For The Builders of A Better World

HYDRO BAN®
Installation instructions for Australia
TDS-1003

All waterproofing work for "Domestic Wet Areas" in Australia shall conform to AS3740 -2021 & AS4858-2004 (REC 2020). All waterproofing work for "External Above Ground Use" in Australia shall conform to AS4654.1&2 – 2012. These standards give the minimum requirements for materials, design and installation as referenced in the National Construction Code (NCC). Waterproofing work for areas other than "Domestic Wet Areas" within residential buildings and "External Above Ground Use" in Australia may also benefit from guidelines as set out in AS3740 – 2021, AS4858-2004 (REC 2020) & AS4654.1&2 – 2012, although other methods may be equally satisfactory when they deliver equal or better performance and outcomes. LATICRETE promotes the collection, redirection and drainage of water and moisture to outlets on tile installations made over membranes, on substrates with fall to outlets. LATICRETE® HYDRO BAN® Waterproofing Systems are suitable for permanently immersed installations.

SUITABLE SUBSTRATES

1. Concrete – (Without crystalline additives, sealers, pore blockers, hydrophobic additives and the like) unformed concrete surfaces that have wood floated or lightly steel trowelled finishes. Formed surfaces that have been processed to expose the fine aggregate and be laitance free. For exterior and interior applications.
2. Cement Mortar – (mixes ranging from 1:3 – 1:5 of ordinary Portland cement/sand) thick bed screeds, plasters, renders and skim coats for both internal and external applications.
3. Existing Ceramic Tile, Stone or Cement Terrazzo – Clean, sound, well adhered ceramic tile, glass mosaics, stone, glazed Cement Masonry Unit(CMU)/brick or cement terrazzo must be prepared before the application of a nominal 3 mm skim coat of a latex thin-set adhesive. For both internal and external application.
4. Masonry – Brick and CMU. Should be clean and sound, apply a nominal 3 mm skim coat of LATICRETE latex thin-set adhesive and trowel to a smooth and flat surface. For both internal and external application. See TDS-1001.
5. Cement Backer Board – For both internal and external application. Verify acceptability of board to be used externally for the proposed installation with the board manufacturer. Contact LATICRETE if board has smooth polished surface, has a highly glazed surface, moisture blocking sealers or other coatings.
6. Exterior Glue Plywood and Gypsum Wallboard – Do not use for continuously immersed application. For interior applications only. Contact LATICRETE if Gypsum Wallboard has moisture blocking sealers on it. Not all plywood is suitable – Contact LATICRETE.
7. Metal and PVC – PVC, copper, steel or stainless steel metal surfaces must be cleaned of oil, grease, rust and other potential bond breakers and must be abraded with sandpaper or wire brush just prior to application. For application when attaching to flashings or plumbing fixtures only.
8. Resilient Flooring - Clean, sound, well adhered resilient flooring or high-pressure laminate must be prepared, then apply a nominal 3 mm skim coat of LATICRETE 254 Adhesive. Do not use for continuously submerged installations. For interior applications only.

SUBSTRATE CONDITIONS

1. Surfaces must be structurally sound, stable and rigid enough to support ceramic tile, stone, thin brick and similar finishes. Substrate deflection under all live, dead and impact loads, including concentrated loads, must not exceed L/360 for thin bed ceramic tile/brick installations or L/720 for thin bed stone installations where L=span length. See illustration 1.
2. For thin or medium bed tile installations when a cementitious bonding material will be used: including large and heavy format tile adhesive (aka medium bed adhesive): maximum allowable variation in the tile substrate – for tiles with edges shorter than 375mm, maximum allowable variation is 6mm in 3m from the required plane, with no more than 1.5mm variation in 300mm when measured from the high points in the surface. For tiles with at least one edge 375mm in length or longer, maximum allowable variation is 3mm in 3m from the required plane, with no more than 1.5mm variation in 600mm when measured from the high points in the surface. For modular substrate units, such as exterior glue plywood panels or adjacent concrete masonry units, adjacent edges cannot exceed 1mm difference in height.
3. Concrete or mortar beds shall be wood floated or lightly steel trowelled finish. Burnished or highly polished surfaces should be scarified to produce an unglazed lightly textured surface. Weak or chalky surfaces should be removed to present a clean, sound open pored surface.
4. Maximum amount of moisture content of the substrate should not exceed 24g/m^2/24Hrs per ASTM F-1869 or 75% relative humidity as measured with moisture probes per ASTM F2170. Consult with finish material manufacturer or supplier to determine the maximum allowable moisture content for substrates under their finished material. Mitigate substrate moisture with LATAPOXY® Moisture Shield or HYDRO BAN Slurry.
5. Surfaces should be between 10°C and 32°C.
6. Membranes shall be applied to substrates to fall as per code requirements.
7. Concrete and masonry must be free of curing agents, sealers, water repellents or other treatments that prevent membrane bonding.
8. Refer to TDS-1001 for installing HYDRO BAN over rough surfaces.
9. Note: Do not bond to particle board, flake board, oriented strand board (OSB), Luan, yellow pine, pressure/chemically treated wood, Masonite® or hardwood.

