



ARDEX K 100

**Light Weight Self-levelling Underlayment
for Offshore and Marine Use**

Light weight

Pumpable

Fiber reinforcement technology

Fast setting and drying

Smooth surface



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ARDEX K 100

Light Weight Self-levelling Underlayment for Offshore and Marine Use

DESCRIPTION

ARDEX K 100 is a cement-based, light weight, pumpable, fiber-reinforced self-levelling underlayment for offshore and marine use, walkable after 3-4 hours. Light yellowish powder with special cements, light weight fillers, high quality synthetic resins, industrial class fibers, and other special additives.

AREAS OF APPLICATION

Suitable for steel, galvanized steel, aluminum, concrete/cement screed, stone and ceramic tiles, etc.

SUBSTRATE PREPARATION

Principally, the substrate must be mature, sound, solid, clean and dry with good surface integrity – in other words, sufficiently cured, firm, load bearing and free from all contaminants such as dust, laitance, oil & grease, adhesive & coating residues, release agents, curing compounds, etc. Concrete floors must be at least 4 weeks old.

Mechanically prepare the substrate surface using recommended preparation methods such as shot-blasting, scarifying, diamond grinding, shaving or other suitable methods to provide a roughened, clean, sound, solid and open porous surface. Acid etching is not an acceptable method of cleaning the subfloor. Do not use solvents or sweeping compounds. Repair minor defects such as superficial cracking and holes using an appropriate Ardex product, ie: A45 or solvent-free liquid epoxy. All joints and cracks subject to movement must be brought through to the final floor finish and suitably detailed for the particular application.

After suitable preparation, the substrate must be thoroughly vacuumed and properly primed for a successful installation. Direct to earth sub-floors must contain a functioning damp proof membrane (DPM).

For further information, contact Ardex Technical Services.

PRIMING

High Strength/Dense/Non-Porous Substrates such as steel, galvanized steel, aluminum, etc

Use ARDEX P4C (or similar, no dilution) or ARDEX P82 (direct use after mixing) or ARDEX R2PE (sand broadcasting required). For detailed suggestions, contact ARDEX Technical Services.

Normal/Standard Concrete & Existing ARDEX Self-Levelling Compounds

Use ARDEX P51, diluted 1:3 with water. Apply evenly with a bristle push broom. Allow to dry to a thin, clear film (minimum 1 hour - maximum 24 hours).

Very Absorbent Substrates

Apply 2 coats of diluted P 51 primer. Allow each coat to dry sufficiently before proceeding.

MIXING RATIO

Approx 5.4L of clean water per 15kg bag of ARDEX K100.

MIXING

ARDEX floor levelling products react and harden quickly when mixed with water. Thorough mixing with a heavy duty electric drill fitted with an ARDEX mixing paddle in the shortest possible time is essential. Always mix the powder into the water. The normal mixing time for a 15kg bag is 1½ - 2 minutes.

INSTALLATION

ARDEX K 100 can be applied in temperature ranges (substrate & atmospheric) from 10° - 35°C.

ARDEX K 100 has a flow time of approx. 15 minutes at 23°C. At lower temperatures this time is extended and at higher temperatures this time is shortened.

Work to an area that suits the size of the installation team such that fresh mortar is poured into workable mortar, which can then be spread, gauged and trowelled within the flow time of the material.

Pour the mixed K 100 material onto the prepared & primed substrate and then spread into place using appropriate tools.

Rake the material to gauge the thickness if required and then smooth the surface with a flat trowel if required. The use of a spiked roller may aid the final levelling of the material, but is not normally necessary. If used, the spiked roller should be used within the flow time of the product and limited to a maximum of 4 passes. Studded shoes should be worn when walking in the fresh mortar to avoid leaving marks. For ease & efficiency in applying material in large areas, ARDEX K100 can be pumped with continuously working auger or piston style pumps with a capacity of 20 – 40L of mortar per minute. If the pumps are not in operation for 15 minutes they should be cleaned.

Protect the surface of the setting material from wind, sunlight, rain and contamination for 24 hours.

