



ARDEX K 16™

High-Flow, Self-Leveling Underlayment

High-flow material

Use to smooth interior concrete, terrazzo, ceramic and quarry tile, epoxy coating systems and non-water soluble adhesive residue on concrete

A blend of Portland cement and other hydraulic cements

Installs up to 1/2" (12.7 mm) neat

Can be tapered to meet existing elevations

Walkable in 2-3 hours

Install moisture-insensitive tile and stone after 6 hours, most other floor coverings after 16 hours (see Installation of Flooring section for details)

Interior use only

SystemOne™



ARDEX Engineered Cements
400 Ardex Park Drive
Aliquippa, PA 15001 USA
Tel: 724-203-5000
Toll Free: 888-512-7339
Fax: 724-203-5001
www.ardexamericas.com

ARDEX K 16™

High-Flow, Self-Leveling Underlayment

Description and Usage

ARDEX K 16™ is a high-flow, self-leveling underlayment that is used to smooth interior concrete, terrazzo, ceramic and quarry tile, epoxy coating systems and non-water soluble adhesive residue on concrete prior to the installation of finished flooring – on, above or below grade. It also can be installed over concrete treated with certain curing compounds (see below). Pourable or pumpable when mixed with water, ARDEX K 16 seeks its own level and provides a durable, flat, smooth floor surface with minimum labor.

Substrate Preparation

For each of the substrates listed below, acid etching, adhesive removers, solvents and sweeping compounds are not acceptable means for cleaning the substrate. Substrate and ambient temperatures must be a minimum of 50°F (10°C) for the installation of ARDEX products. Substrates must be dry during installation and cure. For more detailed information on substrate preparation, please refer to the ARDEX Substrate Preparation Brochure at www.ardexamericas.com.

Concrete

All concrete substrates must be solid, structurally sound, 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 or similar. Overwatered, frozen or otherwise weak concrete surfaces also must be cleaned down to sound, solid concrete by mechanical methods. Sanding equipment is not an effective method to remove contaminants from concrete.

* Note on Curing Compounds

Test areas of ARDEX K 16 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 technical data sheet. 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 removed completely prior to patching or leveling. Dissipating compounds must also be removed completely 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 16 also can be installed over non-water-soluble adhesive residue on concrete only. The adhesive must first

be tested to make certain it is not water-soluble. Water-soluble adhesives must be removed mechanically down to clean concrete.

Non-water-soluble adhesives 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. If the adhesive is not well-bonded to the concrete or is brittle, powdery or otherwise weak, it must be completely, mechanically removed down to clean, sound, solid concrete. Any existing patching materials below the adhesive must be removed completely.

Other Non-Porous Substrates

ARDEX K 16 also can be applied over other clean, sound and solidly bonded 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. Where necessary, substrate preparation must be by mechanical means, such as shot blasting.

Note on Asbestos-Containing Materials

Please note that when removing existing flooring, any asbestos-containing materials should be handled and disposed of in accordance with applicable federal, state and local regulations.

Recommended Tools

ARDEX T-1 Mixing Paddle, ARDEX T-10 Mixing Drum, ARDEX T-4 Spreader, ARDEX T-5 Smoother, ARDEX MB-6 Measuring Bucket (6 quarts / 5.68 L per 50 lb. / 22.7 kg bag), a 1/2" (12 mm) heavy-duty drill (min. 650 rpm) and baseball or soccer shoes with non-metallic cleats.

Priming

Note: ARDEX primers may need longer drying times with low surface temperatures and/or high ambient humidity. Do not install ARDEX K 16 before the primer has dried thoroughly.

Absorbent Concrete

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 minimize the potential for pinholes forming in the ARDEX K 16. 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

Non-porous substrates such as burnished concrete, terrazzo, ceramic and quarry tile, epoxy coating systems,

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non-water soluble adhesive residue on concrete and concrete treated with silicate compounds must be primed with ARDEX P 82™ Ultra Prime. Follow the mixing instructions on the container, and apply with a short-nap or sponge paint roller, leaving a thin coat of primer. Do not leave any bare spots. Back roll with a dry roller to remove 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).

Note: If a suitable 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.

Joins and Cracks

Under no circumstances should ARDEX K 16 be installed over any moving joints or moving cracks. All existing expansion joints, isolation joints and construction joints, as well as all moving cracks, must be honored up through the underlayment and flooring.

As needed, dormant cracks and dormant control joints can be filled with ARDEX FEATHER FINISH® or ARDEX ARDIFIX™, following the instructions in each product's technical data sheet. Please note that if ARDEX ARDIFIX is used, it must be sand-broadcasted to refusal.

However, please be advised that while dormant control joints and dormant cracks in the slab may be filled with ARDEX FEATHER FINISH or ARDEX ARDIFIX prior to installing ARDEX K 16, this filling is not intended to act as a repair method that will eliminate the possibility of joints and cracks telegraphing. ARDEX FEATHER FINISH, ARDEX ARDIFIX and ARDEX K 16 are non-structural materials and are, therefore, unable to restrain movement within a concrete slab. This means that while some dormant joints and dormant cracks may not telegraph through the ARDEX materials and up into the finish flooring, cracks will telegraph in any area that exhibits movement, such as an active crack, an expansion or isolation joint, or an area where dissimilar substrates meet. We know of no method to prevent this telegraphing from occurring.

