PRODUCT MANUAL

GRIPSET MEMBRANES

LIQUID WATERPROOFING

waterproofingsystems

KEEPING YOU WATERTIGHT

BRANZ Appraised
Appraisal No.469 [2011]

BRANZ Appraisals

Technical Assessments of products for building and construction

BRANZ APPRAISAL No. 469 (2011)

This Appraisal replaces Appraisal No. 469 (2005).

Amended 26 January 2015

GRIPSET® 38 AND GRIPSET® 2P EXTERNAL WATERPROOFING MEMBRANES

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WFTAO

Product

1.1 Gripset® 38 and Gripset® 2P External Waterproofing Membranes are liquid-applied waterproofing membranes for use under ceramic or stone tile finishes on external decks and balconies.

Scope

2.1 Gripset® 38 and Gripset® 2P External Waterproofing Membranes have been appraised for use as a waterproofing membrane for buildings within the following scope:

- scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 with respect to building height and maximum floor plan areas; and,
- with timber supporting structures designed and constructed in accordance with the NZBC; and,
- with a substrate of fibre cement compressed sheet; and,
- with decks that have a maximum size of 40 m^2.

2.2 Gripset® 38 and Gripset® 2P External Waterproofing Membranes have also been appraised for use as a waterproofing membrane for external reinforced concrete pedestrian decks and balconies for buildings within the following scope:

- up to 3 storeys with a maximum height from ground to eaves of 10 m and with a floor plan area limited only by seismic and structural control joints; and,
- with the reinforced concrete structure designed and constructed in accordance with the NZBC.

2.3 This Appraisal is limited to decks and balconies within the following scope:

- constructed to suitable falls (Refer Paragraph 12.4 - 12.9); and,
- with the membranes continually protected from exposure to UV (ultra violet) light and from physical damage by ceramic or stone tile finishes on a pedestal or decoupling system; and,
- with decks and balconies designed and constructed such that deflections do not exceed 1/360th of the span; and,
- with no steps within the deck level, no integral roof gardens and no down pipe discharging directly onto the deck.

2.4 Building structural movement and control joints in the substrate must be carried through to the tile finish. The design and construction of the substrate and movement and control joints are specific to each building, and therefore the responsibility of the building designer and building contractor and are outside the scope of this Appraisal.

2.5 Ceramic or stone tile finishes are outside the scope of this Appraisal.

2.6 The membranes must be installed by trained applicators, approved by Waterproofing Systems Ltd.

BRANZ Appraised
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BRANZ Appraisals

Technical Assessments of products for building and construction

BRANZ APPRAISAL No. 470 (2011)

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GRIPSET® 38 AND GRIPSET® 2P WET AREA MEMBRANES

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WFTAO

Product

1.1 Gripset® 38 and Gripset® 2P Wet Area Membranes are liquid-applied waterproofing membranes for use under vinyl, ceramic or stone tile finishes in internal wet areas.

Scope

2.1 Gripset® 38 and Gripset® 2P Wet Area Membranes have been appraised for use as waterproofing membranes for internal wet areas of buildings, within the following scope:

- on floor substrates of concrete, compressed fibre cement sheet and fibre cement sheet tile underlay, and on wall substrates of concrete, concrete masonry, wet area fibre cement sheet lining systems and wet area plasterboard lining systems; and,
- when protected from physical damage by vinyl, ceramic or stone tile finishes; and,
- where floors are designed and constructed such that deflections do not exceed 1/360th of the span.

2.2 The use of Gripset® 38 and Gripset® 2P Wet Area Membranes on concrete slabs where hydrostatic or vapour pressure is present from below is outside the scope of this Appraisal.

2.3 Movement and control joints in the substrate must be carried through to the tile finish. The design and construction of the substrate and movement and control joints are specific to each building, and therefore the responsibility of the building designer and building contractor and are outside the scope of this Appraisal.

2.4 The vinyl, ceramic or stone tile finishes are outside the scope of this Appraisal.

2.5 The membranes must be installed by trained applicators, approved by Waterproofing Systems Ltd.

Contents

THIS PUBLICATION

This manual provides the technical information necessary to correctly specify the Gripset membrane system. It has also been designed for use by Waterproofing Systems Ltd (WPS) approved applicators, for training and quality management purposes. This manual may also be used by main contractors and Building Consent Authorities (BCA's) for quality management and inspection purposes.

NOTE TO APPLICATORS

As a WPS approved applicator you are required to comply fully with the contents of this manual. Where a specific situation arises on a particular project that makes it difficult for you to follow the published procedure or comply with a particular detail drawing, you are required to communicate this to WPS for an approved solution.

TRADEMARKS

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USING THE ICONS

Four different visual icons have been created for this manual to draw the reader's attention to important pieces of information.

1. **QUALITY CONTROL ICON**
   Information about warranties, quality control checks and related information.

2. **USEFUL TIPS ICON**
   Helpful advice to make the applicator's job easier and successful installation more likely.

3. **CRITICAL ICON**
   Vital information about the system and installation methodology. It is crucial that the specifier and/or applicator are aware of these facts.

4. **HEALTH & SAFETY ICON**
   Information about the importance of safety checks and ensuring that the work environment is always safe with potential hazards identified and minimised.

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BRANZ APPRAISED

The GripSET 38®, GripSET 2P® systems have been BRANZ appraised as an Acceptable Solution in terms of New Zealand Building Code compliance.

Appraisal No; 469 & 470

Please contact Waterproofing Systems Ltd for a copy of this BRANZ Appraisal Certificate.

You can also download the certificate on our website **www.waterproofing.co.nz**

BRANZ Appraised

Introduction

PRODUCT DESCRIPTION

Waterproofing Systems has a variety of liquid membranes in its Gripset® range, as shown in Table 1 below. These membranes are used in a variety of internal and external waterproofing applications, including:

- Internal wet areas.
- Below tile waterproofing.
- Decks and balconies.
- Podiums.
- Trafficable decks.
- Swimming pools, ponds, water-features.
- Masonry window flashing.
- Acoustic applications.

Table 1: Overview of the Gripset range

1. Gripset 2P® quick curing membrane

Application: Under tiles, bathrooms, decks, podiums, Swimming pools, water features, masonry windows. Used as an alternative to duroSET® where tiling in 24 hours is required, or when installing in cool conditions.

Substrates: Sycon Secura, concrete, compressed sheets.

2. Gripset 38® membrane

Application: Under tiles, bathrooms, decks, podiums, acoustic applications (used in conjunction with duroMAT®).

Substrates: Sycon Secura, concrete, compressed sheets.

3. Gripset RD® acrylic hi build membrane

Application: Roofs, trafficable decks, exterior coatings.

Substrates: Sycon Secura, concrete, compressed sheets, plaster.

4. duroMAT® acoustic system

Application: Under tiles, bathrooms, decks

Substrates: Concrete

WATERBASED AND ENVIRONMENTALLYFRIENDLY

The Gripset® range of liquid membranes are water based, environmentally friendly, and free from solvents, toxins and dangerous odours. Clean-up can be done simply with water while the product is still wet.

GRIPSET 2P® FAST CURING MEMBRANE SYSTEM

Gripset 2P® is a quick drying liquid SBR membrane designed for use in a range of internal and external waterproofing applications. It is specifically designed to provide a seamless waterproof membrane on building substrates before tiles or other suitable finishes or toppings are applied. The cured membrane withstands ponding water, and can be used in continuously immersed situations such as swimming pools. Gripset 2P® comprises a 10 litre pail of latex liquid membrane, mixed with an 15kg bag of duroMIX® powder.

UNIQUE BENEFITS OF GRIPSET 2P®

TOUGHNESS

As Gripset 2P® is a flexible cementitious membrane, it can handle construction 'traffic'. We recommend installing the first coat to provide temporary waterproofing, then once the construction works have finished the second coat (and third coat if required) can be installed.

COMPATIBLE WITH TILES AND OTHER TOPPINGS

Screeds, renders or concrete toppings can be applied directly over the product, as well as other floor/wall coatings or finishes, including Gripset RD® acrylic Hi-build paint. Able to be tiled directly over in internal wet areas with laticrete 4XLT tile adhesive, and over Schluter Ditra on exposed balconies with laticrete 4XLT tile adhesive. The laticrete 4XLT tile adhesive is recommended, as it forms part of the BRANZ Appraised systems.

RELIABLE QUICK CURING

As Gripset 2P® is a two -part membrane, it cures more reliably in a wide variety of climatic conditions. Gripset 2P ® has been successfully used in temperatures as low as 2ºC. It is important however, that the substrate be frost free.

TILE AFTER 24 HOURS

Tiles can be installed over Gripset 2P® after 24 hours. This is a real advantage to construction managers who are often under pressure to meet construction programme.

EXTERNAL BALCONIES

It is recommended that Schluter Ditra de-coupling mat is installed over Gripset 2P® or Gripset 38® before installing tiles.

Introduction

GRIPSET 38® LIQUID RUBBER MEMBRANE SYSTEM

Gripset 38®is a one -part liquid SBR rubber membrane designed for use in a range of internal and external waterproofing applications.

The Gripset® membrane is water based, durable, flexible and elastomeric. It is specifically designed to provide a seamless waterproof membrane on building substrates before tiles or other suitable finishes or toppings are applied. Supplied in 15 litre plastic pails.

BENEFITS OF GRIPSET 38®

FLEXIBLE AND ELASTOMETRIC

The correct cured film thickness demonstrates excellent flexibility and elastomeric properties, and accommodates normal substrate movement.

COMPATIBLE WITH TILES AND OTHER TOPPINGS

Screeds or concrete toppings can be applied directly over the product, as well as other floor/wall coatings or finishes, including acrylic paint. Able to be tiled directly over with laticrete 4XLT tile adhesive, as it forms part of the BRANZ Appraised systems. For external balconies install Schluter Ditra uncoupling system and tile directly onto the Schluter Ditra system with laticrete 4XLT tile adhesive.

DURABLE

The cured membrane is tough and durable, while remaining flexible.

GRIPSET LS® ROOF COAT

The Gripset LS® Roof Coat is a durable, hard wearing roof membrane designed for external floor surfaces on pitched or low slope roofs, podiums and balcony areas. Suitable for use on other Gripset membranes for permanent exposure to varying climatic conditions, UV light and foot traffic.

GRIPSET RD® TRAFFICIBLE DECK SYSTEMS

The Gripset RD® system is a h gh-solids elastomeric Hi-Build acrylic coating system used in a variety of exposed trafficable deck and external coating applications. The trafficable deck system requires a body coat (reinforced with RF reinforcement tape), a top coat and then a wear coat. The wear coat contains a fine silica sand to improve the hardness of the membrane to give a more resilient surface. Gripset RD® is supplied in 15 litre pails and is available in white or grey, or can be tinted to a specific pastel colour (light reflective value higher than 40).

BENEFITS OF GRIPSET RD®

TRAFFICABLE

Gripset RD®, when reinforced and the wear coat applied, is a high quality trafficable membrane. In applications where the level of traffic is high, additional durability can be obtained by increasing the application rate and including an additional layer of reinforcement.

HIGH SOLIDS CONTENT

GripsetRD® has a very high solids content. This makes it easy to achieve the film thickness required to provide a completely waterproof and elastomeric barrier.

SEAMLESS FINISH

Gripset RD® is an excellent exposed membrane which displays a seamless finish.

DUROMAT ® ACOUSTIC SYSTEM

duroMAT® is an acoustic rubber underlay that is used in association with the butylFLASH® and Gripset 38® waterproofing membranes. duroMAT® is used where an acoustic rating is required. Independent engineer reports show that duroMAT® contributes to Field Impact Insulation Class points requirement (FIIC) rates of 52-57 in field acoustic tests (ASTM E989). duroMAT® tiles are 6mm thick x 900mm x 1100mm in dimension with 20 tiles per pack.

DURABILITY

When fixed according to specification, the Gripset® systems will meet the NZBC B2.3.1 (b) requirements of 15 year durability. In trafficable deck situations, depending on the level and nature of traffic, a re-coat of the Gripset RD® membrane is required every 5 years.

The durability opinion given by BRANZ for the Gripset 38® and Gripset 2P® system states that when subjected to normal conditions of environment and use, the systems are expected to have a service life of at least 15 years.

PLEASE ALSO REFER TO:

- BRANZ Appraisal Certificate 469 (2005) Gripset 38® and Gripset 2P® External Waterproofing Membranes.
- BRANZ Appraisal Certificate 470 (2005) Gripset 38 ® and Gripset 2P® Wet Area Membranes.
- Dept. Building & Housing Acceptable Solution E2/AS1, 3rd edition dated July 2005.

Introduction

MATERIAL SPECIFICATIONS

	Gripset 38®	Gripset 2P®	Gripset RD®
Appearance	Grey viscous liquid	Grey Viscous Liquid	White/Grey Viscous Liquid
Specific Gravity	1.2kg/litre	1.45kg/Litre	1.3kg/Litre
Tensile Strength	1.8MPa	1.8Mpa	2900N/cm2(ASTM D412)
Shore A hardness	55 (ASTM D2240-97)	90 (ASTM D2240-97)	>74 (ASTM D2240-97)
Elongation at break	435%	200% (AS1145-1989)	550% (ASTM D412)
Water Absorption	1.8% (AS121 AppK)	4% (AS121 AppK)	N/A
Water Vapour Transmission	6.7g/24h/m2 (ATSME96-95)	6.7g/24h/m2 (ATSME96-95)	16g/24hr/m2 (ASTM E 96-95)
Movement Cyclic Test	Passed	Passed	>2mm
Solid Content	N/A	N/A	65(+/-)%(ASTMD1076)
Dry Peel Adhesion	-	-	65lbs/sq.in(ASTMC297)
UV	N/A	N/A	No Deterioration (ASTM D822)

OTHER PRODUCTS USED IN THE GRIPSET SYSTEMS

PRIMERS

GRIPSET GP ® PRIMER

A waterbased, fast-drying, single-part primer and waterproof bonding agent; designed for optimum adhesion of waterbased membranes to a variety of substrates, including, concrete, villaboard, and compressed sheets. Supplied in 15ltr plastic pails, Gripset GP® Primer can be applied at a rate of 8-10m/ltr, or on porous substrates at 6-8m²/ltr. (Available in High and Low Solids Content)

GRIPSET 11Y® SAND CEMENT PRIMER

A specialised primer slurry used for immersed areas, smooth surfaces and where moisture might be present. Always used with Gripset® Dry Mix to form a specialist slurry. Available in 15ltr plastic pails.

OP PRIMER

A single part smooth surface primer used for priming plastic, aluminium, stainless steel and other similar smooth metal, coatings or timber surfaces. Available in 5 and 15 litre pails.

P10 VAPOUR BLOCK AND PRIMER

A single part moisture vapour block used for substrates which have been identified to have moisture present. Available in 10 litre metal cans with a coverage rate of 60M^2.

REINFORCEMENTS

RF FABRIC

A polypropylene material available in 100mm and 200mm wide tapes for reinforcing plywood joints, up stands and detailing corners and penetrations. Available in 100m rolls.

BUTYLFLASH® TAPE

A butyl rubber-based membrane with excellent adhesive and waterproofing properties. Available in 80mm x 10m (as an alternative RF fabric).

ELASTOFABRIC

Elastofabric tapes and preformed corners are an exciting range of flexible reinforcements which provide reinforcement options for areas where movement is possible. Elastomeric bond-breaker tapes for expansion joints and high movement areas (such as floor-to-wall junctions) are available in 120mm x 10m lengths and in pre-formed internal and external corners. The Elastofabric range forms part of the BRANZ Appraised systems.

CHOPPED STRAND FIBRE

Used to fully reinforce Gripset® in exposed trafficable deck applications. It comes as 230gsm fibreglass matt in 1m wide rolls. (Not to be used in tiled situations).

Introduction

TILE ADHESIVES

LATICRETE 4XLT TILE ADHESIVE

Laticrete 4XLT tile adhesive is designed for using with the Schluter Ditra uncoupling mat system for balconies.

Laticrete 4XLT is a highly flexible polymer engineered and rubber modified, cement-based adhesive used for most internal/external wall and floor applications including, Kitchen, Bathroom, toilets, laundries, decks verandas and exiting tiles. Suitable over concrete, cement renders, screeds, fibrous cement sheeting, plasterboard and approved Waterproofing Membranes.

