# SPECIFICATION

**FOR**

# PROPOSED INTERNAL SHOP ALTERATIONS

**AT**

## BP 2go LEAMINGTON

## 181 Shakepeare Street,
## Leamington, Cambridge

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## Part E: Functional Specification

# E1 PRELIMINARY

### 1. Scope of Work

The Contract Works include the supply of all labour, materials, plant and equipment for the construction of the:

- All internal demolition as required for the completion of the works, including removal of the existing mezzanine floor
- Removal of the existing public toilet
- New café offer, prep area, staff / store room and upgraded shop retail areas
- Construction of walk in drinks cool room
- Saw cutting to enable the installation of new under slab services
- All incidental and temporary works required for the completion of the alteration works and protection of the public
- Related services to all the above

all as generally detailed in this Specification and on the Contract Drawings.

### 2. Drawings and Contract Documents

Below is the list of Contract Drawings not bound within this Specification:

| | | | |
|---|---|---|---|
| 1. | Site Specific Drawings | 2954 | 1 Rev A<br>2 Rev A<br>3 Rev A<br>4 Rev A<br>5 Rev A<br>6 Rev A<br>7 Rev A |
| 2. | As built drawing (reference only) | 2954<br>2954<br>2954 | S&D-1 Rev A<br>HAZ-1 Rev A<br>HAZ-2 Rev A |

Detail or other drawings supplied to the Contractor during the course of the contract shall not be taken as authority for extra work. Should the Contractor deem the work involved by such detail to be beyond that contracted for, they shall notify the Engineer and shall not proceed with the work until ordered in writing to do so. Shop Fittings works are covered by separate specifications.

BP Brand Imaging is to be undertaken as a separate contract, with the Building Contractor to co-ordinate these Contractors to combine all works.

## 3. Subcontractors

The tenderer is expected to assume full responsibility for all subcontractors in the project. The tenderer shall identify all subcontractors, if any, and provide full particulars of the subcontractors.

The Contractor shall be fully responsible for the performance in all respects, including time, of all their subcontractors. The Contractor's programme of work shall be agreed with subcontractors, including nominated subcontractors.

A full list of all subcontractors is to form part of the Tender Documents.

## 4. Local Authority

Note that the local authority is the Waipa District Council

## 5. Building Consent Fee

The building consent fee is to be paid by the Principal.

Where applicable, the Contractor shall comply with all requirements and bylaws of the various territorial authorities.

## 6. Programme of Work

A detailed programme of work shall be submitted to the Engineer prior to commencing on site activities. The programme is to include a critical path indicating when all major items of work are to be completed. The Contractor to co-ordinate with the "Separate Contractors" so as to show the scheduling of their works on the main programme. This schedule should be being agreed by both the Contractor and Engineer prior to any works commencing.

## 7. Separate Contractors on Site

The Contractor is to note that there will be other Contractors on site under separate contracts paid by the Principal. These shall be confirmed by the Principal, but will likely be:

- **Future Products Group (FPG) shopfitter**
- **Drinks cool room/refrigeration contractor**

The Contractor is expected to co-operate with and co-ordinate with these other contractors and provide sufficient on-site access and storage and working areas to ensure economical and uninterrupted progress of all these works.

## 8. Authority for Extra Work or Deductions

Where work involves any reduced or extra cost, the Engineer will issue a Notice of Variation which shall be priced by the Contractor and approved before work starts. Confirmation of the change in cost will be issued in the form of written, numbered and signed instructions "Change Order No. ....."

Instructions from the Engineer to the Contractor headed “Site Instruction” and detail drawings, both of which will be handed to the Contractor from time to time to explain the detail nature of the work, shall not be taken as authority for extra work unless noted “Notice of Variation” to follow.

No extra work will be recognised unless the Engineer’s written authority has been given. No deviation from the drawings or Specification will be allowed without the previous authority of the Engineer.

Variations of a minor nature may be discussed and agreed at site meetings. If these variations are agreed, the minutes of the site meeting will reflect acceptance by the Principal for the extra work to be undertaken, either at the agreed price or at a cost to be agreed.

## 9. As-Built Services Drawings

The Contractor shall provide the Principal and their agent (Technitrades Architecture) with as-built services drawings accurately setting out the actual position, as constructed, of the sanitary drainage, stormwater drainage, concealed plumbing, underground services etc. Where practical, such drawings shall be prepared by the actual subcontractor or specialist who carried out the work and are to be submitted prior to release of maintenance retentions. The final account will not be paid until suitable as built drawings have been provided.

## 10. Lighting Barricades and Hoardings

The Contractor shall erect sufficient barricades, hoardings, warning lights and signs where the works could constitute a public hazard, to give clear warning of the danger.

## 11. Temporary Services

The Contractor shall provide for all sheds etc. they may need. All sheds shall be of an acceptable standard and compatible with the area.

The Contractor shall arrange for a telephone and pay all the charges arising there from. A cellular telephone is acceptable.

The Contractor shall provide all temporary electricity and water supplies etc, they require to the requirement of the relevant authorities. They will also pay for all charges for use of electricity, water etc. consumed on the job during the course of the contract.

The Contractor shall allow in their Tender for the provision of a sign board indicating project name and contact numbers. The Contractor and their Subcontractors may combine to produce one single board carrying their names, such sign being to the Engineer's approval. The Principal will not permit signs other than this one to be displayed at the site (except warning and directional signs).

The Contractor shall carry the sole responsibility for the design and construction of their temporary works and for the results obtained using these works in conjunction with the plant and equipment which they elect to use for construction.

The Tender shall be deemed to have allowed for all costs in connection with the temporary works.

## 12. Use of Works by Principal Before Hand Over

The Principal or their agents shall have the right to install items of equipment during progress of the contract.

## 13. Contractor to Inspect Site

The Contractor shall check and verify all dimensions and conditions on site prior to starting any work.

## 14. Dimensions

Drawings are not to be scaled off.

## 15. Setting Out

The Contractor will be responsible for the accurate setting out of the works true to line and level. The Contractor shall employ qualified staff to do this work. The Contractor shall use the site datum, the position of which will be indicated by the Engineer prior to construction. All boundary pegs disturbed during the course of the contract are to be reinstated at the Contractor's expense.

