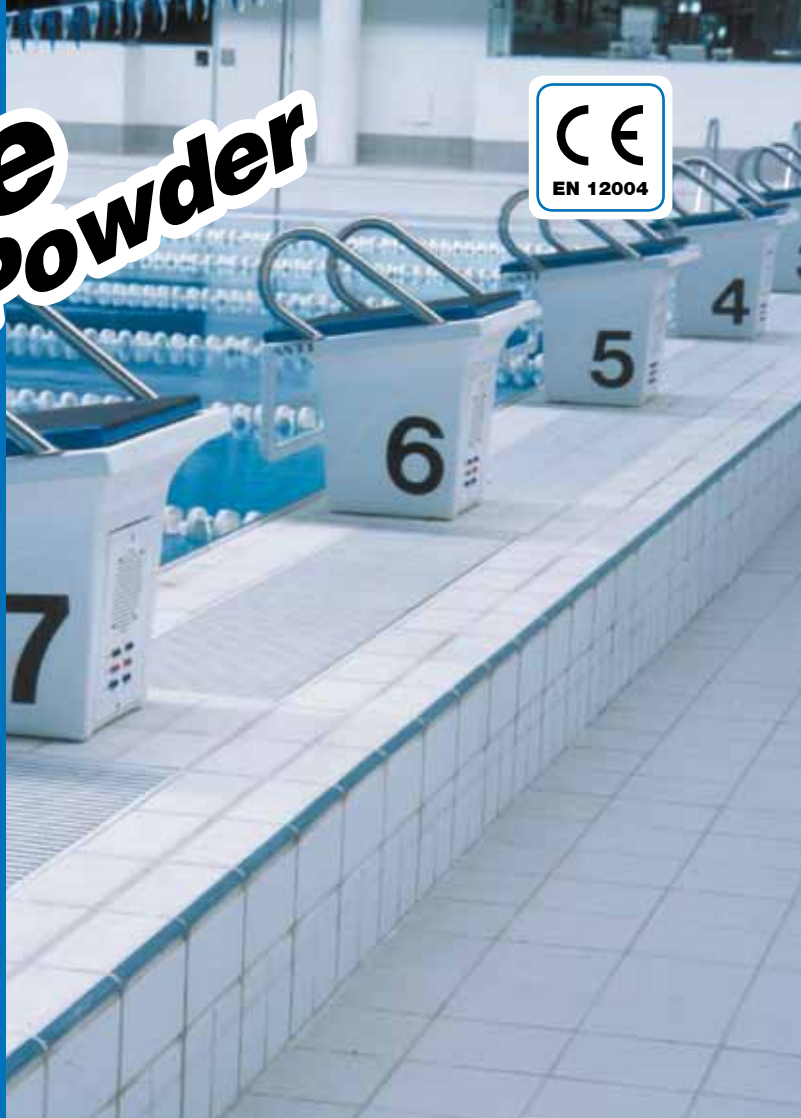




# MAPEI



# Keracrete + Keracrete Powder



**Two-component, high performance, cementitious adhesive, with no vertical slip, for ceramic tiles, glass mosaics and stone material (thickness of adhesive up to 5 mm)**

### CLASSIFICATION IN COMPLIANCE WITH EN 12004

**Keracrete** is a latex to be mixed with **Keracrete Powder** or with sand and cement.

By mixing **Keracrete** with **Keracrete Powder** an improved (2) slip resistant (T) cementitious adhesive (C) of class C2T is obtained.

*Conformity of **Keracrete + Keracrete Powder** is declared in ITT certificate n° 25040276/Gi (TUM) and 25080247/Gi (TUM) issued by the Technische Universität München laboratory (Germany).*

### WHERE TO USE

**Keracrete mixed with Keracrete Powder or with sand and cement:**

- Exterior and interior bonding of ceramic tiles of all types on walls and floors; particularly suitable for glass mosaics, porcelain tiles and other non-absorbent tiles.
- Interior and exterior bonding of natural stone of every kind, provided they are dimensionally stable and not subject to staining.

### **Keracrete:**

- To mix with cement mortars that have to be applied in thin layers.