Using a 6mm notch trowel: approx. 9m² from a 22.7kg bag. For uneven surfaces, coverage rates may vary.

FULL WATER IMMERSED TILING APPLICATIONS

Laticrete a two part tile adhesive designed for use in immersed tiling applications, such as swimming pools, ponds and water features. Tile joints with Laticrete Spectralock Pro epoxy grout. Sealant must be a water immersable quality.
ALL tiles must be fully back buttered with no voids underneath.

LATICRETE 4XL TILE ADHESIVE

Appearance	Grey Powder
Bulk/Density	
At 20˚C and 50% relative humidity	
Open Time	30minutes
Pot Life	2 Hours
Setting Time	12 hours
Sagging	None
Adjustable Time	45 Minutes

Use White Tile adhesive when laying tiles with white grout

MISCELLANEOUS ITEMS

GRIPSET 51 SBR®

A high quality water based liquid bitumen rubber membrane used with Gripset Dry Mix® to form a variety of screeds. Supplied in a 15ltr pails.

CRYSTAL GLAZE

Water based glaze coat used to protect the Gripset RD® Trafficable deck membrane and give an easy clean surface. Available in 10ltr plastic pails.

GRIPSET SB® SEALANT

A fast-curing sealant for general sealing work on decks, bathrooms and tiling situations. Available in 600ml sausages, SB Sealant is used in Fibre Cement sheet joints, floor to-wall junctions and around drains.

GRIPSET 2P DRY®

2P DRY is a premium grade cement-based compound used as the Part B component of Gripset 2P®.
Supplied in 18.75kg bags.

GRIPSET C-BED®

Gripset C-BED® is a Premium grade polymer enhanced cemintitious compound designed for high performance screeding applications in critical areas.
Available in 15kg bags.

GRIPSET C-1P®

Gripset C-1P® single component flexible polymer cemintitious membrane able to be used for both positive and negative waterproofing withstanding continously wet and immersed enviroments.

GRIPSET E-60®

Gripset E-60® is a 2 component water based epoxy suitable for use as a primer and protective coating able to be applied directly over damp surfaces and newly laid green concrete, screed and rendered.
Has excellent positive and negative hydrostatic pressure resistance.
Packaging 10 litre kits.Part A& B in 5 Litre pack.

SCHLUTER DITRA™

A high quality (HDPE) uncoupling mat specifically designed for direct tiling over. Schluter Ditra system is an Alternative Solution in lieu of the pedestal system complying with E2/AS1 7.3.1.1 removable surfaces and accepted as such by most NZ Councils (Please refer Schluter Ditra brochure).

Installation

TOOLS REQUIRED

- Wet film thickness gauge
- Substrate moisture meter
- Laminating roller
- Scissors
- Humidity meter
- Drill & spindle
- Paint brushes
- Roller arm & sleeve (10-13 nap)
- Disposable gloves
- Paint tray
- Sausage gun
- Measuring tape
- Masking tape

MEMBRANE SELECTION

For tiled bathrooms and under Schluter Ditra in decks, either Gripset 38® or Gripset 2P® may be used. Gripset 2P® is designed for installing in cooler conditions where quick curing is required. Tiles can usually be installed over Gripset 2P® in bathroom applications after 24 hours. For immersed applications Gripset 2P® must be used.

When the waterproofing installation must commence at a time during the construction phase when traffic from other trades is likely, Gripset 2P® should be used. Gripset 2P®, being a cement based material, is very tough and will give better performance in these situations.

Gripset RD® membrane is used in exposed trafficable deck applications.

WORKING WITH GRIPSET 2P®

The quick drying properties of Gripset 2P® are provided by mixing 2P dry powder into the Gripset 2P® liquid membrane.
Slowly mix in a bag of 2P® dry powder with a can of the 2P® liquid using an electric stirrer and this makes the required formulation to provide the Gripset 2P® membrane system. Always pour the 2P® dry powder slowly into the 2P® liquid while mixing well ensuring no lumps occur. When well mixed, leave for 1 minute then briefly re-stir and apply. Pot life when mixed is approximately 1 hour.

-

Never pour the Gripset 2P® into the 2P Dry otherwise lumps may form

The curing of liquid membranes is determined somewhat by the weather conditions at the time of application. Most single-part liquid membranes, such as Gripset 38®, cure by moisture evaporation. The rate or extent of evaporation determines how the membrane cures.
With two-part membranes, such as Gripset 2P®, the curing additive generally gives quicker and more reliable curing. This is because the membrane is chemically cured rather than relying on evaporation. Hence the weather conditions during installation are not so critical.

The following guidelines apply:

- Install only when the surface temperature is between 10-20ºC (Gripset RD®) or 5 -35ºC (Gripset® 2P/38).
- Surfaces must be frost free.
- Do not proceed if rain is likely before the membrane will dry.
- Check surface temperature with your bare elbow. Do not proceed if the surface temperature is hot to touch.
- Do not install GripSET RD® or Gripset 38® when high humidity is present (above 65% RH). This will interfere with curing.
- Apply in manageable sections to ensure you are able to keep a wet edge.

Installing Gripset RD® and Gripset 38 ® membranes in direct sunlight during hot conditions will cause a skin to develop on the surface of the wet membrane and impede curing through the membrane. Installing in high humidity may allow moisture entrapment causing bubbling.

PRODUCT LIMITATIONS

GRIPSET 38®

Not to be used with heavy tiles in vertical applications or in continuously immersed tiled applications. Gripset 2P® should be used with a full emmersion tile adhesive and epoxy grout in these situations.

Gripset 38® should not be lef t exposed to UV for more than 7 days. Tiles or other toppings should be installed promptly.

GRIPSET RD®

Do **not** use on plywood substrates or on damp surfaces or where water is ponding.

Gripset RD®: is not to be used as an under-tile waterproofing membrane. Gripset 38® or 2P® should be used in these situations.

Installation

QUALITY CONTROL AND INSPECTIONS.

Quality control & inspection forms are downloadable from our website www.waterproofing.co.nz

SUBSTRATE REQUIREMENTS

The substrate must be in a condition to accept the membrane and ensure adequate adhesion of the membrane system. Moisture in the substrate is a common cause of bubbling, particularly when heat comes onto the membrane and the entrapped moisture expands under the membrane. When working on concrete substrates it is critical that all loose surface materials, latescence and dust are removed. Depending on the concrete substrate, you may need to consider diamond grinding, water-blasting and vacuuming the surface, to ensure all contaminants, powder and weak surface concrete is removed. Do not rely simply on sweeping the substrate to remove the necessary contamination. A vacuum cleaner should be used, with a bristle foot.

CONCRETE SUBSTRATE SHOULD:

- Be even, clean and fully cured with soft areas diamond ground. Minor cracks or imperfections repaired using
- Gripset 11Y® repair minor cracks or imperfections using Gripset 11Y® and Gripset® drymix powder mixed together to form a scurry primer. More significant repairs should be undertaken with with a Gripset C-Plug® repair mortar.
- Have mortar fillets applied to all up stands in non-tiled
- applications (if not pre-formed, form in Gripset C-Bed® mortar
- Be smoothed off (no sharp edges) with corners chamfered to 5mm radius.
- Be thoroughly dry (maximum RH of 75%).
- Have adequate falls to outlets.
- Set to minimum falls of 2.0º slope (1:30) for roofs
- Set to minimum falls of 1.5º slope (1:40) for decks.
- Set to minimum falls of 1.0º slope (1:100) for internal gutters.

FIBRE CEMENT BOARDS SUBSTRATE SHOULD:

- Be tight-butted in a staggered pattern with all edges supported or tongue and groove interlocked with Sycon Secura boards system.
- Have 20mm fillets installed to all up stands, in non-tiled applications.
- Be smoothed off (no sharp edges) with corners chamfered to 5mm radius.
- Have 5mm clearance from all abutments (decks only).
- Have adequate falls to outlets.
- Set to minimum falls of 2.0º slope (1:30) for roofs.
- Set to minimum falls of 1.5º slope (1:40) for decks.
- Set to minimum falls of 1.0º slope (1:100) for internal gutters.
- Be glued and fixed with stainless steel screws (50 x 10 gauge) at 150mm centres at sheet edges and 200mm centres in girth.
- Have stainless steel screws counter-sunk.
- Be dry, with a maximum moisture content of 20%.

HARDIES TILE TO TIMBER UNDERLAY SHOULD HAVE:

- Sheets tight-butted and stagger-bond laid, off-set over existing substrate sheets.
- 3mm gap at all abutments (decks only).
- Sheets glued and fixed with 25mm x 2.5mm annular threaded nails at centres indicated by the printing pattern on the sheets. Underlay sheets, when laid over particle board or plywood floors, must be nailed and glued.
- Screw heads flush with the sheet surface.
- Control joints provided where there is an existing structural joint in the floor.

CEMENT WALL BOARD

- Refer to Hardies Villaboard brochure Section 3: “Tiled Applications” for detailed manufacturer specifications.

Substrates must be free of contaminants that might interfere with the adhesion of the membrane.

DO NOT accept timber fillets glued to concrete substrates

Installation

MEMBRANE THICKNESS

Achieving the right membrane dry film thickness is vital, as the thickness determines the ability of the membrane to elongate, cope with traffic and other mechanical damage. Most waterproofing membranes are only waterproof when a minimum dry film thickness is achieved.
Ensure you accurately calculate the amount of material required for the area to be installed, and that all this material is used. Periodically check to ensure your application rates are correct.
Take care not to put a coat down too thickly. Watch the floor to-wall junctions particularly, where the thickness is likely to be greater. If too thick, a surface skin may form which impedes curing throughout the membrane.

APPLICATION RATES

Gripset 38/2P®
1.5ltr/m² - minimum to form an approximate film thickness of 1.2mm.

Gripset 2P® for ecoJACKS or Timber Raft Systems
1.8ltr/m² - minimum wet film thickness to achieve dry film thickness of 1.5mm.

INTER-COAT ADHESION

It is important to ensure there is no contamination present when installing subsequent coats. This is particularly important in coastal areas or where saline, leaves and other foreign matter can get between coats. If necessary, clean the previous coat and prime with GripSET GP® primer before applying the subsequent coat/s. Apply each coat in the opposite direction to ensure even film thickness overall.

It is important that each coat is fully cured before applying the following coat to avoid moisture being locked in between coats. GripSET® must be tiled over within 7 days.

PRIMING

Use Gripset GP® Primer ensuring good even coverage and penetration. On porous substrates apply at 6-8m²/ltr and non-porous apply at 8-10m²/ltr.
On very porous substrates, two primer coats may be required. Allow to fully dry (normally about 30mins).
Where abutments need to have a backer rod and sealant applied, prime the sheets' edges with Gripset GP® Primer also. For smooth surfaces or where there is a previously applied coating, use Gripset 11Y® slurry primer, Gripset Pro® or Gripset Primer.

Where there is evidence of moisture in a concrete substrate, use Gripset® P 10 vapour block for wet and new green concrete surfaces apply Gripset E-60® epoxy systems.

REINFORCING

Incorporating reinforcing material within the membrane system provides additional strength to the membrane. This is important where the membrane is exposed to traffic, or where the membrane is bridging fibre Cement joints, or being installed across a change of direction. Building movement is often located across these changes of direction and puts additional stress on the membrane in these areas.

THREE REINFORCING OPTIONS ARE AVAILABLE:

RF Fabric/butylFLASH® tapes:
for under flashing fibre cement board joints and changes of direction.
Elastofabric tapes and pre-formed corners:
for all internal angles vertical and horozontal especially fibre cement board joint.
Chopped Strand Fibre:
for reinforcing the Gripset RD® body coat in trafficable deck applications.

It is critical that the reinforcing material is fully saturated in the liquid membrane and that there is no bridging or air entrapment. Bubbling is caused by failure to get proper wetting and embedding of the reinforcement

Installation

UNDERFLASHING MEMBRANE

Drawings: Pages 16-18

A 12mm fillet of Gripset SB ® Sealant should be placed into the floor-to-wall junction when elastofabric tapes do not suit special angles.
The RF Fabric or butylFLASH® tapes are used to provide reinforcement across all fibre cementsheet joints, up stands and internal and external corners, plus any shrinkage cracks in concrete substrates.

On internal and wet areas and external tiled deck applications with fibre cement boards, all up stands and internal and external corners must be flashed using the Elastofabric range at all times.

When using the Gripset® Elastofabric tapes and preformed corners, roll sufficient membrane to the area to be flashed. Gently place the tapes over this material and over-roll to ensure that all air is removed and that the tape is embedded within the membrane across the joint (not hard to the substrate). Make sure all creases and excess liquid are removed and that the flashing tape is lying smooth. Over-coat with further liquid.

When using butylFLASH® tapes, simply remove the backing film and place over the area to be flashed. In cold temperatures a heat gun can be used to install.

When installing Gripset® under flashings, the Gripset® should be diluted 10% with clean water and mixed with an electric stirrer for RF Polyester Reinforcement tapes only.

It is not recommended to apply Gripset 38, Gripset 2P of Gripset RD over plywood substrates

GRIPSET 38 / 2P BELOW TILE MEMBRANE APPLICATION

Ensure the substrate has been prepared correctly (refer page 11), primed (refer page 12), and that the under flashing system has been installed before proceeding (see previous section).

In bathrooms, wet areas and tiled deck applications; the Gripset® 38 or 2P is installed with a total substrate coverage detailing reinforcement. At a rate of 1.5 litres per m2 for the coverage. Ensure good even coverage. Use the QC sheets to calculate the volume of material needed to achieve the required coverage. Always apply subsequent coats at right angles to the previous coats.

DRYING TIMES

Gripset 2P® can be recoated af ter 4 hours with the following coat. If same day succession coats are installed, do not tile over for 48 hours.
Gripset 38® must have 24 hours between coats. In cooler temperatures this can be longer.

BATHROOM CONSIDERATIONS

In showers and wet areas, ensure the membrane extends a minimum heaightof 2m up the wall and flash the tap and shower rose penetrations as much as practicable.
Flash around the wet area waste outlets with Gripset collar's

UNDERFLOOR HEATING SYSTEMS

Proprietary under floor heating systems can be used with both Gripset 38 and 2P® membranes. Where a heating system has been installed, apply a screed of Gripset C- BED ® Sand Cement Primer/duroMIX® as a separation/protection layer between the membrane and heating element.
Ensure the heating element is fully covered

Do not apply the Gripset® membrane or the tile adhesive directly over the heating element

Installation

TILING CONSIDERATIONS

- Before fixing tiles, ensure the waterproofing membrane is fully cured and thoroughly clean. Pay attention to floor-to-wall junctions and check also that tile backs are clean and free from dust.
- Mix Laticrete 4XLT tile adhesive to specification, ensuring an even and uniform blend.
- Select an appropriate notched trowel for the tile size and ensure that 100% adhesive coverage is achieved. Once the tile is placed, an even adhesive bed should be formed between the tile and the substrate. This is particularly important on membrane surfaces, preventing empty voids between the sealed surface and the tile backs.
- Spread the adhesive evenly over the substrate and bed tiles while the adhesive is wet. Press and slide tile at right angles to notched line of adhesive to ensure 100% coverage of the tile back.
- Randomly lift a sample of tiles during application to ensure that no voids are remaining between the tile and the substrate.
- For large tiles with deep rear keys or patterns (e.g. quarry tiles, terracotta tiles etc) "back butter" adhesive to the backs of the tile before placing into the notched pattern of the adhesive.
- Allowance must be made for movement in the deck system. Movement joints must be designed to continue from the membrane surface through to the tile surface.
- Allow a 5mm gap all around the perimeter edges (i.e. floor-to-wall). Fill with SB Sealant.
- When tiling onto Gripset 38® or Gripset 2P® has been delayed and the membrane may have become contaminated, clean and prime with Gripset® Primer before applying the adhesive.

Laticrete 4XLT is not designed for use in immersed tiled areas such as ponds or water features. Contact your WPS representative for furtherinformation

Do not allow tile adhesive to skin prior to bedding tiles as this will compromise the adhesion. Tile type and size will determine the bed thickness of the adhesive. Remove any surplus adhesive from the tile surface and joints before adhesive sets.

