

Litokol K18

CEMENTITIOUS ADHESIVE FOR THE INSTALLATION OF CERAMIC AND PORCELAIN TILES ON INTERIOR WALLS AND FLOORS, AND ON EXTERIOR FLOORS. PRODUCT WITH VERY LOW VOLATILE ORGANIC COMPOUND EMISSION RATE.



ADVANTAGES / FEATURES

- Product with very low volatile organic compound (VOC) emission rate. Complies with class EC1^{PLUS} according to the EMICODE protocol and class A+ (Émission dans l'air intérieur - French Regulations)
- Maintains excellent workability over time, without any bothersome thickening

PACKAGING

20 kg bags - 1,200 kg standard pallet

INTENDED USE

Intended uses

Interiors - exteriors
Floors and walls
Residential, public, commercial building

Suitable materials

Ceramic and porcelain tiles
Terracotta - Clinker
Marble - Granite - Stone
Natural stones
Double fired
Single fired
Porcelain stoneware

Suitable substrates

Cement screeds
Self-levellers
Skim coats
Plasters
Concrete
Gypsum
Gypsum and anhydrite

INSTALLATION PLANNING

The only way to guarantee the long-lasting performance of ceramic and porcelain tile installations is to properly plan the process. It is therefore advisable to consult the national regulations in force in each country, for example standard UNI 11493 in Italy, which provides all necessary instructions regarding the choice of materials, correct planning, use and installation, so as to ensure all quality, performance and durability standards are safely met.

Some of the general precautions that need to be followed are listed below as an example.

Substrates

Before installation, check that substrates are clean, free of loose fragments, properly dried and cured, flat and level, and that mechanical strength requirements based on the intended use have been met.

Worksite conditions

Check the suitability of the temperature, humidity, light conditions etc. at the time of the product's application.

Materials

Check that all materials used for tiling (ceramic materials, levelling systems, adhesives, grouts, waterproofing products, etc.) are suitable for the intended use and have been correctly stored.

Expansion joints

Check that the perimeter, expansion, divider and structural elastic joints have been correctly designed and prepared. Divider joints are normally needed for 20/25 m² indoor sections, and 9-15m² outdoor sections. For exteriors, make sure joints are properly waterproofed and sealed.

Back-buttering

For exterior installations, large tiles, floors with intense or heavy traffic, vibrating supports and situations exposed to high temperature fluctuations, the adhesive mortar must be applied to both the substrate and the back of the tiles so as to obtain a solid bed of adhesive without any air bubbles.

Joints

In any type of ceramic and porcelain tiling, suitably sized joints must be created based on the following parameters:

- Type, format and size tolerance of tiles
- thermal expansion coefficients of tiling materials
- mechanical properties of installation materials
- position and trajectory of joints

- mechanical features of substrate
 - Intended use and operating conditions
- Butt joints are not allowed. Any plastic spacers must be removed before grouting.

For example, it can also be used to install suitable materials in the following areas:

Interior floors in residential and public/commercial settings (pedestrian areas)

| Substrates | Longest allowable tile side (cm) |
|--|----------------------------------|
| Cement or Litocem/Litocem Pronto-based non-heating screeds | up to 60 |
| Sulphate-based (anhydrite) non-heating screeds (1) | up to 60 |

Interior walls in residential, public/commercial and industrial settings

| Substrates | Longest allowable tile side (cm) |
|---|----------------------------------|
| Lime/cement plaster | up to 60 |
| Gypsum-based plaster (1) | up to 60 |
| Fibre cement and cement panels | up to 30 |
| Elements in autoclaved aerated concrete (6) | up to 60 |

Exterior floors in residential, public/commercial and industrial settings

| Substrates | Longest allowable tile side (cm) |
|--|----------------------------------|
| Cement or Litocem/Litocem Pronto-based non-heating screeds | up to 30 |
| Cast-in-place concrete (2) | up to 30 |

Key

- (1) After treatment with Primer C or Primer X94. Maximum humidity = 0.5%.
- (2) Curing time: minimum 6 months.
- (3) After cleaning and degreasing with Litoscrub EVO.
- (4) After treatment with the adhesion promoter Prepara Fondo EVO.
- (5) After treatment with Primer C or Primer X94 for non-waterproof gypsum.
- (6) After treatment with Primer X94.

