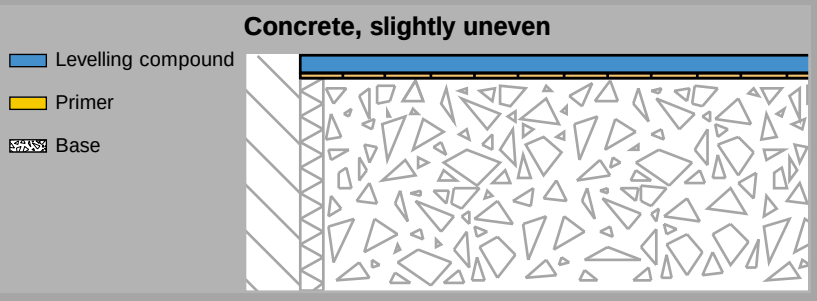
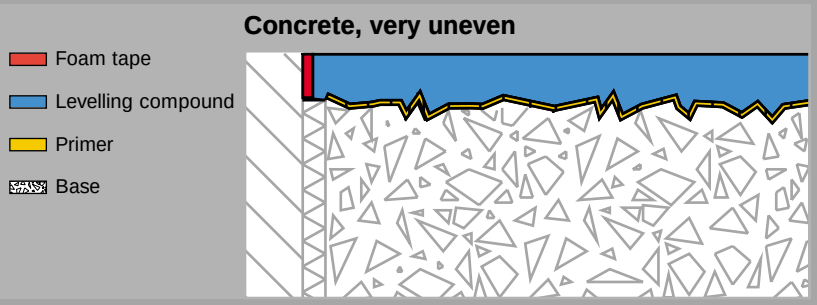
Levelling compounds

... plane, smooth surfaces with Alfix

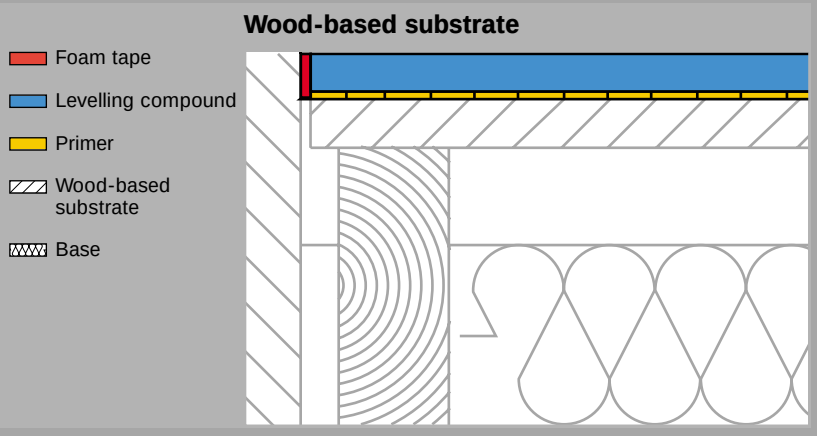
Concrete, slightly uneven



Concrete, very uneven



Wood-based substrate



Levelling with Alfix

Ceramic tiles and natural stone are widely used for both renovation projects and new constructions. Ceramic tiling is an ideal solution when a durable and user-friendly material is required. The trend towards larger tile sizes combined with technological progress in tile production, make it possible today, to provide the market with increasingly thinner tiles with more fragile tolerances.
The above factors result in higher demands in terms of accurate surface levels compared to earlier standards. Therefore, levelling compounds tend to be increasingly involved in today's floor constructions.

Quality in several layers

Since 1963, Alfix has manufactured products for fixing, grouting and maintenance of tiles and is now expanding its product range to include levelling compounds as well under the registered trademark PlaneMix®. Alfix products can now be used in more phases of floor construction, where levelling becomes a common step in tile fixing.

Focus on environment and user-friendliness

During recent years, authorities as well as consumers have set increasing focus on environmental concerns. These concerns also apply to emission from levelling compounds, which has lead to new test methods within EU-classification.

The emission tests are performed in accordance with the requirements defined by GEV, Gemeinschaft Emissions-kontrollierte Verlegestoffe. Since Alfix levelling compounds are a completely new development, one of the most stringent criteria has been that the emission value from each product should meet the highest standard, being EMICODE: EC 1with the description: "insignificant emission".
Meeting this standard, means that the new range of levelling products, Alfix MixPrimer and Alfix PlaneMix, belongs to some of the most environmentally safe and user-friendly products on the market today.