OTHER TOPPINGS

The Gripset 2P® membrane can be used in a variety of waterproofing applications where other toppings will be installed over the membrane. Alternatives to tiling over the membrane include:

SOLID PLASTERING

The following general guidelines apply when rendering on the duroQIK® membrane;

1. Apply two coats of the Gripset 11Y® additive Primer slurry system over the Gripset 2P® membrane.
2. When mixing a solid plaster mix, add GripSET 11Y® Primer liquid to the water at a ratio of one part additive primer to two parts water to enhance bonding.
3. When solid plastering over Gripset 2P® remember the membrane is an impermeable barrier and the moisture in the plaster will not be absorbed back into the substrate as it dries. Therefore, the cement, sand and lime ratios will need to be mixed with this in mind.

TIMBER DECKING SYSTEMS

A variety of timber decking systems can be used in exterior waterproofing applications as an alternative to tiles. Using a non-fixed deck system enables future access to the membrane should it be necessary. For timber raft decking systems, install EPDM craddles to the underside of the timer bearer at 300mm centres as isolation pads.

ECOJACKS PAVER SUPPORTS

The WPS range of fixed height or adjustable paver supports with pavers can also be used with the duro® membrane systems. This allows easy access to the membrane as required. ecoJACK heights range 20mm to 526mm high with slope correction.

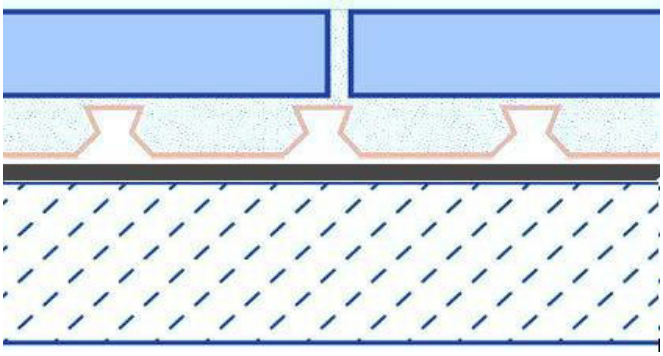
See Page TBA for EcoJacks

Installation

BRANZ Appraised

SCHLUTER DITRA UNCOUPLING SYSTEM

A specially designed 3mm thick polythene dove tailed punched sheet used as a un-coupling layer designed for direct fix tiling onto following the waterproof membrane works completion. This system meets the requirements of the building code. Available in 30m long x 1m wide and 3mm thick rolls. Also available is WPS laticrete 4XLT tile adhesive. Use laticrete 4XLT tile adhesive to bond tiles to the Schluter Ditra system.



A Polyethylene dove tailed sheet slip and uncoupling layer in accordance with the current requirement of E2 external waterproofing

PROTECTION

When paverstands or similar are installed over Gripset® membranes, apply two coats of the GripSET -11Y® primer slurry to the membrane. Each coat is applied in the opposite direction to protect the Gripset 2P® and membrane while the selected system is installed.

GRIPSET RD TRAFFICABLE MEMBRANE APPLICATION

Ensure the substrate has been prepared correctly (refer page 8), primed (refer page 9), and that the under flashing system has been installed (see page 10).
Keep the size of any given work area manageable. This is particularly important in warm conditions where keeping a wet edge can be difficult.

BODY COAT

When installing Gripset RD® in exposed trafficable deck applications, a fully reinforced system is required, using Chopped Strand Fibre. This is best achieved using a laminating roller to ensure full saturation of the chopped strand fibre.
It is important that the reinforcing material lays within the membrane and does not sit hard on the substrate itself. Care should be taken when over-rolling to ensure the reinforcement isn't being forced through the membrane to the substrate.
Lay the Chopped Strand Fibre into the membrane using the same technique as described for flashing membranes. Ensure that there is no creasing or bridging and that no air is trapped under the reinforcement. Over-roll with a laminating or wet fleece roller, embedding the reinforcement into the membrane. Apply a further 2 coats of Gripset RD® over the reinforcement ensuring good coverage.
Allow to dry fully.

When reinforcing with Chopped Strand Fibre, it is important to ensure that the fibres are rolled flat and embedded into the membrane so water cannot wick down the glass fibre shaft into the membrane system, as this could cause bubbling. To protect against this, give the Gripset RD® body coat a light sand before the final top coat is applied.

TOP COAT

Install the top coat, ensuring that any rough areas or contamination are removed beforehand, so that a good visual finish can be achieved. This is particularly important in exposed Gripset RD® deck applications. Make sure the area is kept dry and no one has access to the area until the membrane is fully cured. Normally 48 hours should be allowed.

WEAR COAT FOR TRAFFICABLE SURFACES

For trafficable applications using the Gripset RD® system, stir up the Gripset RD® wear coat liquid to ensure the fine sand is evenly dispersed before application

Available in 15ltr pails. Colours available are white or grey.
Coverage 3m^2/ltr approximately.

Installation

DUROMAT ACOUSTIC APPLICATIONS

The duroMAT® eppm rubberised mat acoustic system is an excellent below tile system where an acoustic rating is required. Mat sizes 1100mm, 900mm x 6mm thick

ACHIEVEING THE DESIRED FIIC

The duroMAT® rubberised acoustic membrane is only one factor that determines the overall acoustic performance of the floor. The floor thickness, concrete MPa, ceiling space design and tiling installation are just some of the factors that can contribute to or detract from the final FIIC (Field Insulation Impact Class) achieved. Given that floor/ceiling structures can vary significantly from one building to another, it is important to design the acoustic system fully before proceeding. Furthermore, an FIIC test should be conducted early in the construction to verify that the system is able to deliver the performance required.

Equally important are the ceiling space service attachments to the underside of the concrete floor slab. Rubber grommets should be used to suspend any services running through the floor/ceiling space, to prevent vibration being transmitted through to the plasterboard and grid system.

DUROMAT INSTALLATION

PRIMING

Ensure the substrate is clean and free from all dust and loose particles by vacuum cleaning the substrate.

Prime substrate with GripSET GP® Primer.

INSTALLING DUROMAT

1. Install the DuroMAT onto the primed substitute using Laticrete 4xLT tile adhesive use a platering trowel to presuure embed the duroMAT into the tile adhesive and ensure a full surface bond.

2. Using butylFLASH® tape, flash the waste outlet flange to the durMAT® top surface.

3. Under flash all internal & external corners, doorway entrances with butylFLASH® tape.

4. Flash the acoustic duroMAT® edge at the outlet, ensuring a complete seal to the duroMAT® edge. Neatly trim the butylFLASH® around the outlet. Seal the cut edge with GripSET SB® sealant.

Ensure the butylFLASH® membrane turns up all walls up stands a minimum of 40mm.

When laying the butylFLASH® detailing tape, ensure that there are no bubbles, wrinkles and over roll with a hand roller to ensure good adhesion. Pay particular attention to the laps.

Prime the ButylFLASH tape detailing and exposed surface of the duroMAT® with Gripset GP Primer®

Apply the full Gripset® 38 or 2P waterproofing membrane system at a rate of 1.8 litres/m2 over the butylFLASH® detailing and primed duroMAT® applying each coat in opposite directions.

TILING CONSIDERATIONS

The Laticrete 4XLT tile adhesive forms part of the acoustic system. Refer to the tiling guidelines on page 11.

When installing floor tiles, ensure a 5mm clearance from the wall and detail this with Gripset SB® sealant.

The wall tiles should be kept 5mm above the floor tiles.

Use Laticrete Spectralock expoxy pro grout system.

Remember that duroMAT is only one factor in achieving the FIIC test result of 50

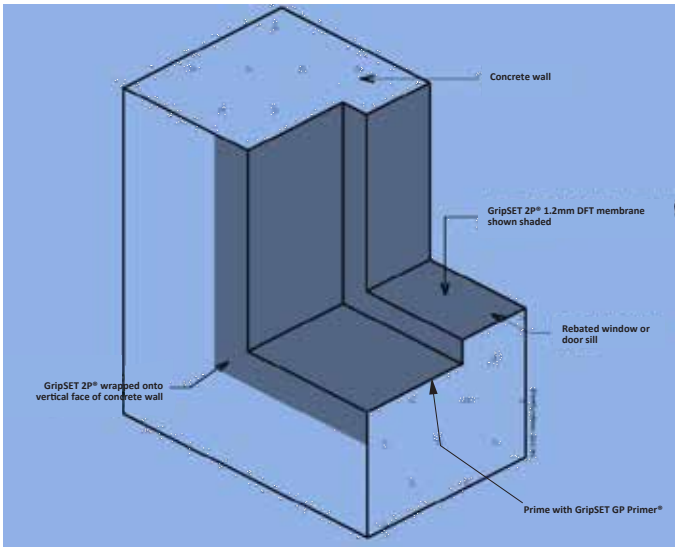
Installation

WINDOW FLASHING APPLICATIONS

Gripset 2P® can be used to flash around windows in concrete or block-work situations.

Ensure the substrate is clean, dry and free from any dust or contamination. Repair any broken edges or voids with repair mortar.

Prime the substrate with Gripset GP ® Primer and allow to dry. At all internal and external corner junctions install RF reinforcement tapes to sill and wall edges, dressing out onto the external wall face. Apply GripSET2P® at a rate of 1.5 litres per m² to the total area, dressing down onto the exterior face of the building 100mm and further out to zero. Apply a total minimum of two coats.



SWIMMING POOL APPLICATIONS

GripSET 2P® may be used to waterproof the inside of concrete swimming pools. WPS can provide a project specific specification; however the following general guidelines apply;

SUBSTRATE PREPERATION

Fill all voids and flush any cracks with Gripset C-Plug high strength repair mortar.

The substrate must be clean, dry, and free from any dust, loose particles, oils, grease and contaminants. It is generally a good practice to water blast the concrete substrate. Concrete grinding may also be required. Vacuum away all dust and loose particles.

REINFORCEMENT

Prime the internal wall-floor junctions and external/internal corners with Gripset GP ® Primer, priming just the area to be covered by the reinforcement tapes.

Install the preformed Elastofabric corners, and Elastofabric tapes to internal and external junctions using Gripset 2P® membrane, ensuring good wetting through the polyester fabric. Construction joints must have Elastofabric tapes installed, centred correctly over the construction joint.

Over coat the Elastofabric tapes and corners with Gripset 2P® ensuring full coverage and wetting.

Flash any penetrations with Elastofabric preformed inlet and outlet fittings.

PRIMING FOR GRIPSET® MEMBRANE

Prime the total pool area with Gripset 11Y® primer slurry. The slurry is Gripset 11Y® additive primer, and Gripset dry mix. Slowley pour the Gripset dry mix into the Gripset 11y® additive primer liquid, mixing at a slow speed wit an electric stirer and paddle. The primer slurry is applied as a two coat system.

MEMBRANE INSTALLATION

Make up the Gripset 11Y® membrane as described on page 7, “Working with Gripset 2P®.” Apply at a rate of 2.6 litres/m² to achieve a dry film thickness of 2mm (vertical surfaces will generally need more coatings to achieve the film thickness).

Once the Gripset 2P® membrane is fully cured, apply two further coats of the Gripset 11Y® Primer slurry.

TILING POOLS AND PONDS

For water immersion use aticreteFLX254 Platinum with additive grout. Tile joints with Laticrete epoxy grout.
ALL tiles must be fully back buttered with no voids underneath.

Installation

GRIPSET® SCREED APPLICATIONS

Screeds can be formed using Gripset 2P dry®/ Gripset 51 SBR or the Gripset 11Y® Additive Primer®. The ratio at which the products are mixed will determine the type of screed that is formed. Screeds using Gripset 2P dry®/ Gripset 51 SBR are used on old bituminous substrates or similar, and screeds using Gripset 2P® Sand Cement Primer are normally used on concrete substrates.

These screeds can be used to re-fall decks where ponding is occurring, or to form protection boards in planter boxes where Gripset 51 SBR has been applied as the damp-proofing membrane.

The addition of Gripset 2P Dry® improves the curing of the Gripset 51 SBR and renders it UV resistant. The higher the GripSET 51 SBR component the more flexible the screed will be. Increased levels of Gripset drymix make the screed rigid and hard.

SUBSTRATE PRIMING

Ensure the surface is washed clean and remove all loose material, dust and other foreign matter.

When working with C-Bed screeds on concrete or fibre cement boards, prime with Gripset GP® Primer at 6-8m²/ltr. Ensure good even coverage of the primer.

When working with bituminous screeds on bituminous substrates, prime with Gripset 51 SBR diluted 10%.

When working in ponds and swimming pools, prime with GripSET 11Y® additive primer slurry (mix with Gripset dry mix powder to form a slurry.

FORMING THE SCREED

Bituminous screed – Gripset 51 SBR

Using a clean 15ltr pail, pour in a sufficient amount of clean water to provide the correct amount of mortar mix required. Pour Gripset 2P dry mix into the water slowly mixing with with an electric stirrer on slow speed until a mortar is formed. The mortar needs to be somewhat dry so when the Gripset 51 SBR is added the mortar then becomes workable (not sloppy). In most situations the amount of Gripset 51 SBR to be added is 1/3rd of the total volume of Gripset 2P dry® mortar formed. Using an electric stirrer mix the Gripset 51 SBR into the mortar screed until the Gripset 51® mix is fully blended. In warmer weather a wetter mix will be required to control drying times.

SHRINKAGE CRACKS (Bituminous screed)

Shrinkage cracks can form through the bituminous screed. This is a reaction between the Gripset dry mix and the GripSET 51 SBR component. These are normally superficial and can be covered simply by applying a light wet screed of Gripset 51 SBR/GripSET 2P drymix over the surface.

Cementitious screed - Gripset C-Bed ® mortar screed

In a clean bucket add 1 litre of clean water. Slowly add C-Bed powder to the water and mix continuously while the powder is added. Using an electric/mechanical stirer with a paddle attachment at a slow-medium speed, mix the dry component until it is evenly dispersed into the liquid and a homogenous, lump free consistency is formed. More water can be added if needed to achieve the desired consistency. Larger batches can be mixed in cement mixers. Allow the mix to settle for 3-5 minuted then re-stir before use. Pot life once mixed is 60-75 minutes; however this maybe reduced in warmer weather.
Once mixed, spread the wet screed over the floor area to designated falls required using mortar trowel and equipment needed.

FINISH COATING

The screed can be coated with GripSET RD® acrylic coating giving a protectin and UV resistant finish. Apply the duroTUF® body and top coats only (refer page 12).

The full GripSET RD® trafficable system can be installed in deck applications. Prime the screed with GripSET GP® Primer before installing the GripSET RD®.

TILING

For tiling over C-Bed scree system, prime with Gripset GP Primer® and apply duroSET® or duroQIK® at 1.5ltr/m² wet film thickness, which will provide a approximate 1.2mm dry film thickness.

Screed aeas over 20mm thick will take 48 hours to cure (longer if on a non porous substrate)

Installation

DECK APPLICATIONS

Refer to page 11 for substrate requirements. On timber decks, the supporting joists are to be installed at 400mm centres in each direction with 20mm CCA treated H3.2 grade plywood, glue and screw fixed.

The membrane is installed in the same way as outlined on pages 11 - 15, with the following additional requirements or adjustments.

1. TILED DECK APPLICATIONS

For a tiled deck application we recommend Gripset with Schluter Ditra system Gripset. Schluter Ditra can be installed directly onto Gripset. Please see the Schluter Ditra Manual for installation details.

DO NOT tile directly onto the ecoTUFF waterproofing Membrane

2. LOOSE-LAID DUCKBOARD / PAVED APPLICATIONS

Lay the timber bearers so that water will be able to flow freely to the water outlet. Install impact isolation EPDM craddles placed at 400mm centres to ensure the Gripset membrane is protected from any contact by the timber raft system.

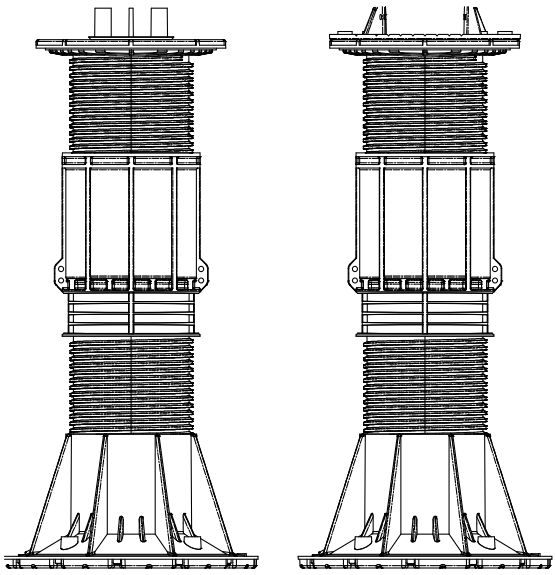
Ensure that no screw or nail fixings penetrate through the bearer into the membrane.