SUBSTRATE PREPARATION

1. Remove dust, airborne contaminants, salt, dirt, oil, grease, paint, laitance, efflorescence, curing compounds, sealers, water repellents and other materials that prevents bond. Metal plumbing fixtures must be clean of oil, grease, rust and other potential bond breakers and must be abraded with sandpaper or wire brush.
2. Dampen hot, dry surfaces and sweep off excess water – membrane can be installed over a damp surface. Clean and hydrate all surfaces with a damp sponge immediately prior to applying membrane.
3. Use LATICRETE® 3701 Fortified Mortar Bed; or LATICRETE 226 Thick Bed Mortar gauged with LATICRETE 3701 Mortar Admix; or a LATICRETE latex thin-set adhesive, to patch, pitch, level, skim, plumb or smooth substrates. Do not use gypsum or asphalt underlayments.
4. Existing ceramic/stone tile, glazed CMU or cement terrazzo must be cleaned and skim coated with nominally 3mm of LATICRETE 254 tile adhesive or other suitable LATICRETE latex thin-set adhesive.
5. In all wet area work as referenced in the NCC and AS3740-2021 - the installation shall have a 12mm fillet installed to all wall/floor junctions, hob/wall junctions and movement joints where the membrane is bonded to the substrate as per clause 3.13.7 for class III membranes. Use HYDRO BAN® Fillet and Sealant for the installation of a 12mm fillet. See Detail 1. In all external above ground work as referenced in the NCC, AS4654.2 – 2012, a 15mm transition fillet shall be installed to all membrane changes from horizontal to vertical or vertical to vertical plane as per clause 27. Use HYDRO BAN Fillet and Sealant for the installation of a 15mm transition fillet. See Detail 3.
6. Application of LATAPOXY® Moisture Shield (see DS - 1176) is required to all external concrete/cement masonry facades and swimming pools prior to the application of HYDRO BAN® Membrane.
7. Many cement backer boards incorporate moisture blocking technology that require the use of a liberal application of LATAPOXY Moisture Shield (see DS - 1176) prior to the application of HYDRO BAN Membrane.
8. Use HYDRO BAN Slurry (see DS - 1259) for areas requiring negative hydrostatic pressure resistance up to 2.5 bars prior to the application of HYDRO BAN Membrane.

TOOLS REQUIRED

Tape measure, mixing sticks, broom, slow speed mixer, extra buckets, paint roller with heavy napped roller cover, roller tray, paint brush, box cutter, caulk gun, clean up rags, pail of water and sponge.

APPLICATION: HYDRO BAN (see illustrations 1 -13)

Pre-Treat Cracks, Cold Joints, Control Joints and Seams:

Fill all non-structural substr ate cracks, cold joints, control joints and seams to a smooth finish using LATICRETE HYDRO BAN Fillet and Sealant. Alternatively for all non-structural substrate cracks, cold joints, control joints and seams less than 3mm, apply a liberal coat^ of HYDRO BAN Membrane approximately 200mm wide over the crack, joint or seam making sure that the crack, joint or seam is completely filled with HYDRO BAN liquid. HYDRO BAN Membrane can be applied with a paint brush, paint roller (heavy napped roller) or a 5mm x 4mm V-notch trowel. When the first coat has completely dried to the dark olive green colour, apply a second liberal coat^ of HYDRO BAN Membrane and allow to dry.

Pre-Treat "Wet Area Work" Corners and Wall/Floor Transitions Within Residential Buildings:

For "Wet Area Work" as referenced in the NCC and AS3740-2021, prepare and fill all sheet joints, coves, corners, wall/floor junctions and hob/wall junctions to a smooth finish using a LATICRETE latex fortified thin-set. As required by the standard, a 12mm fillet of HYDRO BAN Fillet and Sealant shall be installed to all wall/floor, wall/wall and hob/wall junctions prior to the application of HYDRO BAN. When the sealant has skinned/dried, apply a liberal coat^ of HYDRO BAN Membrane at all treated wall/floor, wall/wall and hob/wall junctions approximately 200mm wide making sure that the coat^ is of even thickness and is applied 100mm up the walls and 100mm across the floor with a paint brush, paint roller (heavy napped roller) or a 5mm x 4mm V-notch trowel. When the first coat has completely dried to the dark olive green colour, apply a second liberal coat^ of HYDRO BAN liquid and allow to dry. See fillet in Details 1, 2 and 4.

Pre-Treat "External Above Ground Work" Horizontal to Vertical & Vertical to Vertical Transitions:

For "External Above Ground Work" as referenced in the NCC and AS4654.2-2012, prepare and fill all horizontal to vertical and vertical to vertical junctions to a smooth finish using a LATICRETE latex fortified thin-set. A 15 mm transition fillet of HYDRO BAN Fillet and Sealant shall be installed to all junction prior to the application of the HYDRO BAN Membrane. When the sealant has skinned/dried, apply a liberal coat^ of liquid at all treated wall/floor and hob/wall junctions approximately 200 mm wide making sure that the coat^ is of even thickness and is applied 100mm up the walls and 100mm across the floor with a paint brush, paint roller (heavy napped roller) or a 5mm x 4mm V-notch trowel. When the first coat has completely dried to the dark olive green colour, apply a second liberal coat^ of HYDRO BAN Membrane and allow to dry. See transition fillet in Detail 3.

