General Glass Mosaic Tile Fixing Specification for Immersed Installations. 10 Year System Warranty.

This specification covers the installation of dot mounted glass mosaic tile inside of, and around concrete Swimming Pools. 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, if required.

Witness point:
  a. At the preparation stage of new or existing concrete shell and surfaces.
  b. At the start of the render and 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.
  f. At the start of the filling 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 dot mounted glass mosaics, in a chemical, 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 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 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 to cure before the installation of tile or waterproof membrane. Areas that are to receive glass mosaics tile, installed by the thin bed method, shall have a wood float finish or open pored steel float finish, be true to within 5 mm in 3 m and 1.5mm in 300mm from the required plane and pitched to drains where required. Areas requiring fill, patching or levelling shall be prepared / rendered / screeded using LATICRETE 3701 Mortar Admix / LATICRETE 226 Thick Bed Mortar Mix 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 Tile and there, fixing and grouting mortars do not constitute a waterproof barrier. Specify & detail LATICRETE HYDRO BAN Liquid Applied Waterproof Membrane & LATAPOXY Moisture Shield where a waterproof installation is required.
2.5 Swimming pool copings should be constructed of impervious finishes and fixing systems to help reduce the incidence of efflorescence. Weather bars and barriers should also be used at coping perimeters to prevent water under adjacent pavements, landscaped areas and the like, entering the pool under the pool coping system.

2.6 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.

2.7 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 SDS for all safe handling information on the products nominated in this specification.

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

2.11 For the purpose of this specification all tile and their tile mountings systems are deemed to be, dimensionally stable, not moisture sensitive, fit for purpose and suitable for the proposed application by the manufacturer.

2.12. A uniformly coloured background maybe required, especially where tiles are translucent or transparent. Contact LATICRETE-where tiles may be transparent.

2.13 Contact LATICRETE for a custom project specification

3.0 MATERIALS:

3.1 All dot mounted glass mosaic tiles, where called for, shall be supplied by (…………)


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

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

3.5 The finished tile adhesive and grout materials shall be resistant to chlorine, bromine, urine, dilute acid, dilute alkali, sugar, brine and food waste products.
3.6 All installation materials shall be compatible and from one manufacturer.

3.7 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 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 Slurry Bond Coat:
20 kg bags LATICRETE 254 Platinum Adhesive

6.2 Latex Portland Cement Renders, Levelling Beds & Scratch Coats:
8 x 20 kg bags LATICRETE 226 Thick Bed Mortar
20 litres LATICRETE 3701 Mortar Admix (Adjust quantity of liquid to obtain proper consistency)

6.3 Latex Portland Cement Thick Bed Mortar & Screeds:
11 x 20 kg Bags LATICRETE 226 Thick Bed Mortar
20 litres LATICRETE 3701 Mortar Admix (Adjust quantity of liquid to obtain proper consistency)

6.4 Waterproof & Crack Suppression Membrane:
15L LATICRETE HYDRO BAN Waterproof Membrane &
20L LATAPOXY Moisture Shield
600ml sausage LATICRETE Fillet & Sealant

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

6.6 Cement Grout:
10 kg bags LATICRETE PERMACOLOR Grout. (Select from 40 colours from the LATICRETE grout chart)

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 render, waterproofing or adhesives.

7.3 Cleaning - As required the concrete 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, RENDERING & MORTAR BEDS:

9.1 Dimensional surface correction is necessary, if the concrete is not finished accurately to meet the levelness or flatness tolerances for direct application of the mosaic using the thin bed methods of installation.

9.2 Renders - LATICRETE 3701/226 Mortar 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 Screeds - LATICRETE 3701/226 Mortar Mix is 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 Adhesive, levelled between screed boards, thoroughly compacted and finished to the desired levels and falls.

9.4 Before placing the mortar bed, apply latex Portland cement slurry bond coat of LATCRETE 254 Platinum, 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.

9.5 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. Use 254 Platinum White where required for masking with translucent or tiles affected by adhesive shadowing.
9.6 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: Check to see if your tile manufacturer requires an anti-fracture membrane under the tiles in an immersed installation. Do not install an incomplete or part membrane under an immersed installation; tank the complete installation to above the waterline.

Note: As required, waterproof membranes are installed before tile are installed; inside of swimming pools that are above occupied or enclosed areas; to surrounding wet areas as specified and detailed on drawings; or areas requiring crack isolation membrane. Surfaces to be waterproofed shall be coated with LATAPOXY Moisture Shield nominally 24 hours before the membrane application in accordance with the product data sheet. Allow to dry before applying HYDRO BAN. Use HYDRO BAN Fillet & Sealant for, junctions, filets and transitions as required.

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.

10.2 Surface to be waterproofed shall be plumb and true within 5 mm in 3 m and 1.5mm in 300mm from the required plane, shall be dry and have a compact, flat wood float finish.

10.3 Apply a liberal coat of LATAPOXY Moisture Shield and allow to dry. Then apply two coats of HYDRO BAN and allow to dry between coats. Mosaic tile may be installed directly over the membrane as soon as it is dry.

10.4 Flood test critical installations. Allow membrane to cure fully, usually 7 days at 21°C. 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 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. 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. 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 using the following method.

1. Using the flat side of an appropriately sized V-notch trowel, work the adhesive firmly into the substrate.
2. With additional adhesive and the appropriately sized v-notch trowel, comb the adhesive horizontally to the required depth.
3. Then using the flat side of the trowel, flatten the notches to produce a smooth consistent adhesive layer of the required thickness.
4. Apply the sheeted mosaics into the adhesive layer using light and even pressure to establish initial contact.
5. To achieve a uniformly bedded and flat surface, tap in place with the flat face of a wood float or the like.
6. Repeat process with adjacent sheets using the beating block to align sheets as the work progresses.
7. Excess adhesive must be cleaned from the surface of the tile with a wet cloth or sponge while the adhesive is fresh.
8. Excess adhesive and other impediment to a full joint must be cleaned out to ensure sufficient space and depth for the LATICRETE PERMACOLOR grout application.

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 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 Use a compatible movement joint sealer to the HYDRO BAN. 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.

13.2 Clean all joints of adhesive, dirt, tile mounting or anything that may inhibit a full joint. Ensure adhesive and bedding layers are dry 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, screeds, renders, tiling and grouting the contractor shall take precautions to protect the work from varying adverse weather conditions.

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 14 days at 21°C before filling the pool. For warranty purposes, advise LATICRETE when tiling has been completed before filling.

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.

“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”

The right to copy, distribute, and utilize for commercial purposes is specifically granted to Owners, Architects, Engineers, and Specifications writers.

Contact LATICRETE for a custom specification

Informative Detail Only. Discuss construction detail with LATICRETE.