ECOJACK PAVER SUPPORTS

Paver stands form part of the acceptable solution E2/AS1 (paragraph 7.3) and allow maintenance access to the membrane. Paver stands also allow services to be run underneath the paver stand system. Unlike standard tile applications, paver stands can have a variety of surface finishes installed on them.

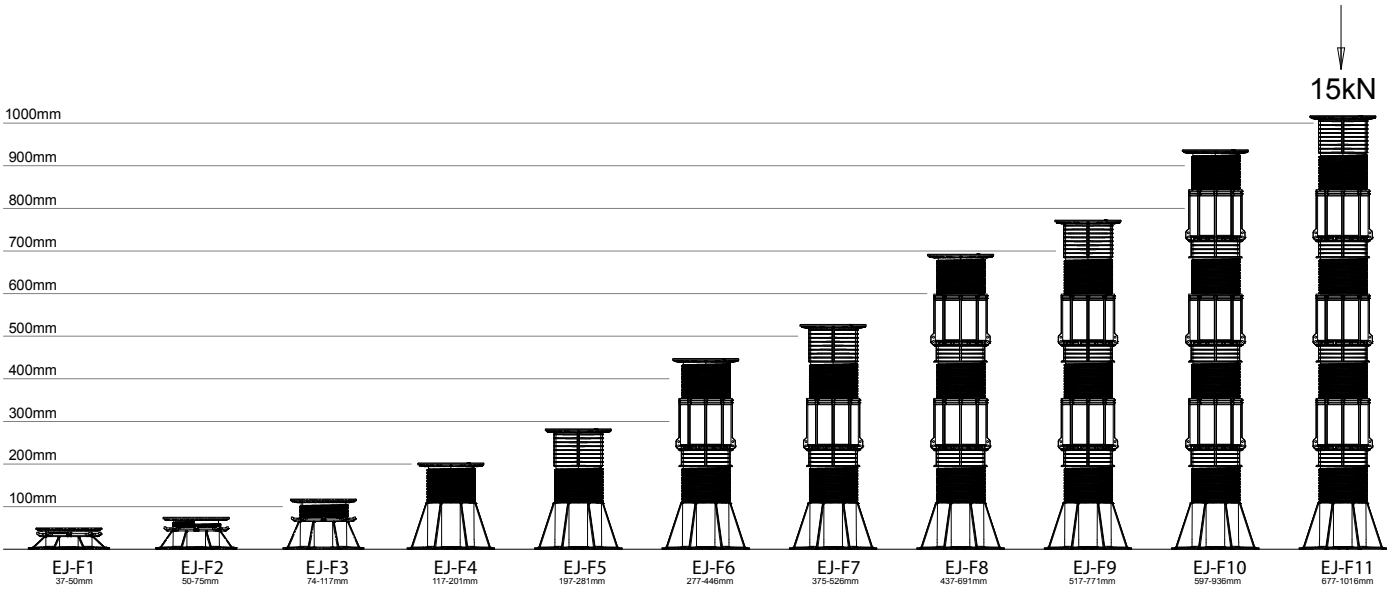
EcoJACK paver supports can be installed directly onto the Gripset membrane. They are available in a 20mm to 50mm fixed height support, or in a range of adjustable supports.

On substrates with a significant slope, the self-levelling supports make it much easier to keep a level surface while following the contour of the substrate.

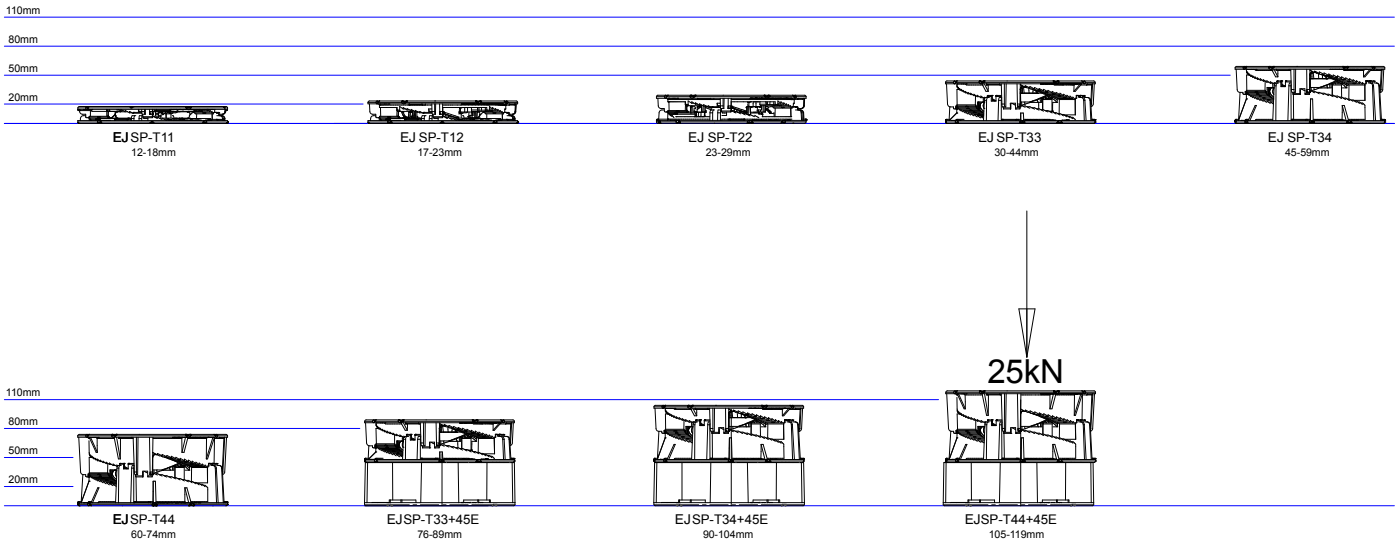


Example of EcoJACK Paver Support

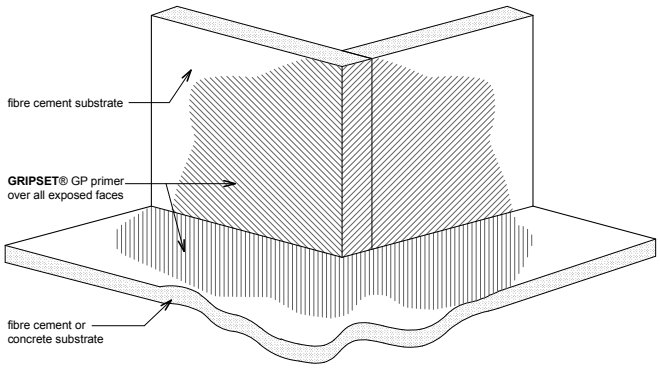
EcoJACK Paver Stands



ECOJACK HEIGHT CHART

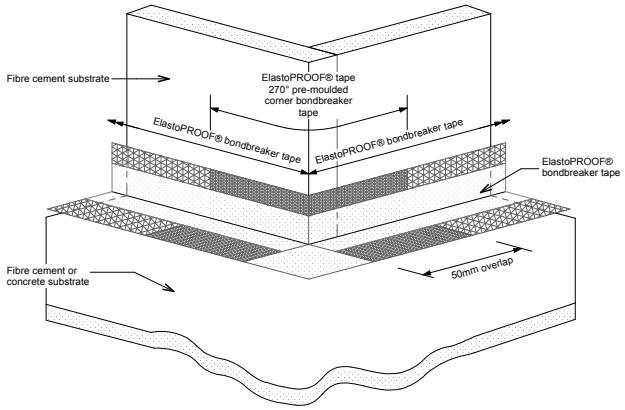


General Detail Drawings



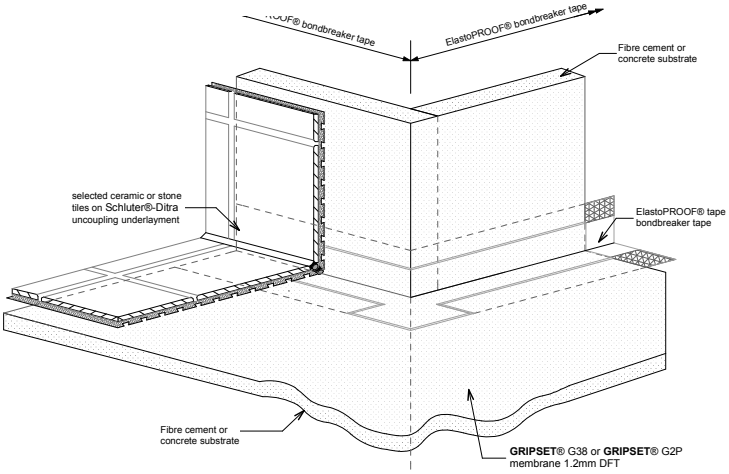
gsM-G01 - External Corner - Step 1

REVISION: 10 NOVEMBER 2014



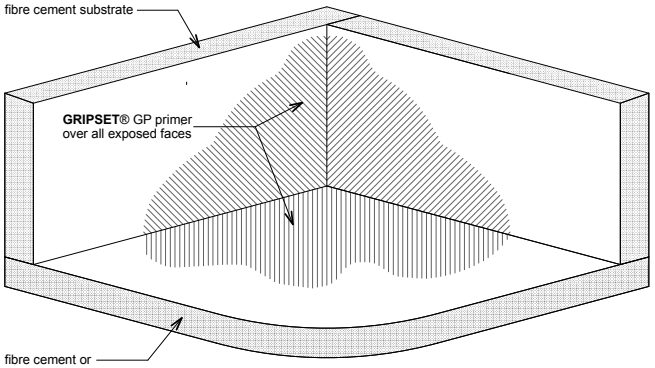
gsM-G02 - External Corner - Step 2 ElastoPROOF® joint band

REVISION: 10 NOVEMBER 2014



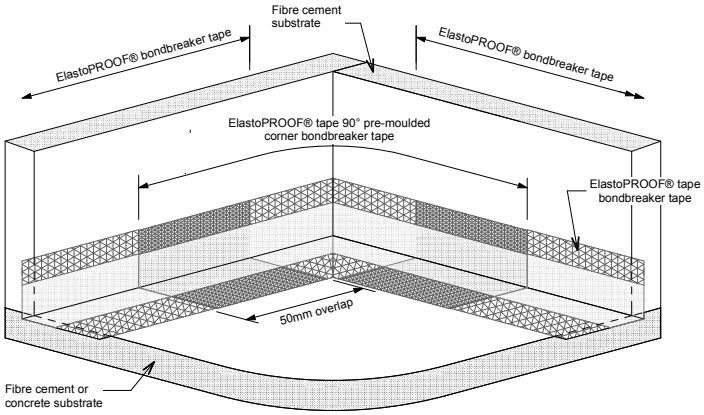
gsM-G03 - External Corner
- Step 3 Membrane complete (Cut-away)

REVISION: 10 NOVEMBER 2014



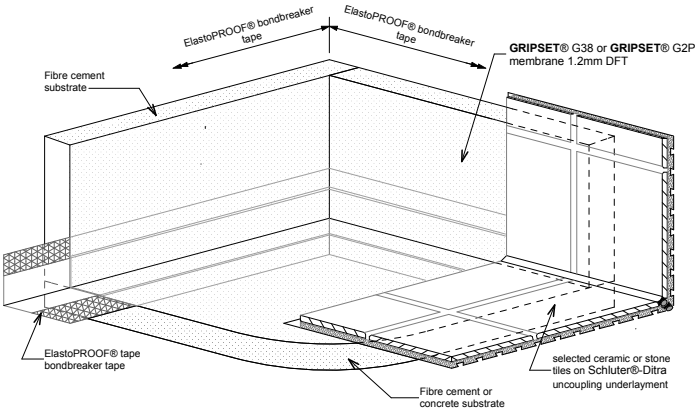
gsM-G04 - Internal Corner - Step 1

REVISION: 10 NOVEMBER 2014



gsM-G05 - Internal Corner - Step 2 ElastoPROOF® joint band

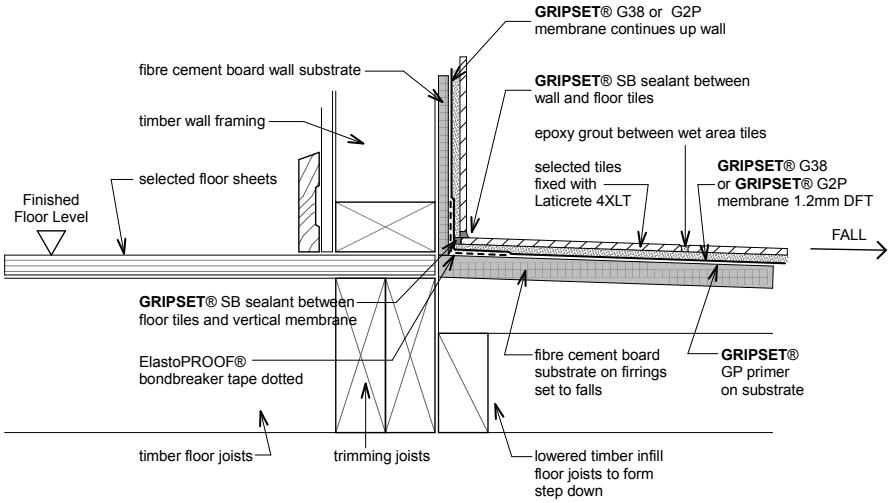
REVISION: 10 NOVEMBER 2014



gsM-G06 - Internal Corner
- Step 3 Membrane complete (Cut-away)

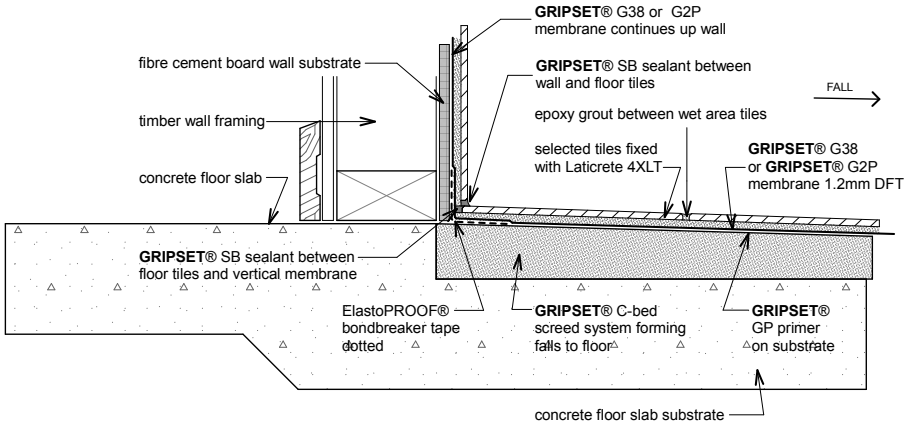
REVISION: 10 NOVEMBER 2014

Shower Detail Drawings



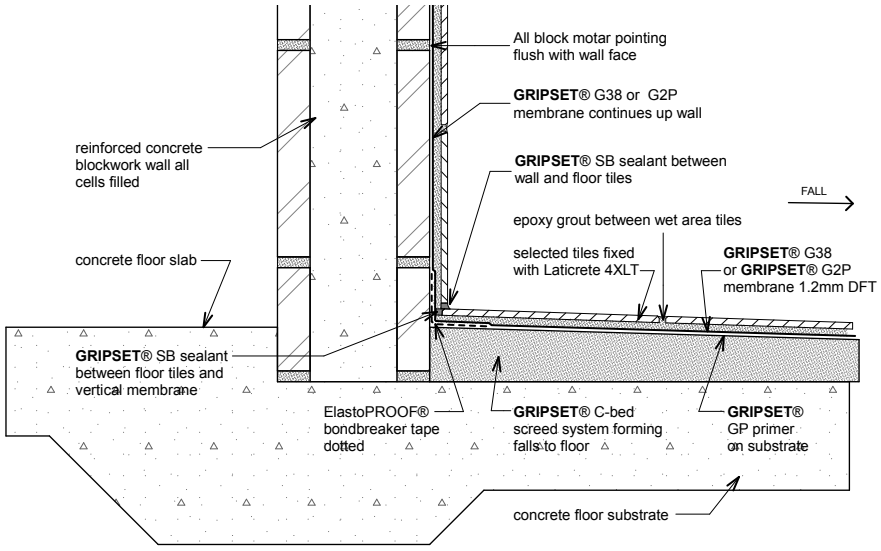
gsM-S01 - Shower Wall to Floor junction - type 1 (timber-timber)