Pre-Treat Drains:

Membrane to drainage connections may be made over securely fixed, recessed puddle flanges or embedded/cast in outlets. Use HYDRO BAN® Flange where stack work is cut off flush with concrete substrate level. Flush and fill gaps around flanges and outlets with HYDRO BAN Fillet and Sealant prior to membrane application. Prepare the approved plastic or metal surfaces as previously stated prior to the application of HYDRO BAN Membrane. Ensure a minimum lap of 50mm to the plastic or metal surface with the HYDRO BAN Membrane. When the first coat has completely dried to the dark olive green colour, apply a second liberal coat^ of HYDRO BAN Membrane and allow to dry. Where a HYDRO BAN Flange is installed the membrane shall be applied over the top of the integrally fixed flange and be turned down and finished a minimum of 50mm into the flange body. See Detail 4.

Pre-Treat Penetrations:

Fill and dress any gaps around pipes, lights or other penetrations with HYDRO BAN Fillet and Sealant as required. Apply a liberal coat^ of HYDRO BAN Membrane onto and around penetration. When the first coat has completely dried to the dark olive green colour, apply a second liberal coat^ of HYDRO BAN liquid and allow to dry, See Detail 6. As an option particularly in immersed installations, V out around the penetration and make the surface good with HYDRO BAN Fillet & Sealant to seal and create better transition for the membrane at the base of the V. When the sealant has cured, apply a liberal coat^ of HYDRO BAN Membrane onto and around penetration. When the first coat has completely dried to the dark olive green colour, cover with a second liberal coat^ of liquid and allow to dry. After the membrane has cured, the V can be filled with LATICRETE latex Mortar to the desired surface level/finish and allowed to cure. This surface can then be further covered with HYDRO BAN to correct coverage and thickness. See Detail 5.

Crack Isolation (Partial coverage):

A Crack suppression Installation must be applied a minimum of 3 times the width of the tile or stone being installed. The tile installed over the crack cannot be in contact with the substrate. Follow Detail 7 & 8 for the treatment of hairline cracks, shrinkage cracks, and saw cut or control joints: Apply a liberal coat of HYDRO BAN Membrane to a minimum of three (3) times the width of the tile using a paint roller or paint brush and allow to dry. After the first coat has dried to the touch, install a second liberal coat of HYDRO BAN Membrane over the first coat. For crack isolation, HYDRO BAN Membrane dry coat thickness shall be 0.9mm to 1.2mm. Applying membrane with heavy napped roller will assist in achieving required dry film thickness. Treat closest joint to the crack, saw cut or cold joint in the tile or stone installation with LATASIL™ Sealant.

Main Application – HYDRO BAN

Allow any pre-treated areas to dry to the touch. Apply a liberal^ coat of HYDRO BAN Membrane with brush or roller over substrate including pre-treated areas. Flash membrane up over pre-treated coves and corners, so such areas have two layers of liquid. Let completely dry to the dark olive green colour, approximately 1 – 2 hours at 21°C and 50% RH. Apply another liberal coat^ of HYDRO BAN Membrane over entire surface to seal the first coat. When last coat has dried to the touch, inspect final surface for pinholes, voids, thin spots or other defects. Use additional HYDRO BAN Membrane to seal defects if required and allow installation to completely cure. Coves, corners, seams and board joints must be pre-treated as described above.

^Dry Film Thickness (DFT) is 0.6 mm – 0.9 mm; At an average Dry Film Thickness of 0.75mm consumption is – 0.83 litre/m2; coverage per coat is – 2.4 m2/litre.

Protection

Provide protection for work during installation from extremes in temperature, rain, humidity and wind till cured at 21°C and 50% RH. Protection should be increased at temperatures between 10 – 21°C and 50% RH. Provide protection for newly installed dried membrane when covered with a thin bed ceramic tile, stone or brick installation, against exposure to rain or other water for a minimum of 24 hours at 21°C and 50% RH. Longer times will be required for temperatures between 10 – 21°C and 50% RH. Higher temperatures than 21°C will decrease curing times. High substrate moisture content and cold temperatures will extend curing time

Flood Testing

Where required, allow membrane to cure fully before flood testing. Typically 3 days with ambient/surface temperatures above 21°C with 50% R/H. Cold and/or wet conditions will require a longer curing time. For surface/ambient temperatures between 10 - 21°C allow a longer time to cure. Allow 1 day after cure prior to flood testing.

Installing Finishes

Once membrane has dried to the touch, ceramic tile, stone or brick may be installed by the thin bed method with a LATICRETE latex thin-set adhesive.
Allow membrane to cure at 21°C and 50% RH before covering with concrete, thick bed mortar, screeds, toppings, coatings, epoxy adhesives, terrazzo or moisture sensitive resilient or wood flooring. Do not use solvent-based adhesives directly on membrane.

Drains and Penetrations:

Allow for a minimum 6 mm space between drains, pipes, lights or other penetrations and surrounding ceramic tile, stone or brick. Use LATASIL™ Silicone Sealant. Use polyethylene backing rods and bond breaker tapes as appropriate for the joint - do not use grout, rigid joint fillers or thin-set adhesives in these joints.

Control Joints

Ceramic tile, stone and brick installations must include sealant filled joints over any control joints in the substrate. However, the sealant filled joints can be offset horizontally, by as much as half the tile width from the substrate control joint location, to coincide with the grout joint pattern. See Detail 7 & 8.

