



# Keraflex

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

## **SURPASSES THE REQUIREMENTS OF AS 4992.1-2006**

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

## **WHERE TO USE**

For interior and exterior floor, wall and ceiling installations, suitable for all ceramic tile types, mosaics, porcelain, natural stone, fully vitrified and quarry tiles, over most traditional, well prepared substrates including fully cured concrete and render, plasterboard and fibre cement sheeting.

Also suitable for spot bonding of insulating material such as expanded polystyrene, rock and glass wool, sound-deadening panels etc.

## **Some application examples**

- Conventional concrete slabs or suspended concrete slabs provided they are completely cured and stable.
- Conventional renders and cement mortar walls.
- For gypsum substrates and anhydrite screeds, provided they are dry and have been treated with a coat of **Primer G**.
- Plasterboard and fibre cement sheeting that is pre-primed and installed for tiling purposes.
- Underfloor heating installations, only with tiles less than 300 mm x 300 mm.
- Suitable for use over MAPEI and/or MAPEI approved waterproofing membranes.



# Keraflex

- Tiling on existing tiles with tiles up to 400 mm x 400 mm.
- Mosaic tiles in swimming pools and basins.
- Installing floors subject to heavy stress.

## TECHNICAL CHARACTERISTICS

**Keraflex** is a grey or white powder composed of cement and graded aggregates. It contains a high percentage of synthetic resins and special additives according to a formula developed in MAPEI's research laboratories.

When **Keraflex** is blended with water it becomes a creamy mortar which has an exceptional pot life and is easily workable. It has excellent initial bonding and thixotropic properties allowing it to be applied on vertical substrates without dripping, sagging or allowing even heavy tiles to slip.

**Keraflex** has an extended open time, making it ideal for Australian conditions.

**Keraflex** hardens without appreciable shrinkage and becomes extremely durable, bonding perfectly to most materials normally used in construction.

## RECOMMENDATIONS

Do not use **Keraflex** in the following cases:

- on wooden substrates;
- on metallic, rubber, PVC or linoleum surfaces;
- where a fast setting adhesive is required;
- on walls and floors subject to strong shrinkage, strong movement or vibration;
- where an adhesive thickness of more than 5 mm is required;
- to install agglomerates or moisture sensitive stone. Use **Granirapid**, **Keralastic** or **Kerapoxy**.

## APPLICATION PROCEDURE

### Preparation of the substrate

All supporting substrates must be structurally sound, solid, stable, dry, completely cured, level, plumb and true to tolerances as per the relevant Australian Standards. They must be clean, free of dust, oil, grease, paint, tar, wax, curing agents, sealers, release agents or any deleterious substances and debris, which may prevent or reduce adhesion.

Completely remove all loosely bonded topping, paint, loose particles and construction debris by mechanical means eg. shot blasting, scarification or sanding. Neutralise any trace of acid or alkali from the substrate prior to the application of any product.

### Cementitious substrates

Cementitious substrates must not be subject to shrinkage after the installation of tiles, therefore concrete slabs should be cured for at least 6 weeks and screed and renders for at least 1 week prior to tiling. The surface should be true and level and pitched to drains where required.

Steel trowelled concrete should be mechanically roughened to remove any laitance and provide a good key for tiling. Gypsum substrates and anhydrite screeds must be perfectly dry, sound and free from dust. It is absolutely essential that they are treated with **Primer G** or **Mapeprim SP**. Areas subject to dampness should be treated with **Primer S**.

Substrates heated due to exposure to sunlight should be cooled down with water.

## PREPARING THE MIX

Mix **Keraflex** with clean water until a smooth, lump-free paste is obtained.

Leave the mix to rest for approximately 5 minutes and re-mix. The paste is now ready for use.

Use 5.5-6 litres of water for every 20 kg bag of **Keraflex**.

Mixed this way, **Keraflex** remains workable for at least 8 hours.

## APPLYING THE MIX

Apply **Keraflex** on to the substrate using a notched trowel with sufficient depth to ensure a coverage as recommended by the current Australian Standards or better.

To maximise adhesion, spread a thin layer of **Keraflex** on to the substrate using the flat side of the trowel. Immediately thereafter, build up the thickness required using the notched side of the trowel.

In the case of external floors and finishing materials subject to freezing weather eg. basins and swimming pools, floors subject to heavy loads or tile sizes greater than 400 mm x 400 mm, **Keraflex** should also be spread on to the back of the tile (back-buttering method) in order to ensure complete coverage.

## LAYING THE TILES

It is not necessary to wet the tiles before they are installed. Only in the case where the backs of the tiles are very dusty do we recommend washing them by dipping them in clean water and then allowing them to dry. Place the tiles in position according to the recommendations of the relevant Australian Standards.

