ARDEX K15

Self-Levelling* & Self-Smoothing Cement

With RAPID-DRY Effect

Feather Edge to Any Thickness in One Operation

Most Technically Advanced Floor Underlayment Available Today

Designed For Fast Levelling Of Floors

Pumpable

Makes Surfaces Ready to Receive Floor Coverings in One Single Operation

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ARDEX K15

Self-Levelling* & Self-Smoothing

ARDEX K15 is the most advanced floor underlayment available today. Designed specifically for fast levelling of floors. ARDEX K15 provides a durable, flat and smooth floor surface with minimum labour and installation time. ARDEX K15 is recommended and specified by many quality flooring manufacturers, architects and contractors.

RANGE OF APPLICATION

ARDEX K15 will level and smooth concrete and other sub-floors prior to the installation of resilient flooring, ceramic tile, carpeting, wooden parquet, athletic floors etc. ARDEX K15 can be applied at any thickness in a single operation, for indoor installation, for internal use only above and below grade. Before proceeding please refer to Technical bulletins below.

New Construction

- Unlevel concrete
- Rough concrete
- Rain damaged
- General patching
- Unfinished concrete
- Camber problems
- Rough-screeded concrete
- Ramping off skirting boards

Refurbishment Projects over

- Damp Floors use ARDEX Moisture Barrier System
- Terrazzo
- Quarry and ceramic tile
- Old concrete
- Steel decking
- Old wooden floors
- General Patching

PRODUCT DESCRIPTION

ARDEX K15 is a special cement blend. When mixed with water, it becomes a liquid compound which when spread above 2-3mm produces a smooth flat surface.

ARDEX K15 hardens quickly and achieves high early strength. It will not shrink or spall, even when applied in thick layers. Floor coverings can be installed 16 to 18 hours later @ 20°C.

“Simple to install”…high quality… most economical method.

ADVANTAGES

- Excellent smooth flat finish
- Fast track system up to 400m²/hour
- No trowelling required
- Low in-place cost
- Installs eight times faster than previous conventional methods
- No sanding or grinding
- No Spalling
- Mixed with water only
- Tension free
- One application to any thickness
- Can be featheredged
- Not a gypsum product
- Properties similar to regular concrete
- Walkable after 2 to 4 hours
- Compatible with most adhesives
- Pumpable
- Easy to apply and finish from a standing position

Contact ARDEX Technical Services for a Bulletin on these Procedures ARDEX K15:

Over Timber Flooring	For Parquetry Flooring
Over Heated Sub-Floor	Over ARDEX Moisture Barrier
Over Ceramic Tile & Terrazzo	To Carry Heavy Loads Over Steel Decking
Over Aluminium Decking	Rough Screed Flooring
Hot Weather Precautions	Over Hardiflex Decking
Cold Weather Precautions	Over Existing Epoxy Flooring
Dead Level Floors	Ramps To Floor Waste
For “Static Control” Sheet Vinyl	High Stress Areas & Castor Wheels
Over ESWA Heating Cable	Over Compressed Fibro

HOW TO INSTALL ARDEX K15

Sub-Floor Preparation

Concrete floors must be solid, thoroughly clean and free of oil, wax, grease, asphalt, latex compounds, curing and sealing compounds and any other surface contaminant. Mechanically clean the floor to provide a roughened, clean, sound, solid and open porous matrix of the concrete, by using recommended preparation methods such as shot-blasting, scarifying, diamond grinding/shaving or other suitable method.

Acid etching is **not** an acceptable means of cleaning the sub-floor. Do **not** use solvents or sweeping compounds to clean the sub-floor. Sub-Floors must be dry (A.S. 1884 1985) and properly primed for a successful installation. Sub-Floor temperatures must be a minimum of 10°C and increasing for the installation of ARDEX products. For further information please refer to the ARDEX Substrate Preparation Brochure.

Power-trowelled (burnished) concrete and Hi-strength concrete greater than 35 MPa, refer to ARDEX sub-floor preparation brochure or contact ARDEX Technical Services.

Non-porous floors, such as terrazzo, ceramic and quarry tiles, and epoxy coatings; must be solid, well bonded and properly cleaned and primed with ARDEX 82 Ultra Prime. Steel decking should be rigid and treated with an anti-corrosive two part epoxy zinc phosphate primer before priming with ARDEX 82 Ultra Prime (refer to Technical Bulletins for specific instructions).

