



ARDEX CL 11

Commercial Levelling & Smoothing Compound

Produces a smooth, flat, absorbent surface for the subsequent laying of all kinds of flooring products

Cement-based

Levelling and smoothing of floor areas

For thicknesses from 2 - 8mm in one application

Self-smoothing

Pumpable

Easy to grind

Early trafficable

Ideal for and economical when used with ARDEX floor covering adhesives



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DESCRIPTION

ARDEX CL11 is a rapid hardening self levelling compound, walkable after approximately 3 – 4 hours and ready designed for use after 48 hours. Grey powder with special cements, high quality synthetic resins, selected fillers and other special additives.

AREAS of APPLICATION

Dry, internal, cementitious sub-floors.
Filling, smoothing and levelling of concrete slabs and cementitious screeds prior to application of floor coverings such as vinyl, linoleum, carpet, ceramic tiles and floating timber floors.
Smoothing surfaces in residential & commercial applications such as shopping centers, schools, hospitals, homes, 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, i.e.: A 45 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. Substrates where the measured moisture level is above 5.5% or 70% by Relative Humidity (RH) test method must first be sealed with ARDEX WPM300 prior to any leveling installation. Direct to earth sub-floors must be protected from rising damp by containing a functioning damp-proof membrane (DPM) – if this is not included underneath the substrate, then use ARDEX WPM300.
After suitable preparation, the substrate must be thoroughly vacuumed and properly primed for a successful installation.
For further information, contact ARDEX Technical Services.

PRIMING

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 (min. 1 hour, max. 24 hours).

Very Absorbent Substrates

Apply 2 coats of diluted P51 primer. Allow each coat to dry sufficiently before proceeding.

High Strength/Dense/Non-Porous Substrates

Use a solvent-free (R2PE) or water-based

High Strength/Dense/Non-Porous Substrates

Use a solvent-free (R2PE) or water-based (WPM300) epoxy primer and blind with sand (~ 0.5 – 1mm). Allow each primer to cure to a hard film (24 hours) before proceeding. Once cured, sweep the surface with a stiff bristle push broom and then thoroughly vacuum to remove all loose sand before application of leveler. Do NOT install Levelling Compounds until the primer has thoroughly dried or cured. Refer to the relevant product datasheet for specific instructions in relation to each primer.

MIXING RATIO

5.5L of clean water per 25kg bag of ARDEX CL11. The water mixing ratio might be affected by environment & site conditions as well as mixing devices. Please always conduct a flow ability test to determine whether the water mixing ratio should be slightly adjusted before application of large areas.

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 25kg bag is 1½ - 2 minutes. Concrete or screed mixers, paint mixers, spiral mixers and hand mixing are not suitable.

INSTALLATION

ARDEX CL11 can be applied in temperature ranges (substrate & atmospheric) from 10° - 35°C. ARDEX CL11 has a flow time of approx. 10 - 15 minutes at 20°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 towed within the flow time of the material. Pour the mixed CL11 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 2 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 CL11 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 and contamination for 24 hours. The application of a small test area prior to complete installation is recommended in unusual circumstances.

APPLICATION THICKNESS

General

ARDEX CL11 can be applied from 2–8mm in one application.

Bulk-Out

For thicknesses above 8mm, but not exceeding 20mm, ARDEX CL11 can be mixed with clean & dry 2 – 5mm aggregate. First mix the CL11, starting with a slight reduction (~ 0.3L) in the normal mixing water amount and then add 1/3 to 2/3 parts of aggregate by volume (up to 1 part by weight). Finish the surface with a neat coat of CL11 if required.

Gradient Smoothing or Ramping

The addition of a suitable fine, clean & dry aggregate (~ 0.5mm) at a level to approx 1/2 by volume to the mixed material will reduce the flow to a trowelable consistency. A reduction in the water amount by approx. 0.5L will also assist.

CURING & DRYING TIMES

Walkability

Allow approximately 3 – 4 hours at 20°C before foot traffic.

Application of Floor Coverings

Porous floor coverings such as conventional carpet, ceramic tiles and floating floors can be applied onto the cured CL11 after 24 hours, regardless of thickness.

Direct stick impervious floor coverings such as vinyl and linoleum can generally be applied after 48 hours for thicknesses less than 5mm. For thicknesses from 5 – 8mm, allow 72 hours curing.

In cases where the product has been bulked-out with aggregate, allow an extra 24 hours curing for each 4mm of thickness above 8mm.

Refer to the relevant product datasheet or Manufacturer's instructions for specific application and usage details in the relation to the chosen floor covering.

Full Cure

ARDEX CL11 will gain sufficient strength after 24 hours to allow access for the commencement of finishing or light traffic activity.

Allow 7 days curing at 20° before subjecting the material to full service conditions.

Note: - higher temperatures may reduce curing & drying times, whilst lower temperatures will extend the drying time.

CLEAN-UP

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

COVERAGE

A 25kg bag will cover approximately 7.5m² at 2mm thickness – assuming a flat surface.

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.

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PACKAGING

25kg multi-layer paper bags incorporating a poly liner.

STORAGE & SHELF LIFE

ARDEX CL11 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

Bulk Density of Powder: approx. 1.3kg/L

Wet-Fresh-Mixed Mortar

Application Temperature: 10°C – 35°C
 Mixed Mortar Density: approx. 2.0kg/L
 pH of Fresh Mortar: approx. 12
 Flow Time (20°C): approx. 10 - 15 minutes
 Walkability (20°C): approx. 3 – 4 hours
 Application Thickness: 2 – 8mm
 Thickness with Aggregate: 8 – 20mm

Cured Mortar

Ready for Covering (20°C / 50%RH):
 up to 5mm approx. 2 day
 up to 8mm approx. 3 days
 up to 20mm approx. 6 days
 Resistant to Chair Castors: Yes
 Suitable with Floor Heating: No
 Moisture Tolerant: No
 Freeze-Thaw Stable: No

In Accordance with Chinese National Standard:-JC/T985-2017

Flow

Initial: > 135mm
 After 20 minutes: > 130mm

Compressive Strength

After 1 day: approx. 11 MPa
 After 7 days: approx. 22 MPa
 After 28 days: approx. 30 MPa

Flexural Strength

After 1 day: approx. 3 MPa
 After 7 days: approx. 4 MPa
 After 28 days: approx. 7 MPa
 Adhesion Strength: approx. 1.2 MPa
 Shrinkage: typically - 0.07%

HEALTH & SAFETY

ARDEX CL11 is considered non-hazardous in normal usage; however it contains Portland cement & quartz sand 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).

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