



Slurry Bond Coats – When and What to Use TDS 143

Introduction – Polymer or Latex Fortified Slurry Bond Coats For Traditional Mortar Beds

LATICRETE® latex slurry bond coats are used to bond ‘wet’ consistency toppings or leveling beds over horizontal substrates, such as concrete or masonry. In any case, their purpose is to provide an adhesive layer that bonds the substrate and the material going over it.

For tile setting purposes, traditional installation methods required dusting dry cement, or spreading a cement paste/slurry over the semi-dry mortar bed just prior to placing the tiles. The tiles are then placed in the dry cement powder or, more correctly, a portland cement/water paste and "beaten" to fully imbed them in the mortar bed. “Beating” attaches a layer of cement rich paste as an adhesive between the sandy mortar bed surface and the tile backs.

Instead of the traditional cement paste, 254 Platinum or 211 Powder gauged with 4237 Latex Additive, mixed to a soft, wet slurry consistency is applied with a flat side of a trowel over the bed. The slurry is usually just 1/16” (1-2 mm) thick. The tiles are placed in the wet slurry and "beat-in" with a rubber mallet and beating block. This method requires the bonded mortar bed to have a minimum thickness of 3/4” (19 mm).

A slurry bond coat is also used to bond a new day’s mortar bed placement to a previously installed and hardened mortar bed. The slurry bond coat is brush applied to the edge of the mortar bed to create a bond.

There are 2 methods of tile installation when using a bonded mortar bed as your tile substrate; the pre-screed method and the wet set method.

The pre-screed method (allowing the bonded mortar bed to cure before the application of tile) allows the bonded mortar to have nominal thickness, the mortar bed can be screeded as low as the aggregate will allow.

The wet set method (setting tile on top of uncured semi dry mortar bed and beat in with a slurry) has a required minimum thickness of 3/4” (19 mm).

4237 Latex Additive in slurry bond coats provide much longer “open” or working time for mortar beds, particularly in hot climates. It also has 500% stronger bond to the ceramic or stone tile, ensuring improved resistance to vibration, traffic and physical shock.

This method is very economical because 1 quart (0.95 L) of 4237 Latex Additive mixed with 4 lb. (2 kg) of 211 Powder or 2 lb. (1 kg) of portland cement, with or without 2 lb. (1 kg) of fine sand, produces a slurry that covers 30-40 ft² (3-4 m²) applied at 1/16” (1.5mm) thick.

Replacing the traditional cement/water paste with a slurry bond coat of 254 Platinum or consisting of 4237 Latex Additive mixed with 211 Powder, results in many benefits:

- 1). Eliminates soaking and draining tile - increasing production dramatically
- 2). Much longer open time – more tile can be applied before the slurry dries
- 3). Provides 500% higher bond strength than traditional cement slurries
- 4). Low cost

The LATICRETE System includes a variety of materials that can be utilized in Slurry Bond Coat applications depending on site conditions and other factors.

Recommended Slurry Bond Coat Mortars:

I. 254 Platinum (mixed with water)

Unequaled strength and flexibility in a polymer-fortified cementitious mortar combined with excellent working time - excellent open and setting time;

For use:

- 1). over concrete before placing a 'semi-dry' consistency traditional mortar bed (no minimum thickness);
- 2). over 'semi-dry' consistency traditional mortar beds before placing ceramic tile, stone or thin brick. (3/4" min. (19 mm) Thickness)

Typical Mix Ratio: 7 quarts (6.6 L) water: 50 lbs. 254 Platinum

Approximate Coverage @ 1/16" (1.5 mm) thickness: 120 - 130 ft² (11.1 - 12 m²) per stated mix proportions

Consult Data Sheet 677.0 and package instructions for further information

II. 4237 Latex Additive

A). Mixed with 211 Powder

Unequaled strength and flexibility in a latex fortified cementitious mortar combined with excellent working time - the 'all-round' choice with optimum balance between 'open' time and setting time;

For use:

- 1). Over concrete before placing a 'semi-dry' consistency traditional mortar bed (no minimum thickness);
- 2). Over 'semi-dry' consistency traditional mortar beds before placing ceramic tile, stone or brick.

Typical Mix Ratio: 1 volume 4237 Latex Additive: 1 volume 211 Powder (1:1.5 by weight);

Approximate Coverage @ 1/16" (1.5 mm) thickness: 70-90 ft² (6.5-8.5 m²) per gallon (3.8 L) of 4237 Latex Additive.

Consult Data Sheet 230.1 and package instructions for further information

Note: in cold climate conditions, or under 'wet' consistency toppings/overlays, or with 'negative' cast panels, use 3701 Mortar Admix mixed with 211 Powder (see section below).

B). Mixed with 272 Mortar, 317 or 220 Marble & Granite Mortar

Maximum 'open' time with excellent strength and flexibility - ideal for hot, dry conditions especially in exterior applications;

For use:

- 1). Over concrete before placing a 'semi-dry' consistency traditional mortar bed (no minimum thickness);
- 2). Over 'semi-dry' consistency traditional mortar beds before placing ceramic tile, stone or brick.

Typical Mix Ratio: 1 volume 4237 Latex Additive: 1 volume 272 Mortar, 317 or 220 Marble & Granite Mortar (1:1.5 by weight);

Approximate Coverage @ 1/16" (1.5 mm) thickness: 70-90 ft² (6.5-8.5 m²) per gallon (3.8 L) of 4237 Latex Additive.

Consult Data Sheet 230.1 and package instructions for further information

III. 3701 Mortar Admix

A). Mixed with 211 Powder

The same strength and flexibility as 4237 Latex Additive mixed with 211 Powder, but with less 'open' time and a faster 'final set' time.

