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Construction Solutions

Slurry Bond Coats — When & What to Use

TDS-1009

INTRODUCTION — POLYMER OR LATEX FORTIFIED SLURRY BOND COATS FOR TRADITIONAL MORTAR BEDS

LATICRETE® latex slurry bond coats are used to bond 'semi-dry to wet' consistency toppings or levelling beds over horizontal substrates, such as concrete slabs or cement screeds. In any case, their purpose is to provide a topping, that otherwise may not have, the ability to adhere adequately to the prepared substrate.

For tile setting purposes, traditional installation methods required dusting dry cement, or spreading a cement paste/slurry over the plastic, semi-dry mortar bed just prior to placing the tiles. The tiles are then placed in the cement rich surface, 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 sand/cement mortar bed surface and the tile backs. A method used with ordinary materials suited to more porous ceramic or stone tile.

Instead of the traditional cement paste, LATICRETE 254 Adhesive, 335 Adhesive or LATICRETE 211 Crete Filler Powder gauged with LATICRETE 4237 Latex Additive to name a few, mixed to a soft, wet slurry consistency is applied with a flat side of a trowel over the plastic, semi-dry mortar bed. The slurry bond coat may be required to be thicker than 1.5mm depending on service requirements. The tiles are placed in to the wet slurry and "beat-in" with a rubber mallet and beating block. A method used with fortified materials suited to dense substrates, ceramic or stone tile.

There are two methods of tile installation when using bonded mortar beds;

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-bed method: (setting tile on top of a plastic semi dry mortar bed and beaten in over a fresh slurry bond coat, as described above) has a required minimum thickness of 20 mm.

Slurry bond coats are worked into hardened surfaces with stiff brooms, trowels or slurry brushes, whilst the flat edge of a steel trowel is generally used to apply the bond coat to plastic, semi-dry mixes.

LATICRETE slurry bond coats provide much longer "open" or working time for mortar bed installation, particularly in hot climates. It also has stronger bond to denser ceramic or stone tile, ensuring improved resistance to vibration, traffic and physical shock.

Replacing the traditional cement/water paste with a slurry bond coats of LATICRETE 254 Adhesive, 335 Adhesive or LATICRETE 4237 Latex Additive, results in many benefits:

1. Eliminates soaking and draining tile — increasing production dramatically.
2. Allows the bonding of denser tiles, including porcelain.
3. Have much longer open times — more tiles can be applied before slurry dries.
4. Provides significantly higher bond strengths than non-modified cement slurries

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

RECOMMENDED SLURRY BOND COAT MORTARS:

I. LATICRETE 254 Adhesive (mixed with water)

Unequaled strength and flexibility in a polymer-fortified cementitious adhesive with excellent working time, excellent open and setting time.

For use:

1. Over concrete before placing a 'semi-dry' consistency traditional mortar bed from feather-edge to desired thickness.
2. Over plastic, semi-dry consistency traditional mortar beds (min 20mm thick) before beating in pavers and ceramic or stone tile.

Typical Mix Ratio: 5.8 - 6 Litres water: 20kg LATICRETE 254 Adhesive

Approximate Coverage at 1.5 mm thickness: 10 — 11 m² per stated mix proportions.

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

II. LATICRETE 335 Adhesive (mixed with water)

High 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 from feather-edge to desired thickness.
2. Over plastic, semi-dry consistency traditional mortar beds (min 20mm thick) before beating in pavers and ceramic or stone tile.

Typical Mix Ratio: 6.8 litres water: 20 kg LATICRETE 335 Adhesive

Approximate Coverage at 1.5 mm thickness: 10 – 11 m² per stated mix proportions.

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

III. LATICRETE 4237 Latex Additive

A. Mixed with LATICRETE 211 Crete Filler Powder

Un-equalled 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 from feather-edge to desired thickness.
2. Over plastic, semi-dry consistency traditional mortar beds (min 20mm thick) before beating in pavers and ceramic or stone tile.

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

Approximate Coverage at 1.5 mm thickness: 4 – 6 m² per 3.8 litres of LATICRETE 4237 Latex Additive.

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

B. Mixed with LATICRETE 315 Super Floor & Wall Adhesive or LATICRETE ULTRA X8 Adhesive.

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 from feather-edge to desired thickness.
2. Over plastic, semi-dry consistency traditional mortar beds (min 20mm thick) before beating in pavers and ceramic or stone tile.

Typical Mix Ratio: 1 volume LATICRETE 4237 Latex Additive: 1 volume LATICRETE 315 Super Floor & Wall Adhesive or LATICRETE ULTRA X8 Adhesive, (1:1.5 by weight);

Approximate Coverage at 1.5 mm thickness: 4 – 6 m² per 3.8 litre of LATICRETE 4237 Latex Additive.

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

IV. LATICRETE 3701 Mortar Admix

A. Mixed with LATICRETE 211 Crete Filler Powder

The same strength and flexibility as LATICRETE 4237 Latex Additive mixed with LATICRETE 211 Crete Filler 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, from feather-edge to desired thickness.
2. Over plastic, semi-dry consistency traditional mortar beds (min 20mm thick) before beating in pavers and ceramic or stone tile 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 LATICRETE 3701 Mortar Admix: 1 volume LATICRETE 211 Crete Filler Powder (1:1.5 by weight);

Approximate Coverage at 1.5 mm thickness: 4 – 6 m² per 3.8 litre of LATICRETE 3701 Mortar Admix.

B. Mixed with LATICRETE 315 Super Floor & Wall Adhesive or LATICRETE ULTRA X8 Adhesive

Provides 'open' time, strength and flexibility similar to LATICRETE 4237 Latex Additive mixed with LATICRETE 211 Crete Filler 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 from feather-edge to desired thickness
2. Over plastic, semi-dry consistency traditional mortar beds (min 20mm thick) before beating in pavers and ceramic or stone tile.

Typical Mix Ratio: 1 volume LATICRETE 3701 Mortar Admix: 1 volume LATICRETE 315 Super Floor & Wall Adhesive or LATICRETE ULTRA X8 Adhesive (1:1.5 by weight);

Approximate Coverage at 1.5 mm thickness: 4 – 6 m² per 3.8 litre of LATICRETE 3701 Mortar Admix.

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

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 to dry surfaces.

For use:

1. Over concrete before placing a 'semi-dry' consistency traditional mortar bed from feather-edge to desired thickness.
2. Over plastic, semi-dry consistency traditional mortar beds (min 20mm thick) before beating in pavers and ceramic or stone tile.

Typical Mix Ratio: see package instructions;

Approximate Coverage at 1.5 mm thickness: 6 – 7 m² per #2 Unit

Consult Data Sheet DS-1047 and package instructions for further information

Limitations

1. In cold climate conditions, or under wet consistency topping, levelling or patching mortars, or with 'negative' cast panels, do not use the following mortars as Slurry Bond Coats:
 - A. LATICRETE 4237 Latex Additive mixed with LATICRETE 211 Crete Filler Powder;
 - B. LATICRETE 4237 Latex Additive mixed with LATICRETE 315 Super Floor & Wall Adhesive or LATICRETE ULTRA X8 Adhesive;
 - C. LATICRETE 3701 Mortar Admix mixed with LATICRETE 315 Super Floor & Wall Adhesive or LATICRETE ULTRA X8 Adhesive;
2. Over vertical concrete, renders, plasters, stuccoes or other masonry, do not use Slurry Bond Coats – they will cause plastic consistency plasters, stuccoes 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'; however, the 'key coat' must be allowed to set firm before the next coat or final finish coat is applied. These key coats can be applied with suitable notched trowels or by the splatter dash process.