Mixing and Application

Manually

ARDEX K 16 is mixed two bags at a time. Mix each 50 lb. (22.7 kg) bag with 6 quarts (5.68 L) of clean water. Pour the water in the mixing drum first, and then add the ARDEX K 16 while mixing with an ARDEX T-1 Mixing paddle and a 1/2" (12 mm) 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.

Pumping

ARDEX K 16 can be pumped using ARDIFLO™ Automatic Mixing Pumps. ARDIFLO Pumps provide high productivity and smooth, consistent installations. Pumps may be rented from an authorized ARDEX Distributor. Contact the ARDEX Technical Service Department for complete pump operation instructions.

ARDEX K 16 has a flow time of 10 minutes at 70°F (21°C). Pour the mix onto the floor and spread with the ARDEX T-4 Spreader. Immediately smooth the material with the ARDEX T-5 Smoother. Work in a continuous manner during the entire self-leveling installation. Wear baseball or soccer shoes with non-metallic cleats to avoid leaving marks in the liquid ARDEX K 16.

Thickness of Application

Install ARDEX K 16 at a minimum thickness of 1/16" (1.5 mm) over the highest point in the floor, which typically results in an average thickness of 1/8" (3 mm) or more over the entire floor. ARDEX K 16 can be installed up to 1/2" (12.7 mm) thick.

To match existing elevations, ARDEX K 16 can be tapered to as thin an application as the sand in the material will allow. If a true featheredge is needed, ARDEX recommends using ARDEX FEATHER FINISH for transitions.

Please note that for thin applications, the profile of the substrate can affect the flatness and smoothness of the ARDEX K 16. The thickness of the application should be calculated based on the surface profile of the substrate and the specified tolerances of the floor covering.

For areas requiring a thickness greater than 1/2" (12.7 mm), ARDEX recommends using a suitable ARDEX self-leveling underlayment, such as ARDEX K 13™ Premium Self-Leveling Underlayment.

Wear Surface

ARDEX K 16 is not to be used as a permanent wear surface, even if coated or sealed. ARDEX K 16 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.

Installation of Flooring

ARDEX K 16 is walkable 2 to 3 hours after installation. The cure time required prior to installing flooring will vary with the thickness of the ARDEX K 16 installation and the type of flooring being installed. See the chart below for details. All dry times are calculated at 70°F (21°C). Drying time is a function of jobsite temperature and humidity conditions, as well as the installation thickness. Low substrate temperatures and/or high ambient humidity will extend the drying time. Adequate ventilation and heat will aid drying. Forced drying can dry the surface of the underlayment prematurely and is not recommended.

	Installation thicknesses of 3/8" (9.5 mm) or less	Installation thicknesses greater than 3/8" (9.5 mm)
Moisture-insensitive tile (ceramic, quarry, porcelain):	6 hours	6 hours
Carpet, vinyl sheet, vinyl tile, vinyl plank, rubber, linoleum:	16 hours	Mat test*
All other floor coverings:	Mat test*	Mat test*

*Where mat testing is required, allow the installation to dry a minimum of 24 hours prior to mat testing in accordance with ASTM D4263. To do this, place a piece of heavy plastic or a smooth rubber mat down over a 2' X 2' area. After 24 hours, lift the barrier material and inspect for surface darkening. A darkened area indicates excessive moisture is still present, and further drying time is required. Repeat the above test at regular intervals until no darkening is observed.

Notes

FOR PROFESSIONAL USE ONLY.

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 it 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 16.** 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 data sheets at www.ardexamericas.com.

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.

Never mix with cement or additives. 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.

Dispose of packaging and residue in accordance with federal, state and local waste disposal regulations. Do not flush material down drains.

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Updated 11-05-2014. Supersedes all previous versions. Check www.ardexamericas.com for updates.

For easy-to-use ARDEX Product Calculators and Product Information On the Go, download the ARDEX App at the iTunes Store or Google play.



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 and in accordance with ASTM C1708 as applicable. Physical properties are typical values and not specifications.

Mixing Ratio:	6 quarts (5.68 L) of water per 50 lb. (22.7 kg) bag
Coverage:	28 sq. ft. per bag at 1/4" (2.6 sq. m at 6 mm) 56 sq. ft. per bag at 1/8" (5.2 sq. m at 3 mm) Coverage will vary depending on the texture of the surface being smoothed.
Flow Time:	10 minutes
Compressive Strength (ASTM C109/mod – Air cure only):	5,300 psi (371 kg/cm ²) at 28 days
Flexural Strength (ASTM C348):	1,000 psi (70 kg/cm ²) at 28 days
Walkable:	2 to 3 hours
Install Flooring:	See Installation of Flooring section above.
VOC:	0
Packaging:	50 lb. (22.7 kg) bag
Storage:	Store in a cool, dry area. Do not leave bags exposed to sun.
Shelf Life:	1 year, if unopened
Warranty:	ARDEX Engineered Cements Standard Limited Warranty applies. Also eligible for the ARDEX/HENRY SystemOne™ Warranty when used in conjunction with select HENRY® Flooring Adhesives.

Precautions

Carefully read and follow all precautions and warnings on the product label. For complete safety information, please refer to the Safety Data Sheet (SDS) available at www.ardexamericas.com.

ARDEX Engineered Cements
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Aliquippa, PA 15001 USA
Tel: 724-203-5000
Toll Free: 888-512-7339
Fax: 724-203-5001
www.ardexamericas.com