General Stone Tile Installation to Concrete Floors. 15 Year System Warranty.

This specification covers the installation of stone tile to a concrete floor substrate. 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 stone in shock resistant installation system, 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 "No sealers, crystalline waterproofing additives or curing compounds shall be used on concrete slabs which are to be covered with tile. Such slabs shall be covered and wet cured for a minimum of seven (7) days. Allow new concrete slabs to cure and dry for the recommended times before the installation of waterproof membrane or the tile. Areas requiring fill, patching or levelling shall be prepared / screeded using LATICRETE 3701 Latex Admix gauged with 226 Thick Bed Mortar 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."

2.3 Tile and there, fixing and grouting mortars do not constitute a waterproof barrier. Specify & detail LATICRETE HYDRO BAN Liquid Applied Waterproof Membrane where waterproofing membrane is required.

2.4 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.

2.5 Consult the relevant, current product data sheets and how to guides for more complete and installation information on products specified in this document.

2.6 Follow all occupational health and safety and site safety procedures. Refer to the relevant material safety data sheets for all safe handling information on the products nominated in this specification.

2.7 For the purpose of this specification all stone tiles are deemed dimensionally stable, not moisture sensitive, fit for purpose and suitable for the proposed application by the manufacturer. Consult LATICRETE if the stone is moisture sensitive or there are any backings on these tiles prior to fixing.
2.8 Tiling backgrounds should not have internal moisture content greater than 75% relative humidity as measured with moisture probes.

2.9 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 tile where L = span.

2.10 Contact LATICRETE for a Custom Specification.

3.0 MATERIALS:

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

3.2 Renders, Screeds & Concrete patching materials shall be: LATICRETE 3701/226 Latex Portland cement mortar.
Slurry bond coats and shallow surface levelling and skimming mortar shall be: LATICRETE 254 Platinum Adhesive.
Waterproofing & crack suppression materials shall be: LATICRETE HYDRO BAN Waterproof Membrane, HYDRO BAN Fillet & Sealant and LATAPOXY Moisture Shield where required.
Granite adhesives materials shall be: LATICRETE 254 Platinum Adhesive.
Stone grout materials shall be: LATICRETE PERMACOLOR Grout or LATICRETE SPECTRALOCK PRO Premium Grout.
Joint sealant materials shall be: LATICRETE LATASIL Sealant and LATASIL 9118 Primer as required.
Tile cleaner and sealer shall be: LATICRETE STONETECH KlenzAll Cleaner and STONETECH Heavy Duty Sealer.
All waterproofing, render mortars, tile fixing and grouting materials shall be as provided by LATICRETE Australia Pty Ltd. 29 Telford Street, VIRGINIA, QLD 4014, Australia. Telephone: 1800331012. Email: technicalservice@laticrete.com.au Web: au.laticrete.com
Installation shall be in strict accordance with manufacturer’s instructions.

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

3.4 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 Provide mock ups of each type/style/finish/size/colour of the tile along with respective installation adhesives, mortars, grouts and other installation materials to match as close as possible the final installed environment.

5.0 HANDLING AND STORAGE OF MATERIALS:

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

6.0 MORTAR, GROUT MIXES & WATERPROOF MEMBRANES:

6.1 Latex Portland Cement Thick Bed Mortar & Screeds:
11 x 20 kg Bags LATICRETE 226 Thick Bed Mortar
20 litres pails LATICRETE 3701 Mortar Admix (Adjust quantity of liquid to obtain proper consistency)
6.2 Latex Portland Cement Slurry Bond Coat:  
20kg bags LATICRETE 254 Platinum Adhesive

6.3 Waterproof and Anti-fracture Membrane:  
15 litre pail LATICRETE HYDRO BAN Waterproof Membrane.  
20 litre unit LATAPoxy Moisture Shield.  
600ml sausage LATICRETE HYDRO BAN Fillet & Sealant.

6.4 Portland Cement Tile Adhesive:  
20kg bags LATICRETE 254 Platinum Adhesive.

6.5 Grout:  
10 kg bags LATICRETE PERMACOLOR Grout (40 colours as per LATICRETE colour chart)  
Or  
Commercial units LATICRETE SPECTRALOCK PRO Premium Grout.

6.6 Movement Joint Sealant:  
305 ml tube LATICRETE LATASIL Silicone Sealant; and  
LATICRETE LATASIL 9118 Primer as required.

6.7 Cleaner & Sealer:  
3.8 litre jug STONETECH KlenzAll Cleaner  
3.8 litre jug 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 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 screeds, waterproofing or adhesives.

7.3 Cleaning - As required the concrete substrate shall be cleaned after surface preparation and processing by high pressure water cleaning (above 1500 psi at the nozzle) 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, LEVELLING COATS & MORTAR BEDS:

9.1 Dimensional surface correction is necessary if concrete is not finished accurately to meet levelness or flatness tolerances for direct application of the mosaic using the thin bed methods of application.
9.2 Screeds - LATICRETE 3701/226 Mortar beds are normally applied from featheredge – 50mm thick, mixed to a semi-dry consistency and placed over a latex/cement slurry bond coat consisting of LATICRETE 254 Platinum Adhesive. It is levelled between screed boards, thoroughly compacted and finished to the desired levels and plane.

