



## Tile adhesives

### K512f.lv

Technical data sheet

10/2023



## K4

### Extra flexible tile adhesive

#### Product description

Extra flexible, water and frost resistant, thin-layer, increased quality, cement-based tile adhesive.

#### Composition

A mixture of dolomite and natural sand with cement enriched with polyvinyl acetate polymer and additives to improve mass properties.

Type C2TES1

acc. to LVS EN 12004

#### Storage

12 months. Store in a dry, cool place on wooden pallets. Seal open bags hermetically and use as the first.

#### Quality

In accordance with the requirements of LVS EN 12004, a product type test has been carried out in a notified laboratory, constant control of the production process is ensured.

The product is marked with the CE mark.

#### Features and added value

- Extra flexible
- Thermal resistance from -20 °C to +80 °C
- High initial adhesion
- Without shrinkage and tension
- Water resistant
- Frost resistant
- Load resistant > 1.0 N/mm<sup>2</sup>
- With extended laying time
- With reduced slip < 0.5 mm
- Hydraulic curing
- Manual application
- For indoor and outdoor use

## Field of application

The thin-layer tile adhesive can be used for walls and floors, and can also be used for heated floors.

Suitable for:

- flexible surfaces – Knauf dry floors,
- gypsum boards (mounted on the wall in one layer),
- moisture-resistant wooden surfaces, following the relevant instructions,
- surfaces subject to fast temperature fluctuations, thermal walls,
- terraces and balconies,
- surfaces exposed to direct moisture,
- can be used as the "tile on tile" solution.

Intended for:

- gluing water-absorbing and non-absorbing tiles,
- gluing degreased and opaque natural stone slabs,
- gluing clinker finishing tiles – for exterior works.

For indoor and outdoor use.

## Application

### Substrate and pretreatment

The base should be smooth, hard, unfrozen, free of any dust, paint and oil residues. If surfaces are plastered in tiles, the plaster should be applied at least 10 mm thick, in one layer and not smoothed.

### The maximum allowable humidity of the substrates

Substrate	Max. moisture content
Cement floor covering	4 %
Cement floor covering with heating	2 %
Gypsum anhydrite floor	0.5 %

### Preparation

Highly absorbent and absorbent bases should be primed with Knauf Spezialhaftgrund (diluted 1:2 with water) or Knauf Tiefengrund.

Non-absorbent surfaces – polished concrete, terrazzo, etc. primed with Knauf Spezialhaftgrund (undiluted).

Knauf Flächendicht or Knauf Flex-Dicht waterproofing should be applied to surfaces where the influence of moisture is expected. Tile only after the primer has completely dried.

### Mixing

Mix the content of one bag (25 kg) with 6-7 l of clean, cold water, mix by hand or with a slowly rotating mixer until a homogeneous mass without lumps is formed, let it swell for 5 minutes and mix again. Adjust the consistency by adding powder or water to the mixture.

### Application

First, the mixed adhesive should be applied with a trowel or ladle to the entire prepared surface in the appropriate layer thickness. Then, holding the trowel at a 90° angle, comb with a suitable notched trowel (the sizes of the notches are specified in the Consumption Table). The tiles should be placed in a layer of adhesive and firmly pressed with a slight twisting motion. If a film forms on the adhesive (check with your finger), the adhesive should be reapplied. The time of laying and adjustment depends on the absorbent capacity of the base and tiles, as well as the ambient temperature.

When gluing tile to tile, the old surface should be cleaned with Knauf Intensiv Reiniger. In outdoor work and on the floor, the tile adhesive should provide adhesion over the entire surface of the tile. In such cases, the tile adhesive should be applied both on the tile and on the base. Use only clean tools and vessels!

### Grouting

Grouting can be done only after the adhesive has cured – after about 1-2 days.

### Tiling wooden surfaces

When tiling wooden surfaces, such as plank floors, OSB or chipboard, the following additional requirements should be met:

- wooden bases should be protected against the effects of moisture
- when tiling wooden floors, the maximum tile size is 30x30 cm
- use grooved impregnated chipboards, which should be firmly attached to the base
- direct chipboard tiling is allowed only on walls by applying Knauf Spezialhaftgrund primer, but even in this case it is recommended to cover them first with gypsum boards.