REVISION: 10 NOVEMBER 2014



gsM-S02 - Shower Wall to Floor junction - type 2(timber-conc)

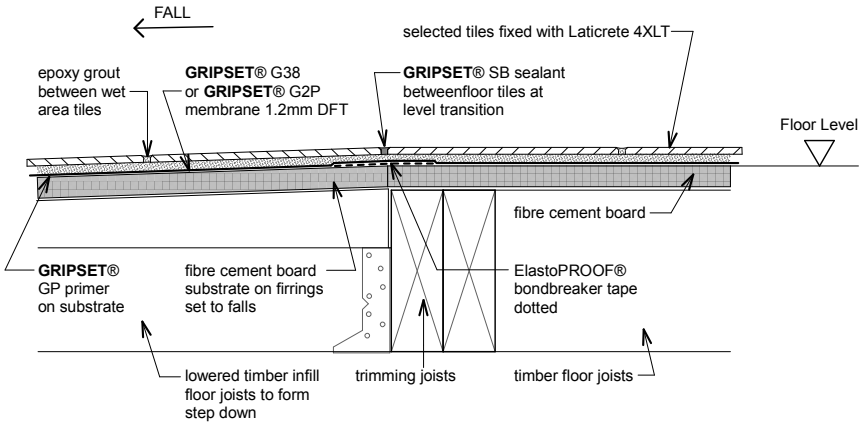
REVISION: 10 NOVEMBER 2014



gsM-S03 - Shower Wall to Floor junction - type 3 (conc-conc)

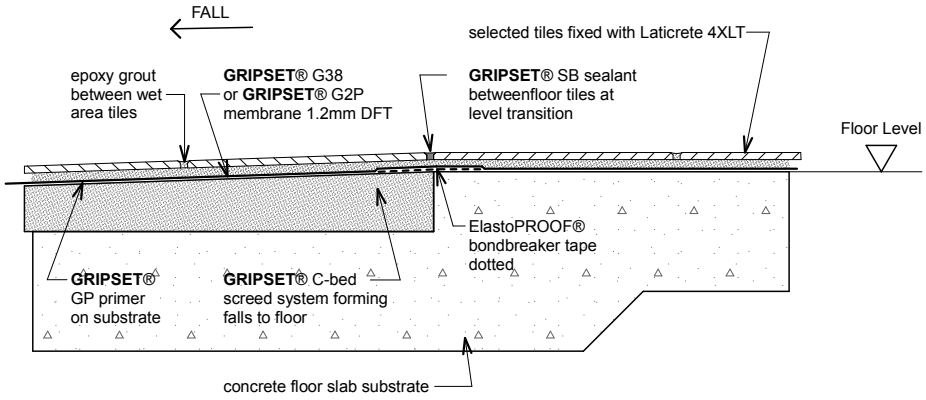
REVISION: 10 NOVEMBER 2014

Shower Detail Drawings



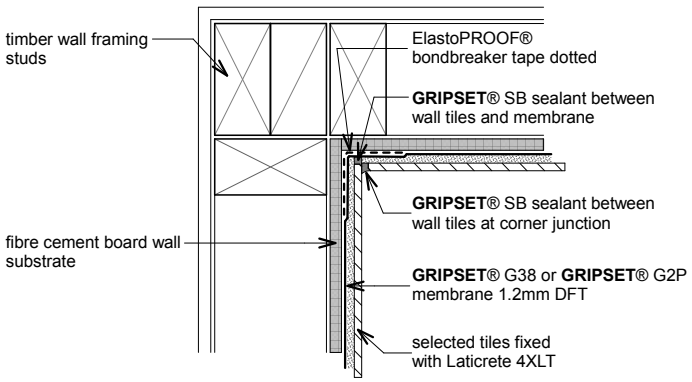
gsM-S04 - Shower Recessd Floor front edge - type1 (timber)

REVISION: 10 NOVEMBER 2014



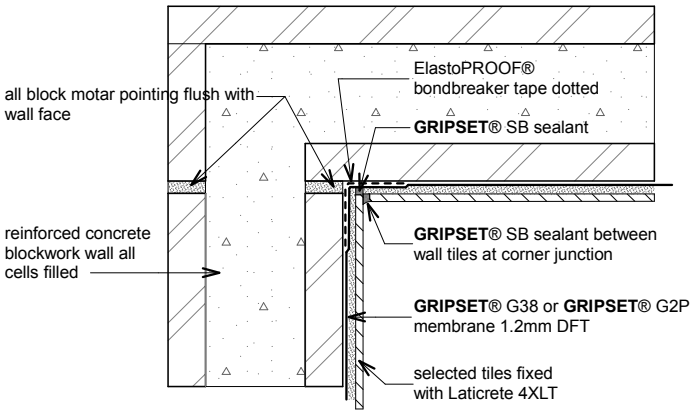
gsM- S05 - Shower Recessed Floor front edge - type 2 (conc)

REVISION: 10 NOVEMBER 2014



gsM - S06 - Shower Internal Corner - type 1

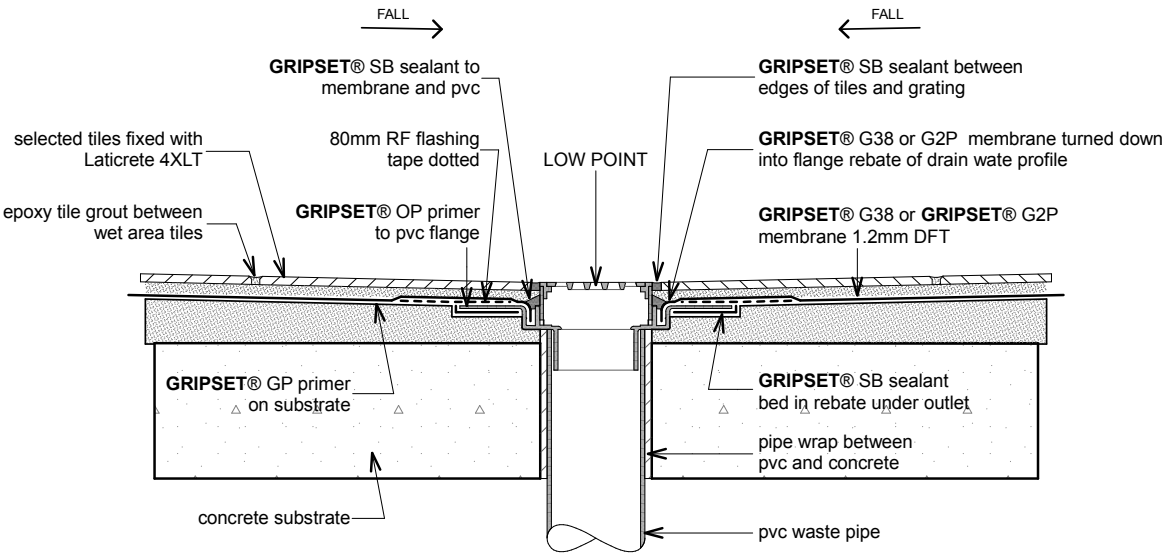
REVISION: 10 NOVEMBER 2014



gsM - S07 - Shower Internal Corner - type 2

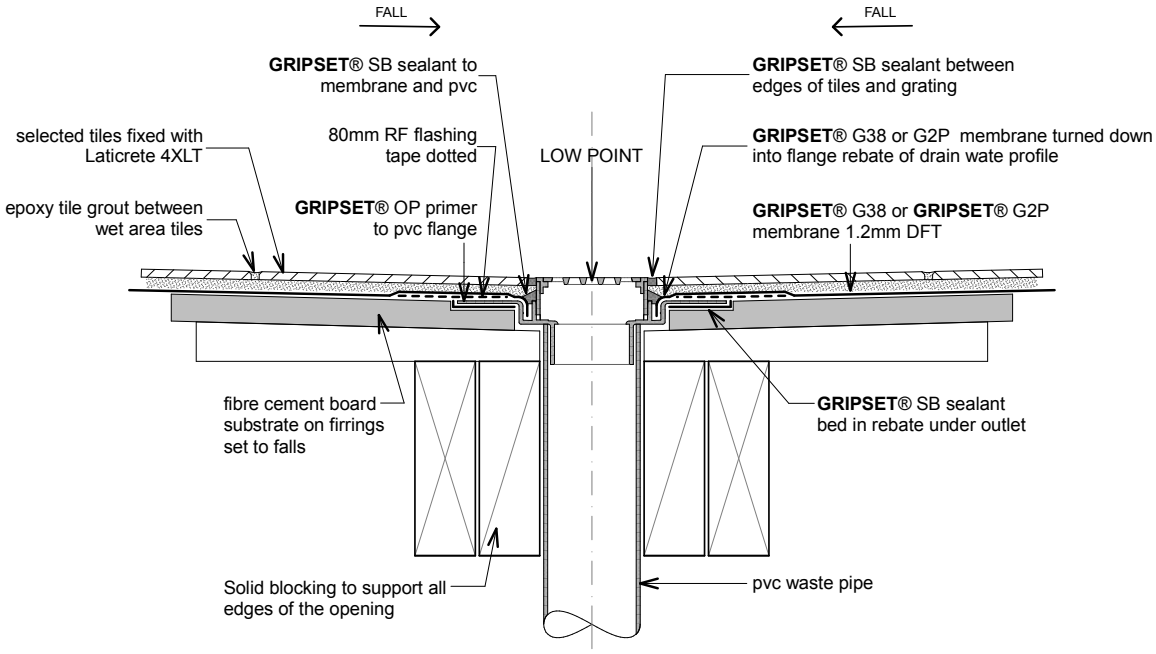
REVISION: 10 NOVEMBER 2014

Shower Detail Drawings



gsM-S08 - drainRITE® Water Outlet Type 5 - Internale Wet Area (conc)

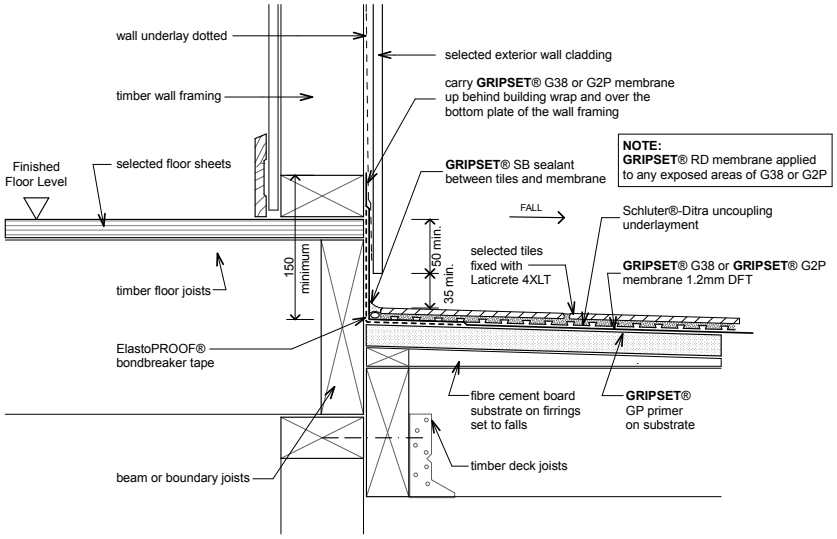
REVISION: 10 NOVEMBER 2014



gsM- S09 - drainRITE® Water Outlet Type 6 - Internal Wet Area (timber)

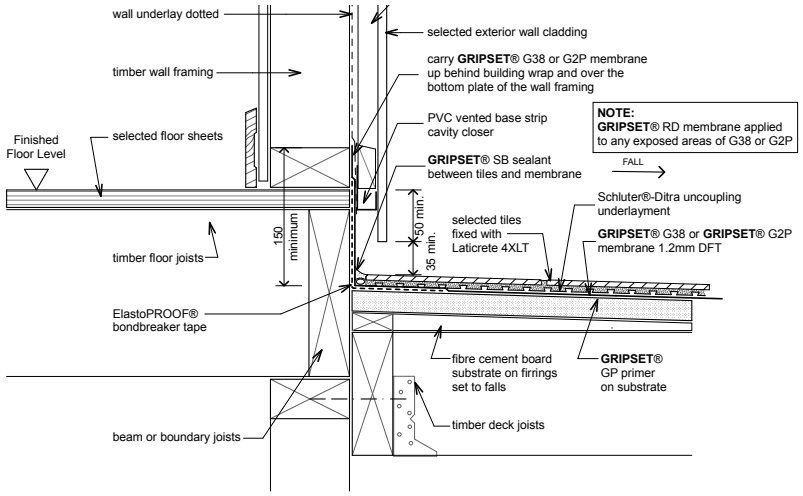
REVISION: 10 NOVEMBER 2014

Tiled Deck Detail Drawings



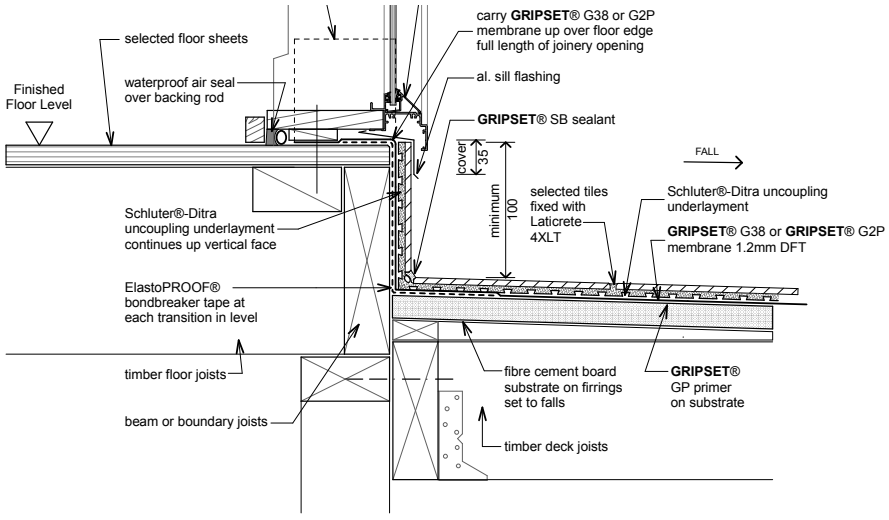
gsM-D01 - Tiles (on Uncoupling underlay)-wall junction - type 1