Movement Joints

Ceramic tile, stone and brick installations must include movement joints at coves, corners, abutments, and other changes in substrate plane and over any movement joints in the substrate. Movement joints in the ceramic tile, stone and brick work are also required at perimeters, at restraining surfaces, at penetrations and at the intervals described in Australian Standards AS3958, Tile Council of North America, Inc. (TCNA) Handbook for Ceramic Tile Installations Method EJ171– current year. Use an appropriate foam backer rod and waterproof sealant

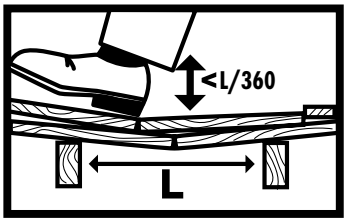
LIMITATIONS

1. Do not install over structural cracks, cracks with vertical movement or cracks with >3 mm horizontal movement.
2. Do not use as a primary roofing membrane over occupied space.
3. Do not use as a vapour barrier. (Steam rooms require the use of a separate vapour barrier layer.)
4. Do not expose to negative hydrostatic pressure, rubber solvents or ketones.
5. Membrane must be covered with ceramic tile, stone, brick, concrete, screeds, terrazzo or other protective surface. For temporary cover, use protection board.
6. Do not expose membrane directly to sun or weather for more than 30 days.
7. Do not install directly over single layer wood floors, plywood tubs/showers/fountains or similar constructs. For such cases, use LATICRETE Fortified Mortar Beds; or LATICRETE 226 Thick Bed Mortar gauged with LATICRETE 3701 Mortar Admix over mechanically fastened lath. Install membrane once mortar has hardened.
8. Allow wet mortars/plasters (wet screed consistency) to cure for 72 hours at 21 °C prior to installing a HYDRO BAN Waterproofing System. Allow membrane to cure prior to flood testing in these conditions.
9. For substrate and ambient temperatures between 10 – 21 °C allow a longer cure time prior to flood testing. For more information concerning HYDRO BAN Membrane please see the "Flood Testing" section in Data Sheet DS-1036.
10. The installation of waterproofing membranes in immersed applications must be installed in a manner that creates a continuous "waterproof pan effect" without voids or interruptions. Therefore, applying waterproof membranes in limited areas (e.g. solely at the waterline) in immersed applications is not recommended.
11. The position and type of vapour barriers, waterproof membranes, separation sheets and other moisture barriers in any tile installation shall be determined by the project designer to manage and mitigate the risk of condensation.

Visit www.laticrete.com.au for more information.

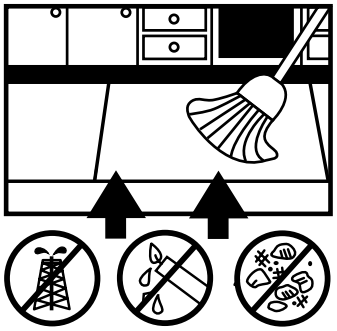
Illustrations 1-13

1



Ensure deflection meets installation requirements.

2



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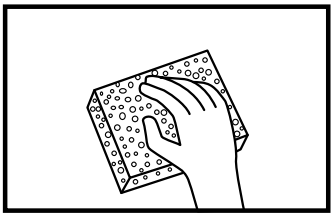
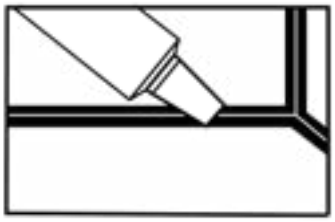


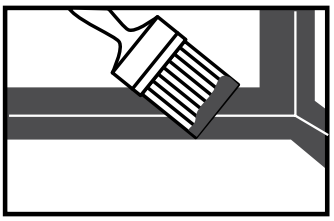
Clean & Hydrate the surface.

4



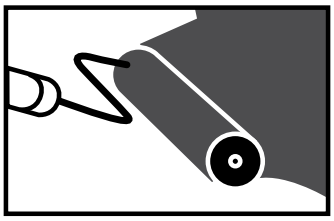
Install fillets to junctions as required.

5



Treat joints for first coat.

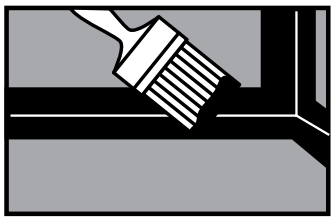
6



First coat.

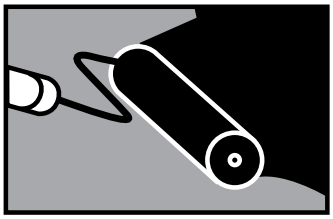
7

8



Treat joints for second coat.

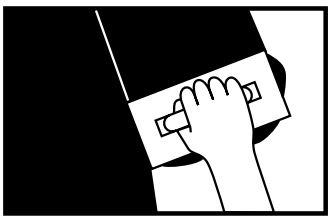
9



Second coat.

