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PRODUCT DATA SHEET

ARDEX K 40 HB

Rapid Drying, High Build, Fibre Reinforced Levelling and Smoothing Compound

Features

- Apply from 3mm to 40mm
- Fibre reinforced for strength and flexibility
- Walkable in approximately 2 hours, regardless of thickness
- Install resilient and timber floorcoverings in as little as 6 hours
- Fix tiles after 2 hours
- Extended 30 minute working time

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ISO 9001 Quality Management Systems CERTIFIED Reg No. FM 01207
ISO 14001 Environmental Management CERTIFIED EMS 565427
ISO 45001 Occupational Health and Safety Management CERTIFIED OHS 628374

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ARDEX K 40 HB

Rapid Drying, High Build, Fibre Reinforced Levelling and Smoothing Compound

DESCRIPTION
ARDEX K 40 HB is a fibre reinforced, high build levelling and smoothing compound designed for applications from 3mm up to a maximum of 40mm. ARDEX K 40 HB hardens rapidly and can normally be walked on in as little as 2 hours, regardless of thickness. Applications up to 5mm can receive resilient floorcoverings, including timber, after 6 hours, and thicker applications up to 40mm after 48 hours. Ceramic floor tiles can be fixed as soon as the surface has attained sufficient strength and hardness, typically 2 hours after application.

USE
ARDEX K 40 HB will level and smooth, in a single application, most new and existing internal subfloors including concrete, cement/sand screeds, anhydrite screeds, stone, terrazzo and ceramic tiles, and suitable timber floors. Other applications include levelling uneven, damaged or rain damaged in-situ concrete subfloors, and adjusting tolerances or camber problems between floors, slabs, or pre-cast concrete.

SUBSTRATE PREPARATION
The surface of the subfloor must be clean, sound, and free from dust, plaster droppings, grease, polish, and any adhesive residues.

Use a suitable degreaser to remove polish, wax, grease, oil, and similar contaminating substances prior to use.

Direct to earth subfloors must contain an effective damp proof membrane. If the DPM is absent or damaged, or the substrate is damp, consult the ARDEX DPM 1 C, ARDEX DPM 1 C R or ARDEX MVS 95 datasheet for further information.

PRIMING
All surfaces must be primed to maximise the working time, maintain the flow life, and prevent air bubbles rising through the levelling compound.
Cement/sand or gypsum screeds (please check the screed manufacturers recommendations before commencing work): 1-part ARDEX P 51 Primer to 3 parts water. Concrete subfloors: 1-part ARDEX P 51 Primer to 2 parts water. Timber: ARDEX P 51 Primer neat and allowed to dry NOTE: K 40 HB can be applied at a maximum thickness of 6mm over Gypsum or timber subfloors. For further information please refer to the ARDEX P 51 datasheet.

ARDEX P 4 Primer is recommended for use on very smooth, dense, and non-absorbent subfloors e.g. ARDEX Damp Proof Membranes and smooth power floated concrete. ARDEX P 4 Primer and ARDEX P 82 Primer are both recommended for use on ARDEX DPM's for smoothing applications of between 3mm to 6mm in thickness, and on non-absorbent subfloors when ARDEX K 40 HB is applied up to 10mm in depth e.g. power floated concrete, smooth pre-cast concrete and sound terrazzo, porcelain/ceramic/quarry tiles or natural stone. For thicknesses that exceed the above recommendations use ARDEX R 3 E blinded with ARDEX Fine Aggregate as the primer coat. When applying over flooring grade asphalt, the surface must be sound, cleaned with a suitable neutral cleaner, primed with ARDEX P 82 Primer and applied between 3-5mm thick.

TIMBER FLOORS
Underlying plywood should be rigid, dry, and able to support the anticipated loads in accordance with BS 8203 for resilient flooring and BS 5385-3 for ceramic floor tilling. When fixing ceramic tiles, the backs and edges of the plywood should be sealed, e.g. with a polyurethane varnish.

Prior to levelling wooden floors, screw down and firmly fix all loose boards. Where timber floors are sufficiently rigid but are uneven or worn, or where there is differential movement between floor boards.

The technique is to pre-level the timber with ARDEX K 40 HB and allow to dry prior to screw fixing minimum 6mm thick flooring grade plywood to receive resilient flooring, or the appropriate thickness tile backing board to receive ceramic tiles or natural stone, to provide a sound and stable base for the new flooring. In all cases, subfloor ventilation must be adequate to prevent deterioration and moisture movement.

Allow between 1 and 12hrs drying time dependent on the porosity of timber. Alternatively, for flooring grade plywood which is free from barriers to adhesion, conditioned to the ambient moisture content and rigidly fixed, ARDEX K 40 HB may be applied as a smoothing layer up to a maximum thickness of 6mm.

Allow to thoroughly dry prior to fitting the final floorcovering with a suitable water-based adhesive. For smoothing tongue and groove floorboards, and for timber floors in conservatories, or areas other than domestic locations, either overlay with plywood as above, or consult the ARDEX FA 20 datasheet.

Where a very thin skim of smoothing compound is required, consult the ARDEX FEATHER FINISH datasheet. Tongue and groove floorboards must be 22mm thick. NOTE: No impregnated boards should be used as this will prevent the primer from penetrating into the surface.
In domestic and light duty installations all chipboard must conform to the latest BS EN 312 standard and be of a suitable flooring grade. The chipboard should be thoroughly sanded and vacuum cleaned to remove all barriers to adhesion, including any moisture protective coatings, prior to priming with undiluted ARDEX P 51 Primer. Note: If the ARDEX P 51 Primer does not soak into the boards surface due to the composition of the board, then it may not be possible to achieve adhesion. If in doubt check with the board supplier/manufacturer.