## 16. Site Measurements

The Contractor is entirely responsible for verifying all dimensions by checking against actual site measurements. In particular, this responsibility includes their Subcontractors' measurements of as-built dimensions to enable them to fabricate accurately.

## 17. Quality of Workmanship and Materials

Unless expressly stated otherwise, all materials and workmanship shall comply with the appropriate New Zealand Standard and, where none is applicable, the appropriate British Standard specification.

Workmanship is to be in accordance with the best trade practice. Work is to be accurately set out, structurally sound, true to line, neatly executed and finished.

## 18. Materials

Where proprietary brand names or items are specified on the drawings or in the specification, a similar alternative may be offered for approval to the Engineer, provided that the alternative offers the required properties and standard to that specified.

## 19. Origin and Testing of Materials

Should the Engineer so require, the Contractor shall produce such vouchers and/or other documents as may be necessary to prove that the materials are of the origins and qualities specified.

## 20. Contractor's Working Area

The Contractor shall be responsible for the safe storage of all materials and equipment on site.

At the end of the contract period the stockpile areas shall be left in a clean and tidy condition. Unless otherwise agreed, all surplus materials, rubbish and debris resulting from the Contractor's activities on site shall be removed from the site at the completion of the Contract.

## 21. Inspection

Adequate notice shall be given to the Engineer to enable him to make all necessary inspections whenever required.

## 22. Scaffolding

The Contractor will provide and build all scaffolding necessary for carrying out the work of all trades in accordance with the Scaffolding Act.

All scaffolding shall be erected to the satisfaction of the Scaffolding Inspector and shall comply with NZS 9201, Part 9, Scaffolding and Deposit of Building Materials.

## 23. Site Meetings

These will be held once weekly or at timing to be agreed. The Engineer will preside over and minute the meetings which will be attended by the Contractor's Contract Manager and the site foreman. The Principal may attend if timing is suitable. The Contractor shall provide suitable facilities for the holding of such meetings. From time to time, subcontractors may be required by the Engineer to attend, (but this should be rare, since the Contractor is expected to solve their subcontractors problems outside such meetings).

## 24. Repairing Damage

The Contractor shall repair and make good to the satisfaction of the Engineer and local authorities any damage that may be caused to existing streets, buildings, fences, services, etc., within the duration of the contract and they shall indemnify the Principal against any claims made by adjoining owners in respect of damage caused by the Contractor's operations.

## 25. Cleaning and Protection of Finished Work

Each trade shall protect the work of all other trades. Should damage occur, the Contractor responsible shall make good to the satisfaction of the Engineer.

The Contractor shall keep the site free from rubbish and litter at all times. All reasonable precautions must be taken to protect finished surfaces from damage.

On completion the site is to be left clear and clean, so as to be ready for occupation.

# E2 DEMOLITION

## 1. Preliminary and General

The subcontractor shall pay attention to that part of the preliminary and general clauses that relate to their trade.

## 2. Scope

This section includes;

- Removal of the mezzanine floor, supports and stairs,
- Removal of the ceiling linings in the alteration area,
- Removal of existing internal area timber framed walls to allow for new layout,
- Removal of existing kiosk (partial), café bench and display pelmet as indicated on the drawings
- Removal of existing wall and floor linings in affected areas of new works including shop floor vinyl tiles,
- All incidental works required for the completion of the alteration works
- All temporary works required for the completion of the demolition works.

## 3. Standards

Except as modified by this section, all workmanship shall comply with the appropriate NZ Standard, and the Department of Labour Safety in Construction No 23 Demolition. The Contractor's particular attention is drawn to the requirements of the Health and Safety in Employment Act with respect to the demolition works.

## 4. Setting Out

The Contractor shall be responsible for setting out the work and, where appropriate, providing temporary works as shown on the drawings.

## 5. Site Safety

The Contractor shall pay particular attention to the safety requirements in the Special Conditions of Contract, with respect to this component of the works. Ensure that appropriate work permits are issued and held on site over the duration of demolition work.

## 6. Burning of Materials

Burning of demolition materials will not be permitted.

## 7. Existing Services

The Contractor is to liaise with the relevant supply authorities to have all existing services which are to be abandoned, in association with the building works disconnected or capped prior to undertaking

any demolition work. The costs associated with disconnecting and capping these services are to be allowed for within the demolition contractor's price.

The drawings show the existing services, as per local supply authority records. The existence or otherwise of any underground services is the responsibility of the Contractor to ascertain from the relevant supply authorities.

## 8. Service Mark Out

The main contractor shall arrange with the relevant supply authorities for water, drainage, both sewer and stormwater, power, telecom and gas to provide a mark out of their services both within the property boundaries, and in the immediate vicinity beyond the property. The main contractor shall provide written confirmation of the mark out to the engineer prior to commencing demolition.

## 9. Ownership of Materials

Material from the demolition becomes the property of the demolition contractor except where otherwise provided for in accordance with Clause 2 of this Section.

## 10. Asbestos

The removal of asbestos is to be in accordance with the Worksafe Guidelines. No allowance is to be made in the tender price, and if asbestos is encountered the Contractor shall seek instruction from the Engineer prior to proceeding.

## 11. Completion

On completion, the site shall be left in a clean and tidy state with all rubble resulting from the demolition works removed and back-filling undertaken so the site is suitable for the commencement of building works.

## 12. Recycling

Where possible, all demolition material shall be disposed of to a recycling company, rather than dumping.

# E3 CARPENTER AND JOINER

## 1. Preliminary and General

The subcontractor shall pay attention to that part of the preliminary and general clauses that relate to their trade.

## 2. Extent of Work

Work under this heading (including supplying and fixing) comprises:

- New prefinished panelling t the modified shop area walls and ceilings as required,
- New 90x45mm (unless noted otherwise) H1.2 SG8 timber framed wall construction in shop area,
- Supply and install new doors
- Use H3 timber bottom plates on D.P.C lining when fixing to concrete,
- New walls linings to new walls,
- New ceiling linings to the public toilet,
- New exterior door, framing and cladding,
- Liaison with sub contractors to ensure the smooth and expeditious flow of the works.

