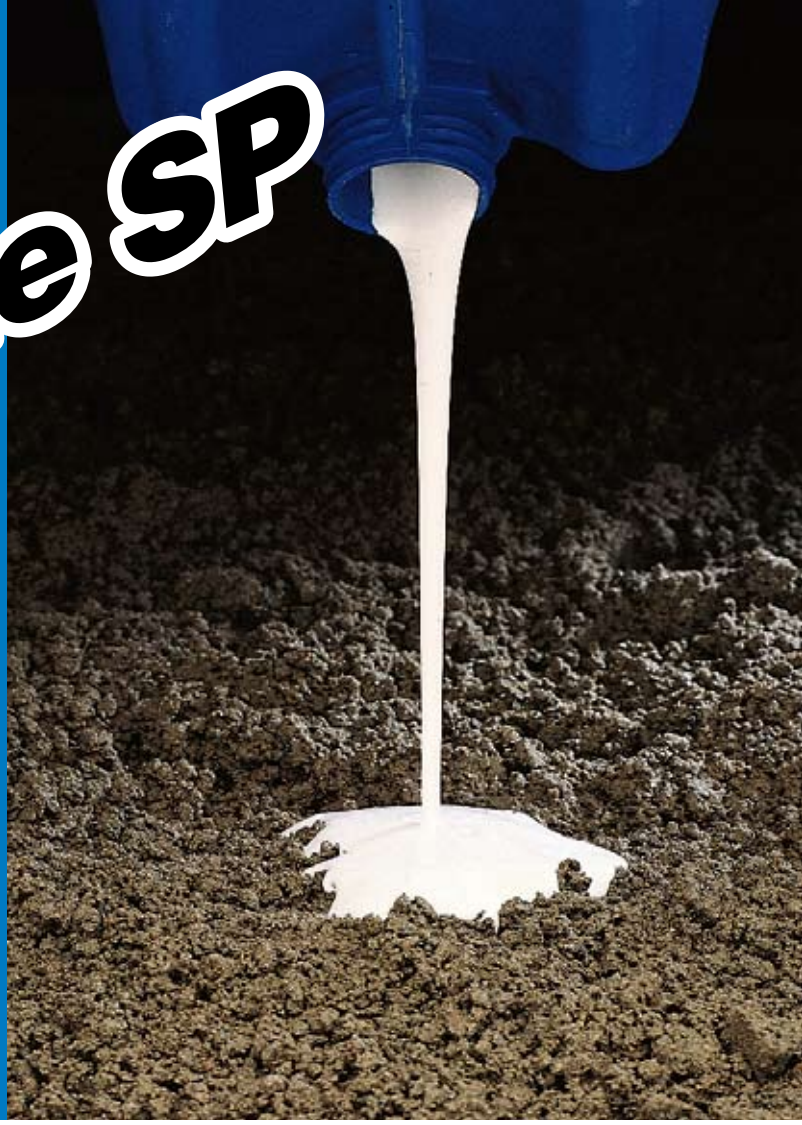
MAPEI

Planicrete SP



Multipurpose latex additive for mortar and cementitious adhesive

USES

For the preparation of high performance mortar, screeds and renders.

Typical application

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

TECHNICAL CHARACTERISTICS

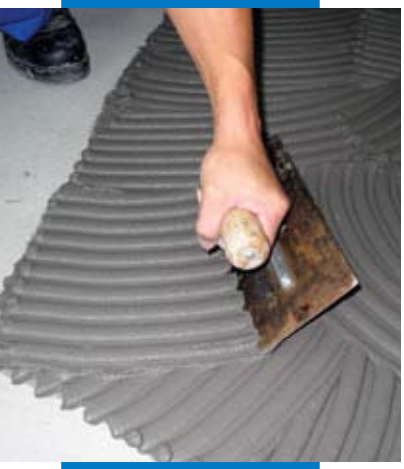
Planicrete SP is a greenish white, multipurpose synthetic-rubber latex to be mixed before use with Portland cement and aggregate (having correct granulometry) to obtain mortars with extremely high bonding strength. After setting, such mortars show mechanical resistance to shocks and vibrations, resistance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

PRECAUTIONS

- Do not use **Planicrete SP** on walls and floors subject to extreme flexing or vibrations (wood board, chipboard, asbestos board and wood agglomerates etc.) for bonding tiles. 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 as strong chemical resistant mortar. 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**.