PREPARATION OF SUBSTRATES

The substrates must be clean, solid, compact, crack-free, properly cured and without rising damp. If it becomes necessary to create a slope, for example on balconies or footpaths, a levelling layer can be created using suitable levelling products such as Litoplan Smart.

- Excessively porous and absorbent or powdery substrates must be treated with the consolidating primer Primer C
- Smooth and compact substrates such as smoothed concrete, existing ceramic or agglomerate coverings, must be treated with the adhesion promoter primer Prepara Fondo EVO after being suitably degreased with specific detergents such as Litoscrub EVO
- In the case of anhydrite screeds, check for the presence of a suitable vapour barrier in order to prevent rising damp. Use a carbide method hygrometer to check that the residual humidity is less than 0.5%. The surface must be sanded and treated with Primer C
- Any cracks must be repaired with Multifondo EVO, sprinkling the fresh surface with sand or dried quartz with granulometry 0.4-1 mm

In any case, the technical data sheets must be consulted for correct use of the indicated products.

MIX RATIO

20 kg (1 bag) – Water 4.8 l (24%) - Latexkol 6.0 l (30%)

PREPARING THE MIX

Pour the right quantity of water, depending on the application, into a clean container and slowly add the powder, stirring with an electric drill with mixing paddle until a consistent mix is obtained without lumps.

Let the mix rest for about 5 minutes and then briefly mix again for a few seconds.

The pot life is about 8 hours at a temperature of +23°C.

Do not use quantities of mixing water greater than those indicated to avoid product shrinkage during curing and the lowering of the final mechanical properties.

Do not add more water to the mix once setting has begun.

APPLICATION

Spread the mix onto the substrate using the smooth part of the trowel to create a layer approximately 1 mm thick. Immediately afterwards, apply the product using the notched part of the trowel.

The trowel notch size will depend on the size of the tiles.

A back coverage of 65-70% of slabs is nonetheless required for interior installations, and 100% of slabs for exterior installations or floors subject to heavy traffic.

In exterior installations or areas subject to high stress, the adhesive should also be applied to the back of the slabs (back-buttering method).

The tiles must be laid on the adhesive when fresh, firmly pressed to ensure good contact.

The product's open time in normal temperature and humidity conditions is approximately 20 minutes.

High temperatures will shorten it, low temperatures will lengthen it.

Very warm or windy climates, or particularly absorbent substrates may drastically reduce it to a few minutes. It is therefore recommended to regularly check that the adhesive has not skinned over.

If it has skinned over, the adhesive will need to be combed again using the notched trowel.

The tiles must be installed with joint widths suitable for their size.

Take account of any expansion, perimeter, divider or structural joints.

Leave a space of at least 5 mm near walls or any surface elevations.

FOCUS

Marble, natural and recomposed stones

Materials subject to deformation or stains due to water absorption require a quick-setting (C2F) or reactive (R2) adhesive. Marble and natural stones, even if similar in nature, may have different characteristics. In case of doubt, contact the Litokol S.p.A. Technical Help Service for detailed information or to perform a laboratory test. Natural stone slabs with reinforced backing (resin, mesh, etc.) or specific treatments (for example anti-rising damp, etc.), unless otherwise prescribed by the manufacturer must be tested for compatibility with the adhesive. Before installation, check for any traces of dirt or material deposits on the back of the slabs. If so, these must be removed.

Mixing with Latexkol

Mixing the adhesive with the elasticising latex Latexkol (diluted to a ratio of 1:1 with water), improves the adhesion and deformability features up to class C2 S1 (high-performance deformable cementitious adhesive) according to EN 12004.

Mixing the adhesive with the elasticising latex Latexkol in total replacement of water improves the adhesion and deformability features up to class C2 S2 (high-performance highly deformable cementitious adhesive) according to EN 12004.

It is recommended to use the Latexkol elasticising latex in all situations requiring high performance of the adhesive, for example in swimming pools, on façades, in the case of large tiles or floors subject to intense traffic.

GROUTING

Joints can be grouted after approximately 6-8 hours in the case of wall tiles and after 24 hours in the case of floor tiles.