10

11



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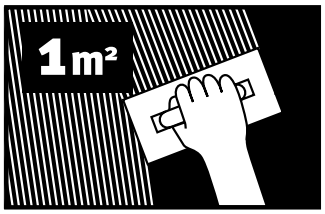

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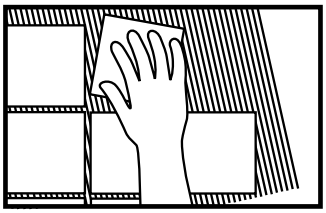
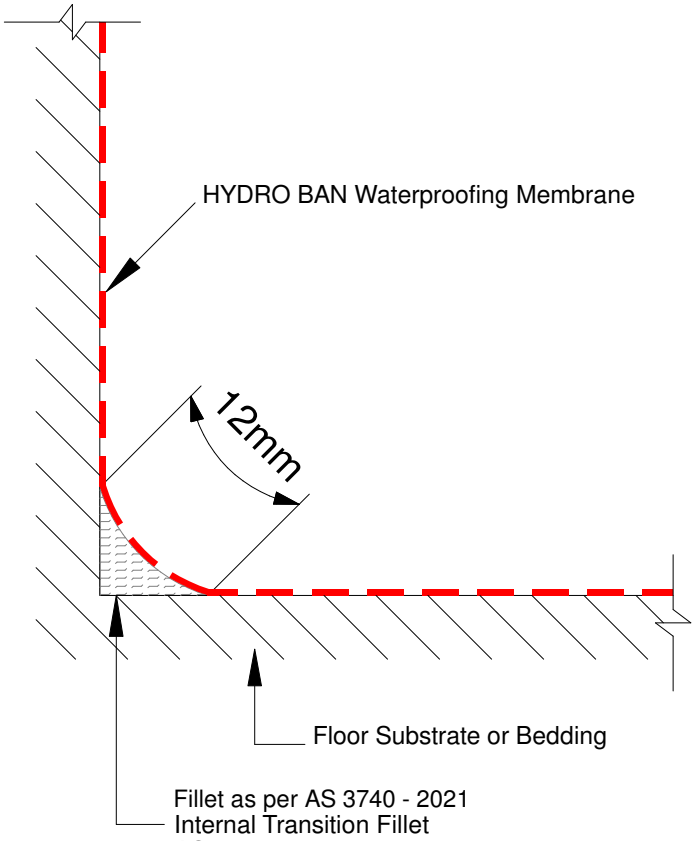
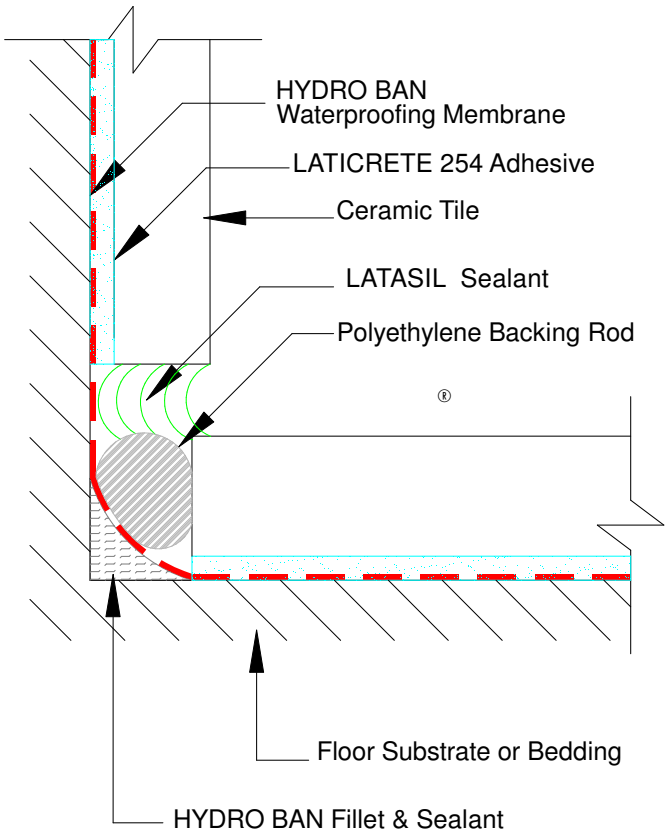


