

FIBONACCI STONE

Installation Tips – Spot Bonding Facades

This specification covers the installation of suitable stone to suitable concrete & concrete masonry units with the Laticrete spot bonding method to walls on exterior applications.

Surface must be structurally sound, stable and rigid enough to support stone finish. Substrate deflection under all live, dead and impact loads, including concentrated loads, must not exceed $L/480$ where L = span. Sandstone, slate and fissile stones are not recommended veneers and should not be used with LATAPOXY 310 Stone Adhesive. These stones and other porous stones may delaminate or break apart due to the nature of their porous and layered composition. Stone tile fixing and grouting mortars do not constitute a waterproof barrier.

Materials

Use the following LATICRETE System Materials:

LATAPOXY 310 Stone Adhesive

LATAPOXY 310 Rapid Stone Adhesive

LATAPOXY 310 Cordless Mixer

Materials for Moisture Shield shall be: LATAPOXY 300.

Materials for spot bonding shall be: LATAPOXY 310.

Preparation

Prior to commencing the installation, the contractor shall examine the areas to be covered and advise the Main Builder / Owner of any existing conditions or surface contamination which will require correction before the work commences.

Substrate Examination - Verify that the surfaces to be covered with stone are;

1. Sound, rigid and conform to good design/engineering practices;
2. Have a maximum deflection under all live, dead and impact loads, including concentrated loads, of $L/480$;
3. Clean and free of dust, dirt, oil, grease, sealers, curing compounds, laitance, efflorescence, form oil, loose plaster, paint, bondbreakers and scale or anything else that may inhibit bond;
4. Level and true to within 6mm in 3m and no more than 1.5mm in 0.3m variation from substrate high points;
5. Not rendered or skim coated with mortars of any description;
6. Not leveled with gypsum or asphalt based compounds;
7. Dry to an equilibrium relative humidity of not greater than 75%

Concrete masonry unit (CMU) walls shall be constructed with a cavity between the veneer wall and internal walls and flashed to direct any moisture build up between walls to weeps as required.

CMU & Concrete walls shall be free of any stucco, render or finish coat. Installation must be made directly to CMU or Concrete.

CMU & Concrete wall faces must be able to withstand tensile forces in excess of 1.5Mpa when tested as per the procedure and specification as described in EN1323.

Surface reduction & correction may be carried out by the removal of concrete or CMU surfaces so long as reinforcement covers and surface structural integrity are maintained.

Surface plumbing and correction may be achieved by the use of the 310 stainless steel wall bracket. Brackets may not project by more than the shaft length. Ensure plate area is of sufficient size for dab diameter. Brackets will be placed in the same configuration as the spot bonding layout and will not bear more than the allowed thickness of Latapoxy 310. The shafts will be adhered into the concrete or core filled CMU with the Latapoxy 310. Drill holes for shafts 1mm greater in diameter than shaft thickness and to the correct depth. Holes are to be cleaned of all debris and dust from drillings prior to the application of the epoxy. Fill hole with Latapoxy 310 epoxy and insert wall bracket. Rotate bracket whilst moving in and out to ensure full coverage of epoxy in hole and in contact with bracket shaft. Wedge if required and allow to set at correct projection.

Surface Preparation

Ensure surface is clean and free from impurities and debris.

Moisture Shield (If Required)

Prior to the spot bonding of stone, apply an application of LATAPOXY 300 to the CMU and Concrete walls. Mix the three parts as per the instructions and apply by steel trowel to skim the previously prepared surface ensuring full and complete coverage of the masonry surface. The LATAPOXY 300 shall be applied with a scraping motion to work the material and burnish the material into good contact with the surface being covered. Allow 24 hours at 21 degrees C prior to beginning spot bonding tiles. Passive or active cavity ventilation systems should be considered with this installation.

Installation

General: Cut and fit stone tile neatly around corners, fittings, and obstructions. Perimeter pieces to be a minimum of half the stone tile. Chipped, cracked, split pieces and edges are not acceptable. Make joints even, straight, plumb and of uniform width to tolerance +/- 1.5 mm in 2.4 m. Install divider strips at junction of flooring and dissimilar materials.

Recommended Guidelines for Spot Bonding Stone: (Please consult your Local Building Code for actual code compliance); 1. Thickness – maximum thickness for tile or stone is 50mm; Facial Dimension - $\leq 4650\text{cm}^2$ in area. For $>4650\text{cm}^2$ contact LATICRETE Technical Service. 2. Module Weight – for tile or stone weight is not to exceed 73kg/m^2 unless approved by an engineer. 3. Height – installation not to exceed 12m in height. For installations $>12\text{m}$ please contact LATICRETE Technical Services. Exception – Adhered veneered units weighing less than 1.4kg/m^2 shall not be limited in dimension or area. Note: Always check with the stone manufacturer to make sure the tile or stone is suitable for wall installations or for exterior use.