MIXING
Use between 3½ and 3¾ litres of water per 22kg bag. Add the powder to the required amount of clean water in a clean mixing container whilst stirring thoroughly until a lump free consistency is produced. The use of an ARDEX mixing paddle with a 10mm chuck slow speed
(600-1000 rpm) electric drill makes light work of mixing. Use the minimum amount of water content for thick applications or cold conditions.

APPLICATION
Apply at temperatures above 5°C.
Pour the mixed ARDEX K 40 HB onto the prepared subfloor and use a pin steel finishing trowel or float to spread and finish off. The extended workable wet edge time means that fresh applications of material can be easily trowelled into existing pre-applied material up to 30 minutes after application. It is important to protect the freshly applied material from direct sunlight or draughts as this may cause premature drying.

STEEL ENCAPSULATED RAISED ACCESS PANELS Flooring panels should be installed following manufacturers recommendations. Ensure steel is rigid and the surface is clean, dry and contamination free. Apply a coat of ARDEX P82 primer and allow to dry. Within 4 days, mix and apply ARDEX K40 HB smoothing compound from 3mm to 6mm thickness. Once dry, install the final floor covering with a suitable ARDEX water-based flooring adhesive.

APPLICATIONS OVER UNDERFLOOR HEATING Heated screeds must be laid in accordance with BS 8204 Part 1 and BS EN 1264.The underfloor heating system should have been commissioned in accordance with the manufacturer's instruction manual and BS 8204 Part 1 and BS EN 1264-4. Once commissioned and thermally cycled, the underfloor heating system should be turned down to room temperature, but not below 15°C, before the installation of ARDEX K 40 HB and the floorcovering. The underfloor heating system should then be gradually brought up to normal operating temperature to avoid rapid thermal shock and wide temperature variations. ARDEX K 40 HB can also be used to encapsulate under-tile heating cables/mats onto prepared concrete, screeds, and tile backing boards prior to fixing ceramic tiles. For information on suitable UFH heating systems please contact our Technical Support Team.

ENCAPSULATING LOW PROFILE WATERFED HEATING SYSTEMS
The floor must be constructed in accordance with Part L of the building regulations and should be fully load bearing with deflection no greater than L/360 (L/720 for natural stone). Where insulation is used then this must be installed onto a level floor and achieve the same deflection values. For more information please contact the insulation manufacturer.

The base must be levelled to SR1 or better prior to installation of any underfloor heating system.

Over castellated systems it is important to ensure that the carrier panels remain seated on a level, loadbearing surface and no lifting is taking place. Once fully secured and pipes are pressurized, the K 40 HB can be installed to the height recommended by the heating manufacturer.

Calcium sulfate boards carrying underfloor heating pipework should be installed securely and should be free from movement. A perimeter movement joint should be installed around the system.

If bonding the boards down to the floor first is required, then both sides will require priming with ARDEX P 51 (1:3) prior to using tile adhesive. Otherwise only the surface to receive the levelling compound will require priming with ARDEX P 51 at 1:3 with clean water.

The substrate should be solid, and any undulations/ highpoints removed and levelled correctly. Ensure that pipes are fully engaged into the grooves with no movement. Installing onto metallic (often aluminium plates) is not recommended.

For tiling and flooring it is recommended to cover the board with K 40 HB to a height of 6 to 10 mm above the pipes. A bonded uncoupling system for tiles can be utilised and adhered to the levelling system where lateral movement is likely to be excessive.

Movement Joints must be installed in line with industry standards.

Heating systems must be commissioned correctly and in accordance with the Industry Standards and the manufacturers recommendations.

The choice of flooring must be selected based on the suitability for use in both the environment and the service duties – Please contact the manufacturer.

PUMPING
ARDEX K 40 HB may be pumped using a suitable floor screed mixer pump units. For advice on pumping, including suitable equipment and techniques, please contact our Technical Support Department.

COVERAGE
A 22kg bag of ARDEX K 40 HB will cover approximately 4m² at 3mm thick 1.88kg/mm/m². The coverage figure is based on a flat level surface, and additional material should be allowed for where the surface is rough or uneven.

PACKAGING
ARDEX K 40 HB is packed in paper sacks incorporating a polyethylene liner – net weight 22kg.

STORAGE AND SHELF LIFE
ARDEX K 40 HB must be stored in unopened packaging, clear of the ground in cool dry conditions and be protected from excessive draught. If stored correctly, as detailed above, the shelf life of this product is 12 months from the date shown on the packaging.

TECHNICAL DATA
ARDEX K 40 HB
Rapid Drying, High Build, Fibre Reinforced Levelling and Smoothing Compound
Bulk density of powder approx. 1.45kg/litre
Weight of fresh mortar approx. 2.2kg/litre

Working time at 20°C approx. 30 minutes
Flow life at 20°C approx. 25 minutes

Compressive Strength

After 1 day	20.0 N/mm²
After 7 days	29.0 N/mm²
After 28 days	37.0 N/mm²

Tensile Bending Strength

After 1 day	4.0 N/mm²
After 7 days	5.0 N/mm²
After 28 days	8.0 N/mm²

EMICODE: EC1+ (very low emission)
Suitable for underfloor heating: Yes

NOTE: The information supplied in our literature or given by our employees is based upon extensive experience and, together with that supplied by our agents or distributors, is given in good faith in order to help you. Our Company policy is one of continuous Research and Development; we therefore reserve the right to update this information at any time without prior notice. We also 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.

Country specific recommendations, depending on local standards, codes of practice, building regulations or industry guidelines, may affect specific installation recommendations.

TECHNICAL ADVICE HELPLINE: 01440 714939
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