Any other work which would customarily involve the carpenter, whether or not referred to in this Specification or shown on the drawings as necessary for the proper completion and maintenance of the works.

## 3. Timber

Timber and wood based products shall comply with NZS 3602. Timber shall be graded to comply with NZS 3631, “Classification and Grading of NZ Timbers”. All timbers shall be the best of its specific kind. All framing shall be Radiata or Corsican treated to H1 retention as per T.P.C. Woodmark brand.

Framing timbers shall be “Laserframe” or equivalent kiln dried, stress graded, timber with a finished size of as noted on the drawings. Framing timbers shall not exceed 24% moisture content at the time of enclosure. Finishing timbers shall not exceed 14% moisture content.

All kiln-dried, dressed and finishing timbers shall be stacked under cover on delivery to site. Timber used for falsework or any other temporary purposes shall not be incorporated in the building.

## 4. Workmanship

All framing shall be in accordance with NZS 3604 “Light Timber Frame Buildings”. The best workmanship shall be employed in thoroughly securing and framing together, spiking and bolting down as the various circumstances require. Only skew nailing will be permitted in the framing. Punch all nails in exposed joinery and work to be painted. All nails and spikes shall be of gauge and length suitable for the particular work. Nails shall enter the second timber at least one half their length before punching.

Remove all arises, rough patches, hammer-marks, and other surface defects before painting is begun.

Only hot dipped galvanised nails are to be used in exterior applications.

## 5. Gauging and Thickness

All framing timbers shall be thicknessed to produce regular plain surfaces. All exposed timbers are to be gauged.

## 6. Dressing

All external and internal finishing timbers shall be machine dressed. All internal finishing timbers are to be gauged.

## 7. Fixings and Fastenings

Nails, brads, screws, and bolts shall be steel of the best quality, except that non-corrodible metal or hot dipped galvanised steel shall be used externally, where inserted in redwood or totara, or where covered by plaster, paste and similar substances. Co-operate with concrete worker and other trades to install all bolts and fastenings.

Attachments to concrete shall be by bolts (built-in or engaging in approved expanding sockets), or by screws in Philiplugs (or equal).

Hardware shall be fixed with screws of similar material and finish to match.

Non-structural timber Ramset to steel shall be fixed 50mm from ends of each piece and at maximum of 500mm centres. Timber 150mm and wider shall be fixed at ends with two fastenings and fixed at 400mm centres on opposite sites through the length. Heads of pins shall finish flush with surface. Split timber shall be removed and replaced. All Ramset fixings shall have 16mm diameter Ramset washers fitted.

Black bolts and nuts shall be in accordance with BS 916. Nuts shall be tightened on erection and shall be re-tightened during the course of the contract. All bolts shall be sized to provide minimum projection of the shank beyond the nut. Saw all exposed bolt ends off flush with nut in interior situations. All bolts used outside the building shall be hot dip galvanised (i.e. canopy).

Wherever necessary for fixing of other materials, bolt heads or washers and nuts shall be countersunk or recessed flush with the surface of the member being bolted.

All bolts in timber shall have standard square washers under the head or nut which otherwise would bear directly on timber. Use round washers under nuts, bearing on steel. Tapered washers shall be used when the surface is not at right angles to the bolt axis.

## 8. Framing

Main Contractor is to ensure that the building is built accurately to the sizes shown on the drawings as there is only minimal tolerance available when fixing the Alpolic wall panels. Ensure studs align with joints to Alpolic wall panels.

Construct timber framing in accordance with NZS 3604 and to the details shown on the drawings. Note: the specific requirements for fixing of modular exterior cladding.

## 9. Treatment

Timber shall be treated in accordance with the current requirements of the hazard specifications of NZS 3640.

Timber supplied that is inappropriately treated and or incorrectly branded shall be removed and replaced with timbers that comply with the specification.

As a minimum standard the following treatment levels will be required;

| TIMBER SPECIFICATION | |
|---|---|
| Interior Framing | H1.2 |

## 10. Beads, etc

Provide and fix all necessary beads, stops, fillets, backings, linings, furrings or bearers that may be required for the proper carrying out and completion of the work.

## 11. Abutting Surfaces

All abutting surfaces of exterior timber, doors, window frames, etc. shall receive a good coat of approved primer before fixing.

Prime all joints and exterior surface of exterior finishing timbers and joinery, including rebates.

## 12. Damp-Proof Course

Under all timber plates fix malthoid fabric damp-course, neatly cut around all bolts, etc.

## 13. Finishing Timbers on Steel

Finishing timbers (non-structural) Ramset directly to steel flanges shall be accurately profiled for later fixing of linings. Use one length from end to end wherever possible and, where this cannot be achieved, rebate ends to overlap. Use a regular pattern evenly spread for Ramset fastenings.

## 14. Interior Linings

Supply and fix internal linings in accordance with best trade practices and to manufacturer's recommendations:

i) Hydrapanel plain White Gloss to the servery area, preparation, store and ancillary areas, use 3000mm sheets lengths with vertical negative hygiene silicon flush jointer. Fix in accordance with manufacturers manual.

## 18. Finishing Timbers

Allow doors shall have timber reveals, with 40mm timber architraves.

Scotia to the toilet area shall be 60mm single bevel finger jointed pine scotia.

All other finishing timbers shall be Finger jointed pine, customwood shall not be used, Provide and fix all necessary revels, facings, cornice beads, scribers, mouldings, etc. not particularly specified but necessary for the completion of the works.

## 19. Doors

Internal doors shall comply with the construction requirements of NZS 1158. Check all dimensions before manufacture. All joinery shall be the best of its respective kind and thoroughly seasoned to a moisture content between 12%-16% before machining. All slim line door frames are to be ex 40mm

## 22. Hardware

The Contractor shall supply and install a standard hardware package as supplied by;

Henry and Kemp Limited
263 Wakefield Street
WELLINGTON
Attn: Jeremy McQuaid
Ph: 04 385 9794
Fax: 04 385 4307

For exterior to storeroom, fit brass butt hinges with pins secured against removal.

## 24. Door Stops

Provide and fix door stops to all new doors.