For grouting, it is possible to use the cementitious grouts Stylegrout 0-8, Stylegrout 3-20, Stylegrout Tech or the ready-to-use polymer mortar FillGood EVO, or, for grouting with special mechanical and chemical resistance, the two-component epoxy grouts Starlike® EVO or EpoxyElite EVO.

WARNINGS

- Spread the product at temperatures between +5°C and +35°C
- Do not add lime, cement or other foreign materials to the product
- Do not use the product to install non-absorbent tiles on non-absorbent substrates
- Do not use the product on floors that need to quickly set to light foot traffic
- Do not spread the product with thickness greater than 5 mm
- Do not use the product to install thin slabs with glass fibre mat backing
- Respect the mix ratio
- To identify the adhesive most suitable to the requested type of application, it is recommended to consult the document "Synoptic table for choice of adhesives"
- In the case of exterior installations, protect the tiled surface against rain or direct sunlight for at least 24 hours, and against frost for about 5-7 days
- Do not use the product for applications not stated in this technical sheet
- If in doubt, contact the Litokol S.p.A Technical Help Service.

SAFETY INFORMATION

Consult the product safety data sheet, available on request.

PRODUCT FOR PROFESSIONAL USE

ITEM SPECIFICATION #Ceramic and porcelain floor and wall coverings will be installed using a normal cementitious adhesive in class C1 according to EN 12004, such as Litokol K18 by Litokol S.p.A.

| | | |
|----------------------------|--------------|---|
| IDENTIFICATION DATA | Appearance | Powder |
| | Colour | White |
| | Customs code | 38245090 |
| | Shelf life | 12 months in original packaging in a dry place. |

| | | |
|-------------------------|---------------------------|--|
| APPLICATION DATA | Mix ratio | Water = 24% (4.8 litres of water per 20 kg bag) |
| | Mix ratio | Latexkol = 30% (6.0 litres of water per 20 kg bag) |
| | Consistency of mix | Creamy mortar |
| | Mix curing time | 5 minutes |
| | pH of mix | 13 |
| | Specific gravity of mix | 1,50 kg/dm ³ |
| | Bonding time | 20 minutes |
| | Pot life | Approx. 8 hours |
| | Applicable thicknesses | From 1 to 5 mm |
| | Application | Notched trowel |
| | Application temperatures | From +5°C to +35°C |
| | Waiting time for grouting | Wall: 6-8 hours – Floor: 24 hours |
| | Set to light foot traffic | 24 hours |
| | Ready for use | 7 days |
| | Temperature of use | From -30°C to +80°C |
| | How to clean equipment | With water when product is fresh. Mechanically when product has set. |
| | Consumption | 6 mm trowel: 2.5 kg/m ² |
| | Consumption | 8 mm trowel: 3 kg/m ² |
| | Consumption | 10 mm trowel: 3.5 kg/m ² |
| | Consumption | Back-buttering: 5 kg/m ² |

| | | | |
|--------------------|--|--|---------|
| PERFORMANCE | Compliance | EN 12004 – ISO 13007 | C1 |
| | Initial tensile adhesion strength after 28 days | ≥ 0.5 N/mm ² | EN 1348 |
| | Tensile adhesion strength after water immersion | ≥ 0.5 N/mm ² | EN 1348 |
| | Tensile adhesion strength after heat action | ≥ 0.5 N/mm ² | EN 1348 |
| | Tensile adhesion strength after freeze/thaw cycles | ≥ 0.5 N/mm ² | EN 1348 |
| | Open time | ≥ 0.5 N/mm ² after 20 minutes | EN 1346 |
| | Resistance to alkalis | Excellent | |
| | Resistance to solvents | Excellent | |
| | Resistance to acids | Low | |

NOTES Data detection at temperature +23 °C, R.H. 50% and with no wind. May vary depending on the specific conditions of the installation site.

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The information and provisions contained in this technical data sheet reflect our best experience. Given the impossibility of directly intervening on the conditions of the work site and execution of the works, they represent indications of a general nature, which are in no way binding on our Company. It is therefore advisable to perform a spot test to check the suitability of the product for the intended use. In any case, users must determine whether or not it is suitable for the intended use and shall assume all associated responsibility.

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