For use:

- 1). Over concrete before placing a 'semi-dry' consistency traditional mortar bed *in cold climate conditions* (no minimum thickness);
- 2). Over 'semi-dry' consistency traditional mortar beds before placing ceramic tile, stone or brick *in cold climate conditions*;
- 3). Under *'wet' consistency toppings/overlays*;

4). Over the backs of ceramic tile, stone or brick before placing concrete or mortar during fabrication of ***‘negative’ cast panels***.

Typical Mix Ratio: 1 volume 3701 Mortar Admix: 1 volume 211 Powder (1:1.5 by weight);

Approximate Coverage @ 1/16" (1.5 mm) thickness: 70-90 ft² (6.5-8.5 m²) per gallon (3.8 L) of 3701 Mortar Admix.

Consult Data Sheet 231.0 and package instructions for further information

B). Mixed with 272 Mortar, 317 or 220 Marble & Granite Mortar

Provides ‘open’ time, strength and flexibility similar to 4237 Latex Thin-Set Mortar Additive mixed with 211 Powder, but allows the convenience of using the same latex additive for ‘semi-dry’ consistency mortar beds and bond coats – only one latex additive is needed on site.

For use:

1). Over concrete before placing a ‘semi-dry’ consistency traditional mortar bed (no minimum thickness);

2). Over a ‘semi-dry’ consistency traditional mortar bed before placing ceramic tile, stone or brick.

Typical Mix Ratio: 1 volume 3701 Mortar Admix: 1 volume 272 Mortar, 317 or 220 Marble & Granite Mortar (1:1.5 by weight);

Approximate Coverage @ 1/16" (1.5 mm) thickness: 70-90 ft² (6.5-8.5 m²) per gallon (3.8 L) of 3701 Mortar Admix.

Consult Data Sheet 231.0 and package instructions for further information

IV. 333 Super Flexible Additive

Mixed with 272 Mortar, 317 or 220 Marble & Granite Mortar

Provides ‘open’ time and strength similar to 4237 Latex Additive mixed with 211 Powder, but with superior flexibility for increased resistance to impact or substrate flexure.

For use:

1). Over concrete before placing a ‘semi-dry’ consistency traditional mortar bed (no minimum thickness);

2). Over a ‘semi-dry’ consistency traditional mortar bed before placing ceramic tile, stone or brick.

Typical Mix Ratio: 1 volume 333 Super Flexible Additive: 1 volume 272 Mortar, 317 or 220 Marble & Granite Mortar (1:1.5 by weight);

Approximate Coverage @ 1/16" (1.5 mm) thickness: 70-90 ft² (6.5-8.5 m²) per gallon (3.8 L) of 333 Super Flexible Additive;

Consult Data Sheet 266.0 and package instructions for further information

Notes: Exterior use limited to residential or light commercial applications and areas not subject to water immersion.

V. LATAPOXY[®] 300 Adhesive

Provides chemical resistance and bond strength that are superior to any latex modified portland cement slurry bond coat. Specifically designed for installing ‘green’ marble or other moisture sensitive stone and agglomerates. Meets or exceeds all ANSI A118.3 requirements.

For use:

1). Over concrete before placing a ‘semi-dry’ consistency traditional mortar bed (no minimum thickness);

2). Over a ‘semi-dry’ consistency traditional mortar bed before placing ceramic tile, stone or brick;

3). Over Steel:

Option 1: LATAPOXY 300 Adhesive should be skimmed, then notched and allowed to cure with the notched trowel ridges “standing tall” – followed by a slurry bond coat of 254 Platinum before placing a ‘semi-dry’ consistency traditional mortar bed consisting of LATICRETE 3701 Fortified Mortar Bed.

Option 2: before placing a ‘semi dry’ consistency traditional mortar bed (no minimum thickness) consisting of LATICRETE 3701 Fortified Mortar Bed. – A mock up should be done and approved.

4). For direct bond as an adhesive mortar over steel to install ceramic tile, stone or brick.

Typical Mix Ratio: See package instructions;

Approximate Coverage@ 1/16" (1.5 mm) thickness: 90-110 ft² (8.4-10.2 m²) per #2 Unit.

Consult Data Sheet 633.0 and package instructions for further information.

Limitations:

1) In *cold climate* conditions, or under *wet consistency* topping, leveling or patching mortars, or with *'negative' cast* panels, do **not** use the following mortars as Slurry

Bond Coats:

A) 4237 Latex Additive mixed with 211 Powder;

B) 4237 Latex Additive mixed with 272 Mortar, 317 or 220 Marble & Granite Mortar;

C) 3701 Mortar Admix mixed with 272 Mortar, 317 or 220 Marble & Granite Mortar;

D) 333 Super Flexible Additive with 272 Mortar, 317 or 220 Marble & Granite Mortar;

2) Over *vertical* concrete, renders, plasters, stuccoes or other masonry, **do not** use Slurry Bond Coats – they will cause plastic consistency plasters, stuccos or mortars to slump or slide and are not needed to achieve a strong bond if the coating is properly troweled or worked into full contact with a clean substrate.

3) To provide superior bond over *vertical* concrete, renders, plasters, stuccoes or masonry, all of the Slurry Bond Coat mortars described above can be applied as a separate 'key' coat (either by trowelling or by the 'spatter dash'/'dash coat' method – see TDS 130); however, the 'key coat' must be allowed to set firm before the next coat or final finish coat is applied.

Technical Data Sheets are subject to change without notice. For latest revision, check our website at www.laticrete.com
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