

TECHNICAL DATA SHEET

KEMAKOL ULTRAFLEX 177

Highly flexible 2C tile adhesive



C2TE

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PRODUCT DESCRIPTION

Highly flexible two-component cement-based polymer-enriched adhesive for floor and wall coverings, layer thickness 3 mm.

Field of use

For outdoor and indoor installation of new tiles over old ones, heavy wall and floor ceramic tiles, ceramic tiles in swimming pools, clinker, natural and artificial stone, for adhesion onto underfloor heating and gypsum-cardboard panels, for cast asphalt substrates (indoors), for installation non-absorptive coverings and on existing wooden floor.

Product properties

Due to its high adherence, strength and flexibility it can be used on surfaces where common adhesives are not efficient.

- Highly flexible adhesive
- For adhesion onto a substrate with expected limited deformation
- For adhesion of non-absorptive coverings
- For adhesion of ceramic tiles onto existent wooden flooring
- For adhesion of ceramic tiles onto curing concrete
- High bonding strength
- Easy to work with
- Richness
- Frost-resistant
- Useful on underfloor heating installations

PRODUCT DATA

Basic information

Appearance	grey mass
Packing	13+4=17 kg in plastic can Part A: 3 x PE bag with 4,34 kg of dry mixture; Part B: plastic can with 4 kg of elastic dispersion
Storage and expiration date	12 months from date of production if stored properly in undamaged original sealed packaging in dry and cool conditions. Date of production is printed on packaging.

Technical data

Type of product	Cementitious polymer modified adhesive	
Weight of fresh mortar	1,38 kg/l (at 20°C)	EN 12190:2000
Bulk density of powder	1,29 kg/l (at 20°C)	
Grain size	D _{max} : 0,355 mm	EN 12192-1:2002
Layer thickness	approx. 3 mm	
Initial tensile adhesion strength	>= 1 MPa	EN 1348:2007
Tensile adhesion strength after water immersion	>= 1 MPa	EN 1348:2007
Tensile adhesion strength after heat ageing	>= 1 MPa	EN 1348:2007
Tensile adhesion strength after freeze-thaw cycles	>= 1 MPa	EN 1348:2007

Slip	<= 0,5 mm	EN 1308:2007
Open time after 20 min	>= 0,5 MPa	EN 1346:2007
Open time after 30 min	>= 0,5 MPa	EN 1346:2007
Deformability-deflection	>= 5 mm	EN 12002:2009
pH (at +20°C)	11-13,5	

INSTRUCTIONS FOR USE

Consumption

2 - 4 kg/m² depending on the substrate, covering size and application method

Base

The substrate has to be equally absorptive, dry, homogenous, solid, supporting, stabile, not frozen (over +5°C), clean and free of dust, oil, grease remains, wax, falling of colour, or dirt. Coatings have to be air dry and the reinforced cement floor base has to be at least 28 days old.

Base preparation

Before applying the adhesive, anhydride cement floor base (mechanically ground), light concrete, gas concrete and gypsum coatings have to be impregnated with the polymer dispersion KEMACRYL (KEMAGRUND S) diluted with water in the ratio 1:1, for impregnation of compact surfaces is KEMAGRUND A, diluted with water in the ratio at least 1:1, recommended.

Surface can be concrete (at least 28 days old), plaster, cement floor base, clinker, lightweight concrete or aerated concrete, cast asphalt or tiles. It is also suitable for terraces, facades and for underfloor and wall heating installations. If it is prepared in advance, surface can also be gypsum plaster, gypsum panels and calcium-sulphate floor base. It is not suitable for wood, metal and artificial materials.

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Surface has to be sufficiently flat to enable setting of ceramic in cca. 3 mm thick layer of adhesive. Bigger floor unevenness (0.5-3 cm) should be levelled by applying LINEA 820M (LINEA 20) mass to the connective KEMACRYL coating, diluted with water in the 1:1 ratio. When laying new ceramic tiles to the existing ones, the existing tiles have to be impeccably attached to the surface (must not sound hollow when knocked on). Before laying, they have to be washed with hot water and detergent to remove grease.

Before setting of lining, floor bases with underfloor heating have to be heated and cooled in accordance with heating rules, cast asphalt surface has to be sandblasted.

