



Planicrete SP

Multipurpose latex additive for mortars and cementitious adhesive



USES

For the preparation of high-performance mortars, screeds and renders.

Typical applications

- Screeds and levelling compounds for interior and exterior use.
- Cement renders for interior and exterior use.
- Cement slurry for bonding new screeds to existing screeds and concrete.
- Cement-mortar adhesive for interior and exterior bonding of ceramic tiles on walls and floors.
- Modifying cement mortars that have to be applied in thin layers.

TECHNICAL CHARACTERISTICS

Planicrete SP is a greenish white, multipurpose synthetic-rubber latex to be mixed before use with Portland cement and aggregate (having correct granulometry) to obtain mortars with extremely high bonding strength. After setting, such mortars show mechanical resistance to shocks and vibrations, and resistance to water absorption, point loads, freeze-thaw cycles, temperature changes, ageing and to diluted chemical agents.

PRECAUTIONS

- Do not use mortars prepared with **Planicrete SP** for bonding tiles on walls and floors subject to extreme

flexing or vibrations (wood board, chipboard, asbestos board and wood agglomerates etc.). Use **Kerabond+Isolastic**, **Adesilex P22** or **Keralastic**.

- Do not use **Planicrete SP** as a waterproof membrane (use **Mapelastic** or **Aquaflex**).
- Do not use **Planicrete SP** neat as a slurry: always mix with Portland cement.
- Do not apply renders and screeds to the **Planicrete SP** slurry or previous screeds after they have completely dried (in order to avoid debonding).
- Do not mix **Planicrete SP** with hydrated or hydraulic lime.
- Do not use **Planicrete SP**-admixed mortars where strong chemical resistance is required; it may be used for substrate preparation and levelling, but once cured and dried, it must be covered with **Kerapoxy** mortar and grout or **Mapecoat I 24**.
- Do not use **Planicrete SP** if the ambient temperature is lower than +5°C or higher than +35°C during application.
- Do not pre-mix **Planicrete SP** into screed mixes for transporting in concrete trucks as this may cause clogging. Please check with our Technical Service for advice on ready-mix applications.

Planicrete SP

APPLICATION PROCEDURE

1. Surface preparation

- All supporting surfaces must be structurally sound, solid, clear and free from dust, oil, grease, paint, tar, wax, form release agents, laitance, loose particles or any deleterious substances and debris which act as bond barriers. Neutralize any trace of strong acid or alkali.
- Mechanically sand and scarify the substrate to remove all loose particles, loosely bonded toppings, paint residues, construction debris and roughen all smooth concrete surfaces.
- All new concrete must be at least 28 days old and completely cured. The surface of such concrete must be wood-floated or broom-finished.
- Where installation is made over heated slabs, turn off the heating system at least 48 hours before work begins. Keep the heating system turned off during installation and for a period of at least 72 hours after completion of the work. Use an auxiliary heating device to maintain the temperature in the area at a workable level.

- Keep the surface of the concrete substrate continuously moistened for at least 24 hours prior to the placement of the topping. Remove all standing water (no puddles) from the concrete before applying the slurry coat and levelling coat.

Note

- The quantity of sand and the aggregate size in the mortar mix may need to be increased or reduced with the overall thickness of the mortar bed to minimize shrinkage and reduce the risk of bond separation from the substrate. Where thicknesses greater than 50 mm are required, use a properly graded concrete mix designed to meet the job requirements.
- The quantity of **Planicrete SP** (or **Planicrete SP + WATER** solution) needs to be reduced when using a coarse aggregate mortar mix or when damp sand is used.

2. Mixing

A. Typical mortar mixes for levelling coats and floor screeds

- Stir the **Planicrete SP** latex thoroughly before mixing with clean water according to the recommended ratio.
- Premix the dry materials in a separate clean container or mixer.
- In another clean container or mixer, pour in the **Planicrete SP** solution and gradually add the dry mortar mix while mixing slowly and continuously.

- Mix thoroughly to a homogeneous, workable consistency. Do not over-mix as this may cause excessive air entrapment.

B. Typical cement-mortar tile adhesive

- In a clean mixing pail, pour in approximately the required quantity of **Planicrete SP**.
- Add premixed cement and sand mixture while mixing with a low speed mixer (approximately 150 rpm).
- The viscosity of the paste depends on the particle size of the sand used and, should it be too high or too low, it can be corrected by adding more **Planicrete SP** or dry materials cautiously.
- Let it slake by leaving it standing for 10 to 15 minutes.
- Re-stir and apply.