REVISION: 10 NOVEMBER 2014



gsM-D02 - Tiles (on Uncoupling underlay)-wall junction - type 2

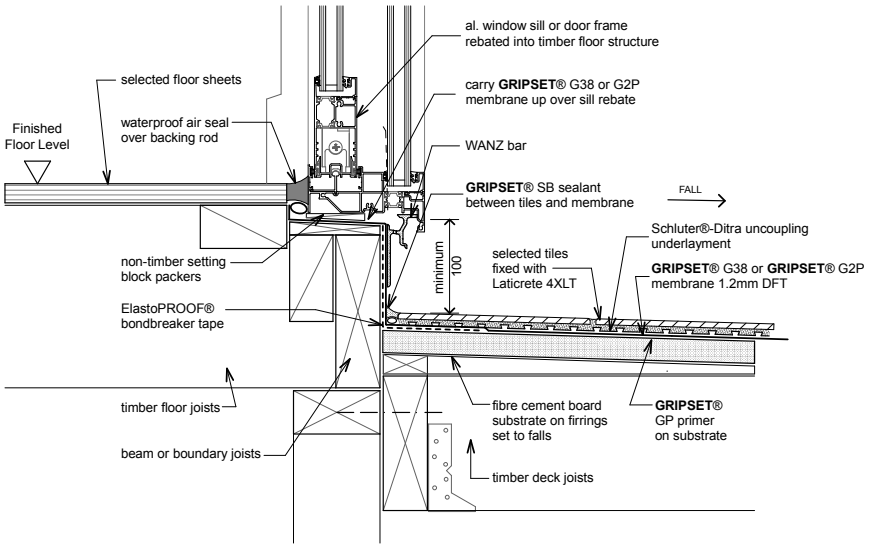
REVISION: 10 NOVEMBER 2014



gsM-D03 - Window Sill/Tiles (on Uncoupling underlay) -junction - type 1

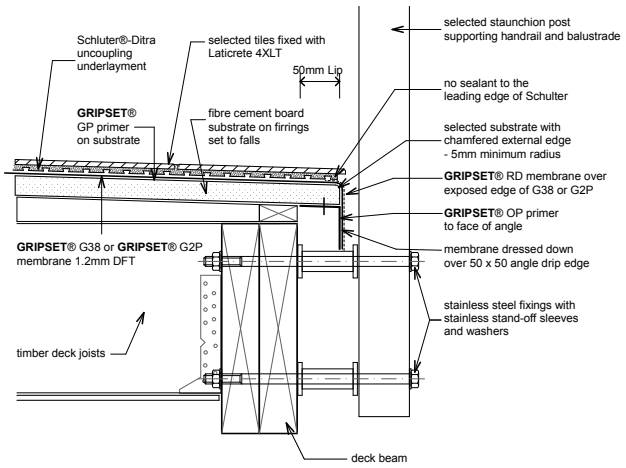
REVISION: 10 NOVEMBER 2014

Tiled Deck Detail Drawings



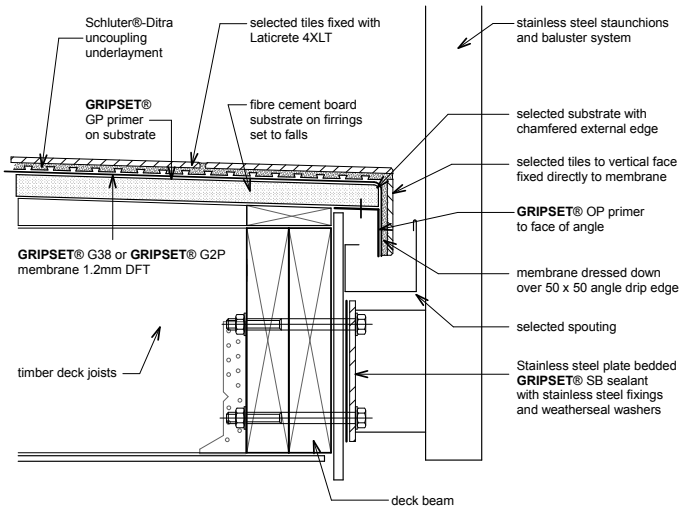
gsM-D04 - Window Sill/Tiles (on Uncoupling underlay) -junction - type 2

REVISION: 10 NOVEMBER 2014



gsM-D05 - Balustrade Edge/Tiles (on Uncoupling underlay) - junction -type 1

REVISION: 10 NOVEMBER 2014

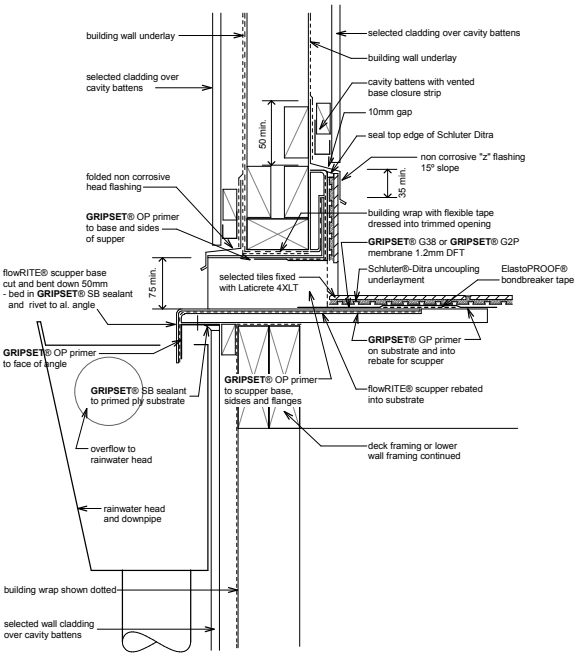


gsM-D06 - Balustrade Edge/Tiles (on Uncoupling underlay) - junction -type 2

REVISION: 10 NOVEMBER 2014

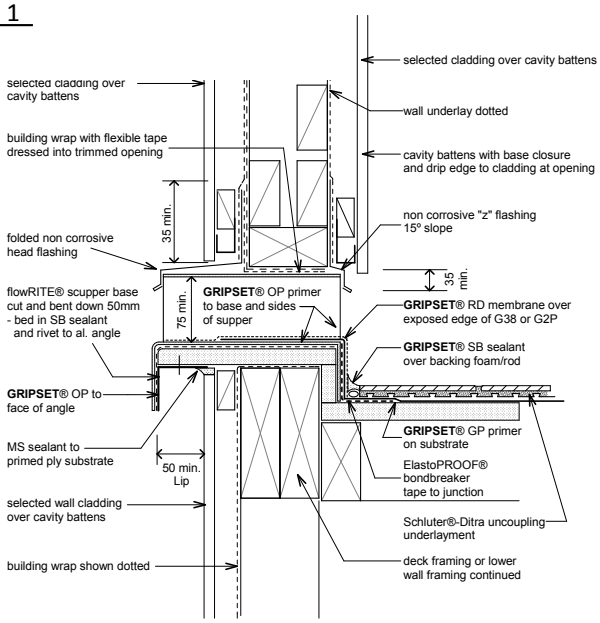
ction - type 2

Tiled Deck Detail Drawings



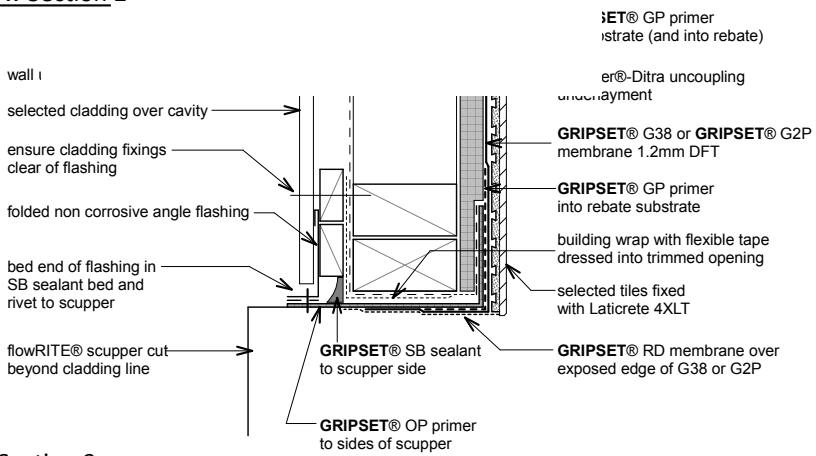
gsM-D07 - Scupper Gutter Section 1

REVISION: 10 NOVEMBER 2014



gsM-D08 - Scupper Overflow Section 2

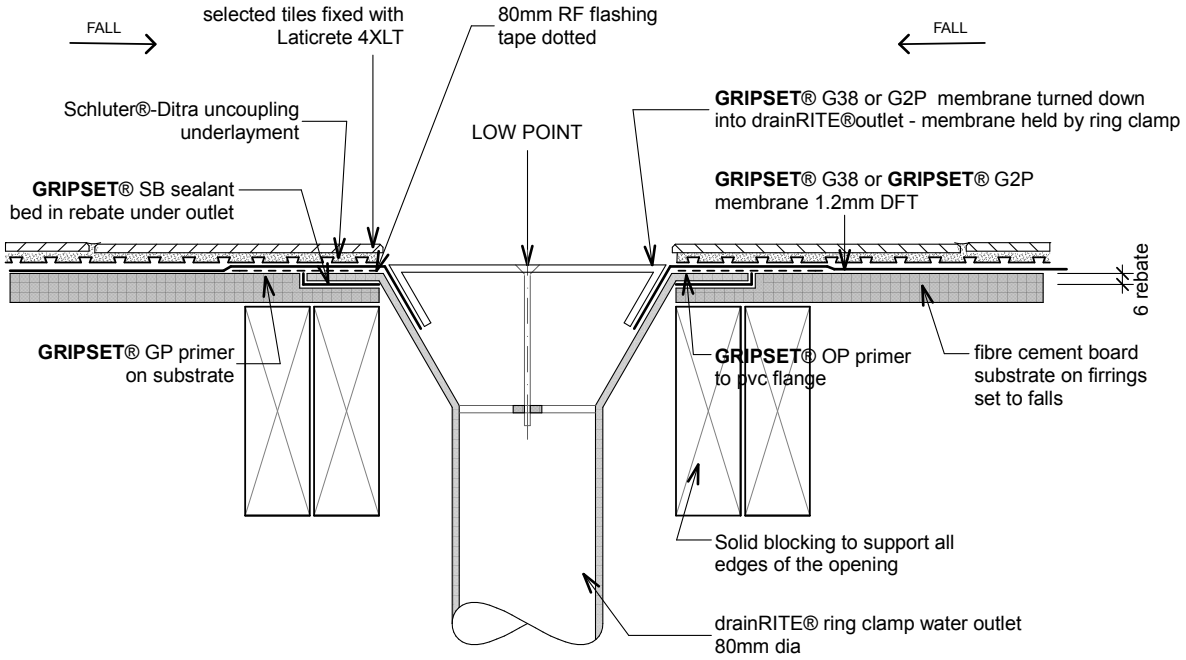
REVISION: 10 NOVEMBER 2014



gsM-D09 - Scupper Outlet Section 3

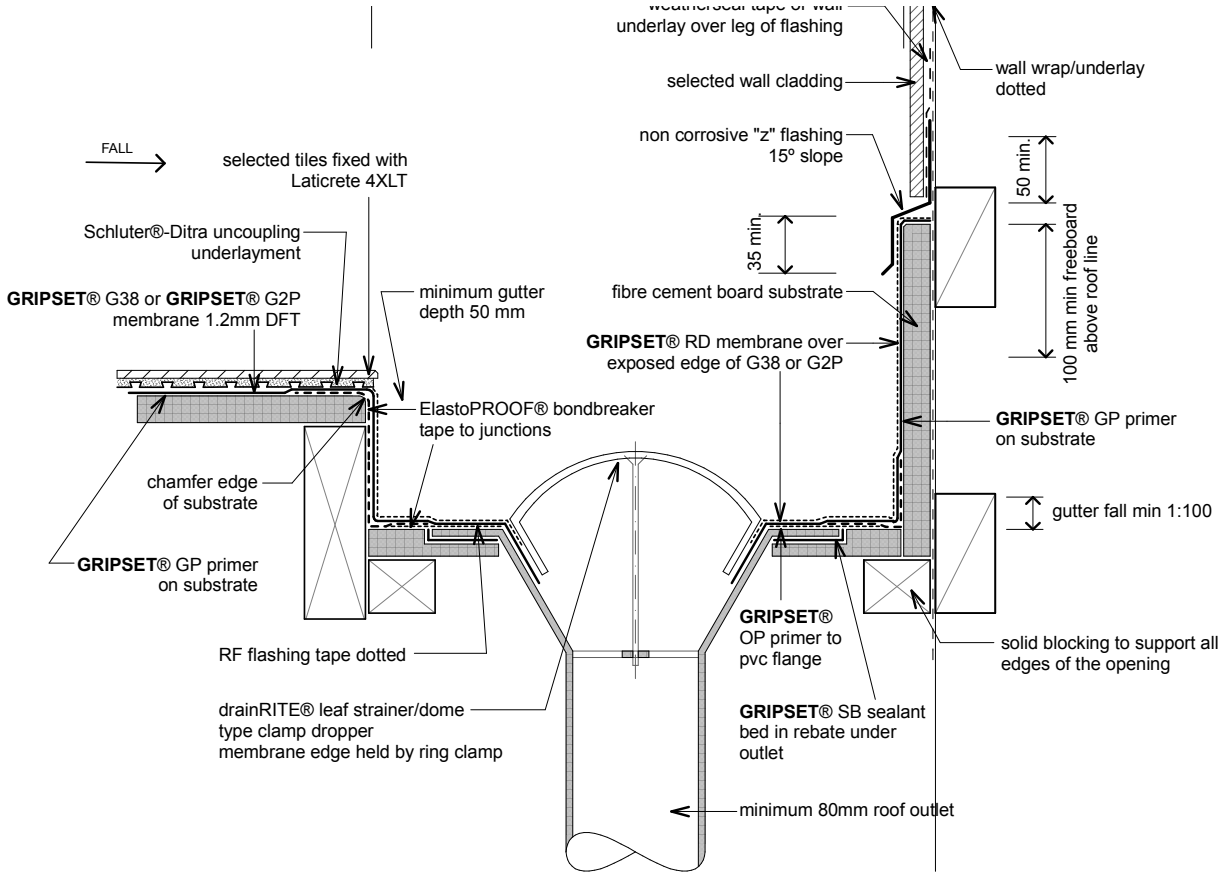
REVISION: 10 NOVEMBER 2014

Tiled Deck Detail Drawings



gsM-D010 - drainRITE® Water Outlet Type 1 - ring clamped

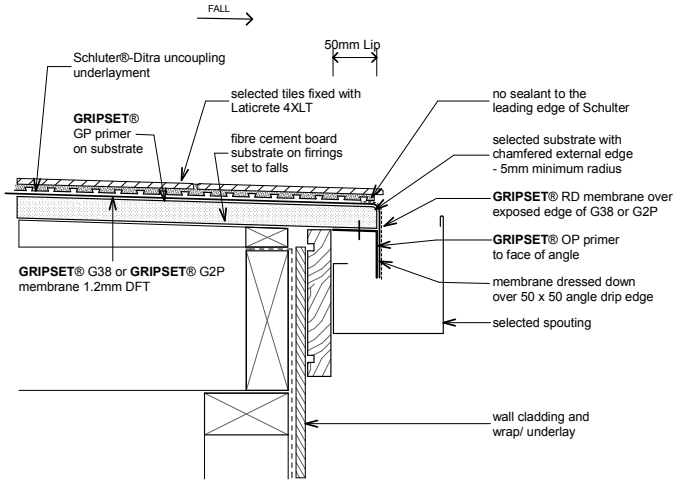
REVISION: 10 NOVEMBER 2014



gsM-D011 - drainRITE® Water Outlet Type 2 - ring clamped

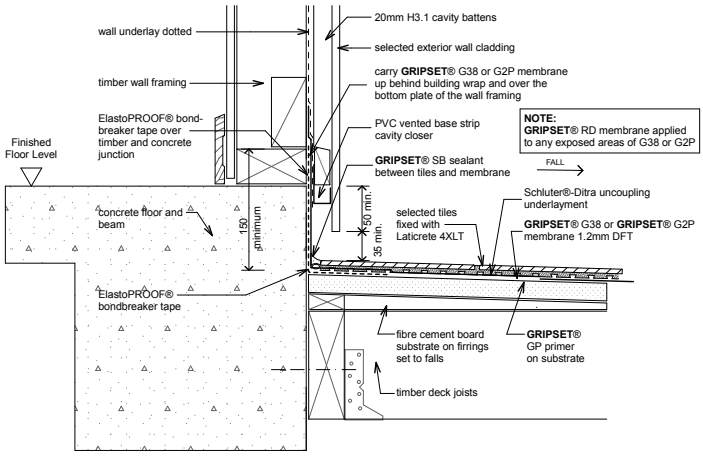
REVISION: 10 NOVEMBER 2014

Tiled Deck Detail Drawings



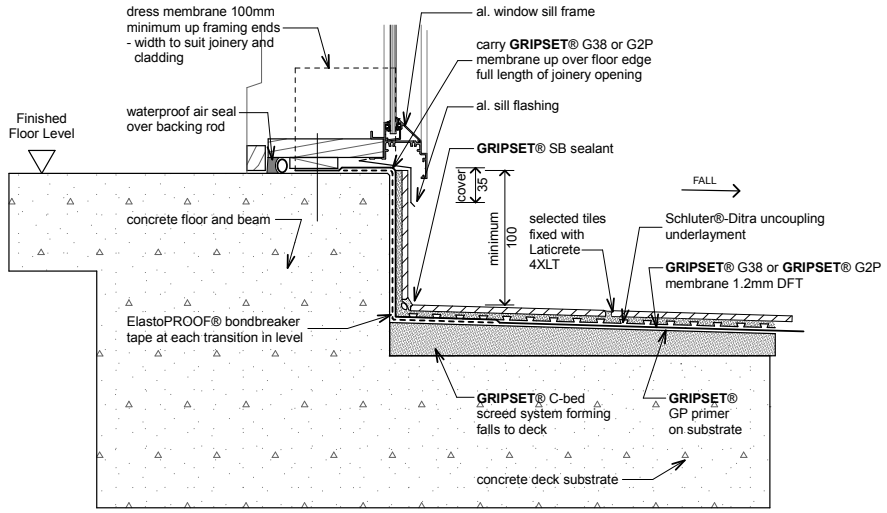
gsM-D012 - Gutter edge/Tiles (on Uncoupling underlay)-junction

