



# LITOFLEX K80 EXPORT

Non-slip improved cementitious adhesive with extended open time for the indoor and outdoor installation of ceramic tiles on floors and walls. Suitable for installation over existing tiles and heated floors.



## DESCRIPTION

A white or grey Portland cement-based powder adhesive, silica or lime-based inert fillers of selected particle size and specific organic additives offering the product excellent water retention features and superior adhesive power. When mixed with water, the product creates a mortar with excellent application properties and extended open time. The product hardens without noticeable shrinkage, becoming extremely resistant and creating perfect adhesion between ceramic tiles and substrates commonly used in the building sector.

## ADVANTAGES

- Product with low volatile organic chemical emissions (VOC) classified EC1-RPLUS (EMICODE) and A+ (French Regulation).
- Versatile product. Can also be used on heated floors and over existing ceramic tiles.
- The adhesive mortar features excellent bonding strength, allowing ceramics and mosaics to be laid on walls without the need for plastic spacers.

## EN 12004 CLASSIFICATION

Litoflex K80 Export is a non-slip improved cementitious adhesive with extended open time, classified C2TE for the indoor and outdoor installation of ceramic tiles on floors and walls. The product complies with EN 12004 standards reported in the CPT-IT006B and CPR-IT006G Performance Declarations, as per the European Construction Products Regulation No. 305/2011/EU, tested by a European body notified as per certification system 3.

## PACKAGING

25 kg bags.

## INTENDED USE

Litoflex K80 Export can be used to install all types of ceramic tiles (except for thin slabs with glass fibre mat reinforcement backing) in the following environments.

### Interior floors in residential and public/commercial buildings (with light foot traffic)

Substrates	Longest allowable tile side (cm)
Cement-based or Litocem/Litocem Pronto-based screeds without heating	≤ 120
Cement-based or Litocem/Litocem Pronto-based screeds with heating	≤ 90
Sulphate-based (anhydrite) screeds without heating (1)	≤ 120
Sulphate-based (anhydrite) screeds with heating (1)	≤ 90
Cast-concrete (2)	> 120
Pre-cast concrete	≤ 30
Pre-existing substrates made of tiles, mosaics, stone, agglomerate floors (3)	≤ 90
Pre-existing substrates with organic adhesive residue (4)	≤ 90
Substrates treated with Litoproof	≤ 60
Substrates treated with Hidroflex, Aquamaster, Elastocem, Coverflex	≤ 60

### Interior floors in public/commercial and industrial buildings bearing heavy loads

Substrates	Longest allowable tile side (cm)
Cement-based or Litocem/Litocem Pronto-based screeds without heating	≤ 90
Cast-concrete (2)	> 120
Pre-cast concrete	≤ 30
Pre-existing substrates made of tiles, mosaics, stone, agglomerate floors (3)	≤ 90
Pre-existing substrates with organic adhesive residue (4)	≤ 90
Substrates treated with Litoproof	≤ 60
Substrates treated with Hidroflex, Aquamaster, Elastocem, Coverflex	≤ 60



### Interior walls in residential, public/commercial and industrial buildings

Substrates	Longest allowable tile side (cm)
Lime/cement-based renders	≤ 90
Gypsum-based renders (1)	≤ 90
Cast-concrete (2)	≤ 90
Pre-cast concrete	≤ 90
Pre-existing substrates made of tiles, mosaics, stone (3)	≤ 90
Substrates treated with Litoproof	≤ 60
Substrates treated with Hidroflex, Aquamaster, Elastocem, Coverflex	≤ 60
Fibre cement and cement-based panels	≤ 60
Waterproof and non-waterproof gypsum boards (5)	≤ 60
Elements in autoclaved aerated concrete (6)	≤ 90
Thermal insulated and soundproof panels - Lightweight panels	≤ 60

### Exterior floors in residential, public/commercial and industrial buildings

Substrates	Longest allowable tile side (cm)
Cement-based or Litocem/Litocem Pronto-based screeds without heating	≤ 90
Cast-concrete (2)	≤ 90
Pre-cast concrete	≤ 30
Pre-existing substrates made of tiles, mosaics, stone, agglomerate floors (3)	≤ 90
Substrates treated with Aquamaster, Elastocem, Coverflex	≤ 60

### Exterior walls

Substrates	Longest allowable tile side (cm)
Lime/cement-based renders	≤ 60
Cast-concrete (2)	≤ 60
Pre-cast concrete	≤ 60
Substrates treated with Aquamaster, Elastocem, Coverflex	≤ 30
Fibre cement panels	≤ 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 a water and caustic soda solution.
- (4) After treatment with Litofix or Prepara Fondo
- (5) After treatment with Primer C or Primer X94 for non-waterproof gypsum board.
- (6) After treatment with Primer X94.

## INSTALLATION PLANNING

The only way to guarantee the long-lasting performance of ceramic installations is to properly plan the process. We therefore recommend that national regulations currently in force in each country be carefully read, for example 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:

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

**Worksite conditions** - Check the suitability of 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 elastic perimeter seals, expansion joints, control and structural joints have been properly designed and included. Control joints are normally needed for 20/25 m<sup>2</sup> sections in interiors, and 9-15m<sup>2</sup> sections in exteriors. For exteriors, make sure joints are properly waterproofed and grouted.