For gypsum, asphalt and lightweight concrete contact ARDEX Technical Services for installation procedures

NOTE: This product is intended for interior use over dry substrates only. Do not use in areas of constant water exposure nor 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 vapour barrier and will allow free passage of moisture. Follow the directive of the floor-covering manufacturer regarding the maximum allowable substrate moisture content and test the substrate prior to installing ARDEX K15

NOTE: Refer to A.S. 1884-1985 Section 2.1.1.2 for allowable moisture content (max. moisture content 5.5% or 70% humidity) for sub-floors with high moisture content refer to ARDEX Moisture Barrier and ARDEX Green Slab Seal Technical Bulletins.

Test Area: 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, adhesives selection and intended end use of the product.

PRIMING

Type of sub-floors
- Standard Concrete Floor
- Absorbent Floors

ARDEX 51/ARDEX 510 PRIMERS

Use ARDEX 51 or ARDEX 510 over standard absorbent concrete floors prior to the installation of ARDEX levelling and topping compounds.

Sub-Floors must be free of all curing compounds, bond breakers, waxes, oil, grease or any foreign contaminant before priming.

Standard absorbent concrete:

Mix 1 part ARDEX 51 with 2 parts water or use ARDEX 510 direct from the container (do not add water to ARDEX 510) and apply evenly. Do not use paint rollers, mops or spray equipment. Do not leave any bare spots. Brush off puddles and excess primer. Allow to dry to a clear, thin film (min 3 hours, max 24 hours).

Very absorbent concrete may require two application of primer to avoid bubbles and pinholes in the levelling compound. In such cases, make an initial application of 1 part ARDEX 51 diluted with 3 parts water. Let dry thoroughly and install a second application of 1 part ARDEX 51 diluted with 1 part water.

Allow to dry to a thin clear film (min. 3 hrs. max 24 hours).

NOTE: Low sub-floor temperatures and/or high ambient humidity require longer drying time for ARDEX Primers. Do not install ARDEX K15 before primer has dried thoroughly.

Non-absorbent sub-floors
- Ceramic & Quarry Tile
- Terrazzo etc.,

ARDEX 82 ULTRA PRIME

High strength primer to improve the adhesion of ARDEX K15 to smooth, non-absorbent sub-floors such as **ceramic and quarry tile, terrazzo and marble**. Use ARDEX 82 also to prime **wooden sub-floors***, including **plywood*, tongue and groove stripwood and steel decking* etc., *(Refer to Special Bulletins). Non flammable, non-toxic, nonexplosive.**

Non-Porous concrete, sealed, burnished, hi-strength, off-form, and greater than 35MPa refer to ARDEX Technical Services.

Prime with ARDEX 82 Ultra Prime, Mix Part A (red) with Part B (white) and apply with a short-nap or sponge paint roller, leaving a thin coat of primer no heavier than a thin coat of paint, to a thin pink transparent film. Do not leave any bare spots. Brush off puddles and excess primer. Allow to dry to a thin, slightly tacky film (min 3 hours, max 24 hours).

Caution: ARDEX 82 must be applied in a thin layer within one hour of mixing. A thick coat will produce a soft and rubbery surface, which can result in cracking of the ARDEX K15 Underlayment.

MIXING

ARDEX floor levelling products react and harden very quickly when mixed with water. Thorough mixing in the shortest time is essential to ensure the powder and water is evenly dispersed throughout the mix to obtain a lump-free mortar. (Mix the powder into the water) **Concrete mixers and hand mixing are not suitable methods**.

The most efficient method of mixing is by using a ARDEX mixing paddle, connected to a 12MM heavy-duty electric drill (650 rpm). Normal mixing time of a 20kg bag using an electric drill or paddle is 1 to 2 minutes.

TOOLS

ARDEX Water Gauging Bucket; ARDEX Mixing Paddle; ARDEX 18" to 24" hand trowel; ARDEX T-4 Spreader, ARDEX T-5 Smoother, 12mm Heavy Duty Drill (min 650 rpm).

ARDEX K15

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MANUAL INSTALLATION

Mix 1 bag of ARDEX K15 (20kg) with 4.5 - 5.0 litres of water.

