General Engineered Stone Tile Installation Specification. 15 Year System Warranty.

This specification covers the fixing of engineered stone to concrete or other suitable substrates for internal wall and floor installations. Refer to Architectural Drawings and Details for specific installation materials & methods for each specific area and application.

WITNES 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, if required.

Witness Point:

a. At the preparation stage of new or existing surfaces
b. At the start of the floor screed stage
c. At the start of the waterproof stage
d. At the start of the tiling stage
e. At the start of the grouting stage

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 engineered stone tile, in shock resistant, fixing and grout materials, as specified herein and where indicated in drawings and as allowed by the tile manufacturer. Install thin, load bearing waterproof membranes, as specified to floors and walls in both internal areas indicated in drawings.

NOTES TO SPECIFIER:

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 slabs which are to be covered with the engineered stone tile. Such slabs shall be covered and wet cured for a minimum of seven (7) days. As well, 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 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."
Consult and follow the engineered stone manufacturer’s Technical Manual regarding safe handling and the technical characteristics of the product before use.

2.4 For thin-bed tile installations, surfaces must be structurally sound, stable and rigid enough to support engineered stone, the maximum allowable variation in the substrate is 3mm in 3m from the required plane and 1.5mm variation in 600mm when measured from the high points in the surface.
2.5 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
(as required) where a waterproof membrane is required.

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

2.7 This specification may not include all the information required to complete the works. Contact
LATICRETE for any additional information. See the engineered stone manufacturer’s Technical
documentation.

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

2.9 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 engineered stone and other
products nominated in this specification.

2.10 For the purpose of this specification all engineered stone tiles are deemed to be; dimensionally
stable, not moisture sensitive and fit for purpose and suitable for the proposed application, by the
manufacturer.

2.11 Concrete or bedding materials should be dry and not have moisture equilibrium greater than
75% relative humidity as measured with moisture probes.

2.12 Consult directly with the engineered stone supplier for approved installation conditions.

2.13 Contact LATICRETE for a custom specification.

3.0 MATERIALS:

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

3.2 Mortar Beds, Renders & Concrete patching materials shall be: LATICRETE 3701 Fortified Mortar
Bed Mix.
Slurry Bond Coat materials shall be: LATICRETE 254 Platinum adhesive
Tile Adhesive shall be: LATAPOXY 300 Epoxy Adhesive.
Tile grout materials shall be: LATICRETE PERMACOLOR or LATICRETE SPECTRALOCK PRO Premium
Grout.
Waterproofing & crack suppression materials shall be: LATICRETE HYDRO BAN Waterproof
Membrane and LATAPOXY Moisture Shield (as required)
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: technicalsevice@laticrete.com.au Web: au.laticrete.com
Installation shall be in strict accordance with manufacturer’s instructions.

3.3 All mortar, adhesives, grout additives and waterproof membranes shall be covered by a
manufacture’s Certificate of Compliance.

3.4 All mortar, adhesives, grout additives and waterproof membranes shall be accompanied by a
certificate of compliance for low VOC’s.
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.

4.1 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 ups of each type/style/finish/size/colour of engineered stone tiles 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 and store tile in a manner to avoid contamination & intrusion of foreign matter that may inhibit bond. Follow the engineered stone manufacturers Technical Manual.

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 liquid installation materials from freezing or from excessive heat.

6.0 MORTAR, GROUT MIXES & WATERPROOF MEMBRANES:

6.1 PORTLAND CEMENT THICK BED MORTAR / SCREED
20 kg LATICRETE 3701 Fortified Mortar Bed. (Adjust quantity of liquid to obtain proper consistency)

6.2 PORTLAND CEMENT SLURRY BOND COAT:
20 kg bags LATICRETE 254 Platinum Adhesive.

6.3 WATERPROOF MEMBRANE
15L Pail LATICRETE HYDRO BAN Waterproof Membrane.
20L Pail LATAPoxy Moisture Shield.
600ml sausage HYDRO BAN Fillet & Sealant.