REVISION: 10 NOVEMBER 2014



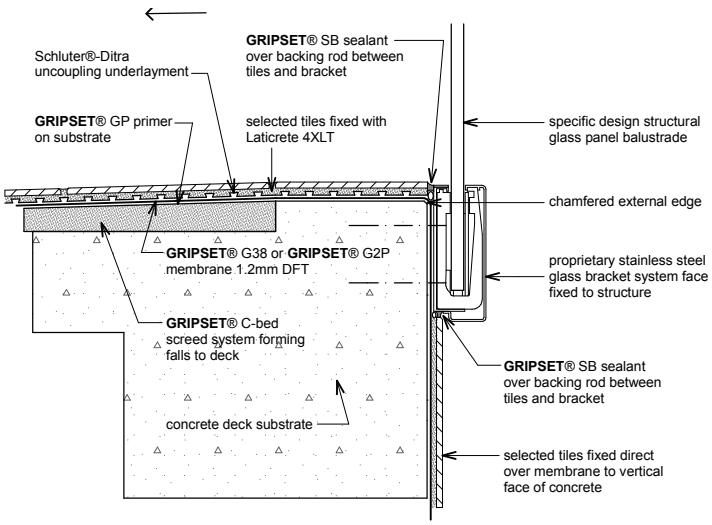
gsM-D013 - Tiles (on Uncoupling underlay)- wall junction - type 3

