General Stone Tile Fixing Specification to Masonry Facades. 15 Year System Warranty.

This specification covers the installation of suitable large format stone tile to external concrete or cement masonry unit (CMU) façade installations. Refer to Architectural Drawings and Details for specific installation materials & methods for each specific area and application.

WITNESS POINTS:
Give sufficient notice, so inspections can be made by the contractor in the presence of the builder, specifier, owner or any other persons deemed relevant, as required.

1.0 GENERAL:

1.1 All works shall be carried out by experienced qualified trades.

2.0 SCOPE OF WORK:

2.1 Furnish all labour, materials and equipment necessary to complete the installation of the stone, in shock resistant, grouting and fixing materials, as specified herein and where indicated in drawings. Install thin, load bearing waterproof membranes, as specified and indicated in drawings if required.

NOTES:

2.2 This is a total system. Call out products by name, number and application to ensure that specifications do not differ from manufacturer's instructions.

2.3 The following shall be inserted in the Concrete Section:
"No sealers, crystalline waterproofing additives or curing compounds shall be used on concrete or CMU surfaces which are to be covered with stone. Concrete shall be covered and wet cured for a minimum of seven (7) days. Allow new concrete to cure before the installation of stone or waterproof membrane. Areas that are to receive stone work, installed by the thin bed method, shall have a wood float finish or open pored steel float finish; be true to within 3 mm in 3 m from the required plane and 1.5mm in 600mm when measured from the high spot. Areas requiring fill, patching or levelling shall be prepared / rendered using LATICRETE 3701 Fortified Mortar Bed in accordance with the manufacturer's instructions. Gypsum or asphalt-based levelling compounds shall not be permitted. No polyvinyl (PVA) acetates shall be permitted in any substrate to receive tile. The surface, which is to be covered, shall be left clean, free of dust, plaster, sealer or curing compounds and form oil. Any contamination shall be removed by the Contractor who applied the material."

2.4 Stone tile and there, fixing and grouting mortars do not constitute a waterproof barrier. Specify & detail LATICRETE HYDRO BAN Liquid Applied Waterproof Membrane and LATAPOXY Moisture Shield where required.

2.5 Unless otherwise noted in this document, product data sheets, how to guides, technical data sheets and other LATICRETE guidelines, all work shall be in accordance with AS3958.1 & 2 and AS4654.1 & 2.

2.6 This specification may not include all the information required to complete the works. Contact LATICRETE for any additional information.
2.7 Consult the relevant, current product data sheets and how to guides for more complete and installation information on products specified in this document.

2.8 Follow all occupational health and safety and site safety procedures. Refer to the relevant msds for all safe handling information on the products nominated in this specification.

2.9 Concrete or other substrates should not have internal moisture content greater than 75% relative humidity as measured with moisture probes.

2.10 For the purpose of this specification, all stone is deemed to be not moisture sensitive, dimensionally stable, fit for purpose and suitable for the proposed application by the manufacturer/supplier. Contact LATICRETE if there is a backing on the stone tile or if the stone is pre-sealed.

2.11 Surfaces must be structurally sound, stable and ridged enough to support the tile and similar finishes. Substrate deflection under all live, dead and impact loads, including concentrated loads, must not exceed L/480 for thin bed installation of stone tile where L = span.

2.12 Contact LATICRETE for a custom project specification.

3.0 MATERIALS:

3.1 All stone tiles, where called for, shall be as supplied by; …………………………………………………..

3.2 Renders & Concrete patching materials shall be: LATICRETE 3701 Fortified Mortar Bed. Waterproofing & crack suppression materials shall be: LATICRETE HYDRO BAN Waterproof Membrane and LATAPOXY Moisture Shield. Stone tile adhesives or skim coat materials shall be: LATICRETE 254 Platinum Adhesive. Stone tile grout materials shall be: LATICRETE PERMACOLOR Grout. Movement Joint sealant shall be: LATICRETE LATASIL Sealant and LATICRETE LATASIL 9118 Primer. Stone tile cleaner and sealer shall be: LATICRETE STONETECH KlenzAll Cleaner and STONETECH Heavy Duty Sealer. All waterproofing, render mortars, stone tile fixing and grouting materials shall be as provided by LATICRETE Australia, 29 Telford Street, VIRGINIA, QLD 4014, Australia. Telephone: 1800331012. Email: technicalservices@laticrete.com.au Web: au.laticrete.com Installation shall be in strict accordance with manufacturer’s instructions.

3.3 The bedding and grouting mortars shall be weather, frost, shock and chemical resistant.

3.4 The finished stone adhesive and grout materials shall be resistant to dilute acid, dilute alkali and brine.

3.5 All installation materials shall be compatible and from one manufacturer.

3.6 All materials shall be delivered to the job site in the original factory containers with the manufacturer’s identification on each package. The addition of water or other materials to dilute the installation materials on the job site will not be permitted.