### **Some application examples**

Bonding of:

- Glass mosaic, klinker and single fired tiles in swimming pools.
- Porcelain or glass mosaics, klinker and single fired tiles, quarry tiles on outside façades, balconies and terraces.
- Tiles of every type in places where a definite chemical resistance is required (dairies, breweries, wine-cellars, food and chemical industries).

- All types of ceramic tiles over underfloor heating installations.
- Marble and other natural stone on outside façades, balconies and terraces.

Creating thin concrete with cement mortars.

### TECHNICAL CHARACTERISTICS

**Keracrete** is a synthetic-rubber latex to be mixed with **Keracrete Powder** (mixture of selected sand aggregates, special additives and synthetic resins) to obtain a high performance adhesive with excellent bonding properties onto all types of surfaces of common use in building, even the most difficult. **Keracrete** can also be mixed with a mixture of Portland cement and fine sand aggregate. The adhesive hardens without undergoing noticeable shrinkage. Applied on vertical surfaces, it does not slip and even heavy tiles do not slip.

### RECOMMENDATIONS

Never use **Keracrete** mixed with **Keracrete Powder**:

- on walls and floors subject to extreme flexing (chipboard and wood agglomerates, asbestos-cement etc.);
- on placed concrete or on precast elements that are not sufficiently cured and stable;
- on metal surfaces;
- the use of **Adesilex P10** is recommended for particularly light-coloured glass mosaics when variations in colour of the coating needs to be kept to a minimum.

For installing paper faced mosaics, especially light colours, use **Keracrete** mixed with **Keracrete Powder White**.



# Keracrete + Keracrete Powder



An example of an installation of Granitello in underground - Linea 3 - Milan (Italy)



An example of an installation of mosaics with Keracrete + Keracrete Powder in a swimming pool



New harbor in Civitavecchia: outdoor installation of terracotta with Keracrete

## APPLICATION PROCEDURE

### Preparing the substrates

Substrates must be cured, mechanically strong, free of loose particles, grease, oils, paints, wax and must be sufficiently dry. Cementitious substrates must not be subject to shrinkage after the installation of tiles. During warm weather, renders must cure for at least 1 week per each centimetre of thickness. Cement screed must have an overall curing of at least 28 days, unless they are made with special MAPEI screed binders such as **Mapecem**, **Mapecem Pronto**, **Topcem** or **Topcem Pronto**. Dampen with water to cool surfaces heated from exposure to sunlight. Gypsum substrates and anhydrite screeds must be perfectly dry, sufficiently hard and free of dust. It is absolutely essential to treat them with **Primer G** or **Mapeprim SP**. In areas subject to extreme damp, **Primer S** should be used to prime the substrate.

### Preparing the mix

**Keracrete Powder Grey** or **Keracrete Powder White** is supplied in 25 kg paper bags of a premeasured mixture of 325 grey or white and fine-graded silicious sand in proportions of 1:1.

The mix ratio will be one part of **Keracrete** and 4 parts of **Keracrete Powder Grey** or **Keracrete Powder White**.

**Keracrete** (latex) can be blended with a mixture of cement and clean fine sand aggregate in a ratio of 1 part by weight of **Keracrete**, 2 parts by weight of cement and 2 parts by weight of sand.

Mixing is performed by pouring the powder (sand and cement or **Keracrete Powder**) into **Keracrete** latex while stirring continuously, preferably with an electrical stirrer until a smooth paste is obtained. Leave to set for 2-3 minutes and briefly re-stir before use. Use the mixture within 90 minutes after its preparation.

To obtain longer trowelability and open time, the sand and cement or **Keracrete Powder** can be replaced partially with a cement adhesive such as **Kerabond** or **Adesilex P9**; this is advisable in summer, with highly absorbent surfaces or in strong sunlight (it should, however, be kept in mind that this procedure will increase curing time).

### Spreading the mix

The mixture is applied to the substrate with a notched trowel. The general principle to follow when selecting the right trowel is to choose one that gives a coverage of at least 65-70% of the back of the tiles for internal walls and light traffic areas and 100% coverage for heavy traffic areas and all external work.