6.4 EPOXY ADHESIVES
LATAPoxy 300 Adhesive

6.5 GROUT:
10 kg bags LATICRETE PERMACOLOR (40 colours as per the LATICRETE colour chart)
OR
LATICRETE SPECTRALOCK PRO Premium Grout. (40 colours as per the LATICRETE colour chart)

6.6 SEALANT
305ml Tube LATICRETE LATASIL Silicone Sealant
240ml Jar LATICRETE LATASIL 9118 Primer
7.0 PREPARATION & CLEANING:

7.1 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 dry, clean & free from form oil, curing compounds, laitance, dirt or any other foreign material that may inhibit bond.

7.2 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 screeds, waterproofing or adhesives.

7.3 As required the substrate shall be cleaned after surface preparation and processing 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 MORTAR BEDS & SCREEDING:

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

9.2 Screeds - LATICRETE 3701 Fortified Mortar Bed Mix beds are normally applied from featheredge to 50mm thick per lift. They are mixed to a semi-dry consistency and placed over a latex/cement slurry bond coat consisting of LATICRETE 254 Platinum Adhesive bond coat. 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 LATICRETE 254 Platinum Adhesive bond coat nominally 2mm thick and work well into the surface. Place the mortar bed 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 See product data sheets, how to guides and technical data sheets for more complete information as required.

10.0 INSTALLATION OF WATERPROOF & CRACK SUPPRESSION MEMBRANE:

Note: Surfaces to be waterproofed shall be dry and have a moisture content as specified in the HYDRO BAN product data sheet. In cases where the 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 for the HYDRO BAN application.

10.1 Before starting, surface to be covered shall be cleaned to remove soil, dust, curing compounds, form oil, sealants, or grease. Where required, apply LATAPOXY Moisture Shield immediately prior to
the HYDRO BAN application and allow to dry. Ensure surface is dry as per the requirements stated on the product data sheet before application.

10.2 Apply Moisture Shield nominally 24 hours before the membrane is applied. Install transition fillets as required. 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 cured.

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 TILE BY THE THIN BED METHOD:

11.1 The LATAPoxy 300 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 mortar coverage between the tile and the substrate (100%) is absolutely essential to the long-term performance of the tiles. Using the appropriate specialty 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 the correct consistency (Mortar ridges must still hold their shape). Typically, the trowel ridges are applied in straight lines and should be parallel to each other when placed (unless otherwise directed by the tile manufacturer). Do not allow the mortar to dry or skin over during the installation process. Care must also be taken when removing a tile to inspect the thin set mortar coverage during the installation process and while the mortar is still wet to avoid damaging the tile during this 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. Tile shall be aligned to show uniform joints and then allowed to set until firm. Clean excess adhesive from face of the tiles and joints between pieces.

11.3 See adhesive 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 and the tile manufacturer.

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 tile manufacturer’s recommendations for internal work.
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.

12.2 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
Engineered stone tile has a higher co-efficient of thermal expansion than normal ceramic tiles and this should be taken into account when calculating joint width and frequency. The responsibility for calculating the actual spacing and size of the expansion joints shall be by the architect/engineer.

12.3 Joints shall be sealed with LATICRETE LATASIL Sealant 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 or LATICRETE SPECTRALOCK PRO Premium Grout for greater chemical resistance.

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

13.3 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.

13.4 The day after installation grout film or haze shall be removed using a detergent solution.

13.5 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, mortar beds, renders, tile adhesive and grout, the contractor shall take precautions to protect the work.

14.2 Allow a minimum of 24 hours for cure time at 21°C prior to exposing floor installations to foot traffic only. Full cure typically occurs in 28 days at 21°C.

14.3 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.

14.4 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.

“As a professional courtesy, LATICRETE offers technical services free of charge. The user maintains all responsibility for verifying the applicability and suitability of the technical service or information provided”

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**Drawing No. AES-F101D**

Bonded system including mortar bed on concrete

- LATICRETE® PERMACOLOR™ Grout
- Engineered Stone Tile
- LATAPoxy 300 Adhesive
- HYDRO BAN Membrane
- LATICRETE 3701 Fortified Mortar Bed
- LATICRETE 254 Platinum Slurry Bond Coat
- Concrete

Revision Date: 07/2019  
Scale: N.T.S.