REVISION: 10 NOVEMBER 2014



gsM-D14 - Window Sill/Tiles (concrete substrate) - junction - type 3

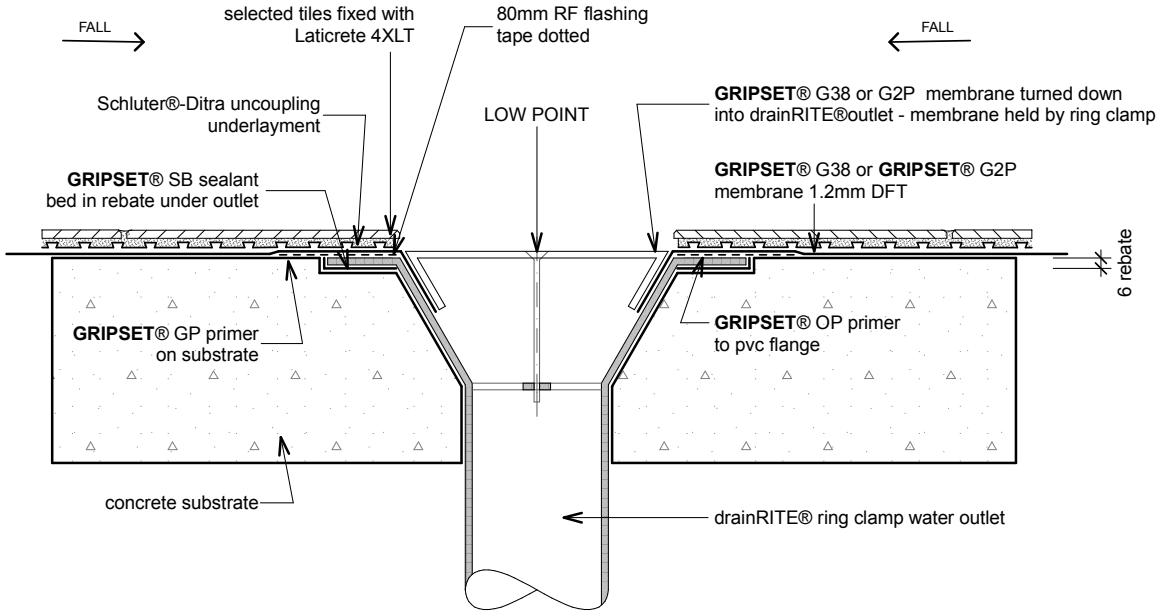
REVISION: 10 NOVEMBER 2014



gsM-D15 - Balustrade Edge/Tiles (concrete substrate) - junction - type 3

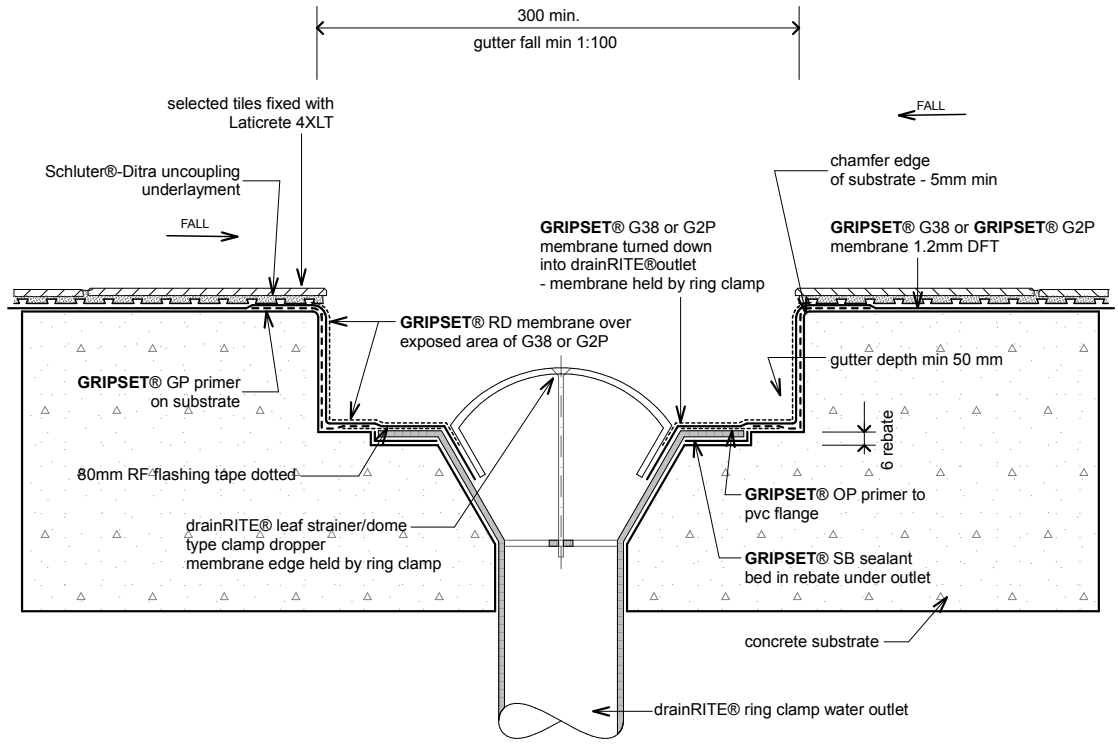
REVISION: 10 NOVEMBER 2014

Tiled Deck Detail Drawings



gsM-D016 - drainRITE® Water Outlet Type 3 (conc substrate) - ring clamped

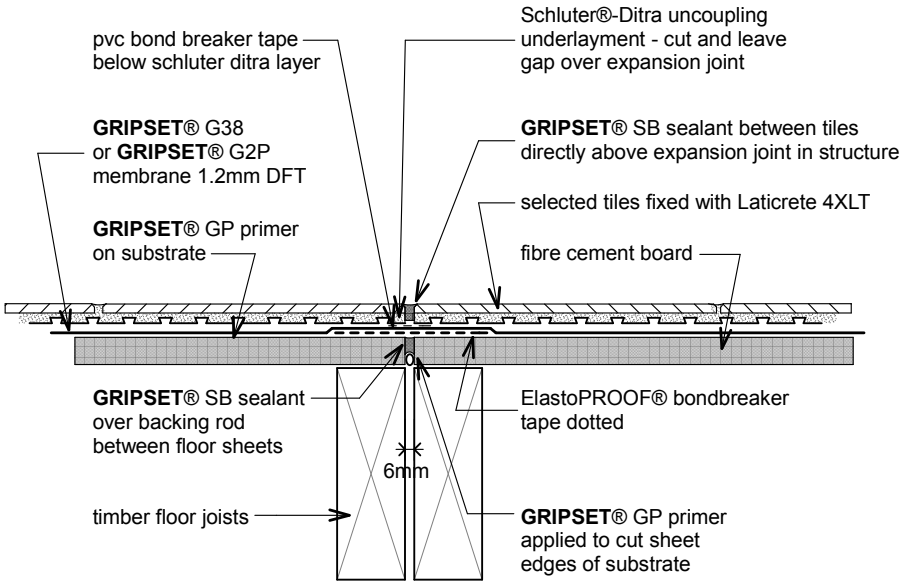
REVISION: 10 NOVEMBER 2014



gsM-D017 - drainRITE® Water Outlet 5- ring clamped dome

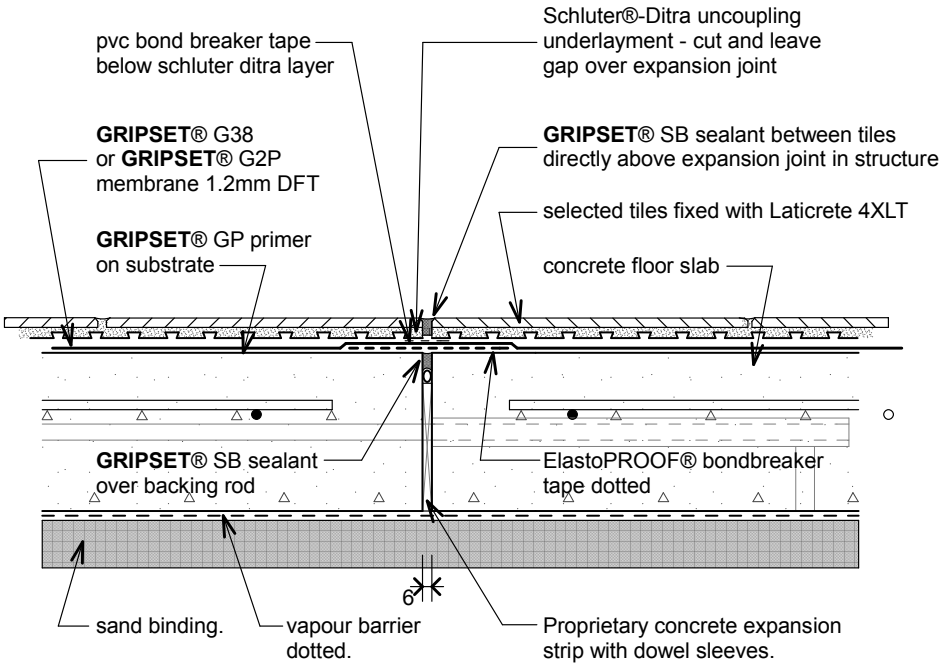
REVISION: 10 NOVEMBER 2014

Tiled Deck Detail Drawings



gsM-D30 - expansion joint type 1 - timber structure

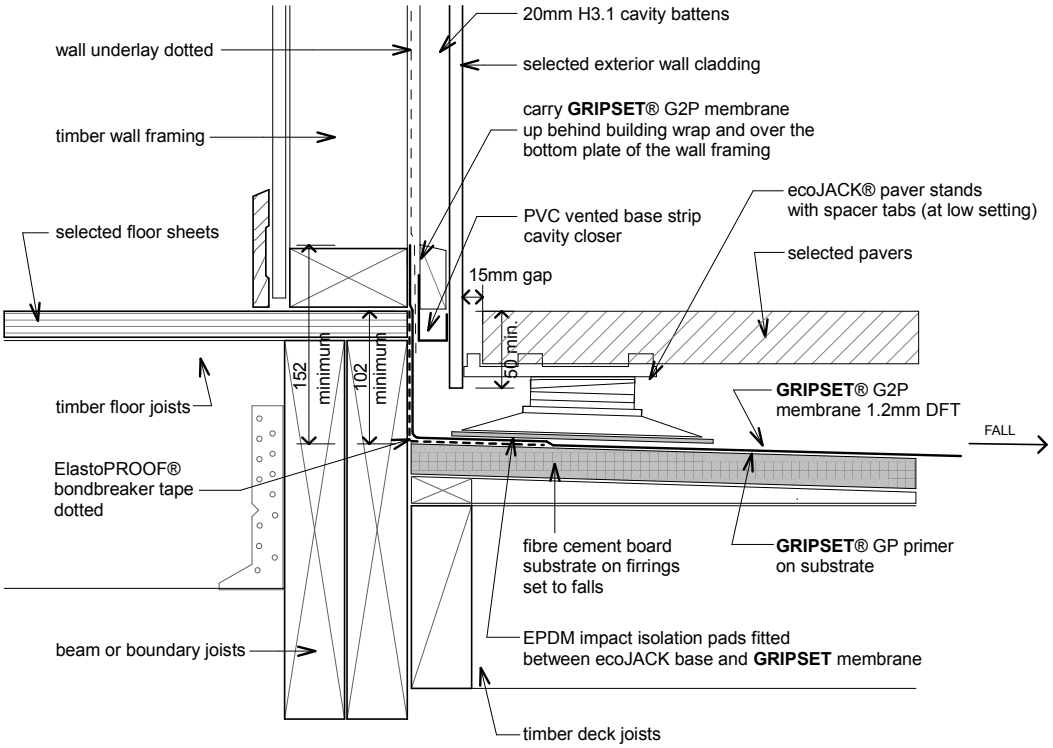
REVISION: 10 NOVEMBER 2014



gsM-D30 - expansion joint type 2 - conc structure

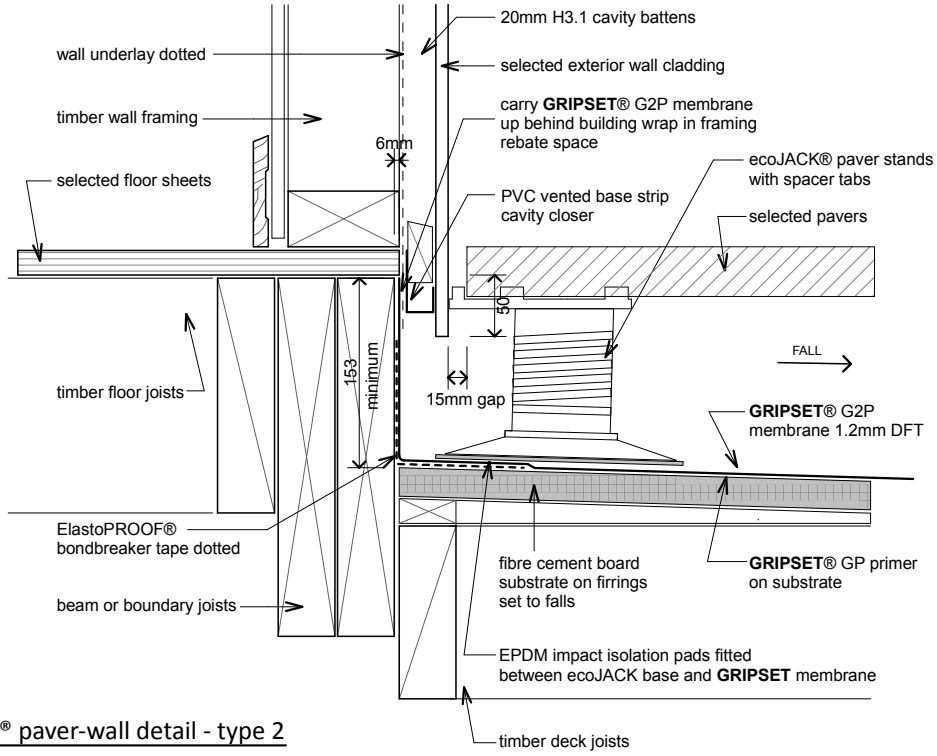
REVISION: 10 NOVEMBER 2014

Floating Deck Detail Drawings



gsM-D019 - ecoJACK® paver-wall detail - type 1

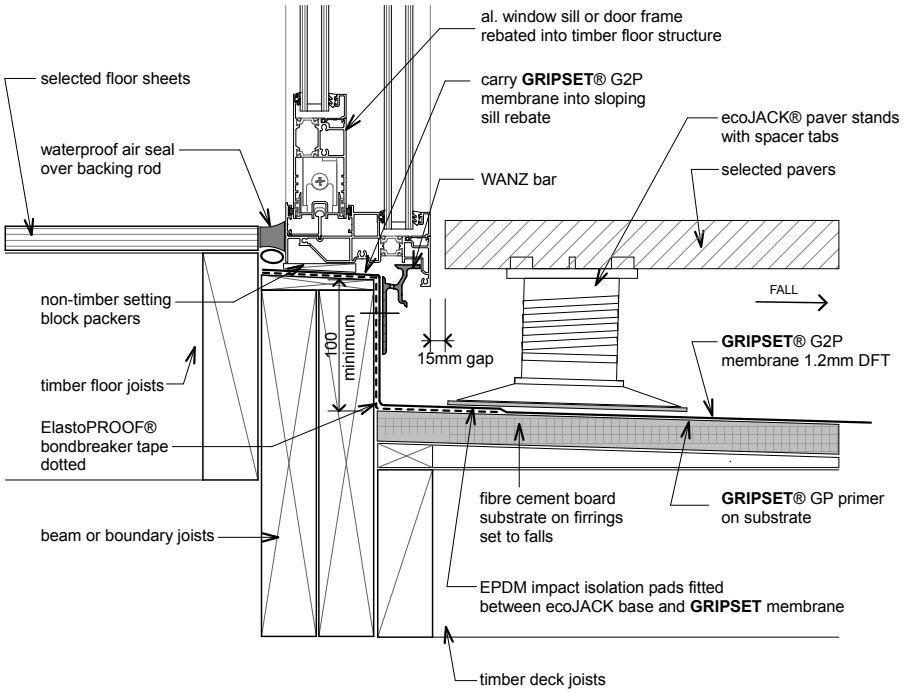
REVISION: 10 NOVEMBER 2014



gsM-D020 - ecoJACK® paver-wall detail - type 2

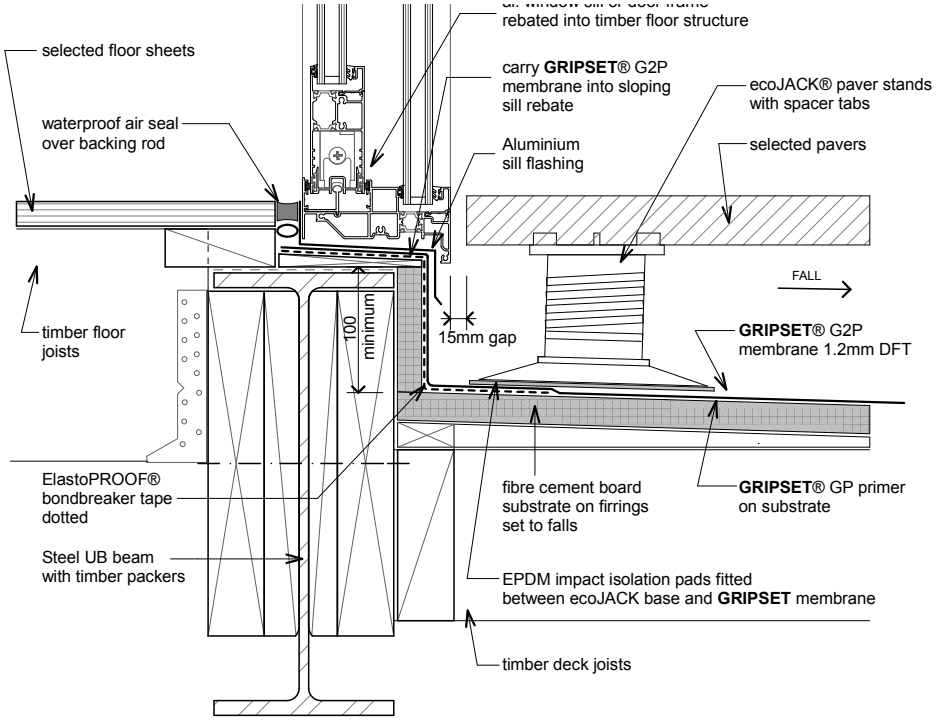
REVISION: 10 NOVEMBER 2014

Floating Deck Detail Drawings



gsM-D21 - ecoJACK® paver-threshold detail - type 1

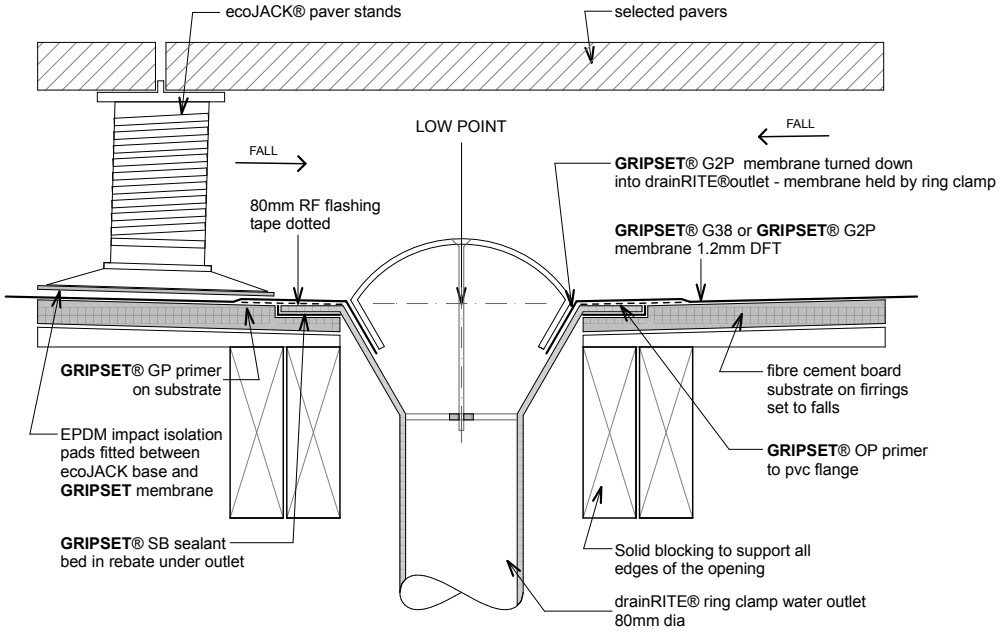
REVISION: 10 NOVEMBER 2014



gsM-D22 - ecoJACK® paver-threshold detail - type 2

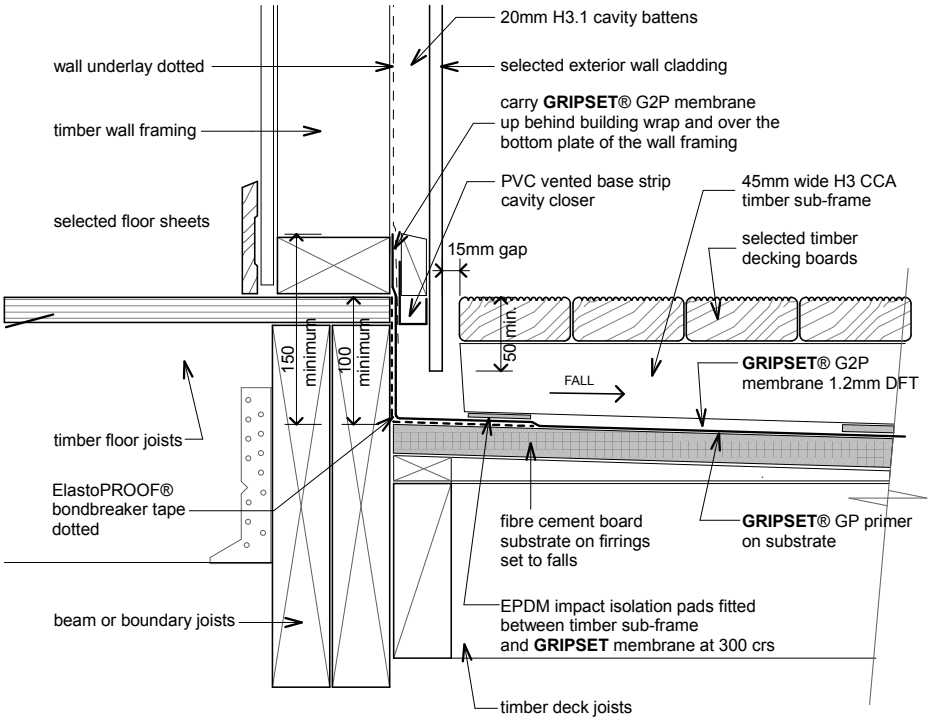
REVISION: 10 NOVEMBER 2014

Floating Deck Detail Drawings



gsM-D23 - drainRITE® Water Outlet 5 - ring clamped dome

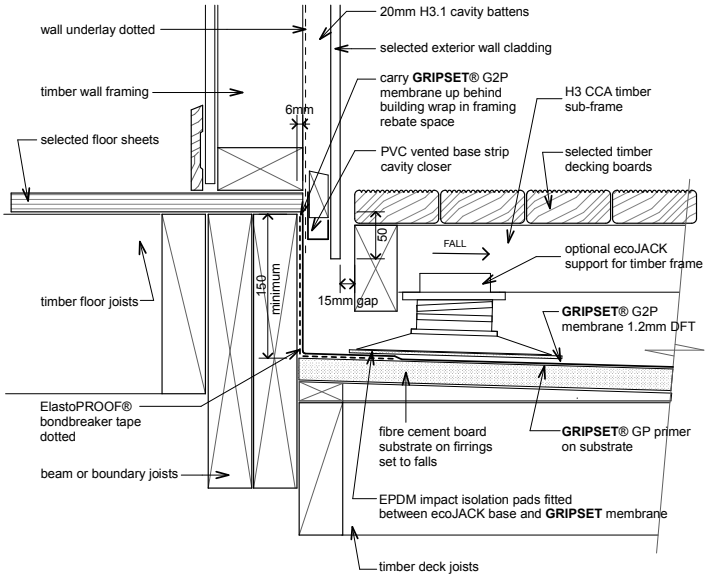
REVISION: 10 NOVEMBER 2014



gsM-D25 - timber raft floating deck-wall detail - type 1

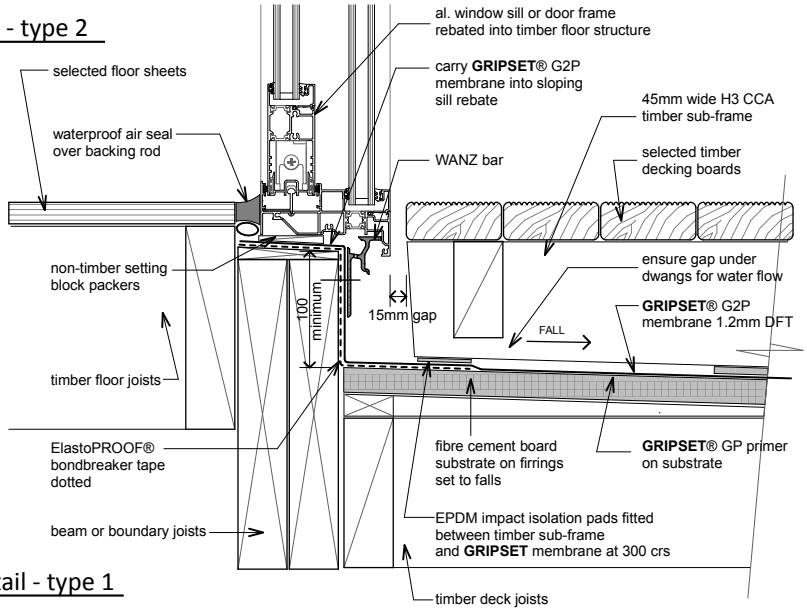
REVISION: 10 NOVEMBER 2014

Floating Deck Detail Drawings



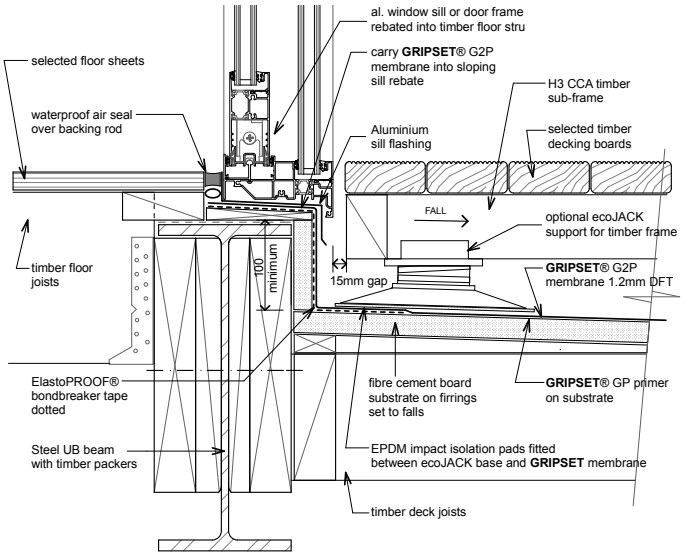
gsM-D26 - timber raft flating deck-wall detail - type 2

REVISION: 10 NOVEMBER 2014



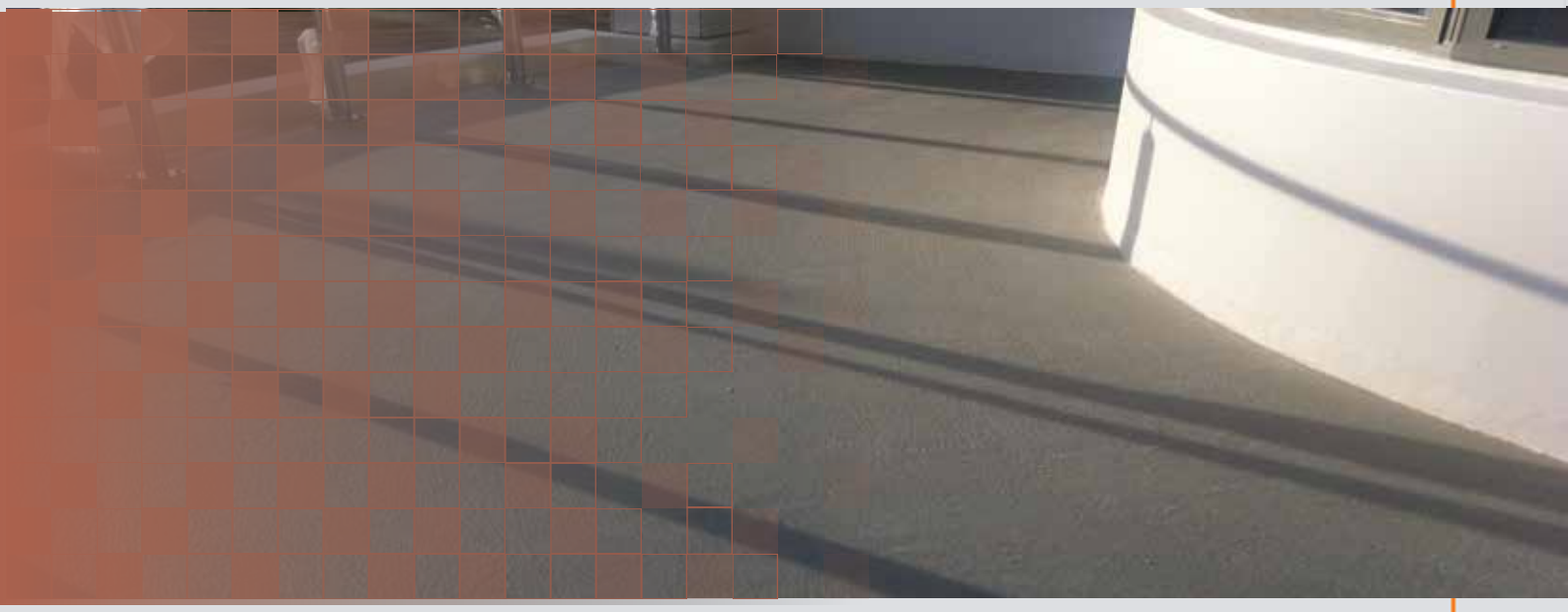
gsM-D27 - timber raft flating deck-threshold detail - type 1

REVISION: 10 NOVEMBER 2014



gsM-D28 - timber raft floating deck-threshold detail - type 2

REVISION: 10 NOVEMBER 2014



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