

KERAFLEX

High-performance cementitious adhesive with no vertical slip and extended open time for ceramic and stone tiles



BENEFITS AND FEATURES

- Excellent workability
- Perfect adhesion to all materials
- Low emission level of VOC
- Extended open time

CLASSIFICATION ACCORDING TO EN 12004

Keraflex is an improved (2) cementitious adhesive (C) with no vertical slip (T) and extended open time (E), classified as C2TE.

*The compliance of **Keraflex** is declared in TT certificates No. 4090/2024/CRR - 3901/2024 - 4025/2024 - 4024/2024 - 3900/2024 issued by Main Laboratory Sassuolo (Italy) for the grey version and TT certificates No. 1220.12/10/R03 NPU; 1220.14/10/R03 NPU; 1220.11/10/R03 NPU; and 1220.13/10/R03 NPU issued by ITB Institute Katowice (Poland) for the white version.*

WHERE TO USE

Exterior and interior wall and floor bonding of ceramic tiles (porcelain tiles, double-fired, single-fired, klinker, terracotta, etc.), stone material (as long as dimensionally stable and not sensitive to moisture and staining) and mosaic of all types.

Some application examples

- Bonding ceramic tiles (porcelain tiles, double-fired, single-fired, klinker, terracotta, etc.), stone material (provided they are dimensionally stable and not sensitive to moisture and staining) and mosaic on the following substrates:
 - cement or mortar wall renders;
 - interior cellular concrete block walls after applying **Primer G**;
 - gypsum and anhydrite provided they are dry and after applying an acrylic primer such as **Primer G** or **Eco Prim T Plus Zero**;
 - plasterboard, provided it is fastened to a rigid support;
 - heated floors;
 - cementitious screeds made with no-slump consistency or self-levelling products;
 - interior painted walls making sure the paint is well anchored;

- waterproofing membranes from the **Mapelastic Zero**, **Mapeguard WP 2K Membrane**, **Mapeguard WP 90/140/200** or **Mapegum WPS** range;
- uncoupling, anti-fracture and waterproofing membranes such as **Mapeguard UM 35**.
- Tile on tile of existing flooring.
- Bonding floors subject to high stress.

TECHNICAL CHARACTERISTICS

Keraflex is a grey or white powder made of cement, sands of selected grain size, a high amount of synthetic resins and special additives according to a formulation designed in MAPEI research laboratories.

Keraflex has very low emissions of VOC to protect the health of both applicators and end users and is certified EC1 Plus by the German association GEV. **Keraflex** contributes to the achievement of important LEED credits.

When mixed with water, a mortar with the following characteristics is obtained:

- excellent bond to all materials normally used in the building industry;
- extended open time;
- excellent workability;
- highly thixotropic: **Keraflex** may be applied on vertical surfaces without slumping and without allowing tiles to slip, including large, heavy tiles.
- good deformability;
- it hardens without significant shrinkage.

RECOMMENDATIONS

Do not use **Keraflex**:

- on not sufficiently cured concrete;
- on wood and wood conglomerates;
- on metal surfaces, linoleum, rubber, PVC;
- with marble and natural stone slabs or engineered materials subject to efflorescence or staining or movement due to moisture;
- on floors and walls subject to strong movement or vibration.

Do not add more water to the mix once it has started to set.

APPLICATION PROCEDURE

Preparing the substrate

Substrates must be flat, mechanically resistant, free of loose parts, grease, oil, paint, wax, etc., and sufficiently dry. Wet substrates can slow down the setting of **Keraflex**.

Cementitious substrates must not be subject to shrinkage following the installation of tiles, and therefore, in warm seasons, renders must have a curing time of at least one week for each centimeter of thickness and cementitious screeds must have a total curing time of at least 28 days, unless they are made with special MAPEI screed binders such as **Mapecem Pronto** or **Topcem Pronto**.

Dampen with water to cool surfaces that are too hot from exposure to sunlight.

Gypsum substrates and anhydrite screeds must be perfectly dry (maximum residual moisture 0.5 % and 0.3 % for heated screeds), mechanically resistant, free of dust and in any case treated with an acrylic primers such as **Primer G** or **Eco Prim T Plus Zero** before applying **Keraflex**.

Preparing the mix

Mix **Keraflex** with clean water until a homogeneous, lump-free paste is obtained; after approx. 5 minutes of resting, mix again.

The amount of water to be used is 29 - 31 parts per 100 parts by weight of **Keraflex** grey, equal to 5.8 - 6.2 litres of water per 20 kg of grey powder.