3. Application

A. As floor screed

- Set gauging strips, uniformly sloped to drains, and check levels and tolerances.
- Just ahead of placing the mortar, sweep away any residual standing water and apply the slurry bond coat (see mixing ratio table) on to the substrate.
- While the slurry coat is wet, spread the floor screed mix onto the floor surface between the gauging strips, using a metal straight edge. Work the mortar mixture with a steel trowel to promote a secure mechanical bond. Do not allow the slurry coat to dry partially or completely before the mortar is spread completely.
- Finish the surface true and level to a tolerance in plane of ± 3 mm in 3 m for tile-laying.
- Let the levelling screed harden and cure for at least 28 days (or 1 week per cm thickness) prior to tile-laying.

B. As wall plaster

- One day before placing the mortar, apply the spatter-dash coat (see mixing ratio table) onto the concrete or dry scratch coat.
- Once the spatter-dash coat has dried, apply the **Planicrete SP**-cement-sand mortar to the required thickness using a flat-edged trowel. Work the mortar mix onto the spatter-dash coat to promote a good mechanical bond.
- Finish the surface true and plumb to a tolerance in place of ± 3 mm in 3 m.



Mixing cement mortar with Planicrete SP for tile fixing



FIXING OF TILES
Apply the adhesive onto the prepared substrate using a notched trowel. Do not spread more than 1m² at a time.



Wall render admixed with Planicrete SP

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

Type:	synthetic rubber latex (thick liquid form)
Colour:	greenish white
Density (g/cm ³):	1.01
pH:	11.5
Dry solids content (%):	16
Brookfield viscosity (mPa.s):	2500
Inflammability:	no

APPLICATION DATA

Mixing ratio (by weight):	1 part of Planicrete SP : 4 parts of Keracrete Powder
Consistency of the mix:	very pasty
Density of the mix (kg/m ³):	1900
pH of the mix:	about 12
Pot life (mins):	90
Application temperature range (°C):	from +5 to + 35
Open time (mins):	10-15
Adjustability (mins):	30
Wall grouting (hrs):	after 4-6
Floor grouting (hrs):	after at least 24
Ready for traffic (days):	after 3
Cure time (days):	14

FINAL PERFORMANCE

Bonding strength (EN 1348)(N/mm ²):	
- after 28 days:	1.6
- after 7 days + 14 days at 60°C	1.8
- after 7 days + 21 days in water:	1.4
- after 25 freeze - thaw cycles:	1.4
Flexural strength (EN 13892-2)(N/mm ²):	6
Compression strength (EN 13892-2)(N/mm ²):	13

AS LEVELLING SCREED/PLASTER

Composition of the mortar:	
Cement: CEM I 52.5 (g):	900
Aggregate: 0-3 mm sand (g):	2700
Planicrete SP / Water (g):	450 (Planicrete SP : Water mixed in ratio 1 : 3)
Setting time:	as a normal cementitious mix
- Initial set (hrs):	4
- Final set (hrs):	7
- Initial cure (hrs):	approximately 48
- Final cure (days):	28 (may change depending on ambient conditions)
Ready for foot traffic (days):	after 1-2
Flexural strength (EN 13892-2)(N/mm ²):	
after 1 day:	2.5
after 3 days:	5
after 7 days:	5.5
after 28 days:	7
Compression strength (EN 13892-2)(N/mm ²):	
after 1 day:	7
after 3 days:	14
after 7 days:	20
after 28 days:	30
Bonding strength (EN 1542)(N/mm ²):	
- after 7 days at 23°C, 50% R.H.:	2.5 (cohesive failure of substrate)
- after 28 days (7 days at 23°C, 50% R.H. and 21 days in water at 20°C)	3 (cohesive failure of substrate)
- after 21 days (7 days at 23°C, 50% R.H. and 14 days at 60°C)	2.5 (cohesive failure of substrate)



Applying cement slurry modified with Planicrete SP



Applying cement screed modified with Planicrete SP



Floor patching: application of slurry

- For thicknesses up to 50 mm, it may be necessary to proceed in 2 or 3 operations to ensure proper adhesion of the mortar to the wall substrate.
- Let the levelling coat harden and cure for at least 1 week per cm thickness prior to tile-laying.