9.3 Before placing the mortar bed, apply the nominally 2mm thick LATICRETE 254 bond coat to the prepared surface by broom or trowel. Place the mortar bed over while the slurry bond coat is still wet and tacky. Do not apply mortar bed over skinned or dried bond coat. Re apply bond coat if it has skinned or dried prior to applying mortar bed over. Once placed - compact, strike off and finish the mortar with a steel float or wood float to the desired planes and levels. Allow the completed mortar to cure for 24 hours at 21°C and allow drying to the correct moisture content prior to the installation of membrane or tile.

9.4 Skimming - Where skimming or shallow levelling coats are required in small areas, LATICRETE 254 Platinum 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.

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

10.0 INSTALLATION OF ANTI FRACTURE OR WATERPROOF MEMBRANE:

Note: LATICRETE HYDRO BAN waterproof membrane is installed before tile is installed. Apply a liberal application of LATAPOXY Moisture Shield to all areas subject to excessive wetness or high moisture vapour emissions.

10.1 Surface to be waterproofed shall be plumb and true to the required tolerances and have a compact, flat surface. Before starting, surface to be covered shall be cleaned to remove soil, dust, curing compounds, form oil, sealants, or grease.

10.2 Where required, apply a liberal application of LATAPOXY Moisture Shield to the surface to be waterproofed and allow to dry. Apply HYDRO BAN over the Moisture Shield within 24 hours of the Moisture Shield drying. Apply two coats of HYDRO BAN, allowing to dry between coats.

10.3 Tile may be installed directly over the membrane as soon as it is dry. Allow membrane to cure fully. Cold weather installations will require a longer cure time.

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

11.0 INSTALLATION OF 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. Obtaining complete adhesive coverage between the tile and the substrate (100%) is absolutely essential to the long-term performance of the tiles. Using the appropriate notched trowel, along with proper troweling techniques and back-buttering will make achieving complete coverage easier. To help ensure maximum coverage to both the substrate and to the back of the tile, mix the adhesive to a plastic and workable consistency. Do not allow the adhesive to dry or skin over during the installation process.
11.2 Only as much adhesive shall be applied as can be covered while adhesive surface is still wet and tacky. 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, especially at corners and edges) and a true surface. Check for required flatness. The tile shall be aligned to show uniform joints and then allowed to set until firm. Clean excess adhesive from face of the tile.

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 Provide movement, control or expansion joints as located in the contract drawings and in full conformity, especially in width and depth, with architectural details, the tile manufacturer and AS3958.1&2.

A. Substrate joints must carry through, full width to surface of the tile.
B. Install movement joints in tile work over construction/cold joints or control joints in substrates.
C. Install movement joints where tile abut restraining surfaces (such as perimeter walls, curbs, and columns), changes in plane and corners.
D. Joint width and spacing depends on application – follow the tile manufacturer’s recommendations.
E. Joint width: ≥ 6mm and ≤ 15mm.
F. Layout joint pattern: 1:1 is optimal but must be ≤ 2:1.
G. Remove all contaminants and foreign material from joints void/surfaces such as dirt, dust, oil, water, setting material and the like. Install appropriate backing materials based on movement joint design or as specified. Follow sealant manufacturer’s instructions.

Notes to specifier
The responsibility for calculating the actual spacing and size of the expansion joints shall be by the architect/engineer.

12.2 Movement joints shall be sealed with LATICRETE LATASIL Sealant and LATASIL 9118 Primer, as required. Use polyethylene backing rods and bond breaker tapes as required.

13.0 GROUTING AND POINTING JOINTS:

13.1 Joints shall be grouted or pointed with LATICRETE PERMACOLOR Grout or LATICRETE SPECTRALOCK PRO Premium Grout.

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

13.3 Certain types of tile are more absorbent than others and will trap colour or pigment during grouting. Prior to grouting, test for absorption of colour or pigment. Porous tiles will need to be sealed prior to grouting. Grout filling of surface pores is an option.

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 & CLEANING:

14.1 During installation of skims, waterproof membrane, tile adhesive and grout, the contractor shall take precautions to protect the work from rain, wetting, extreme temperatures and the like.

14.2 Allow a minimum of 24 hours for cure time at 21˚C prior to exposing to construction activities. Full cure typically occurs in 7 days at 21°C.

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

15 CLEANING & SURFACE SEALING.

15.1 The tiles and 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 Clean and re-seal surface every 3 -5 years depending on usage and site conditions.

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Drawing No. AES-F101E

Bonded system including mortar bed on concrete

LATICRETE® PERMACOLOR™ Grout

Stone Tile

LATICRETE 254 Platinum Adhesive

HYDRO BAN Membrane

LATICRETE 3701 Fortified Mortar Bed

LATICRETE 254 Platinum Slurry Bond Coat

Concrete

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