

PRP 309

PLANICRETE® 50



MULTI-PURPOSE LATEX ADDITIVE
FOR LEVELING AND PRIMING



DESCRIPTION

A multi-purpose latex additive for dry-set mortars and leveling coats. This extremely stable, synthetic latex emulsion, when added to pure Portland cement, will act as a high strength bond coat to concrete.

Screed apply a mixture of PLANICRETE 50 with Portland cement and sand to make cement/sand coats, thick bed mortars and leveling coats more freeze/thaw and impact resistant, more flexible and less water absorbent.

Roller-apply PLANICRETE 50 full strength on dry gypsum wallboard before applying dry-set mortars or adhesives.

USES

1. For thick bed mortars and leveling coats from 3/16" (5 mm) to 2" (50 mm) thick: when mixed with Portland cement and sand, PLANICRETE 50 is ideal for exterior applications, swimming pools and tunnels where ceramic tile, quarry, paver and natural stone tile are installed.
2. For latex cement bond coat: when mixed with Portland cement, PLANICRETE 50 acts as a bonding agent to existing concrete thereby increasing the adhesion of the setting or leveling mortar prior to setting tiles.
3. For primer/sealer: PLANICRETE 50 helps to strengthen plaster, gypsum wallboard and concrete surfaces prior to setting ceramic wall tiles. Apply full strength with a roller or brush.
4. As an additive to dry-set mortars: PLANICRETE 50 may be used as an additive to factory-prepared dry-set mortars to increase bond strength, impact strength and freeze/thaw resistance.
5. PLANICRETE 50 drastically reduces the relative water absorption of mortar to approximately 5%, making the mortar more resistant to urine, mild diluted acids and alkalis.

LIMITATIONS

1. Do not apply over presswood, particleboard, masonite, chipboard, Lauan, gypsum floor patching compounds, metal or similar dimensionally unstable substrates.

2. Do not use for patching or leveling concrete substrates requiring less than 1/2" (12,5 mm) correction. For such work use ULTRA/PLAN or PLANI/PATCH.
3. Do not use as a waterproofing system. Use PLANICRETE®W heavy-duty waterproofing membrane. (See data sheet for details.)
4. Do not use as a strong chemical resistant mortar. May be used for substrate preparation and leveling, but once cured and dried, it must be covered with KERAPOXY®. (See data sheet for details.)
5. Do not use at temperatures below 40°F (4°C) or above 104°F (40°C).
6. Do not dilute PLANICRETE 50 as this will reduce its performance qualities.

RECOMMENDED SUBSTRATES

- Cured concrete, (at least 28 days old)
- Cement and latex-cement scratch coats
- Masonry blocks
- Metal lath

NOTE

Consult our technical department for installations over other substrates and under special conditions.

SETTING INSTRUCTIONS

1. SURFACE PREPARATION

- 1.1 All supporting surfaces shall be structurally sound, solid, and stable. They shall be clean and free from dust, oil, grease, paint, tar, wax, curing agents, primer, sealer, form release agents, laitance, loosely bonded topping, loose particles or any deleterious substances and debris which may prevent or reduce adhesion.
- 1.2 Mechanically sand and scarify the substrate to remove all paint, loosely bonded topping, loose particles and construction debris. Roughen all smooth concrete surfaces.
- 1.3 Neutralize any trace of strong acid or alkali.
- 1.4 All new concrete shall be at least 28 days old, completely cured and free of hydrostatic conditions, and/or moisture problems.

- 1.5 New concrete surfaces shall be wood floated or broom finished.
- 1.6 Turn off all forced ventilation and radiant heating systems and protect work against drafts during installation and for a period of at least 72 hours after completion. Use indirect auxiliary heaters to maintain the temperature in the work area at the recommended workable level. Vent temporary heaters to exterior to prevent damage to tilework from carbon dioxide build-up.
- 1.7 Over excessively dry porous concrete, keep the concrete substrate continuously moist for at least 24 hours before work begins. Remove all excess of standing water, allowing the surface to become almost dry before installing the slurry bond coat and leveling coat.