To achieve a good bond, first spread a thin coat of the mixture onto the substrate using the straight edge of the trowel followed immediately with the appropriate notched trowel according to type and size of the tile:

- For mosaics up to 5x5 cm, the MAPEI square-notched trowel no. 4 is recommended.
- For ordinary ceramic tiles, the MAPEI V-notched trowel no. 5 is recommended.
- For floors, very irregular surfaces and tiles with high lugs and ribs, the MAPEI V-notched trowel no. 6 is recommended.

- With exterior ceramic tiled floors and walls subject to frost or demanding applications such as swimming pools, reservoirs, for tiles larger than 9 dm<sup>2</sup>, floors to be polished in situ or subject to heavy traffic, the mixture must be applied to the back of the tiles (back buttering method).

### Installing the tiles

It is not necessary to wet the tiles before laying; if however, the backs are very dusty, they should be dipped in clean water. The tiles are normally laid with firm pressure to ensure good contact with the adhesive. The open time of the adhesive obtained by mixing **Keracrete** with **Keracrete Powder** in normal temperature and humidity conditions is approximately 20 minutes; unfavourable weather conditions (strong sun, wind, high temperature) or a highly absorbent substrate may shorten this open time, even quite drastically, to just a few minutes.

Wetting the substrate before applying the adhesive helps to prolong open time. It is necessary to check that the adhesive has not formed a surface skin and is still fresh. If not, re-trowel the adhesive with a notched trowel. It is inadvisable to wet the adhesive when it has formed a skin because, instead of dissolving the skin, this will form a non-adhesive film.

Adjustment of the tiles, if necessary, should be carried out within 30 minutes following laying.

Tiling laid with **Keracrete** mixed with **Keracrete Powder** must not be subject to washout or rain for at least 24 hours and must be protected from frost and strong sun for at least 5-7 days after laying.

**N.B.** Mosaic backing paper should be removed with a minimum quantity of water, care being taken not to move the mosaic pieces. With flooring, it is advisable to do this when the **Keracrete** is in an advanced stage of setting. Take care with recent or damp substrates, which can considerably delay setting.

### GROUTING AND SEALING

Wall joints can be grouted after 4-6 hours and floor joints can be grouted after 24 hours with the specific MAPEI cement or epoxy grouts, available in different colours.

Expansion joints must be sealed with the specific MAPEI sealants.

### SET TO LIGHT FOOT TRAFFIC

Floors are set to light foot traffic after 24 hours.

### READY FOR USE

Surfaces are ready for use after 14 days. Basins and swimming pools can be filled after 21 days.

### Cleaning

Tools may be cleaned with abundant water before the adhesive sets. After setting, cleaning becomes very difficult, but can be helped by solvents such as white spirit.

### CONSUMPTION

- With trowel no. 4: approx. 2.5 kg/m<sup>2</sup>, equal to 0.5 kg/m<sup>2</sup> of **Keracrete** and 2 kg/m<sup>2</sup> of **Keracrete Powder**.



## TECHNICAL DATA (typical values)

In compliance with:

– European EN 12004 as C2T

### PRODUCT IDENTITY

|                                    | Keracrete                      | Keracrete Powder |
|------------------------------------|--------------------------------|------------------|
| Type:                              | thick liquid                   | powder           |
| Colour:                            | white                          | white or grey    |
| Bulk density (g/cm <sup>3</sup> ): | –                              | 1.30             |
| Density (g/cm <sup>3</sup> ):      | 1.01                           | –                |
| pH:                                | 11.5                           | –                |
| Dry solids content (%):            | 21                             | 100              |
| Brookfield viscosity (mPa·s):      | 12,000                         | –                |
| EMICODE:                           | EC1 R Plus - very low emission |                  |

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

|                                      |  |
|--------------------------------------|--|
| Mixing ratio:                        | one part by weight of <b>Keracrete</b> with 2 parts of cement and 2 parts of sand or one part of <b>Keracrete</b> and 4 parts of <b>Keracrete Powder</b> |
| Consistency of mix:                  | very pasty   |
| Density of mix (kg/m <sup>3</sup> ): | 1700   |
| pH of mix:                           | approx. 12   |
| Pot life:                            | 90 minutes   |
| Application temperature range:       | from +5°C to +35°C   |
| Open time (according to EN 1346):    | 20 minutes   |
| Adjustability time:                  | approx. 30 minutes   |
| Wall grouting:                       | after 4-6 hours  |
| Floor grouting:                      | after at least 24 hours  |
| Set to light foot traffic:           | 24 hours   |
| Ready for use:                       | 14 days (21 days for basins and swimming pools)  |

