.

Notes

This product is intended for interior use over dry substrates only. Do not use in areas of constant water exposure or in areas exposed to permanent or intermittent substrate moisture as this may jeopardize the performance of the underlayment and the floor covering. This product is not a vapor barrier and will allow free passage of moisture.

Follow the directives of the floor covering manufacturer regarding the maximum allowable substrate moisture content and test the substrate prior to installing ARDEX K 15®.

Where substrate moisture exceeds the maximum allowed, Ardex recommends the use of ARDEX MC MOISTURE CONTROL SYSTEM. For further information, please refer to the Ardex Technical Brochures.

Always install an adequate number of properly located test areas, to include the finish flooring, to determine the suitability of the product for its intended use. As floor coverings vary, always contact and rely upon the floor covering 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 15® before primer has dried thoroughly.

Precautions

ARDEX K 15® contains Portland cement and sand aggregate. Avoid eye and skin contact. Mix in a well ventilated area and avoid breathing powder or dust. KEEP OUT OF REACH OF CHILDREN. Carefully read and follow all cautions and warnings on product label.

Physiologically and ecologically friendly when set. Never mix with cement or additives other than Ardex approved products. Observe the basic rules of concrete work. Do not install below 50°F surface temperature. 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 3.5 parts powder to 1 part by volume of water at 70°F)

Mixing Ratio:	7 quarts of water per one 55 lb. bag
Coverage:	60 sq. ft. per bag at 1/8"; 30 sq. ft. per bag at 1/4"
Flow Time:	10 minutes at 70°F
Initial Set (ASTM C191):	Approx. 30 minutes at 70°F
Final Set (ASTM C191):	Approx. 90 minutes at 70°F
Compressive Strength (ASTM C109/mod – Air cure only):	4100 psi at 28 days
Flexural Strength (ASTM C348):	1000 psi at 28 days
Flammability (ASTM E84):	Flame Spread -0- Fuel Contribution -0- Smoke Development -0-
Walkable:	2-3 hours at 70°F
Install Floor Covering:	16 hours at 70°F
Packaging:	55 lb./25 kg net weight in paper bags
Storage:	Store in a cool dry area. Do not expose bags to sun.
Shelf Life:	One year
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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