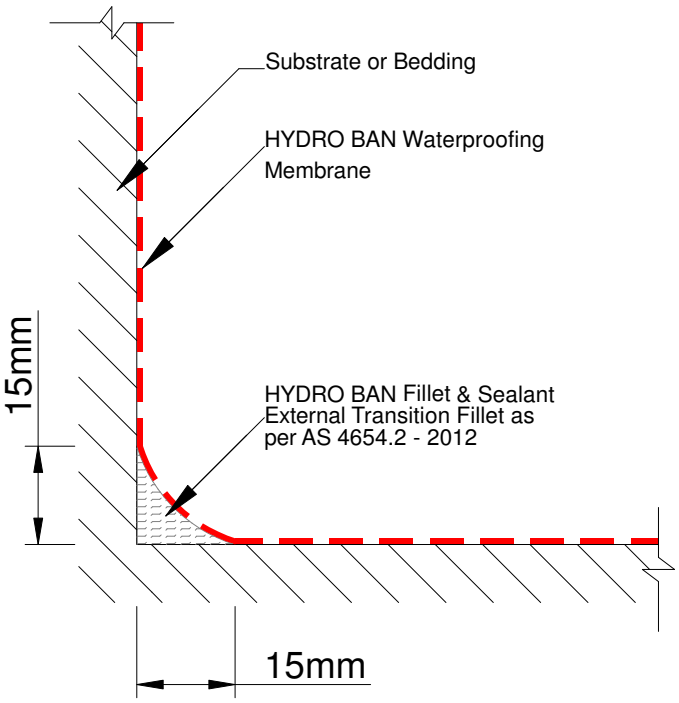
Details 1 – 10



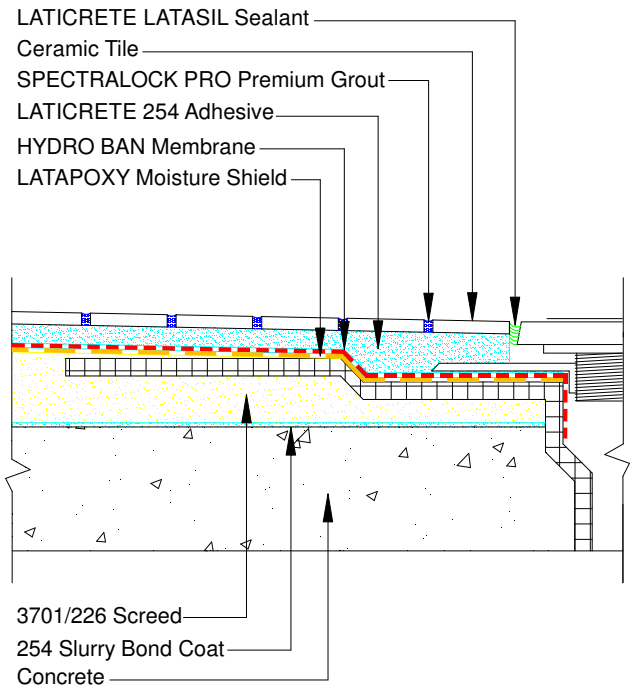
Detail 1 - Bond Relief Fillet



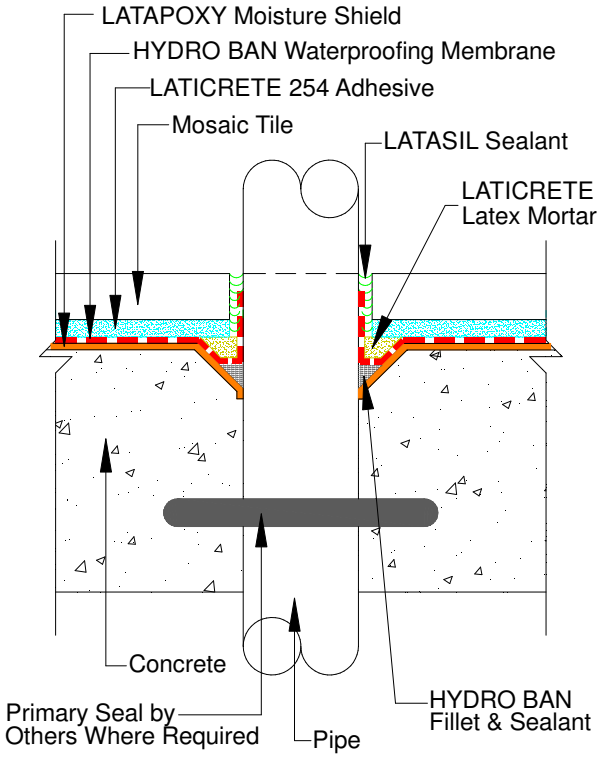
Detail 2 - Typical Thin Bed Installation