Surface can change its shape only in a limited amount after lining has been applied. On substrate constructions, which are contracting and extending, lining has to be laid as late as possible. A guideline is that lining can be applied app. 6 months after the construction on a concrete surface and wall with connected bricks. In substrate constructions, where expected effects are finalised, the aforementioned time limit can be shorter.

Mix ratio

13 kg of dry mixture KEMAKOL ULTRAFLEX 177 (PART A) + 4 kg of elastic dispersion (PART B)

Mix time

In clean container add part A, than part B and mix, so that homogenous mass of medium plastic consistency without clods is obtained.

Mix tool

Mix with electrical mixer with a suitable equipment for mixing, number of turns (400-800 turns/min).

Installation

Apply a thin adhesive layer on a cleaned surface using a trowel. Apply the next layer to a fresh contact layer using a notched finishing trowel.

Ceramic tiles should be pressed into a fresh glue before a film forms on the adhesive.

Adhesives in joints should be removed before it dries. By removing the adhesive from the joints the grouting compound can be applied and possible stains on the joints are prevented.

If setting tiles on more demanding surfaces (outdoor, pools) and in other areas that require perfect adherence of ceramic tiles, the use of combined procedure is recommended. At the combined procedure the thin-layer adhesive is applied on both surfaces; on the surface to be lined as well as on the back side of the ceramics.

Tool

Choose a notched finishing trowel with teeth depth of 4 to 6 mm, which assures 2 to 3 mm thick adhesive layer.

Cleaning of tool

Clean tools immediately after use before adhesive hardens. Hardened material on tools can only be removed mechanically.

Usage time

approx. 5 hours

Open time

approx. 30 minutes

Coagulation

Product appropriate for (+20°C):
Grouting of wall and floor surfaces after 24 hours
Grouting of tile on tile after 36 hours
Foot traffic on concrete surfaces after 24 hours
Foot traffic on tile on tile after 36 hours
Full load after 14 days

LIMITATIONS

Base temperature

+5°C min./ +30°C max.

Air temperature

+5°C min./ +30°C max.

Material temperature

+5°C min./ +30°C max.

Warnings

- Times specified in the technical sheet were measured at the temperature of +23°C and relative air humidity of 50 %. Higher temperatures reduce, while lower temperatures prolong those times.
- Use only recommended amount of water. Use only mixture from undamaged packaging. Do not overdo the layer thickness.

- Gypsum board panels should be at least 10 mm thickness, with maximum moistness of 5%.
- Protect freshly installed material from freezing, rain and other weather conditions. The material should not be used at (surface, air, material) temperatures lower than +5°C.
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- It is not necessary to wet the lining before application. When setting natural stone, there is a danger of stone being coloured, so prior test setting is recommended.
- Due to different working conditions presence of a film on the adhesive should be checked with a finger if membrane is formed on the surface of the applied adhesive.
- Application of adhesive in direkt sun and draught is not allowed.

Recommendation: Remains of unhardened/unset material had to be removed in accordance with the legislation.

Data source: All technical data in this technical sheet was obtained by laboratory research. Actual data may differ due to different working conditions.

Local restrictions: Due to specific local regulations the installed product can differ from country to country. For exact instructions for use a country specific technical sheet should be obtained.

PROOFS

Norms/Standards

In accordance with European standards EN 12004:2007

SAFETY DATA

Irritating. Contains cement. Irritating to eyes, skin and respiratory tract. In case of eye contact wash thoroughly with water at once and consult a doctor. In case of skin contact flood with a lot of water. Keep away from the reach of children. More data on storage, handling and use of mixture can be found in the safety sheet which contains safety, toxicological and ecological data. Warnings on the original packaging should also be considered.

LEGAL BASE

Information and recommendations related to use of KEMA products are presented in good faith and believed to be correct. The later is based on our knowledge and experience with the products. Information is supplied upon the condition that products are stored and used according to the recommendations and the persons receiving the same will make their own determination as to its suitability for their purposes prior to use. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to Information or the product to which information refers. In no event will KEMA be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information or the product to which Information refers. Nothing contained herein is to be construed as a recommendation to the use any product, process, equipment or formulation in conflict with any patent, and KEMA makes no representation or warranty, expressed or implied that the use thereof will not infringe any patent. All orders fall under current sales and supply conditions. The user should always check the latest technical sheet available upon demand.