

RAPID S1 TILE ADHESIVE

High performance, deformable, rapid-setting and hydrating, non-slip cementitious adhesive with very low emission of volatile organic compounds particularly recommended for stone, including thick, large formats



CLASSIFICATION IN COMPLIANCE WITH AS ISO 13007

Rapid S1 Tile Adhesive is a cementitious (C), improved (2) fast setting (F) slip resistant (T) and deformable (S1) adhesive classified as C2FT S1.

WHERE TO USE

- Interior and exterior rapid bonding, up to 15 mm thick, of ceramic tiles of every type (single and double fired tiles, porcelain tiles, klinker, terracotta, etc.) on uneven substrates and renders, without having to level the flooring beforehand.
- Interior and exterior bonding of natural stone, not sensitive to moisture. Bonding of engineered stone in interior.
- Bonding thin porcelain tiles on floors, walls and external facades.
- Overlaying existing internal ceramic and stone flooring, if well bonded to the substrate, with ceramic and stone.
- Bonding thick, large tiles and slabs of ceramic and stone.
- Spot bonding of insulating material in interiors such as expanded polystyrene, rock and glass wool, Eraclit® (wood-cement boards), sound-deadening panels, cork, etc.

Some application examples

- Repairs in heavily trafficked areas and when surfaces need to be put into service rapidly, such as public premises, restaurants, motorway services, pedestrian passages, supermarkets, showrooms.
- Rapid installation or repairs in swimming pools, industrial plants (breweries, wine-cellars, dairies, etc.), refrigeration units.
- Rapid repair work in bathrooms, showers, kitchens, balconies, terraces.
- Installing non-absorbent flooring over existing flooring, where the setting time of other cement-based adhesives would be too slow.
- Installing marble and other stone material, even light coloured stone.
- Installing tiles onto heated screeds.
- Installation of floor and wall coverings on substrates waterproofed with **Mapelastic Smart**, **Mapelastic AquaDefense** - **Mapegum WPS** range.

TECHNICAL CHARACTERISTICS

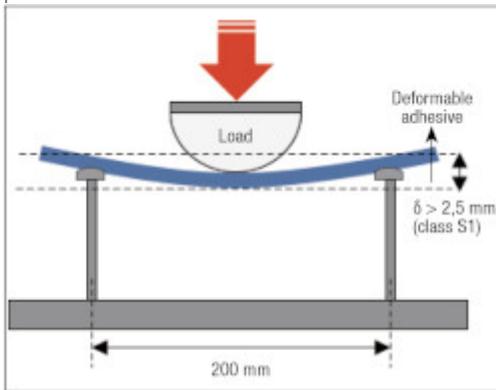
Rapid S1 Tile Adhesive is a grey powder composed of a blend of special cements, selectively-graded aggregates, synthetic resins and setting accelerators that develop a high bond strength within 2-3 hours after installation.

For this reason floors and walls can be used very quickly. Floors are ready for use in 24 hours and can be walked on after only 2-3 hours. A mortar with the following features is obtained when **Rapid S1 Tile Adhesive** is mixed with water:

- low viscosity, therefore easily workable;
- stops heavy and large format heavy floor tiles sinking when installed on thick layers of adhesive to compensate for uneven areas in the installation bed;
- highly thixotropic; **Rapid S1 Tile Adhesive** may be applied on vertical surfaces without slumping and without allowing tiles to slip, even large, heavy tiles. Tiles may be bonded in place starting from the upper part of surfaces working downwards without having to place spacers;
- good capability to accommodate the different deformation of the covering from the substrate. Adhesive classified S1: transversal deformability > 2.5 mm measured according to test methods described in AS ISO 13007.1;

By mixing **Rapid S1 Tile Adhesive** with **Latex Plus** the deformability improves, to meet the requirements of class C2F S2 (highly deformable, fast setting, improved cementitious adhesive) according to AS ISO 13007.1.

Rapid S1 Tile Adhesive has low emission of VOC (Volatile Organic Compounds), thereby safeguarding the health of both those who apply the product and those who use areas in which it is applied, and is certified EC1 PLUS by the German association GEV. **Rapid S1 Tile Adhesive** contains 5% of recycled material. **Rapid S1 Tile Adhesive** contributes valuable points towards Green Star™ credits.



RECOMMENDATIONS

Do not use **Rapid S1 Tile Adhesive** in the following cases:

- on metal, rubber, PVC and linoleum surfaces. In this case use **Rapid S1 Tile Adhesive** mixed with **Latex Plus**;
- Do not use for installing marble or artificial engineered stone subject to large movements in moist conditions (green marble, certain types of slate and sandstone categorised as class C dimensional stability according to MAPEI standards). In these cases, use **Keralastic T** or **Kerapoxy Adhesive**;
- on walls and floors subject to extreme flexing or vibration;
- for bonding insulating panels of expanded polystyrene with protective film.

APPLICATION PROCEDURE

Preparing the substrates

Substrates on which **Rapid S1 Tile Adhesive** is to be applied must be flat, mechanically strong, free from loose particles, grease, oil, paint, wax, etc. and sufficiently dry. Damp substrates could slow down **Rapid S1 Tile Adhesive's** setting process. Cementitious substrates must not be subject to shrinkage once the tiles have been installed, therefore in warm weather renders should be cured at least one week per centimetre of thickness. Cementitious screeds must have an overall cure of at least 28 days unless a Mapei engineered screed with **Topcem Pronto** or **Mapecem Pronto** is applied.