Spot Bonding Method

Store resins at room temperature 21°C for 24 hours before using. All substrates must be clean and dry when application of LATAPOXY® 310 Stone Adhesive is made. Finished veneers equipped with any type of resin, mesh, epoxy or fiberglass backing must be ground in those areas to receive LATAPOXY 310 Stone Adhesive. Clean and grind back of stone at areas to receive the LATAPOXY 310 Stone Adhesive spots using a mechanical wheel grinder with a diamond wheel/blade. Remove dust with a stiff brush, wipe entire surface. Using a damp sponge (not wet), wipe the tile or stone to remove any particles or remaining dust to ensure a clean direct bond and that all ground material is removed. Wipe dry with a clean cloth, then apply LATAPOXY 310 Stone Adhesive. Combine equal volumes of LATAPOXY 310 Stone Adhesive Part A and Part B (1:1 mix ratio by volume). Mix until uniform in color; no swirls. Small quantities can be mixed with a putty knife or margin trowel. Larger quantities can be mixed with an electric drill mixer (low speed). Cartridge packs are designed for use only with the LATAPOXY 310 Cordless Mixer. Apply dabs evenly distributed on back of the stone or tile; 5 dabs minimum, 1 in each corner and 1 in center. Cover at least 10% of the area of each piece. Finished dab thickness must be a minimum of 3mm and maximum thickness of 25mm. After installation of LATAPOXY 310 Stone Adhesive onto the veneer, install onto substrate and adjust for plumb and level.

Approximate dab diameter required to achieve 10% coverage with 5 dabs:

Tile Size:	Dab Diameter
300mm x 300mm	50mm
600mm x 300mm	70mm

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Grout, Expansion and Control Joints

Grout joints are to be filled with suitable Stone Sealant on flexible foam backer rod. This will allow for the independent movement of each piece of tile or stone. Provide control or expansion joints as located in contract drawings and in full conformity, especially in width and depth, with architectural details.

Substrate joints must carry through, full width, to surface of stone.

Install expansion joints in tile stone work over construction/cold joints or control joints in substrates.

Install expansion joints where tile, brick or stone abut restraining surfaces (such as perimeter walls, curbs, columns), changes in plane and corners.

Joint width and spacing depends on application - consult engineer or sealant manufacturer for recommendation based on project parameters.

Joint width: ≥ 3 mm and ≤ 25 mm.

Joint width: depth ~2:1 but joint depth must be ≥ 3 mm and ≤ 13 mm.

Layout (field defined by joints): 1:1 length: width is optimum but must be $\leq 2:1$.

Remove all contaminants and foreign material from joint spaces/surfaces, such as dirt, dust, oil, water, frost, setting/grouting materials, sealers and old sealant/backer.

Use proprietary stone sealant in dry areas or swimming pool sealant for underwater or permanent wet area applications.

Install appropriate Backing Material (e.g. closed cell backer rod) based on expansion joint design and as specified by sealant manufacturer.

Apply masking tape to face of stone veneer. Use caulking gun, or other applicator, to completely fill joints with sealant. Within 5-10 minutes of filling joint, 'tool' sealant surface to a smooth finish.

Remove masking tape immediately after tooling joint. Wipe smears or excess sealant off the face of stone or other absorptive surfaces immediately.

Cleaning

Clean excess mortar/epoxy from veneer surfaces with water before they harden and as work progresses. Do not contaminate open grout/caulk joints while cleaning. Sponge and wash veneers diagonally across joints. Do not use acids for cleaning. Polish with clean dry cloth. Remove surplus materials and leave premises broom clean.

Protection

Protect finished installation. Close areas to other trades and traffic until tile being installed has set firmly.

Extend period of protection of tile work at lower temperatures, below 15°C, and at high relative humidity (>70% R.H.) due to retarded set times of mortar/adhesives. Replace or restore work of other trades damaged or soiled by work under this section.

Health & Safety

The use of personal protection such as rubber gloves, suitable dust masks, safety glasses and industrial clothing is highly recommended. Discarded packaging, product wash and waste water should be disposed of as per local, state or federal regulations.

Technical Support

For troubleshooting please contact our technical support team on +613 9871 6133 or email at info@fibonaccistone.com.au

Procedures & recommendations are a summary of good installation and finishing practices. Specific building codes, standards or special procedures are to be referred to prior installation. Failure to install and finish Fibonacci Stone tiles in accordance with building code requirements and good installation and finishing practices may affect system performance and void product warranty.

This information is subject to change without notice – always refer to latest edition. MARCH 2009