

# Planicrete 50

## 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 coats.

### Some application examples

- 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 T** 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.

### RECOMMENDATIONS

- 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

#### Preparation of the substrate

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

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 coat 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 mixing 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**.

### **PRECAUTIONS TO BE TAKEN DURING AND AFTER APPLICATION**

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 or 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.

### **PACKAGING**

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

### **SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION**

Instructions for the safe use of our products can be found on the latest version of the Safety Data Sheet, available from our website [www.mapei.com](http://www.mapei.com).

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 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.sg](http://www.mapei.com.sg)

### **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.sg](http://www.mapei.com.sg)***

***ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.***

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

## TECHNICAL DATA (typical values)

### PRODUCT IDENTIFICATION

|                                      |  |
|--------------------------------------|--|
| <b>Consistency:</b>                  | fluid liquid                           |
| <b>Colour:</b>                       | white                                  |
| <b>Density:</b>                      | 1.01 g/cm <sup>3</sup>                 |
| <b>pH:</b>                           | 8.5                                    |
| <b>Solid content:</b>                | 18%                                    |
| <b>Brookfield viscosity (mPa-s):</b> | < 50                                   |
| <b>Storage life:</b>                 | 24 months in original unopened packing |

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

|                                       |  |
|---------------------------------------|--|
| <b>Mixing ratio:</b>                  | refer to the recommended mix ratio table |
| <b>Application temperature range:</b> | from +5 °C to +40 °C                     |
| <b>Final cure time:</b>               | 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

|                                   |                                |         |
|-----------------------------------|--------------------------------|---------|
| <b>Composition of the mortar:</b> | Cement: CEM I 52.5             | 450 g   |
|                                   | Aggregates: Standard sand      | 1350 g  |
|                                   | Additive: <b>Planicrete 50</b> | 112.5 g |
|                                   | Water                          | 112.5 g |

**Density of mix:** 2.0 g/cm<sup>3</sup>

|  |          |
|--|----------|
| <b>Bonding strength:</b>                             |          |
| - 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  |

**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                           |       | 0.3-0.5 kg/m <sup>2</sup>               |
| Slurry coat 2    | 1             | -                   | 1.5 (Mapecem / Topcem powder) |       | 0.3-0.5 kg/m <sup>2</sup>               |
| Splash coat 1    | 1             | -                   | 1.5                           | 1.5   | 0.3-0.5 kg/m <sup>2</sup>               |
| Screeed / Render | 1             | 1                   | 4                             | 12    | 2 kg/m <sup>2</sup> per 20 mm thickness |
| Render 2         | 1             | 1                   | 9 (Nivoplan powder)           |       | 160 g/m <sup>2</sup> per 1 mm thickness |

\*Note: reduce water when the sand is wet

| Application    | Planicrete 50 | Clean Potable Water | Kerabond T | Kerafloor | Planicrete 50 Consumption                |
|----------------|---------------|---------------------|------------|-----------|--|
| Wall adhesive  | 1             | -                   | 3.5        | -         | 1820 g/m <sup>2</sup> per 5 mm thickness |
| Floor adhesive | 1             | -                   | -          | 4.0       | 1970 g/m <sup>2</sup> per 5 mm thickness |

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