Put the full measure of drinkable water in the clean mixing drum first, and then add half the 20kg bag in first while mixing thoroughly with the ARDEX Mixing Paddle and electric drill (½" heavy duty - 650 rpm). Then slowly add the remainder of material while still mixing with the drill and paddle. DO NOT OVERWATER: A yellowish skim while mixing indicates over-watering. Total mixing time is approximately 2 to 3 minutes to obtain a lump-free mixture.

Pour the liquid ARDEX K15 and spread in place with ARDEX T-4 Spreader or ARDEX Hand Trowel. Sufficient material should be used to adequately cover all high points (min 2 - 3mm) ARDEX K15 smooths itself during the first 10 minutes. Do not rework the ARDEX K15 after 10 minutes working time. For re-coating - refer "Thickness of Installation" Use the ARDEX T-5 Smoother for smoothing, featheredging and touch-up.

For larger installations, mix 2 bag batches at a time (mix time approx. 2 minutes) Also using 2 mixing containers alternately will more than double mix production.

Wear football boots with nylon or rubber studs to avoid leaving marks in the liquid ARDEX K15.

ARDEX K15 surfaces can be walked on 2 to 4 hours after installation and covered with flooring materials the next day, regardless of thickness (depending on ambient temperatures).

PUMPING INSTALLATION

For ease and efficiency of application, ARDEX K15 can be pumped using the ARDEX Levelcraft Automatic Mixing Pump. Follow the instructions in the ARDEX Levelcraft Manual.

"Contact ARDEX Technical Services for detailed pumping information".

THICKNESS OF INSTALLATION

On dense sub-floors such as ceramic, terrazzo, smooth dense concrete etc., ARDEX K15 mortar layer of 1.5mm layer thickness is required.

ARDEX K15 can be installed from featheredge to any thickness in one operation. However, for economics, for large areas with a thickness over 10mm we recommend to mix ARDEX K15 with a well-washed and dried graded fine gravel 4mm-8mm with no fines.

Mix ARDEX K15 with water first, and then add the aggregate while still mixing.

Mixing Ratio

Filler Type	Grading	Mixed Mortar	Filler
Aggregate	4/8mm	1 volume	1 volume

Contact ARDEX for supply details on ARDEX pre-packaged aggregate.

The addition of aggregate will diminish the workability of the product and may make it necessary to install an additional layer of neat ARDEX K15.

INSTALLATION OF ADDITIONAL LAYERS OF ARDEX K15

Allow the first layer to dry 12-16 hours at 20°C. Prime the surface with 1 part ARDEX 51 mixed with 2 parts water, following priming instructions. Allow the primer to dry thoroughly (min 3 hours, max. 24 hours) then install an additional layer of neat ARDEX K15.

NOTE: ARDEX K15 is a cement-based material. Observe that you are installing a very thin cementitious topping which will instantly adopt the temperature of the sub-floor. Do not install below 10°C surface temperature. Never mix with cement or additives. DO NOT OVERWATER.

HIGH STRESS AREAS

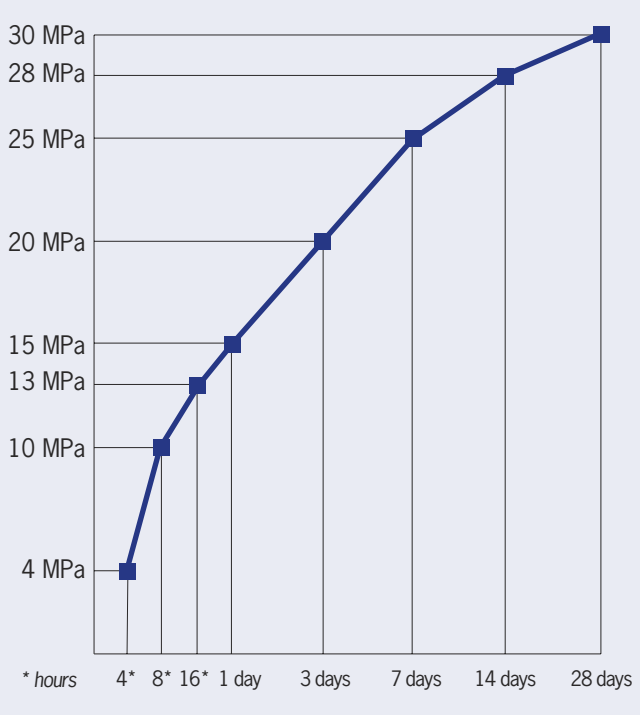
When installing ARDEX K15 over **timber, steel decking, heated sub-floors, hardiflex, sub-floors subject to vibration or required to carry heavy loads or where parquetry floors are to be installed over ARDEX K15** always add ARDEX 25 Resilient Emulsion to increase the resiliency and cohesive strength of K15.