Planicrete SP

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

- Do not use **Planicrete SP** if the ambient temperature is lower than +5°C or higher than +35°C during application.

SETTING 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, laitence, 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 topping, paint residue, 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 radiant 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 excess water from the concrete slab, allowing the surface to become practically dry before applying the slurry coat and levelling coat.

Note

- The quantity of sand and the aggregate size in the mortar mix may require to be increased or reduced proportionately with the overall thickness of the mortar bed to minimize shrinkage and reduce risk of bond separation from the substrate. Where thicknesses greater than 50mm are required, use a properly graded concrete mix designed to meet job requirements.

- The quantity of **Planicrete SP** (or **Planicrete SP** + WATER solution) need 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.

- Premix the dry materials in a separate clean container or mixer.

- In a clean container or mixer, pour in the **Planicrete SP** liquid and gradually add the dry mortar mix while slowly mixing.

- Mix thoroughly to a homogeneous, stiff workable consistency. Do not over-mix to avoid 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 slowly with a low speed mixer (approximate 150 rpm).

- The viscosity of the paste depends on the particle size of sand used and, should it be too high or too low, can be corrected by adding more **Planicrete SP** or dry materials cautiously.

- Let it slake 10 to 15 minutes.

- Restir and apply.

3. Application

A. As floor screed.

- Set gauging strips, uniformly sloped to drains, check levels and tolerances

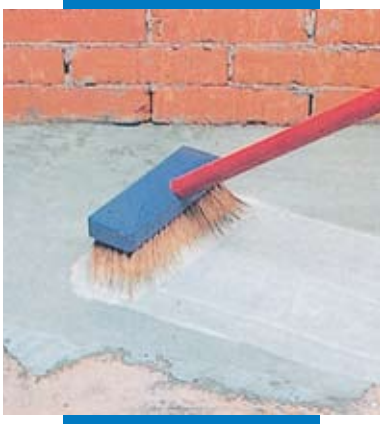
- Just ahead of placing the mortar, sweep off any residual water and apply the slurry bond coat (see mixing ratio table) on to the substrate.

- While the slurry coat is wet, spread the floor screed mix onto the floor surface between 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 while spreading the mortar.

- Finish the surface true and level to a tolerance in plane of ±3 mm in 3 m.

TECHNICAL DATA (typical values)

PRODUCT IDENTIFICATION	
Type:	synthetic rubber latex (thick liquid form)
Colour:	greenish white
Density:	1.01 g/cm^3
pH:	11.5
Dry solid content (%)	16%
Brookfield viscosity:	1800 mPa.s
Storage life:	12 months in original unopened packaging; protect from freezing
Hazard classification according to EC 1999/45:	none. Before using refer to the "Safety instructions for preparation and application" paragraph and the information on the packaging and the Safety Data Sheet.
Inflammability:	no
Customs class:	4002 11 00
APPLICATION DATA	
Mixing ratio:	1 part by weight of **Planicrete SP** 4 parts of **Keracrete Powder**
Consistency fo the mix:	very pasty
Density of the mix:	1900 kg/m^3
pH of the mix:	about 12
Pot life:	90 minutes
Application temperature range:	from +5°C to 35°C
Open time:	10-15 minutes
Adjustability:	30 minutes
Wall grouting:	after 4-6 hours
Floor grouting:	after at least 24 hours
Ready for traffic:	after 3 days
Cure time:	14 days
FINAL PERFORMANCE	
Resistance to humidity:	excellent
Ageing resistance:	excellent
Resistance to solvents and oil:	mediocre
Resistance to acids and alkali:	fair
Resistance to temperature:	from -30°C to +90°C
Flexibility:	limited
Bonding strength: **- after 28 days:** **- after 7 days + 14 days at 60°C** **- after 7 days + 21 days in water:** **- after 25 freeze - thaw cycles:**	 1.6 N/mm^2 1.8 N/mm^2 1.4 N/mm^2 1.4 N/mm^2
Flexural strength:	6.6 N/mm^2
Compression strength:	13.8 N/mm^2
AS LEVELLING SCREED/PLASTER	
Mixing ratio:	diluted with water 1:3
Setting time: **- Initial set:** **- Final set:** **- Initial cure:** **- Final cure:**	as a normal cementitious mix 4 hours 7 hours approximately 48 hours 28 days (may be changed dependig on the temperature)
Ready for foot traffic:	after 1-2 days
Flexural strength: **after 1 day:** **after 3 days:** **after 7 days:** **after 28 days:**	 2.5 N/mm^2 5.1 N/mm^2 5.6 N/mm^2 7.1 N/mm^2
Compression strength: **after 1 day:** **after 3 days:** **after 7 days:** **after 28 days:**	 7.1 N/mm^2 14.3 N/mm^2 22.4 N/mm^2 31.6 N/mm^2
Bonding strength:	
- after 7 days at 23°C - 50% R.H.:	2.65 N/mm^2 (cohesive failure of substrate)
- after 28 days (7 days at 23°C - 50% R.H. and 21 days in water at 20°C)	3.06 N/mm^2 (cohesive failure of substrate)
- after 21 days (7 days at 23°C - 50% R.H. and 14 days at 60°C)	2.55 N/mm^2 (cohesive failure of substrate)