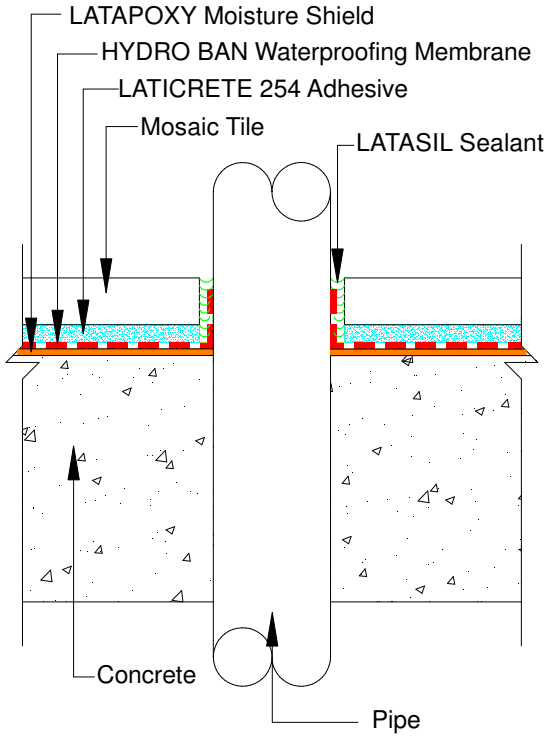
Detail 3 - Exterior Transition Fillet



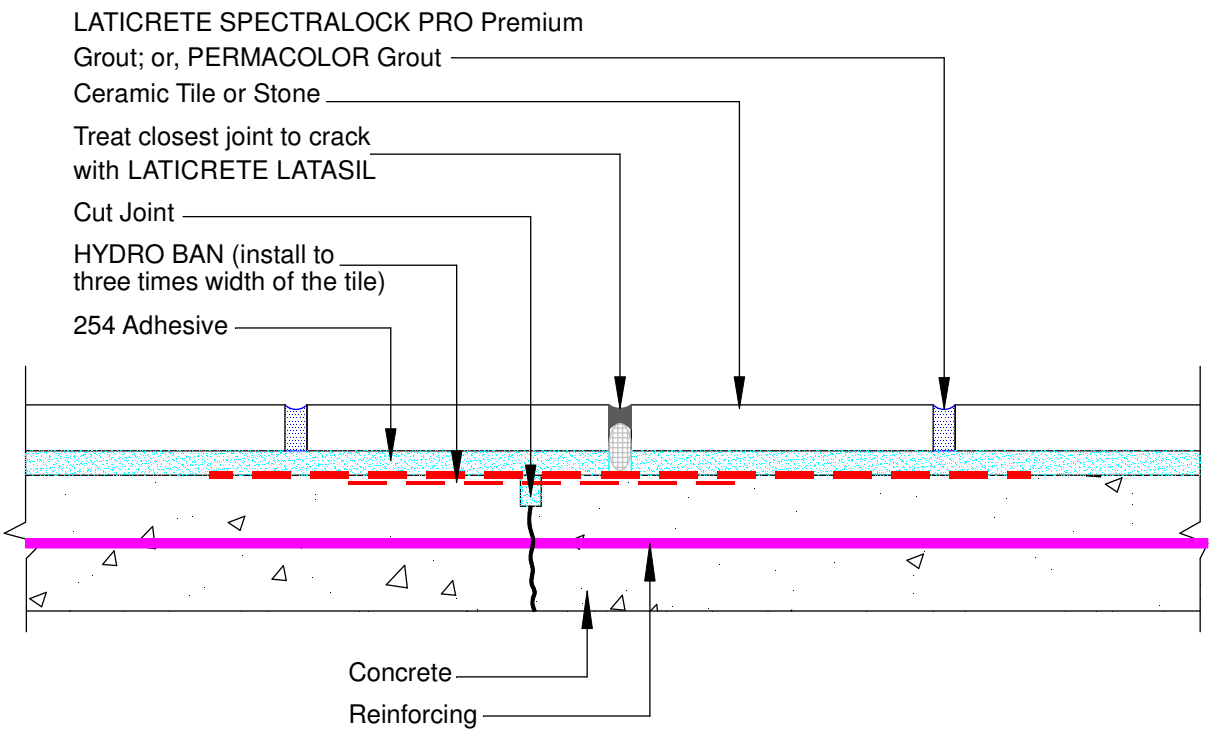
Detail 4 - HYDRO BAN Flange



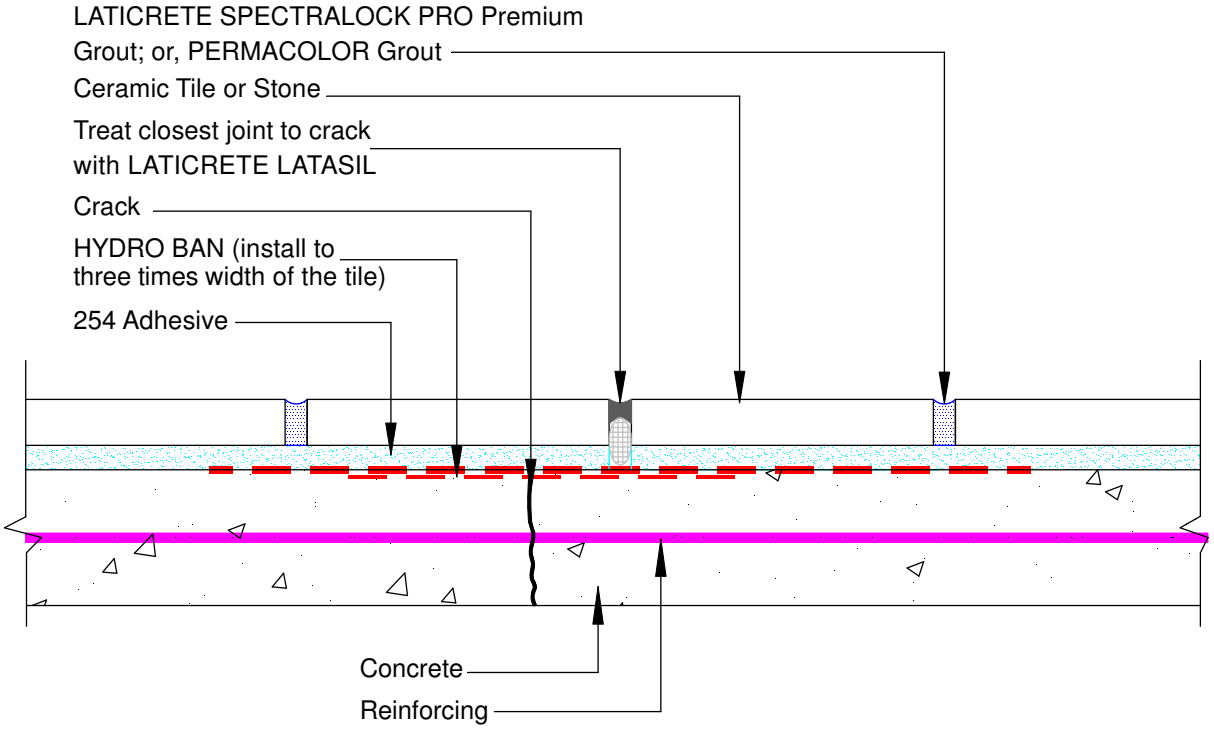
Detail 5 - Immersed Installation Pipe Penetration



