ARDEX K 15®
Premium Self-Leveling Underlayment

Portland cement-based

Use to level and smooth interior concrete, terrazzo, ceramic and quarry tile, wood, metal and non-water soluble adhesive residue on concrete

Installs up to 1 1/2" neat, 5" with aggregate

Can be featheredged to meet existing elevations

Designed specifically for fast-track installations

Walkable in 2 to 3 hours

Install moisture-insensitive tile and stone after 6 hours, all other floor coverings after 16 hours

ARDEX K 15®
Premium Self-Leveling Underlayment

Description and Usage

ARDEX K 15® is a Portland cement-based, self-leveling underlayment formulated with a special blend of polymers used to level and smooth interior concrete, terrazzo, ceramic and quarry tile, metal, wooden substrates and non-water soluble adhesive residue on concrete prior to the installation of finished flooring – on, above or below grade. It can also be installed over concrete treated with certain curing compounds (see below). Designed specifically for the fast leveling of floors, ARDEX K 15® provides a durable, flat, smooth floor surface with minimum labor and installation time. It is pourable or pumpable when mixed with water, and seeks its own level to produce a smooth, flat, hard surface. ARDEX K 15® is also recommended and specified by many quality flooring manufacturers, architects and contractors.

Substrate Preparation

Concrete: All concrete substrates must be solid, thoroughly clean and free of oil, wax, grease, asphalt, latex and gypsum compounds, curing compounds*, sealers 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. Over-watered, frozen or otherwise weak concrete surfaces must also be cleaned down to sound, solid concrete by mechanical methods. Acid etching, adhesive removers, solvents and sweeping compounds are not acceptable means for cleaning the substrate. Sanding equipment is not an effective method to remove curing and sealing compounds. Substrate and ambient temperatures must be a minimum of 50°F (10°C) for the installation of ARDEX products.

*Notes on curing compounds: Test areas of ARDEX K 15® can be installed and evaluated over concrete slabs that have been treated with either silicate or acrylic resin curing compounds. These compounds must be installed in strict accordance with the compound manufacturer's written recommendations. If a silicate type has been used, all residual salts must be removed. For instructions on priming concrete with acceptable curing compounds, please refer to the Priming section of this brochure.

Please be advised, however, that there are a number of curing compounds sold today that are wax- or petroleum-based emulsions. These are permanent bond breakers that must be completely removed prior to patching or leveling. Dissipating compounds must also be completely removed by mechanical means prior to installing any ARDEX material.

It is imperative to be able to determine the type of curing compound that was used before proceeding. Any curing compound that cannot be identified should be completely, mechanically removed.

Adhesive Residues on Concrete: ARDEX K 15® can also be installed over non-water-soluble adhesives on concrete only. The adhesive residue must first be tested to make certain it is non-water-soluble. Any water-soluble adhesive residues must be mechanically removed down to clean concrete. Non-water-soluble adhesive residues should be prepared to a thin, well-bonded residue using the wet-scraping technique as recommended by the Resilient Floor Covering Institute (www.rfci.com) to remove thick areas and adhesive build-up, as well as any areas that are weak or not well bonded to the concrete. Any existing patches below the adhesive must be completely removed.

Other Non-Porous Substrates: ARDEX K 15® can also be applied over other non-porous substrates, including terrazzo, burnished concrete, epoxy coating systems, and ceramic and quarry tile. The substrate must be clean, including the complete removal of existing waxes and sealers, dust, dirt, debris and any other contaminant that may act as a bond breaker. Substrate preparation must be by mechanical means, such as shot blasting. Do not use acid etching, sweeping compounds, solvents or adhesive removers.

For instructions on installing over wood and metal, please refer to the sections detailed later in this brochure for substrate preparation, mixing and installation instructions.

For more detailed information on substrate preparation, 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 quarts per 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 bristled push broom. 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. Make an initial application of ARDEX P 51 diluted with 3 parts water by volume. 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, ceramic and quarry tile, epoxy coatings, non-water soluble adhesive residue on concrete and concrete treated with silicate compounds 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. ARDEX P 82 should be applied within 1 hour of mixing. Allow primer to dry to a thin, slightly tacky film (min. 3 hours, max. 24 hours).

ARDEX primers may require longer drying time with low surface temperatures and/or high ambient humidity. Do not install ARDEX K 15 before the primer has dried thoroughly.

Note: If an approved acrylic curing compound is used, test the surface for porosity. If the concrete is porous, prime with ARDEX P 51. If it is non-porous, prime with ARDEX P 82.

Mixing And Application – Manually

ARDEX K 15® is mixed two bags at a time. Mix each 55 lb bag with 7 quarts (6.5 liters) of water. Pour 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 (21°C). Pour the 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.

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 installation, such as variations in water, powder, substrate and ambient temperature, may 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 (21°F). Pump the 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.

Thickness Of Application

ARDEX K 15® must be installed at a minimum thickness of ⅛" over the highest point in the floor, which typically results in an average thickness of ¼" over the entire floor. ARDEX K 15® can be installed up to 1½" over large areas neat, and up to 5" with the addition of proper aggregate. ARDEX K 15® can also be featheredge to match existing elevations.

For areas with a thickness greater than 1½", mix ARDEX K 15® with washed and well-graded ⅛" to ¼" pea gravel. Mix the ARDEX K 15® with water first, then add 1 part aggregate by volume, mixing until the aggregate is completely coated. Do not use sand. If the aggregate is wet, reduce the amount of water to avoid overwatering.

The addition of aggregate will diminish the workability of the product and may make it necessary to install a neat coat to obtain a smooth surface. Allow the initial application to dry for 12 to 16 hours, then 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 neat coat of ARDEX K 15®.