Applying cement slurry modified with Planicrete SP

Applying cement screed modified with Planicrete SP

Floor patching: application of slurry

- 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 and sand mortar to the required thickness using a flat-edged trowel. Work the mortar mix into 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.

- 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

SPEADING THE MIX

- Apply a skim coat of the mix (see mixing ratio table) with the unnotched side of the trowel onto the substrate and then apply the necessary quantity with the notched side.

- 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 floors applications. In the case of dove tailed tiles or tiles with high ribs and lugs, it is recommended to back fill cavities with adhesives so as to achieve full contact without formation of voids.

LAYING THE TILES

- If the tiles back are clean, it is not necessary to wet the tiles before laying.

- The tiles are normally laid under a firm pressure to ensure good contact with the adhesive.

- The open time of tiling mortars additioned 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 may shorten this open time, even quite drastically to just a few minutes. For this reason, there must be constant check for skinning of the adhesive surfaces. Wetting the substrate before applying the adhesive helps to prolong open time. Should a SURFACE SKIN be formed 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 installation 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.

Floor patching: application of mortar

Floor patching: final smoothing

Spatter - dash coat modified with Planicrete SP

MIXING RATIO

Purpose of use	Slurry bond coat	Spatter-dash Coat	Levelling coat/ Floor Screed	Tile adhesive
Planicrete SP	1	1	(After diluted 1:3 with water) 1	1
Portland cement	1	1	2	–
Sand	–	1	6	–
Keracrete Powder	–	–	–	4

APPROXIMATE COVERAGE

a. Slurry bond coat / Spatter-dash coat

0.3 kg of **Planicrete SP** per m^2.

b. Floor screed and wall plaster

1 kg of **Planicrete SP** - per m^2 of 20mm thickness.

c. Tile adhesive

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

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

PACKING

25 kg and 200kg drums.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Planicrete SP is not considered as dangerous according to the European regulation. It is however recommended to use protective gloves, eyes protection and take the usual precaution taken handling chemical products. The Safety Data Sheet is available upon request for professional users.

WARNING

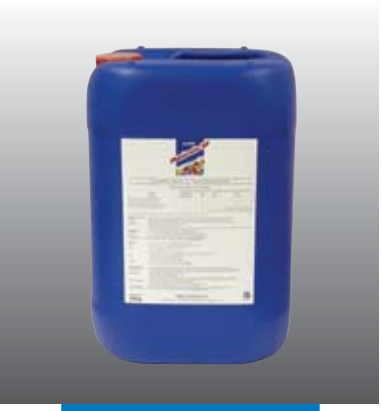
N.B. Although the technical data and recommendations contained in this product report correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical applications. For this reason, 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.

All relevant references of the product are available upon request

Cement plaster with Planicrete SP.

Exterior flooring with concrete admixed with Planicrete SP.

Planicrete SP



(FAR EAST)

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