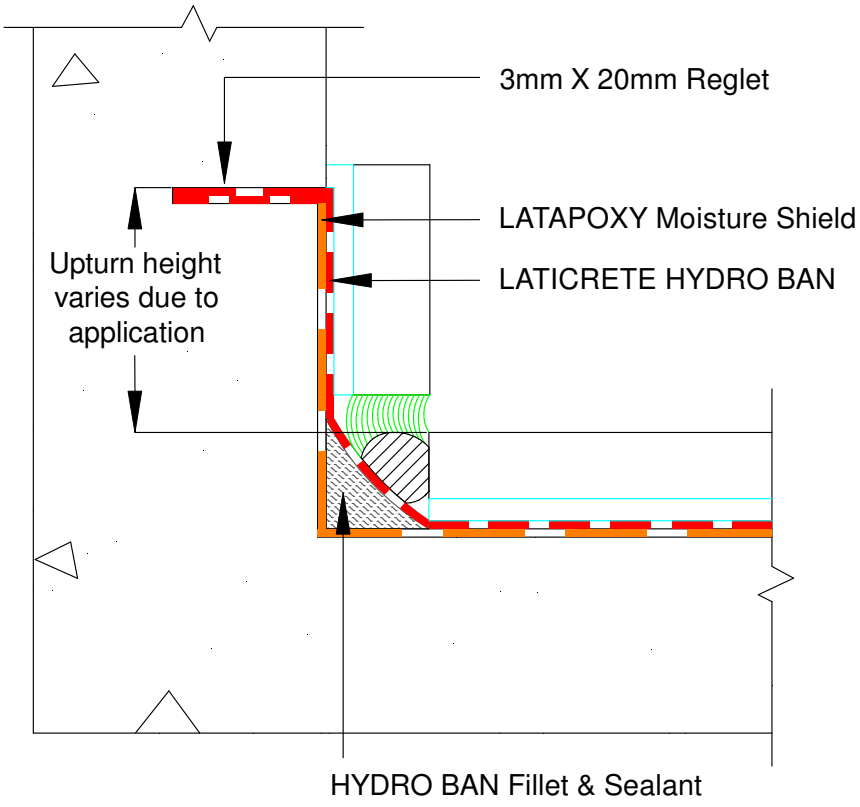
Detail 6 - Pipe Penetration



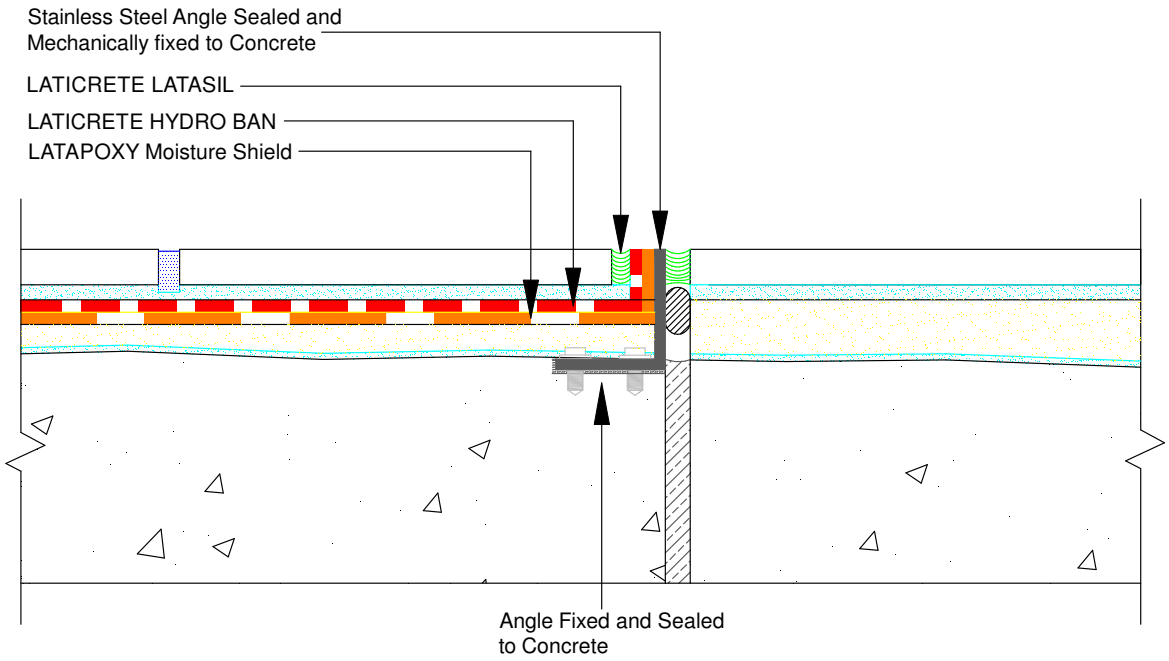
Detail 7 - Crack Isolation - Sawn Control Joint



Detail 8 - Crack Isolation - Partial Coverage



Detail 9 - HYDRO BAN Terminiation - Reglet



Detail 10 - HYDRO BAN Termination - Steel Angle

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