



# Ultraflex S2 Quick

**One component, highly-flexible, high performance, quick-setting and hydrating cementitious adhesive, which is easy to trowel with no vertical slip and an extremely high yield, for ceramic tiles and stone material**



**Ultra**lite  
Technology

## CLASSIFICATION IN COMPLIANCE WITH EN 12004

Ultraflex S2 Quick is highly deformable (S2) cementitious (C) improved (2) fast-setting (F) slip-resistant (T) adhesive of class C2FTS2.

Ultraflex S2 Quick is CE marked, as declared in **ITT certificate n° 25070199/Gi (TUM)** issued by the Technische Universität München laboratory (Germany).

## WHERE TO USE

- Bonding of all types (double-fired, single-fired, porcelain, klinker, etc.) and sizes of ceramic tiles on internal and external surfaces.
- Bonding of natural stone, which is not sensitive to moisture, to interior or exterior.

## Some application examples

- Bonding of ceramic tiles (double-fired, single-fired, porcelain, klinker, etc.) and stone material (if not particularly sensitive to humidity) on traditional substrates such as:
  - cementitious and anhydrite screeds;
  - heated screeds;
  - cementitious render or lime-mortar render;
  - plasterboard, pre-fabricated and cement-fibre panels.
- Laying on flexible substrates or substrates subject to vibration: marine plywood, wooden agglomerates (if sufficiently stable in the presence of water), old wooden floors, etc.

- Quick refurbishment work where immediate installation is required (public buildings, transport cafes, supermarkets, airports and pedestrian areas).
- Laying ceramic and stone material on façades, balconies, terraces and slab floors exposed to direct sunlight and temperature gradients.
- Laying on pre-fabricated concrete walls and concrete substrates.
- Laying in environments (such as hospital entrance halls, school corridors, public buildings, etc.) where impact noise caused by footsteps needs to be reduced, especially if used in conjunction with the **Mapefonic System**.
- Laying ceramic and stone material directly on top of old floors (in ceramic, marble, etc.).
- Laying floors and coatings on MAPEI waterproofing and anti-fracture membranes.

## TECHNICAL CHARACTERISTICS

Ultraflex S2 Quick is a grey-coloured powder made up of a blend of special cements, graded sand, a high quantity of synthetic resins and micronised elastomers, according to a formula developed in MAPEI's own Research Laboratories.

When mixed with water, it forms a mortar with the following characteristics:

- The innovative **Ultralite Technology™** provides a low density product which results in two key advantages:

# Ultraflex S2 Quick



Example of porcelain gres laid on Mapelastac using Ultraflex S2 Quick

1) weight advantage: 15 kg of **Ultraflex S2 Quick** weighs less than traditional cementitious adhesives of the same volume. Easier handling and lower transport costs apply;

2) increased yield: yield is approximately 30% more compared with MAPEI's traditional cementitious adhesives;

- low viscosity and, therefore, good workability;
- highly thixotropic: **Ultraflex S2 Quick** may be applied on vertical surfaces without sagging and there is no risk of the tiles slipping. It is also possible to lay the tiles from the top working downwards and diagonally without using spacer pegs.
- excellent capacity for following deformation in the substrate and tiles;
- bonds perfectly to all materials normally used in the building industry.

**Ultraflex S2 Quick** develops high bonding strength after only 2-3 hours at +23°C (after 8 hours at +10°C); therefore, floors finishes laid using this product may be used after a very short period of time.

## RECOMMENDATIONS

Do not use **Ultraflex S2 Quick** in the following cases:

- on metallic, rubber, PVC or linoleum surfaces;
- with marble or artificial composite material subject to considerable movement in the presence of humidity.

Do not embed electric radiating heating elements in the layer of adhesive.

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

## APPLICATION PROCEDURE

### Preparing the substrates

The substrates must be mechanically strong, dry and free from crumbling parts, grease, oil, paint and wax.

Generally, cementitious substrates used for laying ceramic must not be subject to shrinkage once the tiles have been laid. Since **Ultraflex S2 Quick** is particularly flexible, however, it is also able to compensate for micro-cracks which form in the substrate if it is not sufficiently cured. Gypsum substrates and anhydrite screeds must be perfectly dry, sufficiently hard, free from dust and, in all cases, treated with **Primer G** or **Mapeprim SP**. Areas which are subject to high humidity must be treated with **Primer S**.

### Preparing the mix

Blend **Ultraflex S2 Quick** with clean water until a smooth, lump-free paste is obtained. Leave the mix standing for 5 minutes, then re-mix.

The amount of water to use is approx. 5.4 l of water for every 15 kg sack. The mix prepared as above lasts approx. 30 minutes.

## Applying the mix

Apply **Ultraflex S2 Quick** on the substrate using a notched trowel. Use a trowel which guarantees perfect buttering of the back of the tile.