**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 full layer of adhesive without any air pockets.

**Joints** - In any type of ceramic tiling, suitably sized joints must be developed based on the following parameters:

- type, format and size tolerance of tiles;
  - thermal expansion coefficients of the materials being used;
  - mechanical properties of installation materials;
  - position and trajectory of joints;
  - mechanical properties of substrate;
  - environment of use and expected operating conditions.
- Butt joints are **not allowed**. Any plastic spacers must be removed before grouting.

## MIX RATIO

**LITOFLEX K80 EXPORT** 25 kg. (1 bag) – **WATER** 8 l (32%)

## PREPARING THE MIX

Pour the right quantity of water into a clean container and slowly add the powder, stirring with an electric drill fitted with a mixing paddle until obtaining a smooth and consistent mix without any lumps. Leave the mix to settle for about 5 minutes and then briefly mix again for a few seconds.

## APPLICATION

Spread the mix onto the substrate using the smooth part of the trowel to create a layer approximately 1 mm thick. Immediately afterwards, comb the product onto the surface using the notched part of the trowel. The trowel notch size will depend on the size of the tiles. In any case, consider that 65-70% of the reverse side of tiles needs to be covered

for interior installations, and 100% for exterior installations or floors subject to intense traffic. In exterior installations or areas subject to high stress, it is recommended to also apply the adhesive to the back of the tiles (back-buttering method).

The tiles must be laid on the adhesive and firmly pressed to ensure good contact. The product's open time in conditions of normal temperature and humidity is 30 minutes. In very warm or windy climates, or in the case of particularly absorbent substrates, the open time may be drastically reduced to just a few minutes. It is therefore recommended to regularly check that the adhesive has not skinned over. In this case, the surface of the adhesive will need to be combed again using the trowel. The joints between laid tiles must be of a suitable width. Take account of any expansion, perimeter, control or structural joints. The tiled surface must be protected for at least 24 hours against any water infiltration, and for approximately 5-7 days against any frost and direct sunlight.

## 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. Grouting can be carried out using cement-based grouts **Litochrom 0-2**, **Litochrom 1-6**, **Litochrom 3-15** and **Starlike® Monomix**.

In the case of acid-resistant floors, or whenever grouting with high mechanical resistance is required, it is recommended to use a two-part epoxy grout such as **Epoxytук X90** or **Starlike®**.

## WARNINGS

- Do not add lime, cement or other foreign materials to the product.
- Apply the product at temperatures between +5°C and +35°C.
- Always respect the mix ratio.
- For exterior wall installations, where tiled surfaces are characterised by a significant vertical slip (> 3m) subject to high levels of tension in expansion joints due to the variations in air temperature and relative humidity, and considering the safety risks posed by any eventual detachments, it is recommended to consult the Litokol S.p.A technical help service in order to precisely define the safest type of installation.
- Do not apply the product to plastic, elastic, wooden, metal materials or resin-treated surfaces.
- Do not use the product to lay thin slabs with glass fibre mat reinforcement backing.
- Do not use the product to create layers more than 5 mm thick.
- Do not use the product on floors that need to quickly set to light foot traffic.
- 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 Material Safety Data Sheet, available on request.  
**PRODUCT FOR PROFESSIONAL USE**

## ITEM SPECIFICATION

Ceramic wall and floor tiles will be laid using a non-slip improved cementitious adhesive with Class C2TE extended opening time compliant with EN 12004 standards, such as Litoflex K80 Export by Litokol S.p.A.



## IDENTIFICATION DATA

Appearance	Powder
Colour	White or grey
Customs code	38245090
Dry solids content	100%
Shelf life	12 months in original packaging in a dry place.

## APPLICATION DATA

Mix ratio	Water = 32% (8 litres of water per 25 kg bag)
Consistency of mix	Thixotropic
Mix curing time	5 minutes
pH of mix	13
Specific gravity of mix	1.5
Pot life	Approx. 8 hours
Application	Notched trowel
Application temperatures	From +5°C to +35°C
Ready 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 hardened.
Consumption	6 mm trowel: 2.5 kg/m <sup>2</sup> 8 mm trowel: 3 kg/m <sup>2</sup> 10 mm trowel: 3.5 kg/m <sup>2</sup> Back-buttering: 5 kg/m <sup>2</sup>

## PERFORMANCE

Initial tensile adhesion strength after 28 days	≥ 1.0 N/mm <sup>2</sup>	
Tensile adhesion strength after water immersion	≥ 1.0 N/mm <sup>2</sup>	EN 1348
Tensile adhesion strength after heat action	≥ 1.0 N/mm <sup>2</sup>	
Tensile adhesion strength after freeze/thaw cycles	≥ 1.0 N/mm <sup>2</sup>	
Open time	≥ 0.5 N/mm <sup>2</sup> after 30 minutes	EN 1346
Slip	≤ 0.5 mm	EN 1308
Resistance to alkalis	Excellent	
Resistance to solvents	Excellent	
Resistance to acids	Poor	

Although the information provided in this technical data sheet represents the best of our knowledge and experience, it is intended purely as a guideline. The user must carry out preliminary practical tests for each specific job and is solely responsible for the final result.

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