The application of a small test area prior to complete installation is recommended in unusual circumstances.

APPLICATION THICKNESS

ARDEX K 100 can be applied from 4 – 15mm in one application.

For more thicknesses above 15mm, ARDEX K 100 can be mixed with ARDEX verified aggregates.

For further information, contact ARDEX Technical Services.

CURING & DRYING TIME

ARDEX K 100 allows foot traffic after approx. 3-4 hrs (23° C). Based on different site conditions, K200 requires about 24-72 hrs prior to floor covering.

ARDEX K 100 cures and dries at the rough speed of 8mm per day.

NOTE: The curing and drying time will vary due to room and substrate temperature. The floor covering should be laid within 7 days. If not possible to cover with final covering within 7 days, temporary covering such as plastic film, geotextile with plastic backing, waxed paper to prevent it from drying out too much increasing the risk for shrinkages and further cracks.

For further information, contact ARDEX Technical Services.

CLEAN-UP

Clean all tools, equipment, hands, etc with water immediately after use. Hardened material will have to be removed using mechanical means.

COVERAGE

Approx 0.95kg/mm².

PACKAGING

15kg multi-layer paper bags incorporating a poly liner.

STORAGE & SHELF LIFE

ARDEX K 100 has a shelf life of approximately 6 months if stored in dry conditions in the original un-opened packaging.

TECHNICAL DATA

In Accordance with ARDEX Quality Standards

Powder

Water ratio: approx. 5.4L per 15kg powder

Bulk Density of Powder: approx. 0.8kg/L

Consumption: approx. 0.95kg powder/mm²

Wet-Fresh-Mixed Mortar

Application Temperature: 10°C – 35°C

Mixed Mortar Density: < 1.3kg/L

Dried mortar density: < 1.1kg/L

pH of Fresh Mortar: approx.12

Flow Time (23°C): approx. 15-20 minutes

Walkability (23°C): approx. 3 – 4 hours

Application Thickness: 4 – 15mm

Service humidity: ≤95%RH

Cured Mortar

Ready for Covering (23°C / 50%RH): approx. 1-3 days

Suitable with Floor Heating: Yes

Moisture Tolerant: No

Freeze-Thaw Stable: No

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Flow: approx. 110-140mm

Compressive Strength

After 1 days: approx.10 MPa

After 7 days: approx.18 MPa

After 28 days: approx.25 MPa

Flexural Strength

After 1 days: approx.2.5 MPa

After 7 days: approx.3.5 MPa

After 28 days: approx.4.5 MPa

Adhesion Strength: approx. 1.0 MPa

Shrinkage: < 0.10%

Impact Resistance: No cracks or delamination

HEALTH & SAFETY

ARDEX K 100 is considered non-hazardous in normal usage, however it contains Portland cement & respirable silica and reacts alkaline which may cause some skin irritation after prolonged contact. Avoid generation and breathing of dust. Avoid contact with eyes or skin. Wear suitable protective dust mask, gloves and safety glasses. In case of contact with eyes, rinse for several minutes under running water. In case of contact with skin, rinse with running water. If dust is inhaled, remove to fresh air, ensure breathing passages are clear and rinse mouth with water. In the case of adverse symptoms, seek medical advice. Physiologically and ecologically safe when in the cured state.

For further information, please consult the Material Safety Data Sheet (MSDS).

The technical details, recommendations and other information contained in this datasheet are given in good faith and represent the best of our knowledge and experience at the time of printing. It is your responsibility to ensure that our products are used and handled correctly and in accordance with any applicable National or Local Standard, our instructions & recommendations, and only for the uses they are intended. Regional specific recommendations, standards, codes of practice, building regulations or industry guidelines may affect specific installation recommendations. Our Company policy is one of continuous Research & Development; we therefore reserve the right to update this information at any time without prior notice. We guarantee the consistent high quality of our products; however, as we have no control over site conditions or the execution of the work, we accept no liability for any loss or damage which may arise as a result thereof. The supply of our products and services is also subject to certain terms, warranties & exclusions; these details will be made available to you on request. You should make yourself familiar with them.