### FINAL PERFORMANCES

|   |                                    |
|---|------------------------------------|
| <b>Keracrete + Keracrete Powder</b><br>Adhesion strength according to EN 1348 (N/mm <sup>2</sup> ): |                                    |
| – initial (after 28 days):  | 1.5                                |
| – after heat ageing:  | 1.3                                |
| – after water immersion:  | 1.0                                |
| – after freeze-thaw cycles:   | 1.5                                |
| Resistance to alkalis:  | excellent                          |
| Resistance to oils:   | excellent (poor to vegetable oils) |
| Resistance to solvents:   | excellent                          |
| Temperature when in use:  | from –30°C to +90°C                |



An example of an installation of ceramic tile in a mall - Filinvest Festival Superhall - Manila (Philippines)



Laying glass mosaics



Installation of mosaics

# Keracrete + Keracrete Powder

- With trowel no. 5: approx. 3 kg/m<sup>2</sup>, equal to 0.6 kg/m<sup>2</sup> of **Keracrete** and 2.4 kg/m<sup>2</sup> of **Keracrete Powder**.
- With trowel no. 6: approx. 5 kg/m<sup>2</sup>, equal to 1 kg/m<sup>2</sup> of **Keracrete** and 4 kg/m<sup>2</sup> of **Keracrete Powder**.

## PACKAGING

**Keracrete**  
5 and 25 kg drums.

**Keracrete Powder Grey**  
**Keracrete Powder White**  
25 kg paper bags.

## STORAGE

**Keracrete**: 24 months. Protect from frost.

**Keracrete Powder**: 12 months.

The product complies with the conditions of Annex XVII to Regulation (EC) N° 1907/2006 (REACH) - All. XVII, item 47.

## SAFETY INSTRUCTIONS FOR PREPARATION AND INSTALLATION

**Keracrete** is not considered dangerous according to the European regulation regarding the classification of mixtures. It is recommended to wear protective gloves and goggles and to take the usual precautions taken for the handling of chemicals.

**Keracrete Powder (White and Grey)** is irritant, it contains cement that when in contact with sweat or other body fluids causes irritant alkaline reaction and allergic reactions to those predisposed. It can cause damage to eyes.

In case of contact with eyes or skin wash immediately with plenty of water and seek medical attention.

It is recommended to use protective gloves and goggles.

For further and complete information about

the safe use of our product please refer to the latest version of our Material Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

## 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. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.*

Please refer to the current version of the Technical Data Sheet, available from our website [www.mapei.com](http://www.mapei.com)



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.



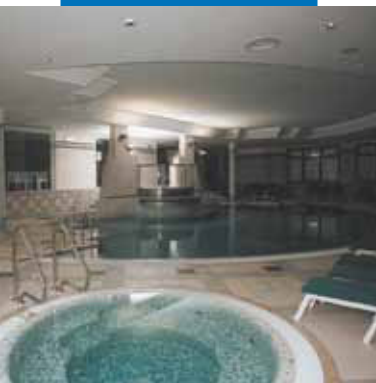
**Our Commitment To The Environment**  
MAPEI products assist Project Designers and Contractors create innovative LEED (The Leadership in Energy and Environmental Design) certified projects, in compliance with the U.S. Green Building Council.

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

## VOLATILE ORGANIC COMPOUND (VOC) LEVEL

Type of Regulated Adhesives under the Air Pollution Control (Volatile Organic Compounds) Regulation of Hong Kong: [Ceramic tile adhesives]

VOC content (ready to use) = 32 g/litre



An example of an installation of glass mosaics with Keracrete + Keracrete Powder in a swimming pool. Park Hotel Gritti - Bardolino (Verona), Italy



An example of an installation a glass mosaics in a turkish bath - Park Hotel Gritti - Bardolino (Verona), Italy



BUILDING THE FUTURE