Ceramic Tile Installations over Aerated Autoclaved Concrete (ACC).  
15 Year System Warranty.

This specification covers the installation of ceramic tile to internal Aerated Autoclaved Concrete (ACC) floors with a STRATA_MAT uncoupling mat. 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 designer or owner at designated witness points.

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 ceramic tile, in shock resistant, fixing and grout materials, as specified herein and where indicated in drawings and as allowed by the tile and ACC floor panel manufacturer. Install thin, load bearing waterproof membranes, as specified to internal floors areas as indicated on the drawings and specifications.

NOTES:

2.2 No sealers, crystalline waterproofing additives or curing compounds shall be used in or on any ACC surface which are to be covered with the tile. Allow substrate to dry and reach the recommended moisture level before the installation of membrane or the tile.

2.3 Areas requiring fill, patching or levelling shall be prepared/ levelled / screeded using LATICRETE 254 Platinum Adhesive and 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, efflorescence, plaster, sealer, curing compounds or anything that may inhibit bond. Any contamination shall be removed by the Contractor who applied the material."

2.4 For thin-bed tile installations of large format tile, the maximum allowable variation in the substrate is 3mm in 3m from the desired plane and 1.5mm in 600mm when measured from the high spot. Adjacent panel abutments cannot exceed 1mm difference in height.

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

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

2.7 This specification may not include all the information required to complete the works. Contact LATICRETE for any additional information.

2.8 Consult the relevant, current product data sheets and how to guides 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 products nominated in this specification.

2.10 For the purpose of this specification all ceramic tiles are deemed to be fit for purpose, dimensionally stable and suitable for the proposed application by the manufacturer.

2.11 ACC and other substrates should not have internal moisture content greater than 75% relative humidity as measured with moisture probes.

2.12 Skim and seal off all ACC surfaces with LATICRETE 254 Platinum prior to applying a screed, membrane or tile.

2.13 All installations of ACC floor backgrounds are deemed suitable and fit for purpose by the manufacturer of the panels.

2.14 Contact LATICETE for a Custom Specification.

3.0 MATERIALS:

3.1 All ceramic tile, where called for, shall be as supplied by (…………………………………..)

3.2 Mortar Beds & Concrete patching materials where required shall be: LATICRETE 3701 Fortified Mortar Bed. Slurry Bond & Skim Coat materials shall be: LATICRETE 254 Platinum Tile Adhesive. Waterproofing materials shall be: LATICRETE HYDO BAN Waterproof Membrane. Uncoupling Underlayment and crack suppression materials shall be: LATICRETE STRATA_MAT. Tile Adhesive shall be: LATICRETE 254 Platinum Tile Adhesive. Tile grout materials shall be: LATICRETE PERMACOLOR Grout or LATICRETE SPECTRALOCK PRO Premium Grout. Movement joint sealant shall be: LATICRETE LATASIL sealant and LATASIL 9118 primer as required. All membrane, 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 Internet: 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.

4.0 APPROVALS AND SAMPLES:

4.1 Provide mock ups of each type/style/finish,size/colour of 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 deformations, 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.
6.0 MORTAR, GROUT MIXES & WATERPROOF MEMBRANES:

6.1 Portland Cement Levelling or Thick-bed Mortar or Screed
20 kg LATICRETE 3701 Fortified Mortar Bed. (Adjust quantity of liquid to obtain proper consistency)

6.2 Latex Portland Cement Slurry Bond & Skim Coat:
20 kg bags LATICRETE 254 Platinum Tile Adhesive.

6.3 Waterproof Membrane:
15 litre pail LATICRETE HYDRO BAN Waterproof Membrane.
600ml sausage LATICRETE HYDRO BAN Fillet & Sealant.

6.4 Uncoupling Underlayment
LATICRETE STRATA_MAT Uncoupling Mat.

6.5 Latex Portland Cement Adhesive:
20 kg bags LATICRETE 254 Platinum Tile Adhesive

6.6 Grouts:
LATICRETE PERMACOLOR Grout or
Commercial units LATICRETE SPECTRALOCK PRO Premium Grout. (40 colours as per the LATICRETE colour chart)

6.7 Sealants:
305ml LATICRETE LATASIL silicone sealer
240ml LATASIL 9118 primer as required

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 have the correct moisture content and be clean & free from, contact adhesive, oil, curing compounds, laitance, dirt or any other foreign material that may inhibit bond.

7.2 Preparation - Prior to screeding or tiling of the ACC backgrounds; the ACC substrate shall be prepared/processed by whatever method deemed by the contractor necessary to prepare the surface to present with a sound, clean open pored surface, prior to installing the tile system. Skim all ACC surfaces to receive a tiling system with LATICRETE 254 Platinum.

7.3 Cleaning - As required the substrate shall be cleaned after surface preparation process has been completed.

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 LEVELLING OR MORTAR BEDS:

9.1 Dimensional surface correction is necessary if the ACC is not finished accurately to meet levelness or flatness tolerances for direct application of the tile using the thin bed methods of application.
9.2 Mortar bed - LATICRETE 3701 Fortified Mortar Beds are normally applied from featheredge – 50mm thick and mixed to a semi-dry consistency and placed over a latex/cement slurry bond coat consisting of LATICRETE 254 Platinum Tile 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 bond coat. 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. Reapply 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.