4.0 APPROVALS AND SAMPLES:

4.1 The supplier of installation materials shall have been regularly engaged in the manufacture of these materials for a minimum of ten (10) years, and shall submit to the architect a list of three similar installations, each having a minimum of five (5) years’ service.
4.2 Provide mock-up of each type/style/finish/size/colour of tiles, trim unit and threshold, along with respective installation adhesives, mortars, grouts and other installation materials for assessment.

5.0 HANDLING AND STORAGE OF MATERIALS:

5.1 Handle and store stone tile in a manner to avoid contamination & intrusion of foreign matter that may inhibit bond.

5.2 Handle, store, mix and apply proprietary installation materials in strict compliance with the manufacturer’s instructions.

5.3 The contractor shall take precautions to protect the Mortar Additives, Admixtures from freezing or from excessive heat.

6.0 MORTAR, GROUT MIXES & WATERPROOF MEMBRANES:

6.1 Latex Portland Cement Renders, Levelling Beds & Scratch Coats:
20 kg bags LATICRETE 3701 Fortified Mortar Bed. (Adjust quantity of liquid to obtain proper consistency)

6.2 Waterproof & Crack Suppression Membrane:
15 litre pail LATICRETE HYDRO BAN Waterproof Membrane.
20 Litre unit LATAPOXY Moisture Shield.
600ml sausage LATICRETE HYDRO BAN Fillet & Sealant.

6.3 Latex Portland Cement Adhesive and Skim Coat:
20kg bags LATICRETE 254 Platinum Adhesive.

6.4 Grout:
10 kg bags LATICRETE PERMACOLOR Grout. (40 colours as per the LATICRETE colour chart)

6.5 Movement Joint Sealant:
305ml tube LATICRETE LATASIL Silicone Sealant.
240ml bottle LATICRETE 9118 Primer.

6.6 Stone Cleaners and Sealers
3.8 litre jug LATICRETE STONETECH KlenzAll Cleaner.
3.8 litre jug LATICRETE STONETECH Heavy Duty Sealer.

7.0 PREPARATION & CLEANING:

7.1 Inspection - Prior to commencing the installation, the contractor shall examine the areas to be covered and advise the Main Builder and Architect of any existing conditions or surface contamination, which will require correction before the work commences. Substrate must be clean & free from form oil, curing compounds, laitance, dirt or any other foreign material that may inhibit bond.

7.2 Preparation - As required, the concrete or masonry substrate shall be prepared/processed by grit blast, scarifying, sand blasted, hydro blasted or by whatever method deemed by the contractor necessary to prepare the concrete surface: to expose the fine aggregate; and to present with a sound, clean open pored surface, prior to installing render, waterproofing or adhesives.
7.3 Cleaning - As required the substrate shall be cleaned after surface preparation and processing by high pressure water cleaning to clean surface dirt and contamination or weakened surface layers. Any approved cleaning agents must be completely removed, neutralized and rinsed.

8.0 MIXING:

8.1 Mixing: Mix according to printed product instructions included with each product package. Mix only long enough to wet out the batch. Do not over-mix.

9.0 SURFACE PATCHING, PLASTERING or RENDERING:

9.1 Dimensional surface correction is necessary if concrete or CMU is not finished accurately to meet the above levelness or flatness tolerances for direct application of the stone tile using the thin bed methods of application.

9.2 Renders - LATICRETE 3701 Fortified Mortar Bed as a wall render should be mixed to a plastic consistency. As a plaster/render mix no slurry bond coat is required prior to placing wall renders. Apply wall render with a steel trowel pressing mortar into good contact with the prepared substrate. Apply “scratch coat” first – not to exceed 12mm thickness. Scratch mortar before it hardens. After “scratch coat” hardens, apply the “float coat” working the mortar into good contact with the scratch coat. Do not exceed 15mm thickness per lift. Scratch all lifts that will receive additional coats. Float wall with steel trowel and straight edges to form a plumb and true mortar surface. Allow the completed render coats to cure for 24 hours at 21°C prior to the installation of membrane or tile.

9.3 Skimming - Where skimming or shallow levelling coats are required in small areas, LATICRETE 254 Platinum Tile Adhesive can be used. Mix to a plastic consistency and apply to the surface with the straight edge of the trowel. Work in layers, nominally 2-3mm thick between coats. Scratch and allow to dry between coats.

9.4 See product data sheets, how to guides and technical data sheets for more complete information as required.

10.0 INSTALLATION OF WATERPROOF MEMBRANE:

Note: LATICRETE HYDRO BAN waterproof membrane is installed before tile is installed; that are adjacent occupied or enclosed areas; areas as specified and detailed on drawings; or areas requiring a crack isolation membrane. All CMU surfaces shall be rendered or skimmed prior to the application of the membrane.