To obtain a good bond, spread a thin layer of **Ultraflex S2 Quick** on the substrate using the smooth side of the trowel. Immediately spread a further layer of **Ultraflex S2 Quick** to the thickness required using a suitable notched trowel, according to the size and type of the tiles.

When laying floors and coatings on external surfaces, or for tiles larger than 900 cm<sup>2</sup> and floors subject to heavy loads, spread the adhesive on the back of the tile to guarantee total buttering.

## Laying the tiles

It is not necessary to wet the tiles before they are laid. Only in the case of tile backs which are very dusty do we recommend washing them by dipping them into clean water. The tiles must be applied with a slight pressure to guarantee that they are well buttered.

At normal temperatures and humidity conditions, the open time of **Ultraflex S2 Quick** is ca. 15-20 minutes. Unfavourable conditions (direct sunlight, dry wind and high temperatures), or if the substrate is very absorbent, may reduce this time to only a few minutes.

Continuously check the adhesive to make sure that a skin does not form on the surface and that it is still fresh. If a skin forms, re-spread the adhesive using the notched trowel. It is inadvisable to wet the adhesive when a surface skin forms, because the water forms a film which prevents bonding instead of dissolving it.

Finishes laid with **Ultraflex S2 Quick** must not be washed down or exposed to rain for at least 3-4 hours, and must be protected against freezing weather or direct sunlight for at least 24 hours after laying.

## Grouting and sealing

The tile joints may be grouted after 2-3 hours when laid on walls and after 5-6 hours when laid on floors using a special MAPEI cementitious or epoxy grout, which are available in a variety of colours. Expansion joints must be sealed using the special MAPEI sealants.

## SET TO LIGHT FOOT TRAFFIC

Floors are ready for foot traffic after approx. 5-6 hours.

## READY FOR USE

The surfaces may be put into service after approx. 24 hours.

## Cleaning

Tools and containers may be cleaned using plenty of water while **Ultraflex S2 Quick** is

## TECHNICAL DATA (typical values)

Conforms to the following standards:

- European EN 12004 as C2FTS2
- ISO 13007-1 as C2FTS2
- American ANSI A 118.4 - 1999
- Canadian 71 GP 30 M type 2

### PRODUCT IDENTITY

<b>Consistency:</b>	powder
<b>Colour:</b>	grey
<b>Bulk density (kg/m<sup>3</sup>):</b>	870
<b>Dry solids content (%):</b>	100
<b>Storage:</b>	12 months in its original packaging in a dry place
<b>Hazard classification according to EC 1999/45:</b>	none. Before using refer to the "Safety instructions for preparation and application" paragraph and the information on the packaging and Safety Data Sheet
<b>Customs class:</b>	3824 50 90

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

<b>Mixing ratio:</b>	100 parts of <b>Ultraflex S2 Quick</b> with 35-37 parts of water by weight
<b>Consistency of the mix:</b>	creamy
<b>Density of mix (kg/m<sup>3</sup>):</b>	1,200
<b>pH of mix:</b>	> 12
<b>Pot life of mix:</b>	> 30 mins
<b>Application temperature range:</b>	from +5°C to +35°C
<b>Open time (according to EN 1346):</b>	15-20 mins
<b>Grouting of wall tile joints:</b>	2-3 hours
<b>Grouting of floor tile joints:</b>	5-6 hours
<b>Set to light foot traffic:</b>	5-6 hours
<b>Ready for use:</b>	24 hours

### FINAL PERFORMANCE

<b>Adhesion strength according to EN 1348 (N/mm<sup>2</sup>):</b> - initial (after 28 days): - after application of heat source: - after immersion in water: - after freeze-thaw cycles:	1.90 1.80 1.30 1.40
<b>Resistance to alkalis:</b>	excellent
<b>Resistance to oils:</b>	excellent (poor to vegetable oils)
<b>Resistance to solvents:</b>	excellent
<b>Temperature in service:</b>	from -30°C to +90°C
<b>Deformability according to EN 12002:</b>	S2 - highly flexible (> 5 mm)

# Ultraflex S2 Quick



still fresh. Surfaces must be cleaned with a damp cloth before the adhesive sets.

## PACKAGING

Ultraflex S2 Quick is available in 15 kg paper sacks.

## CONSUMPTION

0.9 kg/m<sup>2</sup> per mm of thickness, equal to 1.5-2.5 kg/m<sup>2</sup>.

## STORAGE

Ultraflex S2 Quick may be stored for up to 12 months in its original packaging in a dry place.

The product conforms to the requirements of Directive 2003/53/CE.

## SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Ultraflex S2 Quick contains cement that, when in contact with sweat or other bodily fluids, produces a slightly irritant reaction. Wear protective clothing, gloves and eye/face protection. For further information, please refer to the Safety Data Sheet.

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 web site [www.mapei.com](http://www.mapei.com)**



**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.

**Contains more than 20% of recycled material**

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