# E4 PLUMBER

## 1. Preliminary and General

The subcontractor shall pay attention to that part of the preliminary and general clauses that relate to their trade.

## 2. Scope

This section of the Specification covers the supply and fitting of;

- Reticulation of hot and cold water services to the various areas of the building as indicated on the drawing for connection by others,
- Connection of the plumbing fittings to the café & prep sinks and to the hand wash basin,
- Provision of waste services,
- Hot and cold water supply to new fixtures,
- All valves and taps associated with the above,
- Sealing and plugging of obsolete drains that will no longer be in use,
- All work associated with the provision of the above.

All pipe work within the BP Shop Building is to be brazed copper.

## 3. Handover

At the time of the builders handover to the shop fit contractor all water services and drainage to the shop building are to be completed.

## 4. Guarantee

Prompt attention shall be given to replace defective materials and cure any leaks within a period of two years commencing from the end of the maintenance period.

## 5. Regulations and Standards

All plumbing work shall comply with Building Industry Authority Documents E1 and G13 and NZS 671. Give all necessary notices, obtain all relevant consents, and pay all fees due.

Note that the Principal has paid for all fees relating to the building permit application. Allow to pay for all other additional tests and permits, including those made necessary due to the Contractor's error.

## 6. Workmanship

All work shall be carried out in accordance with best trade practices by skilled craftsmen.

The plumber shall ensure that the builder provides and fixes all necessary supports, grounds, etc. and makes all other provisions so that plumbing work may be finished in a thorough, neat and tradesmanlike manner.

Check all dimensions on site. Zinc or galvanised iron shall not be in contact with copper.

Lead or copper shall not be in contact with aluminium.

Dissimilar metals shall be separated by Malthoid washers or bitumastic paint. Similarly, separate aluminium from concrete.

All cutting, drilling and fixing shall be included, but no work of other trades shall be so cut that damage is done to structural or finished work. No structural steel shall be cut without the permission of the Engineer.

Co-operate with other trades as required.

## 7. Materials

All materials shall be as specified and only of the best quality of their respective kinds.

***Galvanised Pipework and Fittings***
Shall be medium weight to BS 1387.

***Copper Pipe Work***
Shall be of the weights and gauges specified in the plumbing regulations. All internal building pipework to be copper (except Rotorua).

***P.V.C. Pipes***
Shall be to NZS 7641 and NZS 7642.

## 8. Water Supply

All underground water pipes are to be MDPE (blue polythene).

Connect to existing shop water supply.

From this connection reticulate water supply to new fixtures and new HWC

## 9. Waste and Vent Pipe System

All waste pipes to sink and basins shall be concealed in the wall framing with no penetrations through the finished vinyl floor.

Provide and install complete all waste pipes, traps and vent pipes for all W/C pans, basins, and sinks as shown on the drawings and specified.

Waste systems shall be polypropylene or uPVC and discharge in to gully traps.

Traps shall be polypropylene S or P.

Trapped wastes for the hand basins in the toilet areas shall be proprietary bottle traps, chrome finish.

Vents shall be PVC pipes and fittings to underside of roofing and 0.55 gms above. Provide flanges to roof and seal connections to vents.

All wastes run under floor slabs shall be in P.V.C.

Pipe work shall be concealed in timber walls.

## 10. Hot Water System

Installation of one hot water cylinders is required. One new 45 electric model shall be installed. Secure hot water cylinder as required in clause G12 of the NZBC strictly in accordance with the New Zealand Building Code

Provide tempering valves as required to ensure that the temperature at the wash hand basins does not exceed 55 degrees C and at the sinks is not less than 63 degrees C.

## 11. Test

Subject all water installations to a full water pressure test. All fittings shall be tested and left in working order to the satisfaction of the Engineer. All pipe work shall be tested before wall linings are fixed. Allow for all tests as required by the Territorial Authority.

# E5 PAINTER

## 1. Preliminary and General

The subcontractor shall pay attention to that part of the preliminary and general clauses that relate to their trade.

## 2. Scope

Works shall include all preparatory work, supply of materials and painting of the existing painted surfaces as per the scope of works. The area to be painted included,

- Patch area of shop walls where they abut new work,
- New doors and trims
- New exterior cladding

## 3. Preparation of Surfaces

No painting, enamelling or similar finishing work shall be performed until all surfaces are in a suitable condition to receive and finish. The Engineer is to be notified of surfaces prepared by others that are unsuitable to receive finishing works.

## 4. Materials

All materials shall be first quality paint, delivered on site in unbroken packages. No materials shall be mixed on any unprotected floor surfaces. Paint finishes to shop interior to comply with spread of flame index not greater than 2 and smoke development index not greater than 5.

## 5. Workmanship

All work shall be of the highest standard performed by skilled tradesmen and shall conform with the recommended practice set out in NZS 7703 “Recommendations for the Painting of Buildings”.

Paint shall not be applied to damp surfaces. External painting shall not be undertaken in unsuitable weather conditions.

All care shall be taken not to stain any existing finished surface.

The painter must take care to protect all freshly painted surfaces from dust, dirt etc during and after painting operations.

## 6. Colours and Paint Types

All colours and paint types shall be as specified in the painting schedule at the end of this section. The painter shall allow for preparing samples of all paint for approval of the Engineer before any of the work is put in hand.

## 7. Priming

Attend to all priming as required during progress of the work.

Brush primer thoroughly into the woodwork to completely cover the whole surface.

Priming shall be of the type recommended by the paint manufacturer and compatible with the paint system scheduled.

| MATERIAL | PAINT TREATMENT |
|---|---|
| Timber | Prime with Resene Sureseal @ 12.5m$^2$/litre |

## 8. Stopping and Rubbing Down

After paint priming has been applied and fully set, all nail holes, cracks, shrinkages etc shall be neatly filled and stopped with linseed oil putty or other approved stopping. Between each coat lightly rub down with a fine grade glasspaper to cut off all imperfections, and provide a suitable surface for subsequent coats. Final coats shall not be applied until the Engineer has approved the preparatory work.

## 9. Undercoats

All undercoats shall be compatible with the finishing coat. No consecutive coats of paint are to be of the same shade, except in the case of white.