C. As tile adhesive

SPREADING THE MIX

- Apply a thin coat of the mix (see mixing ratio table) with the straight edge of the trowel onto the substrate and then apply the necessary quantity with the notched edge.
- When choosing the right trowel, the general principle to follow is to achieve coverage to the whole tile back.
- It is essential to back butter the tiles with a thin layer of adhesive mix for external walls and heavy traffic floor applications. In the case of dove-tailed tiles or tiles with high ribs and lugs, it is recommended to back fill cavities with adhesive so as to achieve full contact without formation of voids.

LAYING THE TILES

- If the tile backs are clean, it is not necessary to wet the tiles before laying.
- The tiles are normally laid with a firm pressure to ensure good contact with the adhesive.
- The open time of tiling mortars admixed with **Planicrete SP** in normal temperature and humidity conditions is 10-15 minutes. Unfavourable weather conditions (strong sun, drying wind, high temperature) or a highly absorbent substrate will shorten this open time, possibly quite significantly to just a few minutes. For this reason, there must be constant checks for skinning of the adhesive surfaces. Pre-wetting the substrate before applying the adhesive helps to maintain the open time. Should a **SURFACE SKIN** form the adhesive should be **RE-TROWELLED** and / or **RE-FLOATED**.
- Adjustment of the tiles, if necessary, should be carried out within 30 minutes following laying.
- Completed installation works must not be subjected 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.

GROUTING

- Wait until the setting mortar or adhesive in the tilework is fully set before grouting (usually after 24-36 hours).
- Use **Keracolor**, **Ultracolor Plus** or

Kerapoxy high-performance grouts.
(See Technical Data sheets).

PROTECTION

General

- Protect containers from freezing in transit and storage.
NOTE: this material is freeze/thaw stable down to temperature of -18°C. However, it is wise to protect all water-based materials from freezing. If frozen, do not stir until the latex has completely returned to room temperature.
- Protect all new mortar installations from total water immersion or freezing for at least 28 days after installation.

Floor screed and Floor tiling

- Keep free from general traffic for at least 24 hours for floor screeds and at least 72 hours for floor tiling after installation.

Wall plastering and Wall tiling

- Protect from impact, vibrations and heavy hammering on adjacent and opposite walls for at least 7 days after installation.

Cleaning

Tools and hands can be cleaned with water before the mix dries. Cleaning is very difficult after the mix has dried; solvents, such as white spirit, may be helpful.

APPROXIMATE COVERAGE

a. Slurry bond coat / Spatter-dash coat
0.3 kg of **Planicrete SP** per m².

b. Floor screed and wall plaster
1 kg of **Planicrete SP** per m² of 20 mm thickness.

c. Tile adhesive

- With trowel no.4:
2.5 kg/m², equal to 0.5 kg/m² of **Planicrete SP** and 2 kg/m² of **Keracrete Powder**.
- With trowel no.5:
3 kg/m², equal to 0.6 kg/m² of **Planicrete SP** and 2.4 kg/m² of **Keracrete Powder**.
- With trowel no.6:
5 kg/m². Equal to 1 kg/m² of **Planicrete SP** and 4 kg/m² of **Keracrete Powder**.

Note: If backbuttering is used, the quantity required may will be increased proportionally.

PACKING

25 kg and 200 kg drums.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Planicrete SP is not considered as dangerous according to the current regulation regarding



Floor patching: application of mortar



Floor patching: final smoothing



Spatter - dash coat modified with Planicrete SP

MIXING RATIO (by weight)				
Application	Slurry bond coat	Spatter-dash coat	Levelling coat/ Floor screed	Tile adhesive
Planicrete SP	1	1	1 (after 1 : 3 dilution with water)	1
Portland cement	1	1	2	-
Sand	-	1	6	-
Keracrete Powder	-	-	-	4

the classification of mixtures. We recommend to wear protective gloves and goggles and to take the usual precautions for handling chemicals.

For further and complete information about the safe use of our product please refer to our latest version of the Material Safety Data sheet.

PRODUCT FOR PROFESSIONAL USE

WARNING

N.B. Although the technical data 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 use of the product.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

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.com.

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All relevant references for the product are available upon request and from www.mapei.com



Cement plaster with Planicrete SP.



Exterior flooring with concrete admixed with Planicrete SP.

Planicrete SP



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