Edition: 2020-12-22

ARDEX K380

High Strength Low Shrinkage Colorful Self-levelling Topping

Formula with latest German SLC technology

High wearing cementitious topping material for residential, commercial and industrial floors, e.g. parking lots, garages, warehouses, factories, etc.

For thickness from 3 – 10mm in one application

Early high strength with very low shrinkage

Excellent flowability

Pumpable

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DESCRIPTION

ARDEX K380 is a rapid hardening self levelling compound, walkable after approximately 3 – 4 hours and ready for use after 24 hours. Coloured 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 sealing, coating or covering with suitable floor coverings;
Wearing surfaces in warehouses, workshops, industrial areas, domestic garages, parking lots, 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 supericial 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

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.

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 leveller.
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

approx. 5.25L of clean water per 25kg bag of ARDEX K380. 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 K380 can be applied in temperature ranges (substrate & atmospheric) from 10° – 35° C.
ARDEX K380 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, gauaged and trowelled within the flow time of the material.
Pour the mixed K380 material onto the prepared & primed substrate and then spread into place using appropriate tools.
Rake the material to guage the thickness if required and then smooth the suface 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 K380 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 K380 can be applied from 3 – 10mm in one application.
Use a minimum of 5mm for all situations where ARDEX K380 will be used for an industrial application and either left
exposed, sealed or coated.

Bulk-Out

For thicknesses above 10mm, but not exceeding 25mm, ARDEX K380 can be mixed with clean & dry 2 – 5mm aggregate. First mix the K380, 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 K380 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 trowellable consistency.
A reduction in the water amount by approx. 0.5L will also assist.

CURING & DRYING TIMES

Walkability
Allow approximately 3 – 4 hours at 23° C before foot traffic.

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Application of Sealers & Coatings

The hardened K380 should be protected from wear (abrasion) and staining (water, oil, salt, chemicals) by applying a suitable stain & wear protection system. This can be in the form of a penetrating sealer such as R50A or R65P for light to medium traffic or an epoxy coating such as R35PE or R24PE for heavy traffic areas.

In general, water-based sealers & coatings can be applied after 24 hours whilst solvent-free epoxy or moisture-sensitive systems should be applied after 48 hours curing.

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

Full Cure

ARDEX K380 will gain sufficient strength after 16 hours to allow access for the commencement of finishing or light medium traffic activity. Allow 3 days curing at 23° before subjecting the material to full service conditions.

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

COVERAGE

A 25kg bag will cover approximately 3m² at 5mm thickness - assuming a flat surface.

CLEAN-UP

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

PACKAGING

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

MATERIAL COLOR

The standard colors are feldspar, steel, ash, topaz, south red agate, pearl, ocean, and jade. Other colors could be customized on demand.

STORAGE & SHELF LIFE

ARDEX K380 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
Consumption: approx.	1.67kg powder/ mm/m²

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 (23° C):	approx. 15 minutes
Walkability (23° C):	approx. 3 - 4 hours
Application Thickness:	3 - 10mm
Industrial Application:	⩾ 5mm
Thickness with Aggregate:	10 - 25mm

Cured Mortar

Ready for Sealing/Coating (23° C / 50%RH):	approx. 24 hours for most materials approx. 48-72 hours for moisture-sensitive systems & coatings
Resistant to Chair Castors:	Yes
Suitable with Floor Heating:	Yes
Moisture Tolerant:	No
Freeze-Thaw Stable:	No

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

Flow

Initial:	approx. 135-145mm
After 20 minutes:	> 130mm

Compressive Strength

After 1 day:	⩾ 15 MPa
After 28 days:	⩾ 35 MPa

Flexural Strength

After 1 day:	⩾ 3.5 MPa
After 28 days:	⩾ 10 MPa
Adhesion Strength:	approx. 2 MPa
Shrinkage:	typically ⩽ 0.05%
Abrasion Resistance:	< 200mm³
Impact Resistance:	No cracks or delamination

HEALTH & SAFETY

ARDEX K380 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).