## 10. Finishing Coats

All finishing coats shall be used at the received paint consistency except that, with the permission of the Engineer, thinning may be allowed to within the limits specified by the paint manufacturer. On gloss and semi-gloss paint finishes a 'flat porcelain' type of finish is required. An 'orange peel' type of finish will not be accepted. Apply two finishing coats at an application rate of 16m$^2$/litre or as recommended by the manufacturer.

## 11. Ceilings and Pelmets

Plasterboard ceilings shall receive one sealer coat, an intermediate and two finishing coats, as shown in schedule.

## 12. Cleaning Up

The interior and exterior of the building including all glass, floor fittings and all other sub-trades work shall be left clean and free from all paint and other marks and imperfections caused by this trade.

# PAINTING SCHEDULE 1

## 1. Shop and Amenities Area

### Location

| PAINTED AREAS | SHOP | STAFF / OFFICE | SERVERY/ PREP AREA | TOILET / LOBBY CLEANERS CUPBOARD | STORE |
|---|---|---|---|---|---|
| CEILINGS | | | | | |
| INTERIOR WALLS | PREFINISHED | N/A | PREFINISHED | PREFINISHED | PREFINISHED |
| INTERIOR TRIM | RESENE LUSTAGLO SEMI-GLOSS ENAMEL SEA FOG | N/A | RESENE LUSTAGLO SEMI-GLOSS ENAMEL SEA FOG | RESENE LUSTAGLO SEMI-GLOSS ENAMEL TRIPLE FRIAR GREY Y51013084 | RESENE LUSTAGLO SEMI-GLOSS ENAMEL SEA FOG |
| DOORS AND DOOR SURROUND-INTERIOR | RESENE LUSTAGLO SEMI-GLOSS ENAMEL SEA FOG | N/A | RESENE LUSTAGLO SEMI-GLOSS ENAMEL SEA FOG | RESENE LUSTAGLO SEMI-GLOSS ENAMEL TRIPLE FRIAR GREY Y51013084 | RESENE LUSTAGLO SEMI-GLOSS ENAMEL SEA FOG |
| FLOOR | WOOD GRAIN VINYL TILES | N/A | SHEET VINYL FLOOR | SHEET VINYL FLOOR | SHEET VINYL FLOOR |

Colours Specified refer;

Resene Paints
223 Thorndon Quay
WELLINGTON
Ph 04 499 5990
Fax 04 491 1116
Attn: Darren Morgan

# E6 VINYL LAYER

## 1. Preliminary and General

The subcontractor shall pay attention to that part of the preliminary and general clauses that relate to their trade.

## 2. Scope

This section includes the preparation of the existing concrete floor, supply and laying of the interior floor finishes – standard sheet vinyl.

The flooring is to be laid in patterns as shown on the flooring plan issued as part of the contract drawings.

The contractors shall review the proposed construction program, and if required to meet the program requirements shall allow to prepare the floor with Greenslab Sealer in accordance with the manufacturers recommendations prior to laying of the vinyl floor tiles.

## 3. Documents

Documents referred to in this section are:

NZS/AS 1884 Floor coverings – resilient sheet and tiles – Laying and maintenance practices
BRANZ Bulletin 330: Thin flooring materials – 2 Preparation and laying.

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

## 4. Qualification

All work in this section to be by competent, experienced layers familiar with the materials and techniques specified.

## 5. Guarantee

Guarantee this work under normal environment and use conditions against failure of materials for: 5 years and execution for 1 year from the date of practical completion.

## 6. Slip Resistance

All sheet and I.D. Excellence 50 Click plank when in place on a level access route to have a mean coefficient of friction (u) not less than 0.4 when tested in accordance with AS/NZS 3661.1, appendix A and B.

## 7. Materials

Kiosk, café, office, kitchen & staff / store rooms
are to have Tarkett Granit (colour 3040-420) Sheet vinyl with pencil coving.

Covings
Commercial coving to be pencil cove (20mm) method height 150mm, with butterfly mitres to all external and internal corners where applicable.
100mm high black vinyl coved edge skirting fixed to wall to shop retail area
(50 click vinyl tiles areas only).

Shop vinyl .I D. Excellence 50 Click luxury vinyl tiles 1210x190mm and 5mm thick with colour hoop pine 469800. Installed to manufacturers instructions. Available from the Jacobsons, Attn John Tolhurst 021 863 831 and laying is to be arranged through Carpet Court Commercial Office 09 522 9835, or Helen Smith 021 644 737, or Hamish Morrison 021 996 011.

## 8. Accessories

Adhesive
Tarkett Zero Voc acrylic flooring adhesives applied to manufacturers requirements.

Primer and Sealer
To the adhesive manufacturers requirements for the particular substrate

Thermo welding
Manufacturer supplied colour matched weld rod.

## 9. Execution

Storage
Accept rolls of sheet, packages of tiles and accessories undamaged and dry. Store rolls upright with other material on level surfaces in non-traffic, non-work areas that are enclosed, clean and dry.

Handling
Avoid distortion, stretching, marking and damage to edges while shifting unrolling and handling sheet, tiles and accessories. Do not use damaged material.

Preparation
Check that each colour supplied is from the same batch. Follow the vinyl manufacturers requirements doe preparatory conditioning of rolls and working temperatures and conditions before, during and after laying the selected vinyl. Protect work from solar heat gain and switch off under-floor heating during and for 48 hours either side of the work period.

Do Not Start
Do not start work before the building is enclosed, all wet work is complete, doors are hung and lockable, finishes and trim complete and good lighting is available.

Inspect
Inspect the substrate to ensure it is a suitable finish. Do not start work if it will not allow work of the required standard.

Commencement
Commencement of this work means that the substrate is accepted as satisfactory for work of the required standard.

Protection
Protect adjoining work surfaces and finishes during the vinyl installation.

Laying Generally
Carry out the whole of this work to NZS/AS 1884, BRANZ Bulletin 330 and the flooring manufacturers requirements.

Technique
Before beginning the installation confirm the proposed layout of material, location of seams and other visual considerations of the finished work.