10.1 Before starting, surface to be covered shall be cleaned to remove soil, dust, curing compounds, form oil, sealants, or grease. Cleaning shall be by means of high-pressure washing of previously prepared or built surfaces. Surfaces to be waterproofed shall be dry and of any moisture content as specified in the HYDRO BAN product data sheet. In cases where moisture vapour transmission rates (MVT) or substrate wetness are excessive, LATAPOXY Moisture Shield shall be used to reduce MVT or wetness to an acceptable level.

10.2 Surface to be waterproofed shall be prepared smooth, plumb and true as previously stated. Apply two coats of HYDRO BAN, allowing to dry between coats.

10.3 Stone tile may be installed directly over the membrane as soon as it is dry.

10.4 Allow membrane to cure fully. Cold weather installations will require a longer cure time.
10.5 See product data sheets, how to guides and technical data sheets for more complete information as required.

11.0 INSTALLATION OF STONE TILE BY THE THIN BED METHOD:

11.1 The LATICRETE 254 Adhesive shall be applied with a notched trowel using a scraping motion to work the material into good contact with the surface to be covered. A trowel having notches of sufficient size to optimize bedding is recommended. On site test should be carried out to determine the appropriate trowel size to target; no voids in the adhesive bed; full bedding of the tile; and complete adhesive distribution once the tiles are installed.

11.2 Only as much Adhesive shall be applied as can be covered within 5 to 15 minutes or while adhesive surface is still wet and tacky. Prior to placing the tile, a small amount of adhesive shall be buttered to the complete back of the tile. The tile shall then be set in place manipulated to insure 100% full bedding (this means full contact of adhesive to tile & full contact of adhesive to substrate) and a true surface. Tile shall be aligned to show uniform joints and then allowed to set until firm.

11.3 See product data sheets, how to guides and technical data sheets for more complete information as required.

12.0 EXPANSION, MOVEMENT AND CONTROL JOINTS:

12.1 Existing joints in subsurface must be carried through tile work and shall conform to architectural details.

12.2 Movement joints shall be installed where tile, screeds and renders abut restraining surfaces, such as perimeter walls, curbs, penetrations, columns, corners, etc. Expansion joints shall be installed at all "changes of plane" in the tile work, renders and screeds. Refer to Australian Standards AS3958.1 & 2 for more details.

12.3 Refer to architects & engineer’s drawings for full details on expansion, control, isolation or movement joints. (Do not tile, screed or render over construction joints).

Notes to specifier
The responsibility for calculating the actual spacing and size of the expansion joints shall be by the architect/engineer. The Optimum ratio of joint layout, length to width, is 1:1, and shall not be greater than 2:1.

12.4 Joints shall be sealed with LATICRETE LATASIL and LATASIL 9118 Primer as required. Ensure joint voids are clean and appropriate polyethylene bond breakers or backing rods are used.

13.0 GROUTING AND POINTING JOINTS:

13.1 Joints shall be grouted or pointed with LATICRETE PERMACOLOR.

13.2 Certain types of stone are more absorbent than others and will trap colour pigment during grouting. Prior to grouting, test for absorption of colour pigment. Porous tiles will need to be pre-sealed with a STONETECH sealer prior to grouting.

13.3 Joints shall be packed full and free of all voids and pits. (Tool or rake as specified).

13.4 Excess grout shall be cleaned from the surface with water and a damp sponge as the work progresses, while grout is fresh and before it hardens.
13.5 The day after installation grout film or haze shall be removed using a detergent solution.

13.6 See product data sheets, how to guides and technical data sheets for more complete information as required.

14.0 PROTECTION:

14.1 During installation of the waterproof membrane, renders, tile adhesive and grout the contractor shall take precautions to protect the work.

14.2 The contractor shall take precautions to protect the finished work from damage by other trades. Do not allow construction traffic on fresh grout joints. Allow the grout to cure for a minimum of 7 days before steam cleaning or using aggressive cleaning techniques.

14.3 Allow tile work or grout to cure. Weather Note: The curing of; waterproof membranes, tile fixing adhesives and grouts, are retarded, by low temperatures and accelerated by high temperatures. Finished work should be protected for an extended period of time.

15 CLEANING & SURFACE SEALING.

15.1 The tiles or stone on this project shall be cleaned and sealed with LATICRETE STONETECH Sealers and Cleaners as appropriate for the specific tile or stone installation.

15.2 Consult the product data sheet and technical guides prior to use. For further information contact stonetech@laticrete.com.au Test prior to use in a small unobtrusive area.

15.3 Stone shall be cleaned and sealed every 3 -5 years depending on usage and site conditions.

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