Wear Surface

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®, ARDEX K 500™ or ARDEX K 301™.

Installation of Flooring

ARDEX K 15® can be walked on 2 to 3 hours after installation. Moisture-insensitive tiles such as ceramic, quarry and porcelain can be installed after just 6 hours. All other floor coverings can be installed after 16 hours at 70°F (21°C). Low substrate temperatures and/or high ambient humidity will extend the drying time.

Wooden Subfloors: The Mesh Reinforced ARDEX K 15® and ARDEX E 25™ Underlayment System

Substrate Preparation

The wooden subfloor must either be solid hardwood flooring, a minimum of ¾" tongue-and-groove, APA-rated, Type 1, exterior exposure plywood, or an OSB equivalent. The subfloor should be solid and structurally sound. Any boards exhibiting movement must be re-nailed. The surface of the wood must be clean and free of oil, grease, wax, dirt, varnish, coatings and any other contaminant that might act as a bond breaker. If necessary, sand down to bare wood. A commercial drum sander may be used. Do not use solvents, strippers or cleaners. Vacuum all dust and debris. Open joints should be filled with ARDEX FEATHER FINISH®.

It is the responsibility of the installation contractor to ensure that the subfloor is thoroughly clean and sound prior to the installation of any ARDEX material.

Priming

Prime the wooden subfloor with ARDEX P 82. Follow the mixing instructions on the container 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. Do not leave any bare spots. Brush off puddles and excess primer. A thick coat will result in cracking of the ARDEX K 15®. Apply ARDEX P 82 within 1 hour of mixing. Allow primer to dry to a thin, slightly tacky film (min. 3 hours, max. 24 hours). ARDEX primers may require longer drying time with low surface temperatures and/or high ambient humidity. Do not install ARDEX K 15® before the primer has dried thoroughly.

Once the primer is applied, install 3.4 galvanized, expanded diamond metal lath mesh ("plaster lath"), stapling approximately every 6 inches. This procedure can be done while the primer is drying by placing the lath mesh onto a primed area and standing on the mesh while stapling. Do not walk on wet primer. Overlap adjacent pieces of lath mesh approximately 1". After the lath mesh is placed, allow the primer to dry thoroughly as stated above.

Mixing and Application with ARDEX E 25™
ARDEX K 15® is mixed 2 bags at a time. For each bag, pour 2 quarts (1.9 liters) of ARDEX E 25 and 6 quarts (5.7 liters) of water into the ARDEX T-10 Mixing Drum, and then add each bag of ARDEX K 15® powder 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. Install at no less than 3/8" thickness over the highest point in the floor, following the installation instructions previously described.

Metal Substrates or Decking: The ARDEX K 15® and ARDEX E 25™ Underlayment System

Substrate Preparation and Installation
Metal surfaces must be clean and free of rust, corrosion, oil, grease or any other contaminant that could act as a bond breaker. If necessary, mechanically clean the surface by shot blasting, sand blasting, wire-brush or other mechanical means. Vacuum all dirt and debris.

It is the responsibility of the installation contractor to ensure that the metal subfloor is rigid, well supported, properly anchored, free of undue flex and vibration, and properly prepared prior to the installation of the ARDEX materials. It has been our experience that metal sheeting used in MRI, CT Scan and X-ray rooms are typically bonded to the concrete substrate using a high strength adhesive such as an epoxy adhesive.

Paint steel surfaces with an anti-corrosive epoxy coating to prevent rust from recurring. The coating must be installed in strict accordance with the coating manufacturer's written recommendations and fully cured. Lead, copper and aluminum do not need to be primed with anti-corrosive paint. Prime the prepared subfloor with ARDEX P 82. 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. ARDEX P 82 should be applied within 1 hour of mixing. Allow primer to dry to a thin, slightly tacky film (min. 3 hours, max. 24 hours). ARDEX primers may require longer drying time with low surface temperatures and/or high ambient humidity. Do not install ARDEX K 15® before the primer has dried thoroughly.

ARDEX K 15® is mixed 2 bags at a time. For each bag, pour 2 quarts (1.9 liters) of ARDEX E 25 and 6 quarts (5.7 liters) of water into 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 previously described.

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

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 Moisture Control Systems. For further information, please refer to the ARDEX Technical Brochures.

Always install an adequate number of properly located test areas, including the finish flooring, to determine the suitability of the products for the 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.

ARDEX primers may require longer drying time with low surface temperatures and/or high ambient humidity. Do not install ARDEX K 15® before the primer has dried thoroughly.

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 air temperatures. Install quickly if the substrate is warm, and follow warm weather instructions available from the ARDEX Technical Service Department.

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.

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Technical Data According To ARDEX Quality Standards

All data based on a mixing ratio of 3.5 parts powder to 1 part water by volume at 70°F (21°C)

Mixing Ratio:	7 quarts (6.5 L) of water per 55 lb bag
Coverage:	30 sq. ft. per bag at ¼" (6 mm) 15 sq. ft. per bag at ½" (12 mm)
Flow Time:	10 minutes
Initial Set (ASTM C191):	Approx. 30 minutes
Final Set (ASTM C191):	Approx. 90 minutes
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 to 3 hours
Install Flooring:	Moisture-insensitive tile and stone: 6 hours Other floor coverings: 16 hours
VOC:	0 g/L, calculated SCAQMD 1168
Packaging:	55 lb./25 kg net weight in paper bags
Storage:	Store in a cool dry area. Do not leave bags exposed to sun.
Shelf Life:	One year if unopened
Warranty:	ARDEX Engineered Cements Standard Limited Warranty applies.