## 10. Substrate Preparation

Preparing New Concrete
Clear substrate of all debris, clean off all surface contamination and carry out surface repairs using a proprietary levelling compound. Carefully feather out at all perimeter of repaired areas. Grind level, then vacuum to remove all dust. The floor should be level to 3mm over 3 metres. Check for moisture content by hygrometer to BRANZ Bulletin 330 and do not commence laying vinyl until readings for the whole area show 75% relative humidity or less.
Temporary Floor Slab Sealing
The flooring contractor shall allow to seal the floor slab with Greenslab Sealer prior to laying of the vinyl floor tiles should this be required to satisfy the program requirements for the project.

Applying Primer Or Sealer For Vinyl Sheet
Primer and/or seal porous plaster, concrete and timber substrates to the adhesive manufacturers requirements.

## 11. Installation

Application Of Adhesive
Apply approved adhesive either by trowel as required by the vinyl manufacturer and without trowel marks after setting. Follow requirements for open time, taking note of the substrate porosity, ambient temperature and relative humidity. Remove excess adhesive as the work proceeds using required techniques.

Laying Floor Sheet
Roll out, cut, leave to condition and install sheet vinyl to the flooring manufacturers requirements, ensuring there are no air bubbles or twisting, the seams are kept clear of adhesive and immediately the sheet is adhered it is rolled with a 68kg roller.

Welding Floors
After grooving, thermoweld all seams, heating the sheet and weld rod to a sufficient temperature to melt and fuse them together in a single mass. Trim and glaze the weld to leave to leave a smooth, flush surface with the sheet. The width of the weld to be 1.33 times the sheet thickness.

Cross Joins
Plan and allow cuts to avoid cross joins. Obtain written approval before proceeding if cross joins are unavoidable. Cross joins are not acceptable in wet areas.

Coving Vinyl
Pencil cove flooring to the specified height and finish off as detailed.

Complete Mitres
Perform butterfly method to all internal and external mitres, allowing to thermoweld all mitres.

## 12. Completion

Replace all damaged or marked elements.

Leave vinyl flooring surfaces free of adhesive, dirt and debris. Vacuum off, damp mop with a low foam neutral detergent, with a pH level of 7 to 8. Allow to dry and finally buff with a rotary machine using suitable pads red at 300rpm. Polymer polishes to be used only where approved by the manufacturer and accepted in writing.

Remove
Remove all debris, unused materials and elements from the site.
Protect
Protect all completed work from damage for the period between completion of laying and completion of the contract works.

**DO NOT USE WAX OR POLISH**

## 13. Damage by Others

On completion of the flooring the contractor shall inspect the finished flooring with all sub contractors, and separate contractors working within the shop and establish the condition of the flooring, and that no damage is present.

**Should any damage occur during the fit out works this shall be made good at the contractors expense, and shall be the sole responsibility of the Main Contractor**

# Appendices

### *Appendix A – Product Information*

CodeMark™
SAIG - CM 20090

# Hydrapanel

Installation and specification guide

Version 4.0 September 2016

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| Page 14 | Wet Area Fixtures, fittings and Floor Joints |
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Featuring an Anti-Bacterial High Pressure Laminate surface that carries the Greenguard Guarantee for air quality

Hydrapanel is a non-structural wall and ceiling panel lining that is impervious to moisture and resistant to water, steam, abrasion and typical cleaning materials.

Intended primarily for use in wet areas such as bathrooms and kitchens. Intended also for use in food preparation areas, where the code and health regulations require an impervious surface that will withstand water and chemicals, that is easily maintained and cleaned and are capable of withstanding high use hygienic cleaning.

The panels are also to be used as a decorative pre-finished lining that can withstand high use and require low maintenance

The panels can be fixed to timber and steel framing are to be fixed in accordance with NZS 3604 Light timber framed buildings and must not be fixed to framing that exceeds moisture content as per NZS 3602.

Hydrapanel Lining systems consist of a range of pre-finished high-pressure decorative laminate panels and jointing accessories.

Hydrapanel lining systems are suitable for use in wet and dry areas, that require an impervious surface that is sealed and easy to clean and maintain.

Hydrapanel lining systems are also suitable for areas that require protection from dirt and germs and can also be used in areas that require strict hygiene, such as food processing and preparation areas

Hydrapanel Lining is a magnesium fireproof board, laminated face and back with High Pressure Laminate as a sandwich construction.

Hydrapanel lining systems can be installed with either proprietary aluminium track or flush fit jointer systems

## Typical uses

- Pre finished wall and ceiling panels
- Bathrooms
- Showers
- Laundries
- Toilet
- Kitchens
- Kitchen Splashbacks
- Utility Rooms
- Garages
- Retail fit outs
- Cabinetry panels
- Sliding doors
- Display Panels
- Shop Linings
- Food preparation
- Restaurants
- Commercial kitchens
- Industrial and public showers and wet areas

## NZBC AS/NZS 2908

Hydrapanel Linings have been tested in accordance with the New Zealand Building Code requirements and carry the CodeMark Certification

B1 – STRUCTURE

Hydrapanel Lining complies with the requirements of B1.3.2, Acceptable solution B1/AS1 Table 1, Shower Linings

B2 – DURABILITY

Hydrapanel Lining are manufactured in accordance with Clause B2 - B2.3.1(b) 15 years, B2.3(c) 5 years - Acceptable solution B2/AS1,Table 1

C3 – FIRE PERFORMANCE

Hydrapanel Lining have a fire classification C-s1,d0 and must be used only where the surface requirements of Acceptable Solution C3/AS1 Table 4.
There are no restrictions on use within detached dwellings, within household units in multi-unit buildings, or outbuildings and ancillary buildings.
Material Class - 2

E3 – INTERNAL MOISTURE

Hydrapanel Lining complies with the requirements of Clause E3 – section 3.1.2
Acceptable Solution E3/AS1 - section 3.1.2 (g), section 3.3.4, 3.3.5, 3.3.6

G3 – FOOD PREPARATION AND PREVENTION OF CONTAMINATION

Hydrapanel Lining complies with the requirements of Clause G3 – G3.3.2 (a)
Acceptable solution G3/AS1 section 1.6, section 2.1.5 / 2.2.3

CODEMARK™
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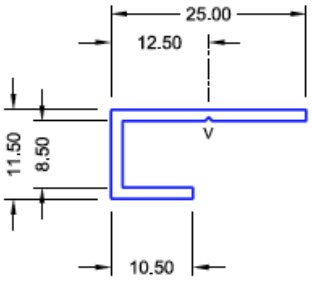
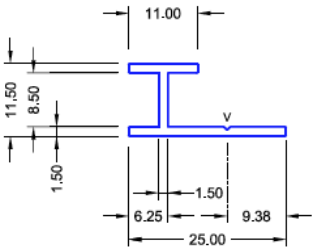
# Hydrapanel Aluminium Jointers




End Cap - SKU 271532

Use to finish the end of a panel.