2. MIXING

- 2.1 Typical mortar mixes for leveling coats and thick bed mortars: (See the "MORTAR MIXES" chart.)
- 2.2 Stir the PLANICRETE 50 latex thoroughly before mixing.
- 2.3 **PAIL BATCH MIXING using a low speed mixer (approx. 300 RPM).**
 - 2.3.1 Premix the dry materials in a separate clean container.
 - 2.3.2 In a clean container, pour in the PLANICRETE 50 liquid and gradually add the dry mortar mix while slowly mixing.
 - 2.3.3 Mix thoroughly to a homogeneous, stiff, workable consistency. Do not over-mix to avoid air entrapment.
- 2.4 **BULK MIXING using a rotating blade type mixer.**
 - 2.4.1 Mixer should be stopped while the PLANICRETE 50 is poured in.
 - 2.4.2 Start mixer to low speed and add the sand, cement and aggregates, adjusting the quantity of liquid while mixing to obtain a workable mix.
 - 2.4.3 Mix only long enough to obtain a homogeneous mortar. Do not overmix to avoid air entrapment.
 - 2.4.4 Stop mixer and dump out contents promptly.
- 2.5 **MOBILE CONCRETE JOB-SITE MIXING**
 - 2.5.1 For topping large areas, mobile concrete job-site mixers have proven to be more efficient and better capable of delivering a uniform, better curing latex mortar than the rotating tub ready-mixed concrete mixers. For more information, contact your local MAPEI representative or call MAPEI's technical service department.
- 2.6 **As a latex additive to KERABOND or to other MAPEI dry-set mortars**
 - 2.6.1 In a clean mixing pail, pour approximately 1 1/2 to 2 US gal. (5,6 - 7,5 L) of PLANICRETE 50 for each 50 lb. (22,7 kg) bag of dry KERABOND. (Do not cut PLANICRETE 50 with water).
 - 2.6.2 Add dry-set mortar while mixing slowly with a low speed mixer (approx. 300 RPM).
 - 2.6.3 Let slake 10 to 15 minutes.

- 2.6.4 Remix and apply. Do not add any more liquid or dry mix. (For complete installation instructions, see the dry-set mortar data sheets.)

3. APPLICATION

3.1 On floors

- 3.1.1 Set gauging strips, uniformly sloped to drains. Check levels and tolerances.
- 3.1.2 Just ahead of placing the mortar, sweep off any residual water and apply the slurry bond coat (paragraph 2.1) onto the substrate.
- 3.1.3 **WHILE THE SLURRY COAT IS WET**, spread the mortar mix (paragraph 2.1) onto the floor surface between strips, using a steel 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.
- 3.1.4 Finish the surface true and level to a tolerance in plane of $\pm 1/8"$ (3 mm) in 10' (3 m).
- 3.1.5 Let the leveling coat harden and cure for 10 to 14 days prior to setting ceramic tiles.

3.2 Walls and wainscots

- 3.2.1 Just ahead of placing the mortar, apply the slurry bond coat (paragraph 2.1) onto the concrete or dry scratch coat.
- 3.2.2 **WHILE THE SLURRY COAT IS WET**, apply the PLANICRETE 50 cement and sand mortar mix (paragraph 2.1) to the required thickness using a flat-edged trowel. Work the mortar mix into the slurry bond coat to promote a good mechanical bond. Do not allow the slurry coat to dry partially or completely while applying the mortar.
- 3.2.3 Finish the surface true and plumb to a tolerance in plane of $\pm 1/8"$ (3 mm) in 8' (2,4 m).
- 3.2.4 For thicknesses up to 2" (50 mm), it may be necessary to proceed in 2 or 3 operations to ensure proper adhesion of the mortar to the wall substrate.
- 3.2.5 Let the leveling coat harden and cure for 10 to 14 days prior to setting ceramic tiles.

3.3 Over gypsum wallboard and gypsum plaster walls

- 3.3.1 Gypsum drywall panels and gypsum plaster walls must be primed with PLANICRETE 50 latex and thoroughly dry before the installation of a dry-set or latex dry-set mortar. Although not essential, it is always a good idea to prime gypsum dry wall panels and gypsum plaster walls with PLANICRETE 50 latex prior to mastic (adhesive) installation.
- 3.3.2 Apply PLANICRETE 50 with a paint roller or paint brush. Work up and down and left to right to promote a complete coverage of the surface.
- 3.3.3 Let the surface dry completely before installing tiles with a dry-set mortar or adhesive. Usually the surface will dry in 30 to 60 minutes at room temperature.

Setting time (ASTM C-254)

Initial set	4 hours
Final set	7 hours
Initial cure	Approx. 48 hours
Final cure	28 days
Open time at 72°F (22°C).....	25 min
Pot life at 72°F (22°C).....	3 - 4 hours
Compressive strength	
(ASTM C-109, 28 days)	3000 psi (20,7 MPa)
Shear strength	
Quarry tile	267 psi (1,8 MPa)
Vitreous	240 psi (1,7 MPa)
Non-vitreous	310 psi (2,1 MPa)
Flexural strength	
(ASTM-256, 28 days)	1130 psi (7,8 MPa)
Abrasion resistance	
(ASTM C-241) weight loss	1.2%
Control test without PLANICRETE 50	4.8%
Salt water penetration	
Reduced by 75%	
With PLANICRETE 50	1 lb./cu. ft. (16 mg/c.c.)
Without PLANICRETE 50	4 lbs./cu. ft. (64 mg/c.c.)
Relative water absorption	Approx. 5%
Ozone resistance 200 hours at 200 ppm	No loss of strength
Smoke contribution factor	0
Flame contribution factor	0