The mix obtained has a pot life of approx. 8 hours.

Spreading the mix

Keraflex is applied on the substrate by notched trowel. Use a suitable trowel so that the back of the tiles is completely wetted.

To guarantee a good bond, apply a thin layer of **Keraflex** on the substrate using the smooth side of the trowel and then immediately apply a second layer of **Keraflex** to form the thickness required using a suitable notched trowel for the type and size of tiles to be bonded.

If the substrate is very absorbent and in case of high temperatures it is recommended to dampen the substrate in order to extend the adhesive's open time before applying **Keraflex**. In case of exterior installation, installation of large-format ceramic tiles, heated floors, floors to be polished after installation or subject to heavy loads, application, use the double-buttering technique by spreading the adhesive on the back of the tiles to ensure complete wetting.

Installing the tiles

It is not necessary to wet the tiles before installation; only in the case of very dusty reverse sides is it advisable to wash them by immersing them in clean water.

Tiles should be applied by exerting good pressure to ensure complete wetting.

The open time of **Keraflex** is approx. 30 minutes under normal conditions of temperature and humidity; unfavourable weather conditions (direct sunlight, dry wind, high temperatures, etc.) as well as a very absorbent substrate may reduce this time to as little as a few minutes.

Continuously check that the applied adhesive has not formed a skin on the surface and is still "fresh," if not, go over the adhesive again with the notched trowel to reactivate the open time, or if it has already begun to set, remove it and spread a new layer of fresh adhesive.

It is not recommended to wet the adhesive when it has made a surface skin, as water does not dissolve the skin and forms an anti-adhesive layer.

Any adjustment of the tiles should be done within 45 minutes after installation.

Coverings installed with **Keraflex** must not be subject to pouring rain for at least 24 hours and must be protected from frost and direct sunlight for at least 5 - 7 days.

When installing tiles, in order to maintain the correct grout size and to reduce any height differences between adjacent tiles, it is suggested to use leveling systems from the **MapeLevel** range.

GROUTING AND SEALING

Grouts between tiles can be filled after 4 to 8 hours on walls and after 24 hours on floors with MAPEI's special cementitious or epoxy grouts, available in various colours.

Expansion joints must be sealed with the suitable MAPEI sealants.

If cleaning, maintenance and protection of surfaces is required, use the suitable products from the **UltraCare** range.

SET TO LIGHT FOOT TRAFFIC

The floors are set to light foot traffic after approximately 24 hours.

READY FOR USE

Surfaces can be put into service after approx. 14 days.

CLEANING

Clean tools and containers with water while **Keraflex** is still fresh. The surface of the tiles must be wiped with a damp rag before the adhesive hardens.

CONSUMPTION

2 - 5 kg/m².

PACKAGING

Keraflex is supplied in grey in 20 kg bags.

STORAGE

Keraflex in 20 kg bags can be stored for 12 months in a dry environment in its original packaging.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Instructions for the safe use of our products can be found on the latest version of the SDS available from our website www.mapei.no.

PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)

Complies with the standard:
- European EN 12004 as C2TE
- ISO 13007-1 as C2TE

PRODUCT IDENTITY

Consistency:	powder
Colour:	grey
Bulk density:	1300 kg/m ³
Dry solids content:	100 %
EMICODE:	EC1 Plus - very low emission

APPLICATION DATA (at +23°C and 50% R.H.)

Mixing ratio:	100 parts of Keraflex grey with 29 - 31 parts of water by weight
Consistency of mix:	paste
Density of the mix:	1500 kg/m ³
pH of mix:	13
Pot life of mix:	over 8 hours
Application temperature:	from +5°C to +40°C
Open time:	> 30 minutes
Adjustment time:	45 minutes
Wall grouts:	after 4 - 8 hours
Floor grouts:	after 24 hours
Set to light foot traffic:	24 hours
Ready for use:	14 days

FINAL PERFORMANCE

Bond:

- initial bond (after 28 days):	2.2 N/mm ²
- bond strength after heat ageing:	2.0 N/mm ²
- bond strength after immersion in water:	1.5 N/mm ²
- bond after freeze/thaw cycles:	1.7 N/mm ²

Resistant to alkalis:

excellent

Resistance to oils:

excellent (poor to vegetable oils)

Resistance to solvents:

excellent

Service temperature:

from -30°C to +90°C

WARNING

Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.no

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in force at the time of the MAPEI product installation.

The most up-to-date TDS can be downloaded from our website www.mapei.no.

ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.

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