Applications

PlaneMix floor levelling compound is recommended for interior use in private and communal housing, shopping centres, office areas, schools, light processing industries, and on various types of substrates where there is a need for straightening , levelling or smoothing. Alfix levelling compounds will often be used in preparation for tiling or other types of floor covering.

Substrates

Concrete presenting minor unevenness
Existing pre-cast concrete, slabs. Cohesion strength ≥ 1N/mm². Fine levelling/smoothing in thicknesses of more than 1 mm can be made using Alfix PlaneMix 20.

Concrete presenting major unevenness
Rough/uneven pre-cast concrete, concrete slabs, with or without drainage slope. Cohesion strength ≥ 1N/mm². Straightening/levelling in thicknesses of more than 2 mm can be made using Alfix PlaneMix 50.

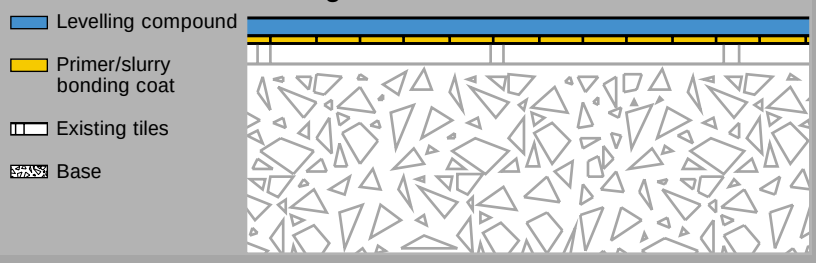
Wood-based substrates
Dimensionally stable wood-based substrates of e.g. plywood or chipboards. Levelling/stabilizing in thicknesses of min. 10 mm. Levelling can be made using Alfix PlaneMix 20, alternatively Alfix PlaneMix 50.

Existing tiles/terrazzo
Dense, non-absorbent surfaces should be primed with Alfix MixPrimer in which to add dry Alfix PlaneMix powder to the still wet primer to create a slurry bonding coat. Levelling can be made using Alfix Plane-Mix 20, alternatively Alfix PlaneMix 50.

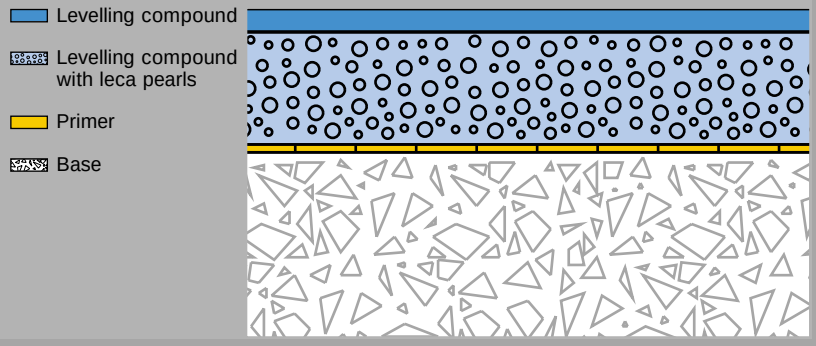
Concrete with screed
Concrete substrate cast in situ or contrete slabs.
For levelling of thicknesses between 50-200 mm use Alfix PlaneMix 50 added with leca pearls, size 2-6 mm. Subsequently, top coat in 5-10 mm thickness can be made using Alfix PlaneMix 50.

Levelling incorporating underfloor heating
Underfloor heating in the form of electric heating mats, elements or cables that are carefully secured/fastened to the substrate. Levelling can be made using Alfix Plane-Mix 20, alternatively Alfix PlaneMix 50. In wet areas, cables should be covered with a levelling coat of min. 5 mm followed by application of a sealing membrane.