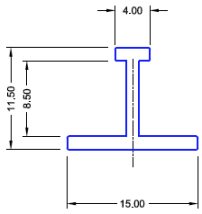
Also used as a top cap and bottom cap to the panels as required




Standard H Jointer – SKU 271553

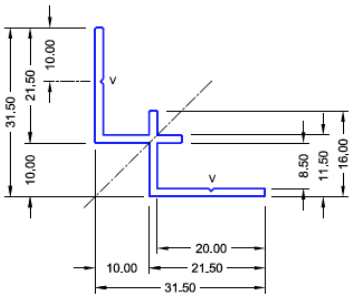
Use to join sheets on a flat surface

Can also be used as an end cap where a negative detail is required

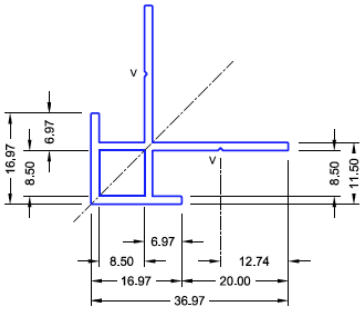



Mini H Jointer – SKU 271538

Use to join sheets on a flat surface with a minimum profile cover




Internal Corner – SKU 271550




External Corner – SKU 271545

Use to join sheets and to protect edges at an External corner junction

## Scope

Hydrapanel Lining products can be fixed directly to Steel and also timber frame constructions.

## Timber Framing

Studs must be placed at 600mm maximum centres for 1200 wide sheets and 450 wide centres for 900 wide sheets, with nogs and top and bottom plates at 1200mm maximum centres.

Timber support faces must be straight, flush, in alignment and the bonded surfaces must be dry and clean.

Moisture content of support surfaces must be less than 18% moisture content and must be in accordance with NZS 3604.

Hydrapanel Lining products can be affixed directly to existing wall linings such as plasterboard.

## Lined Walls

Surfaces, such as plasterboard must be flat, sound and suitably fixed

Concrete, Masonry or brick walls and ceilings

Ensure concrete, masonry is dry and seal if necessary

Panels may be fixed directly to existing linings provided the linings are structurally sound

Timber battens, if required must be fixed as follows;

For 1200mm panels, battens are spaced horizontally and vertically at 600mm centres

For 900mm panels, battens are spaced horizontally at 600mm and vertically at 450 centres

For ceilings, battens are spaced at 400mm centres

Battens / strapping must have DPC between the timber and concrete surface

## Shower linings

Old shower linings must be removed, framing and plumbing must be inspected to ensure items are fit for covering

**Fixing with Adhesives**

Hydrapanel Lining panels are easy to install using suitable polyurethane construction adhesive.

Hydrapanel Lining panels can be installed using Aluminium or plastic jointers.

Hydrapanel Linings can also be installed edge to edge with a silicon joint between the panels.

Hydrapanel Linings can be installed combined with double sided tape to be used to hold the sheets in place while the adhesive sets or the sheet can be braced for approx 24 hours to allow for full adhesive cure and adhesion.

When using tape with jointing strips, do not apply tape on the stud where the jointer is located, as this will not allow for the Hydrapanel lining sheet to slide into the jointer section.

Construction adhesives should be used in accordance with this guide and manufactures instructions.

Recommended adhesive :

Selleys Armour Flex FC

Bostic Gold Xtreme

## INSTALLATION PROCESS

### 7.1 Materials Required

- Sells Armour Flex FC
- Hydrapanel Double Sided FoamTape 18mm
- Solvent Based Cleaner
- Screws / nails (size dependant on substrate materials)
- Silicone sealant and masking tape
- Edge sealer (for penetrations)
- Lint free cloths
- Packing blocks – minimum 10mm

### 7.2 Tools Required (suggested minimum)

- Cartridge Gun
- Tape measure
- Sharp blade knife
- Hand Saw or power saw (jigsaw and circular saw)
- Battery or power drill
- Level
- Sanding block

### 7.3 Preparation

- Check all walls and ceiling and floor intersections are square
- Check substrate / framing is dry, all timber and sheet surfaces are clean and free of contaminates
- Check framing is straight, flat and level across the face surface
- Measure and mark sheet positions to centres of corresponding framing, if using jointers allow tolerances of 2mm for the panels to fit easily between
- We recommend using full sheets in the centre and cut sheets at wall junctions

### 7.4 Cut and prepare sheets

- Measure panel sizes from top and bottom of the wall to determine panel width
- Using a straight edge, cut the panels to suit, using either a table saw, circular saw, hand saw or router
- Remove the protective plastic film 60mm from each edge, DO NOT remove all of the film until the panels are completely installed.
- Remove the plastic protection from the back side of the sheet if fitted
- Smooth finish the edges of the sheets with a planer or a block with 200 grit sandpaper
- Mark and cut out for penetrations
- **Seal edges of all penetrations with silicon sealant**