The open time of **Keraflex** is approximately 30 minutes under normal temperature and humidity conditions. Unfavourable conditions, such as direct sunlight, wind and/or high temperatures, or if the substrate is very absorbent, may drastically reduce this time, possibly to only a few minutes.

It is therefore necessary that careful checks be made to ensure that a skin does not form on the surface of the spread adhesive, which should stay fresh. If not, re-freshen the adhesive by re-spreading with a notched trowel.

It is not recommended to wet the adhesive with water once a skin has formed because, instead of dissolving the skin, the water will form an anti-adhesive film.

If necessary, tiles should be adjusted within 60 minutes of installation.

Tiling installed with **Keraflex** must not be washed down or exposed to rain for at least 24 hours and must be protected from frost and strong sun for at least 5-7 days.

## GROUTING AND SEALING

Wall joints can be grouted after 4-8 hours and floor joints can be grouted after 24 hours with the appropriate MAPEI cementitious or epoxy grout, available in a variety of different colours.



Installation of pre-glossed marble on floors



Installation of single-fired tile on expanded foam concrete block walls



Single-fired tile on terrazzo tile of an external wall

## TECHNICAL DATA (typical values):

In compliance with:

- Australian AS 4992.1-2006 as C2TE
- European EN 12004 such as C2TE
- ISO 13007-1 such as C2TE
- American ANSI A 118.4-1999
- Canadian 71 GP 30 M type 2

### PRODUCT IDENTITY

Type:	powder
Colour:	white or grey
Bulk density (kg/m <sup>3</sup> ):	1300
Dry solids content (%):	100
Storage:	12 months in a dry place in original packaging
Hazard classification according to EC 1999/45:	irritant. Before using refer to the "Safety Instructions for preparation and application" paragraph and the information on the packaging and Safety Data Sheet
Customs class:	3824 50 90

### COMPOSITION AND PROPERTIES OF THE MIXTURE at +23°C and 50% R.H.

Mixing ratio:	100 parts <b>Keraflex</b> with 27-29 parts water by weight
Consistency of mix:	pasty
Density of the mix (kg/m <sup>3</sup> ):	1500
pH of mix:	13
Pot life:	over 8 hours
Application temperature range:	from +5°C to +40°C
Open time (acc. EN 1346):	> 30 minutes
Adjustability time:	approx. 60 minutes
Ready for grouting on walls:	after 4-8 hours
Ready for grouting on floors:	after 24 hours
Set to light foot traffic:	24 hours
Ready for use:	14 days

### FINAL PERFORMANCES

Bonding strength according to EN 1348 (N/mm <sup>2</sup> ):	
- initial bonding after 28 days:	1.8
- bonding after heat exposure:	1.7
- bonding after immersion in water:	1.2
- bonding after freeze/thaw cycles:	1.4
Resistance to alkali:	excellent
Resistance to oils:	excellent (poor to vegetable oils)
Resistance to solvents:	excellent
Temperature when in use:	from -30°C to +90°C



Tile on tile with  
Keraflex Grey

# Keraflex



An example of an installation of porcelain tiles - Zanchetta Shopping Centre - Treviso (Italy)



Laying polystyrene foam slabs with Keraflex white

Expansion joints should be sealed with a suitable MAPEI sealant.

## SET TO LIGHT FOOT TRAFFIC

Floors are ready for light foot traffic after approx. 24 hours.

## READY FOR USE

Surfaces may be put into service after approx. 14 days.  
Swimming pools and basins can be filled after 21 days.

## CLEANING

Tools and containers should be cleaned using fresh water while **Keraflex** is still fresh. Surfaces should be cleaned with a damp cloth before the adhesive sets.

## CONSUMPTION

Approximately 1.2 kg/m<sup>2</sup> per mm of thickness.

## PACKAGING

**Keraflex** is available in white and grey in 20 kg bags and in 5 kg boxes.

## STORAGE

**Keraflex** can be stored for 12 months in original packaging in a dry place.

## SAFETY INSTRUCTIONS FOR THE PREPARATION AND APPLICATION

**Keraflex** contains cement that when in contact with sweat or other bodily fluids can produce an irritant alkaline reaction and allergic reactions to those predisposed. Use protective clothing, gloves, dust masks and eye protection.

For further information refer to the Material Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

## WARNING

*Although the technical details and recommendations contained in this product report 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 applications: for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application: in every case, the user alone is fully responsible for any consequences deriving from the use of the product.*



This symbol is used to identify MAPEI products which give off a low level of volatile organic compounds (VOC) as certified by GEV (Gesellschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.), an international organisation for controlling the level of emissions from products used for floors.



### Our Commitment To The Environment

More than 150 MAPEI products assist Project Designers and Contractors create innovative LEED (The Leadership in Energy and Environmental Design) certified projects, in compliance with the U.S. Green Building Council.

**All relevant references for the product are available upon request and from [www.mapei.com](http://www.mapei.com)**