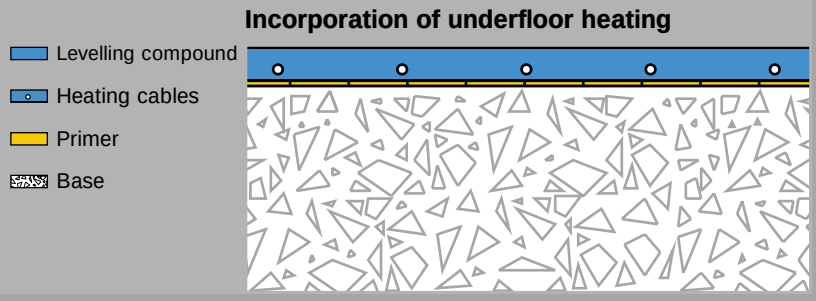
Existing tiles/terrazzo



Concrete with built-up screed



Incorporation of underfloor heating



Vacuuming

Priming

Foam tape in doorway

Preparation

The surface should be dimensionally stable and sound in order for the levelling compound to obtain proper bonding to the surface. Ensure that all poorly attached or loose cement particles and adhesive residues are removed. Any laitance or weak areas should be sanded off and finally cleaned from dust by thorough vacuuming. Residues from grease, wax, soap or other contaminants can be removed with Alfix Deep Cleaner. The surface should be allowed to dry completely before priming is commenced. Any underfloor heating should be turned off.

Priming

To ensure strong and lasting adhesion and to restrict surface absorption all surfaces should be primed prior to levelling.

- For all absorbent surfaces, such as concrete, dilute Alfix MixPrimer with clean water in the proportion 1:3. Apply primer thoroughly by use of brush or broom and work well into the surface leaving no puddles.
- For dense, non-absorbent surfaces, such as ceramic tiles, apply Alfix Mix-Primer undiluted. Sprinkle dry PlaneMix powder into the wet primer, then brush over the entire surface to create a slurry bonding coat.
- For wood-based surfaces, apply Alfix MixPrimer undiluted.

Drying time before commencing further treatment: App. 1 hour at +20°C.
If levelling/straightening is made by applying several coats, priming before each new coating is required. For very absorbent surfaces additional priming may be necessary.
Coverage: 0.1-0.2 litre/m^2.

Retaining

Ensure that all areas of the surface are completely impervious – otherwise

Foam tape: Application on wall

levelling compound tends to fill any small crack or opening. For sealing along walls, footings, etc. use high elastic silicon sealant.

Form large floor areas into bays using lengths of self-adhesive foam tape – also recommended for application in doorways, around drains, outlets, etc. Observe existing sectional barriers and construction joints in the substrate when dividing. The levelling compound is not allowed to obtain contact with any adjoining walls. In case of thicknesses exceeding 5 mm, apply self-adhesive foam tape.

Measuring

Mark any difference of level. For straightening in large thickness, heights can be marked by drawing a longitudinal line from corner to corner. Another possible application is the use of steel spikes or a tailor-made Alfix tool placed with appropriate distance. Be aware of built-in installations. To achieve the best results, levelling should, if possible, be completed in a single, continuous work operation.

Mixing

Mix with clean, cold water, in the proportion stated on the packaging. Pour water in a clean container and, while constantly stirring, sprinkle powder into the mixture. Stir for app. 2 minutes with an electric drill fitted with spiral mixer, until a lump free and easy flowing mixture is obtained. Be aware of the fact that water temperature influences the setting time. Cold water extends and warm water reduces setting time.

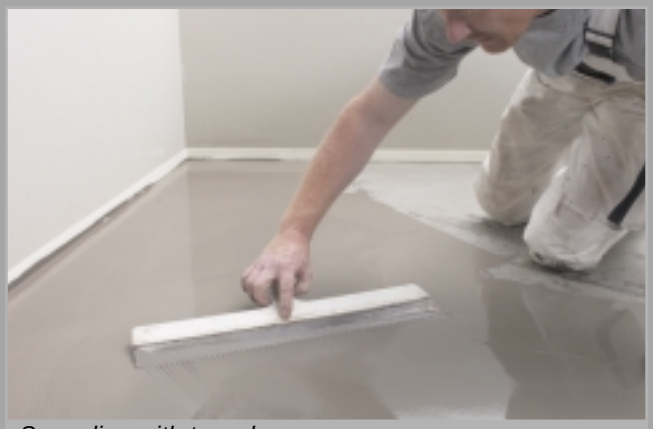
Application

Pour or pump the levelling compound onto the substrate and spread with steel trowel until it flows together evenly, creating a flat surface and smooth finish. Do not add any additional water to levelling compound already starting to set. Avoid working with the levelling compound in areas exposed to direct sun light or in high temperature conditions.
Working time: App. 50 min. at +20°C upon mixing. Levelled surfaces can be exposed to foot traffic after app. 2-3 hours at +20°C.
Coverage: 1.6-1.7 kg/m^2 per mm thickness.

