MAPEI

Planicrete 50

SINGAPORE GREEN BUILDING PRODUCT SGBC GOOD
SGBP 2017-896

Synthetic-rubber latex for cement mixes

WHERE TO USE

- As an additive to improve mechanical and bonding characteristics of cement mixes for screeds, renders, etc.
- As an additive for high adhesion-strength cement bonding coasts.

Typical Applications

- High strength cement screeds and renders for interior and exterior use.
- Adhesive cement slurries for new mortar on old concrete.
- Adhesive cement slurries for bonding screeds and renders (also with **Mapecem**/ or **Topcem**)
- Cement mortars for patching or reconstructing damaged parts and finishing surfaces on buildings and precast concrete elements.
- Mixed with **Kerabond** or **Kerafloor** as a 2-component tiling adhesive for walls or floors, respectively.

TECHNICAL CHARACTERISTICS

Planicrete 50 is a water dispersion of a special synthetic elastomer, totally resistant to alkaline saponification. When mixed with aggregates and portland cement, improves their plasticity, water retention capability and trowellability in general.

After setting and final curing, cement mixes fortified with **Planicrete 50** adhere better to all surfaces, become more water resistant, and have stronger resistance to flexural loads, abrasion and freeze-thaw cycles. These cement mixes are also more flexible, and have better chemical resistance to diluted acids and alkalis, salt solutions, and oils.

PRECAUTIONS

- Do not use pure **Planicrete 50** as a primer; always mix it with portland cement, or, if required, with **Mapecem** or **Topcem**.
- Do not use mixes containing **Planicrete 50** if the ambient temperature is lower than +5°C or higher than +40°C.
- After application in very warm or windy conditions, protect the surfaces from excessively fast drying.
- If mixes with **Planicrete 50** are done in the concrete mixer, never mix for more than 3 minutes, to avoid entrapping excessive air.

APPLICATION PROCEDURE

Preparing the Substrate

Planicrete 50 can be used for screeds, renders and levelling plasters on any cementitious surface that are solid, strong, sound and clean.

Planicrete 50

Crumbling and loose particles, dust, traces of oil or form release agents, and existing paint must be removed by careful sandblasting, brushing or high-pressure water jetting. Substrates that are very dry should be wetted down to a saturated surface dry condition before screeding or rendering.

Preparing the Mix

Slurry Coat
Pour **Planicrete 50** into a clean container. Slowly add cement or **Mapecem/Topcem** into the container and mix with a low speed mechanical mixer until a homogeneous fluid is obtained without lump. Please see the Table for the recommended mix ratio.

Apply the slurry onto the substrate with a brush or trowel followed immediately with a screed.

Note: Do not wait for the slurry to dry, as it may affect the adhesion of the screed to the substrate.

Splash coat
Pour **Planicrete 50** into a clean container. Slowly add cement and sand into the container and mix with a low speed mechanical mixer until a homogeneous paste is obtained without lump. Please see the Table for the recommended mix ratio.

Apply the splash coast onto the substrate with a brush or sprayer. Allow the coat to dry before rendering.

Screed & render
Pour **Planicrete 50** into a clean container, and dilute it with an equal part of water. Slowly add cement and sand into the container and mix with a low speed mechanical mixer until a homogeneous mortar is obtained without lump. Please see the Table for the recommended mix ratio.

Apply the mortar with a trowel to the required thickness.

For further details on mix manufacturing and consumption, see the enclosed table.

Other mixes
Follow the same procedure but substitute with materials and proportions specified in the **Dosage and Coverage Table**.

Precaution
After application, especially in very warm or windy weather conditions, the mortars made with **Planicrete 50** as additive must be protected and cured carefully to avoid fast water evaporation, which could cause surface cracking due to plastic shrinkage. Spray with water mist during the first two days of curing or protect the mortars with polyethylene sheets.

Cleaning
All tools and hands may be cleaned with abundant water before setting of the mortar begins. After its hardening, cleaning can only be done by mechanical means.

PACKING
Planicrete 50 is available in drums of 5, 8, 25 & 200kg.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION
Planicrete 50 is not hazardous according to the ruling standards on the classification of mixtures.
It is recommended to take the usual precautions.

For further and complete information about a safety use of our product, please refer to our latest version of the Material Safety Data Sheet.

FOR PROFESSIONALS.

WARNING
Although the technical details 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 the use of the product.

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

All relevant references of the product are available upon request

TECHNICAL DATA (typical values)

PRODUCT IDENTIFICATION	
Consistency:	fluid liquid
Colour:	white
Density:	1.01g/cm^3
pH:	> 10
Solid content:	18%
Brookfield viscosity (mPa.s)	20
Storage life:	12 months in original unopened packing
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 packing and Safety Data Sheet
Customs class:	4002 11 00
APPLICATION DATA (at 23°C and 50% R.H.)	
Mixing ratio:	refer to the recommended mix ratio table
Application temperature range:	from +5°C to +40°C
Final cure time:	depending on mix ratio
FINAL PERFORMANCES	
Mechanical characteristics:	Compressive strength and flexural strength tests were carried out on prism specimens in compliance with EN 196/1 and EN 12190 standards
Composition of the mortar:	Cement: CEM I 52.5 — 450g Aggregates: Standard sand — 1350g Additive: **Planicrete 50** — 112.5g Water — 112.5g
Density of mix:	2.0 g/cm^3
Bonding strength	
- after 28 days in lab conditions:	1.2 MPa
- after 7 days in lab conditions + 14 days at 70°C:	1.2 MPa
- after 7 days in lab conditions + 21 days in water:	2.0 MPa
Compressive strength after 28 days	40.0 MPa
Flexural strength after 28 days	7.0 MPa

Planicrete 50

TABLE of RECOMMENDED MIX-RATIO (by weight) **& CONSUMPTION**

Application	**Planicrete 50**	Clean Potable Water	Portland Cement	Sand*	**Planicrete 50** Consumption
Slurry coat 1	1	-	1.5		400 g/m²
Slurry coat 2	1	-	1.5 (**Mapecem** / **Topcem** powder)		400 g/m²
Splash coat 1	1	-	1.5	1.5	400 g/m²
Screed / Render	1	1	4	12	100 g/m² per 1 mm thickness
Render 2	1	1	9 (**Nivoplan** powder)		160 g/m² per 1 mm thickness

*Note: reduce water when the sand is wet

Application	**Planicrete 50**	Clean Potable Water	**Kerabond**	**Kerafloor**	**Planicrete 50** Consumption
Wall adhesive	1	-	3.5	-	1820 g/m² per 5 mm thickness
Floor adhesive	1	-	-	4.0	1970 g/m² per 5 mm thickness

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