9.3 Skimming - Where skimming to prepare the surface of ACC, work a plastic mix into the surface with straight edge of a trowel to fill all craters and pores and coat the surface so the ACC is not visible. Allow to dry before proceeding. Where skimming or shallow levelling coats are required, 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 MEMBRANE:

10.1 Skim any ACC surface with 254 Platinum prior to apply membrane. The surface to be membraned shall be cleaned to remove soil, dust, curing compounds, form oil, sealants, or grease. Contact LATICRETE where Moisture Vapour Emission Rates (MVER) or substrate dampness is excessive.

10.2 Surface to be membraned shall be plumb and true as specified above. Install transition fillets as required by any code. Apply two coats of HYDRO BAN, allowing too dry between coats.

10.3 STRATA_MAT may be installed directly over the membrane as soon as it is dry with LATICRETE 254 Platinum Adhesive.

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

11.0 INSTALLATION OF UNCOUPLING MAT:

Note: LATICRETE STRATA_MAT is installed immediately before the tile is installed to areas requiring an Uncoupling and Crack isolation membrane.

11.1 Before starting, surface to be covered shall be cleaned to remove soil, dust, curing compounds, sealants, or anything that may inhibit bond. Ensure surface is dry as per the requirements stated on the product data sheet before application.

11.2 Surface to be overlaid shall be plumb and true to meet the flatness tolerance and shall be dry and have a compact, flat wood float finish or open pored steel trowel finish.

11.3 Install STRATA_MAT to the substrate using the LATICRETE 254 Platinum Adhesive. Mix the mortar on the loose side but still able to hold a notch to enable complete wetting of the STRATA_MAT fleece layer. Apply the adhesive to the substrate using a 6 mm x 5 mm V-notched
trowel, being sure to key the mortar into the substrate. Ensure mortar is “wet-out” sufficiently to allow for optimal bedding of STRATA_MAT. Spread only enough mortar that can be covered with STRATA_MAT during the specified open time of the mortar.

11.4 Embed LATICRETE STRATA_MAT into the mortar, fabric side down. Using a trowel or screed, apply pressure to ensure proper bedding. Be sure to verify proper coverage beneath the mat. Areas of STRATA_MAT embedded properly in the mortar will appear darker than areas not embedded, lift occasionally if necessary, to verify coverage. Cut mat to appropriate lengths when approaching walls or other objects, leave approximately 6mm between mat and edge of wall or object for movement.

11.5 Install adjacent sections of STRATA_MAT in the same manner, being sure to line edges of each section without leaving any gaps.

11.6 Installation of the tile finish can begin immediately after embedding STRATA_MAT into the bonding adhesive. Begin by skimming or filling the surface of STRATA_MAT using the flat side of the trowel, ensuring all circles and vents are completely filled. Follow by combing mortar over the mat using a notched trowel that is suitable for the size of tile being installed.

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

12.0 INSTALLATION OF TILE BY THE THIN BED METHOD:

12.1 The LATICRETE 254 Platinum 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 tile. 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 the correct consistency and back butter the tile. Typically, the trowel ridges are applied in straight lines and should be parallel to each other when placed. Do not allow the adhesive to dry or skin over during the installation process. Care must also be taken when removing a tile to inspect the thin set adhesive coverage during the installation process and while the adhesive is still wet to avoid damaging the tile during this process. 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.

12.2 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 tile and joints between pieces.

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

13.0 EXPANSION, MOVEMENT AND CONTROL JOINTS:
13.1 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, the ACC manufacturer and AS3958.1.

A. Substrate joints must carry through, full width to surface of the tile.
B. Construct joint voids as the work progresses. Maintain voids till sealed.
C. Install movement joints in tile work over construction/cold joints or control joints in substrates.
D. Install movement joints where tile abut restraining surfaces (such as perimeter walls, curbs, and columns), changes in plane and corners.
E. Joint width and spacing depends on application and exposure – follow tile manufacturer’s recommendations for internal work.
F. Joint width: $\geq 6\text{mm}$ and $\leq 15\text{mm}$.
G. Layout joint pattern: $1:1$ is optimal but must be $\leq 2:1$.
H. 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.

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

13.2 Seal all movement joints with LATICRETE LATASIL Silicone sealer and LATASIL 9118 primer where required. Install polyethylene backing rods and bond breaker tapes as required.

14.0 GROUTING AND POINTING JOINTS:

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

14.2 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.

14.3 Joints shall be cleaned of excess adhesive and then packed full and free of all voids and pits. (Tool or rake as specified).

14.4 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.

14.5 The day after installation grout film or haze shall be removed using a detergent solution. Do not use acids for cleaning. Polish with clean dry cloth.

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

15.0 PROTECTION & CLEANING:

15.1 During installation of the levelling, tile adhesive and grout the contractor shall take precautions to protect the work from other trades. Do not allow construction traffic on fresh grout joints. Allow the grout to cure for a minimum of 7 days before using aggressive cleaning techniques.
15.2 Allow a minimum of 24 hours for cure time at 21°C prior to exposing floor installations of tiles to light foot traffic only.

15.3 Cold Weather Note: The curing of tile fixing adhesives and grouts are retarded by low temperatures. Finished work should be protected for an extended period of time.

“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”

Please contact LATICRETE for any further information regarding the project.
Drawing No. AES-F101B

Bonded system - STRATA_MAT
with waterproofing - mortar
bed - concrete

LATICRETE® PERMACOLOR™ Grout
Ceramic Tile or Stone
LATICRETE 254 Platinum Adhesive
STRATA_MAT Uncoupling Membrane
254 Platinum Adhesive
HYDRO BAN® Membrane
LATICRETE 3701 Fortified Mortar Bed
LATICRETE 254 Platinum Slurry Bond Coat
LATICRETE 254 Platinum Skim Coat
Aerated Autoclaved Concrete

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