Tightening the line

Mixing

Pouring the levelling compound



Spreading with trowel

Building drainage slope

Applying by pump

Building a drainage slope

For rooms with drainage, levelling compound can be used for building slopes by reducing the water amount used by 10-20 %.

Application with pump

Alfix PlaneMix products can be applied by means of pump. This method may prove advantageous in case of multi-storey buildings or in other jobs that require pumping over large areas, or when quantities to apply exceed 1 ton per hour.

Flow ability

To ensure ideal workability and high performance it is of utmost importance that the water dosage is correct. Flow ability can easily be checked with Alfix CEN-ring, a specially-designed steel tool. Too high a water dosage will result in separation and development of laitance causing a weak surface.

Measuring flow ability

Subsequent treatment

Tile fixing: Can usually be done after 12-24 hours using Alfix Combifix, Combi-Quickfix, BlueCombifix or Universalfix. For restricting surface absorption, use Alfix MixPrimer diluted with clean water in the proportion 1:3, alternatively Alfix Primer (Sealing Primer) diluted with clean water in the proportion 1:3.
Tanking: In wet areas, tanking can be made after 1-3 days using Alfix 1K or 2K Sealing Membrane. Prime surface with Alfix Primer (Sealing Primer) diluted with clean water in the proportion 1:3.
Other floor coverings: In the case of timber floor, carpet or vinyl, please follow the instructions from the manufacturer.

Training

Alfix offers courses both in workmanship training and in general product use – each tailor-made for retailers, tile fixers and vocational schools. For further information, please contact our Technical Department.

Product Range

MixPrimer

Polymer dispersion. Used for preparing various substrates prior to levelling. Restricts surface absorption and improves adhesion for any subsequent treatment.
Coverage: App. 0.1-0.2 litre/m².

PlaneMix® 20

Grey, rapid-settting, cement-based compound. Polymer modified. For fine levelling and smoothing of substrates, such as concrete, existing ceramic tiles and wood in preparation for tiling or other top flooring. Suitable for underfloor heating systems.
Thicknesses: From 1-20 mm.
Flow ability: According to EN 12706 app. 150-155 mm.
Tile fixing: After app. 12 hours.
Coverage: App. 1.6 kg/m² per mm thickness.

PlaneMix® 50

Grey, rapid-settting, cement-based compound. Polymer modified. For straightening and levelling of substrates, such as concrete, existing ceramic tiles and wood in preparation for tiling or other top flooring. Suitable for underfloor heating systems.
Thicknesses: From 5-50 mm.
Flow ability: According to EN 12706 app. 125-135 mm.
Tile fixing: After app. 24 hours.
Coverage: App. 1.7 kg/m² per mm thickness.
For screed: Add 40 litres leca pearls, size 2-6 mm, per 25 kg. powder. This will correspond to app. 50 litres.

Accessories for PlaneMix®

Foam tape for floor

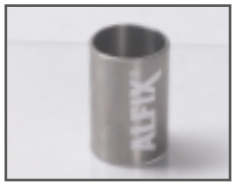
For bordering and forming bays in large floor areas, as well as for doorways, walls etc., use self-adhesive polystyrene-based tape with protective film covering.

Foam tape for floors. Dimensions: 15x15 mm or 30x30 mm in lengths of 2 m.

Foam tape for wall

Foam tape for walls. Dimensions: 3x40 mm in lengths of 25 m.

Height measurer. Adjustable steel tripod for determining the height of the compound.



CEN-ring

Metal net. Spot welded, steel mesh net for incorporating in levelling compound. Especially recommended for reinforcement and facilitating thermal spread in underfloor heating systems.
Dimensions: 800 x 1200 mm. Mesh size: 50 x 50 mm.
Wire diameter: 2.5 mm.

CEN-ring. Pipe section for measuring flow ability of mixed levelling compound according to EN Standard-12706.

Technical enquiries:
Product info
Product Health and Safety sheets

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Frydenborg Reklamebureau, November 2001

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