When tiling floors, direct gluing of tiles – to boards, OSB or chipboards – is not allowed. In such a case, the waterproofing membrane Knauf Abdichtungs & Entkopplungsbahn, or Knauf Brown, or Knauf Aquapanel® Cement Board Floor The Underlay should be used as an intermediate layer, or by pouring the self-levelling material Knauf Fließspachtel Faserflex in a layer at least 5 mm thick.

### Tiling of heated floors

The underfloor heating should be commissioned before tiling. Heated floor systems should be switched on at maximum temperature for 24 hours. It should be switched off and cooled before starting work. Full heating may be switched on no sooner than 28 days after tiling.

### Temperature/climate

Air and base temperature during development and drying should be between +5 °C and +25 °C.

Protect newly laid tiles from drafts, direct sunlight and rain. The technical data of the development are defined under the conditions, if the temperature of the air and the base is +23 °C and the relative air humidity is 50 % during curing.

### Drying

The drying time depends on the absorbent capacity of the base, ambient temperature and humidity in the room.

### Cleaning

Wash tools with water immediately after use.

<b>Notes</b>	<b>Attention!</b>
	The larger the tiles and the lower their water absorption capacity, the slower the adhesive dries.
	Spots smeared with adhesive should be cleaned immediately! The instructions and recommendations of the tile manufacturer should also be taken into account.
	Do not add other materials to Knauf K4, as they can significantly change the properties of the product.

### Other instructions

Soluble hexavalent chromium Cr (VI) ion content < 0.0002 %.

When tiling less loaded wall surfaces – around 70 % adhesive coverage is allowed.

For outdoor works and heavily loaded surfaces, the combined method should be used (adhesive is applied both to the base and to the tiles); achieving up to 100 % adhesive contact with the base. This method should also be used when laying very weak (< 0.5 %) water absorbing tiles. It should be noted that when applying a thicker layer of adhesive, when working in conditions of low temperature or high humidity, the times of loading and stitching of tiles increase. In case the material has got into the eyes, rinse them with plenty of water and seek medical help.

This technical datasheet defines the scope of use of the material and the recommended work to be carried out, but it cannot replace the skill of the worker. In addition to these recommendations, the work should be carried out in accordance with the requirements of the construction work. The manufacturer guarantees the quality of the product, but this has no influence on the way and conditions of its application. In case of doubt, a trial application should be carried out.

This technical datasheet supersedes previous editions of technical datasheets.

### Work safety and waste collection

Waste identification class:

170904 (see the material Safety Data Sheet).

**Technical data**

Designation	Unit / Standart	Value / Size
Type	acc. to LVS EN 12004	C2TES1
Layer thickness	mm	2-8
Working time	h	3
Tiling time*	min	30
Tile adjustment time*	min	10
The time of grouting for wall	h	24
The time of grouting for floor	h	48
Walking on the surface	h	24
The surface can be fully loaded after	days	7
Adhesion – to concrete	N/mm <sup>2</sup>	> 1.0
Deformability	mm	> 2.5
Slip	mm	< 0.5
Reaction to fire	acc. to LVS EN 13501-1	A1 / A1 <sub>f</sub>
Applying temperature	°C	+5 to +25
Thermal resistance	°C	-20 to +80

\* The time depends on the type of tiles and the ambient temperature

**Material requirement / Consumption**

Tile size cm	Trowel notch size mm	Consumption* kg/m <sup>2</sup>
up to 10	4	2.1
up to 15	6	2.9
up to 25	8	3.5
up to 30	10	4.3
30 and more	12	5.1

\* Adhesive consumption is not determined by the size of the tiles, but by the thickness of the adhesive layer, which depends on the size of the trowel's notches

**Product range**

Product	Packaging	Material number	EAN
K4	25 kg	00281709	4750614006153
K4	12 kg	00281864	4750614006184
K4	5 kg	00281865	4750614006191

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