PACKAGING

5 US gal. (18,9 L) pail ; 55 US gal. (207 L) drum

COLOR

Milky white

SHELF LIFE

12 months when stored in sealed, original containers in a heated area

APPROXIMATE COVERAGES

- 1. Liquid primer (roller applied)**

5 US gal. (18,9 L)	1225 sq. ft. (114 m ²)
55 US gal. (207 L)	13000 sq. ft. (1208 m ²)
- 2. Slurry bond coat (mixed with pure Portland cement, brush-applied)**

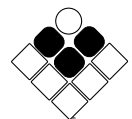
5 US gal. (18,9 L)	625 sq. ft. (58 m ²)
55 US gal. (207 L)	6600 sq. ft. (613 m ²)
- 3. Leveling coat and latex-cement thick bed mortar**

Coverages listed below are per a 400 lb. (181 kg) mix, one part cement and 3 parts dry sand by weight.

	THICKNESS		
	1/2" (12,5 mm)	3/4" (19 mm)	1" (25 mm)
5 US gal.(18,9 L)	96 sq. ft. (8,9 m ²)	72 sq. ft. (6,7 m ²)	48 sq. ft. (4,5 m ²)
55 US gal.(207 L)	960 sq. ft. (89 m ²)	720 sq. ft. (67 m ²)	480 sq. ft. (45 m ²)
- 4. Latex additive to KERABOND and other dry-set mortars**

1 1/2 to 2 US gal. (5,6 - 7,5 L) per 50 lbs. (22,7 kg) dry-set powder

Approximately 65 - 90 sq. ft. (6 - 8,4 m²) depending upon substrate conditions, type of trowel used and setting practices. (Refer to the coverage chart in the KERABOND data sheet).



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Thickness of the mortar bed or leveling coat	Slurry bond coat	1/4" or less (6 mm)	1/4" to 1/2" (6 - 12,5 mm)	1/2" to 1" (12,5 - 25 mm)	1" to 2" (25 - 50 mm)
Portland cement (ASTM C-150, Type 1)	1	1	1	1	1
Fine Silica sand (40-80)	1 (optional)	3			
Masonry sand or Silica Sand 30-60			3		
Concrete sand 3/8" (10 mm) coarse aggregate				3	1
					2

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 the risk of bond separation from the substrate. Where thicknesses greater than 2" (50 mm) are required, use a properly graded concrete mix designed to meet job conditions and physical properties desired.
- Mix all mortars into the minimum amount of liquid necessary to obtain a low slump workable mix. Generally about 5 US gal. (18,9 L) of PLANICRETE 50 are required for every 94 lb. (42 kg) bag of Portland cement included in the mortar mix containing only dry fine silica or masonry sand. However, the quantity of PLANICRETE 50 must be reduced when using a coarse aggregate mortar mix or when damp sand is used.
- When preparing the slurry bond coat, about 5 US gal. (18,9 L) of PLANICRETE 50 is generally sufficient for every half bag (47 lbs.) (21 kg) of Portland cement.

4. CLEAN-UP

Wash tools and hands with water while material is still fresh.

5. EXPANSION AND CONTROL JOINTS

5.1 Provide for expansion and control joints where specified.

5.2 Do not cover any existing expansion joints

5.3 Cut the mortar or leveling coat on both sides along the edges of the expansion joints.

5.4 Apply the specified compressible bead and sealant only after the tile installation is completed.

6. GROUTING

Wait until the setting mortar or adhesive in the tilework is completely cured before grouting. Grout with the appropriate MAPEI grout.

7. PROTECTION

7.1 General

7.1.1 Protect material from freezing during transportation and storage. PLANICRETE 50 is freeze/thaw stable down to temperatures of 0°F (-18°C). However, it is wise to protect all water-based materials from prolonged exposure to deep-freezing. If frozen, do not stir until the latex has completely returned to room temperature.

7.1.2 Provide for heated storage on site and deliver materials at least 24 hours before tile work begins.

7.1.3 Protect finished tilework against weather, freezing and complete water immersion for at least 28 days after completion of the work.

7.2 Floors

7.2.1 Keep free from traffic for at least 48 hours after installation. Plywood stepping boards may be used after 24 hours when occasional stepping on the floor is unavoidable.

7.3 Walls

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

NOTICE

We shall not be liable for incidental and consequential damages, as defined under the uniform commercial code, directly or indirectly sustained, nor for any loss caused by application of these goods not in accordance with current printed instruction or for other than the intended use. Before using, user shall determine the suitability of the product for its intended use and user alone assumes all risks and liability whatsoever in connection therewith. Our liability is expressly limited to replacement of defective goods. Any claim shall be deemed waived unless made in writing to us within thirty (30) days from date it was, or reasonably should have been discovered.

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 Printed in Canada
 09/00