Mix: 1.6 litres ARDEX 25 with 4 litres of water per 20kg bag of ARDEX K15.

Wear Surfaces: To level and resurface concrete floors in warehouses, storage areas, indoor parking garages, hallways or other areas where a wear surface is required. ***Contact ARDEX for specific product information.***

Flooring Adhesives: All flooring adhesives, which are compatible with concrete, are compatible with ARDEX K15.

ARDEX K15 COMPRESSIVE STRENGTH



TECHNICAL DATA

According to ARDEX quality standards – under permanent supervision of ARDEX quality assurance.

Coverage: 1.5 kg powder/per mm/per m^2
A 20 kg bag covers approximately
12.00m^2 at 1mm thickness
4.00 m^2 at 3mm etc.

Mixing Ratio, part by volume: 1 vol. Of water: 3.5 vol of powder equivalent to 4.5 – 5.0 litres of water: 20 kg powder.

Bulk density: approx 1.2 kg/litre

Flowing Time: 10 minutes

Fresh mortar weight: approx 1.9kg/litre

Walkability: approx 2 hours after application

Ready to receive floor coverings: 16-18 hours after application @ 20°

Compressive Strength:

After 1 day	approx 15N/mm^2
After 3 days	approx 20 N/mm^2
After 7 days	approx 25 N/mm^2
After 28 days	approx 30 N/mm^2

Tensile Bending Strength:

After 1 day	approx 5 N/mm^2
After 3 days	approx 6 N/mm^2
After 7 days	approx 7 N/mm^2
After 28 days	approx 10 N/mm^2

Ball Pressure Hardness:

After 1 days	approx 40 N/mm^2
After 3 days	approx 50 N/mm^2
After 7 days	approx 55 N/mm^2
After 28 days	approx 60 N/mm^2

Flammability:

ASTM E-84-81a

Flame Spread	0
Fuel Contribution	0
Smoke Development	0

Packaging: 20 kg bags

Storage: Store in a cook, dry area. Do not expose bags to sun.

Shelf Life: 12 months in unopened bags

ARDEX K15 also conforms to:
British Standard Code of Practice CP203 Part 2, 1972 and
American Standards of Testing Methods
ASTM C 349 Modified – compressive strength
ASTM C 348 Modified – flexural strength
ASTM E10 Modified – Ball pressure hardness, Brinell
ASTM C 191 – initial and final set

- **Safety:** K15 contains Portland cement and Silica sand – Avoid generation of dust-Do not inhale dust-Avoid contact with eyes or skin-Wear suitable protective gloves and safety glasses.
- **First Aid:** Contact with eyes-Rinse opened eye for several minutes under running water. Contact with skin – Wash affected areas thoroughly with running water. If dust is inhaled-Remove to fresh air, ensure breathing passages are clear, rinse mouth with running water. IF SYMPTOMS PERSIST SEEK MEDICAL ADVICE IMMEDIATELY.

NOTE: The information contained herein is to the best of our knowledge true and accurate. No warranty is implied or given as to its completeness or accuracy in describing the performance or suitability of the product application. Users are asked to check that the literature in their possession is the latest issue.

ARDEX products are manufactured in Australia.

ARDEX AUSTRALIA Pty Ltd.
– ABN 82 000 550 005

Materials are also manufactured in Austria, Denmark, United Kingdom, France, Germany, Singapore, Spain, USA and represented throughout the world.

*Self-Levelling is a generic, internationally used term to describe the flowing properties of these cements – in that trowel marks will flatten out based on a minimum thickness of material applied – ARDEX K15 2 – 3mm.

Date MAR 2004