Surfaces that are too hot due to exposure to direct sunlight should be cooled by dampening them with water. Gypsum substrates and anhydrite screeds must be perfectly dry (maximum residual moisture content 0.5% and 0.3% for heated screeds), sufficiently hard and free of dust. They must be treated with **Primer G** or **Eco Prim T Plus**.

In general, refer to the relative MAPEI technical documentation regarding substrate preparation before repairing cracks in substrates, consolidating rapid-drying screeds and levelling installation surfaces.

Preparation of the mix

A 20 kg bag of **Rapid S1 Tile Adhesive** should be mixed with approx. 4.6 - 5.0 litres of water (or 6.6 - 7.0 litres of **Latex Plus**). While stirring, pour **Rapid S1 Tile Adhesive** into a bucket containing clean water (or Latex Plus) and mix with a mechanical stirrer until a homogeneous lump-free paste is obtained. Let the mix stand a few minutes then stir again briefly before application. Apply within 45 minutes of mixing, depending on the surrounding temperature.

TECHNICAL DATA (typical values)

In compliance with:

- ISO 13007-1 as C2FT S1
- ISO 13007-1 as C2F S2 (if mixed with Latex Plus)

PRODUCT IDENTITY

Consistency:	powder
Colour:	grey
Bulk density (kg/m ³):	1,400
Dry solids content (%):	100
EMICODE:	EC1 Plus – very low emission

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

Mixing ratio:	100 parts Rapid S1 Tile Adhesive with 23-25 parts water by weight (or 33-35 parts with Latex Plus by weight)
Consistency of mix:	pasty
Density of mix (kg/m ³):	1,500
pH of mix:	approx. 11
Pot life of mix:	45 minutes
Application temperature:	from +5°C to +30°C
Open time:	15-20 minutes
Grouting on joints:	2-3 hours
Set to foot traffic:	2-3 hours
Ready for use:	24 hours (3 days for basins and swimming pools)

FINAL PERFORMANCE

Bond strength (N/mm ²):	
– initial (after 28 days):	3.0
– after application of heat source:	2.2
– after immersion in water:	1.2
– after freeze-thaw cycles:	1.3
Adhesion after 6 hours (N/mm ²):	0.8
Resistant to acids:	fair
Resistant to alkalis:	excellent
Resistance to oils:	excellent
Resistance to solvents:	excellent
Service temperature:	from -30°C to +90°C
Deformability according to EN 12004:	S1 – deformable (> 2.5 mm, < 5 mm)

Application of the mix

Apply **Rapid S1 Tile Adhesive** on the substrate with a notched trowel. Use a trowel with a notch size which provides good coverage.

To ensure good adhesion, apply a thin layer of **Rapid S1 Tile Adhesive** on the substrate using the straight side of the trowel and then immediately apply a further layer of **Rapid S1 Tile Adhesive** in the thickness required using the notched side. When installing ceramic floor tiles on external substrates, tiles larger than 900 cm² or floors that need to be ground in situ or are subjected to heavy loads, or when installing tiles in swimming pools and tubs, spread the adhesive on the back of the tiles to ensure full buttering. Alternatively, when installing large tiles on internal surfaces, use high side of water to make the adhesive more fluid and improve buttering of the back of the tiles.

Installation of the tiles

It is not necessary to wet the tiles before installation; if the backs are very dusty, they should be wiped clean.

Rapid S1 Tile Adhesive's open time in normal temperature and humidity is about 20 minutes; unfavourable weather conditions (strong sunlight, drying wind, high temperature), or a highly absorbent substrate may shorten this open time, sometimes quite drastically. For these reasons, there must be constant checks to see whether the adhesive has formed a surface skin or is still fresh to the touch.

Should a surface skin have formed, the adhesive should be re-trowelled with a notched trowel. It is not recommended to wet the adhesive when it has formed a skin because, instead of dissolving the skin, a non-adhesive film will be formed.

Tiling installed with **Rapid S1 Tile Adhesive** must not be subjected to washout or rain for at least 3 hours and must be protected from frost and strong sunlight for at least 24 hours after installation.

Spot-bonding of insulating materials

Spot bonding to sound-deadening or insulating panels should be applied using a float or trowel. The number and the thickness of the spots should be determined by the flatness of the surface and the weight of the panels. In these cases too, the open time must be observed, bearing in mind that a few spots of adhesive on heavy panels may require temporary shoring which should then only be removed after **Rapid S1 Tile Adhesive** has begun to set.

Grouting and sealing

Joints can be grouted after 3 hours with the special MAPEI cementitious or epoxy grouts from the **Ultracolor Plus**, **Keracolor** and **Kerapoxy** product ranges. These grouts are available in a vast array of traditional and modern colours. Expansion joints must be sealed with the special MAPEI sealants from the **Mapesil** or **Mapeflex** product ranges.

Set to light foot traffic

Floors are set to light foot traffic after 2-3 hours.

Ready for use

Surfaces are ready for use after approximately 24 hours. Swimming pools can be filled after 3 days.

CLEANING

Tools should be cleaned with water before the adhesive sets. Floors and walls can be cleaned with a damp cloth. Water should be used only in moderate quantities and after a few hours.

CONSUMPTION

1.2 kg/m² per mm of thickness.

PACKAGING

Rapid S1 Tile Adhesive grey is available in 20 kg bags.

STORAGE

Rapid S1 Tile Adhesive bags maintain their own properties for 12 months if stored in a dry place in the original sealed packaging. Prolonged storage could extend the setting time without altering the final performance.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

For complete information about the safe use of our product please refer to the latest version of our Safety Data Sheet available for download from our website www.mapei.com.au.

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.au

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