### 7.5 Installation using adhesive with standard aluminium or plastic jointers

Option 1 – External Jointers

- Ensure that you have a clean and prepared surface to work with.
- Wipe down the timber/steel framing that you are going to overlay with Cleaner. Ensure that you use plenty of clean lint free cloths.
- Wait for Cleaner to completely dry.
- Fix the first jointer to the stud – screw or pin (see tip below)
- Fix second jointer to Right hand side of first sheet
- Use sealant in jointers if using in wet areas
- Position Hydrapanel Foam Double Sided Tape to centre stud / framing
- Apply a continuous bead of Armour Flex FC Adhesive 5mm x 5mm (positioned approx 25mm from the edge of the Hydrapanel Double Sided Tape).
- Wipe down the corresponding reverse side of the Hydrapanel Lining (that surface that is going against the timber/steel framing or wall) with Cleaner.
- Fit the edge of the sheet into the jointer and press the panel against the adhesive on the framing whilst packing the sheet of the floor / base with 10mm packers.
- Roll or press firmly over all areas of the Framing or Wall to ensure that the adhesive is compressed to a point where the Hydrapanel™ is in full contact with the Double Sided Tape.
- Screw or nail the jointer attached to the sheet to the corresponding timber frame.
- Repeat this process until finished.
- Leave finished Hydrapanel™ lined a full 24hours for the adhesive to cure before carrying out further work in the area/room being lined with Hydrapanel™
- Apply silicone sealant to all penetration edges after sheets have been fixed
- Remove masking tape whilst the silicone is still wet. (do not touch the silicone with skin as this can promote mould growth)
- When installing in a 3 sided shower, fix the centre sheet with jointers attached to both sides of the sheet
- Leave finished Hydrapanel™ lined a full 24hours for the adhesive to cure before carrying out further work in the area/room being lined with Hydrapanel™
- Apply silicone sealant to all penetration edges after sheets have been fixed
- Remove masking tape whilst the silicone is still wet. (do not touch the silicone with skin as this can promote mould growth)
- When installing in a 3 sided shower, fix the centre sheet with jointers attached to both sides of the sheet

- HANDY TIP – When screw fixing aluminium jointers, use 6 g x 30mm screws / pilot drill hole with1/4inch drill bit, this will allow the 6 gauge screw to countersink and sit flush with the aluminium edge.

Option Two – Hidden Jointers

- Hydrapanel has a 2mm grooved edge on the long edges to take a hidden jointer section
- This allows the panels to be installed with a flush 2mm gap between each sheet
- This gap can be left as a negative detail or can be filled with a flexible sealant / silicon to fill the joint

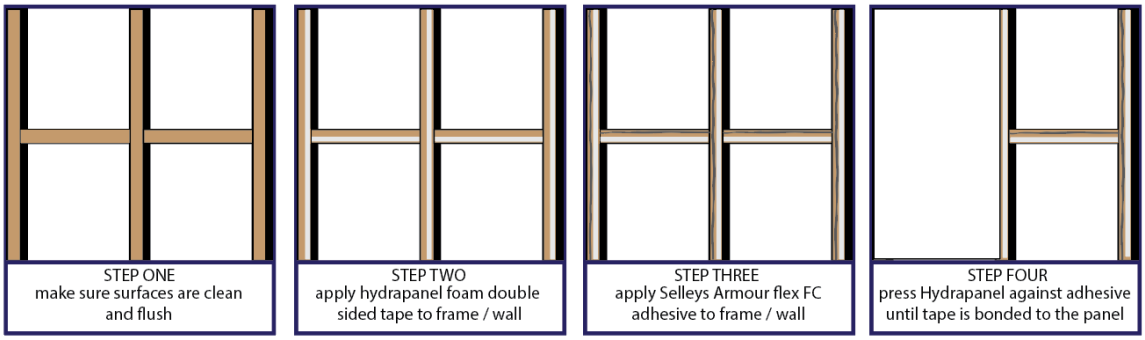
- Refer to instruction 7.6 below for instructions on how to fill the gap if required
- For installation of Hydrapanel ;
- Repeat steps 7.5 for external jointers

### 7.6 Installation using adhesive and silicone joints

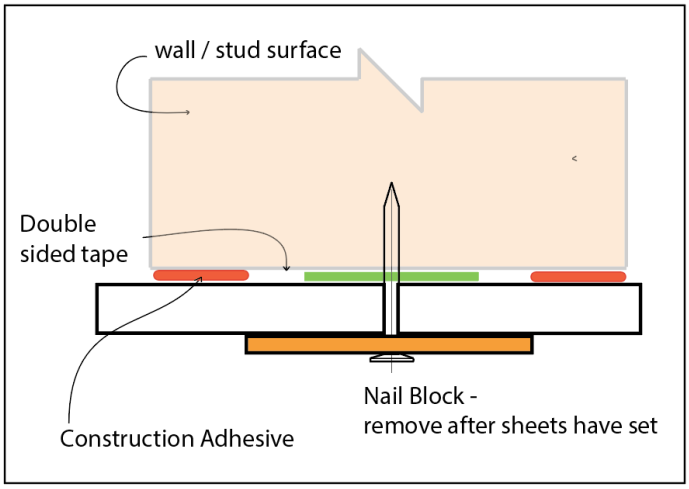
- Remove the plastic protection from the back side of the sheet if fitted
- Position Hydrapanel Foam Double Sided Tape to stud in centre position of the panel (refer detail 1)
- Apply a continuous bead of ArmourFlex FC Adhesive 5mm x 5mm to framing (positioned approx 25mm from the edge of the Double Sided Tape). (refer detail 1)
- Wipe down the corresponding reverse side position of the Hydrapanel Lining (that surface that is going against the timber/steel framing or wall) with Cleaner.
- Roll or press firmly over all areas of the Framing or Wall to ensure that the adhesive is compressed to a point where the Hydrapanel™ is in full contact with the Double Sided Tape, whilst packing the sheet of the floor / base with 10mm packers.
- Position corresponding sheets with a continuous joint of 2mm
- Hold sheets in place with Nail blocks (refer detail 2 )
- Prop sheets if required
- Repeat this process until finished
- Leave finished Hydrapanel™ lined a full 24hours for the adhesive to cure before carrying out further work in the area/room being lined with Hydrapanel™
- Once adhesive has cured, remove nail blocks
- Remove 60mm of the protective film from each edge of the panels
- Apply masking tape to the panel edges and apply silicone sealant to the gap between the panels
- Apply silicone sealant to all penetration edges after sheets have been fixed
- Remove masking tape whilst the silicone is still wet. (do not touch the silicone with skin as this can promote mould growth)

## Installation steps

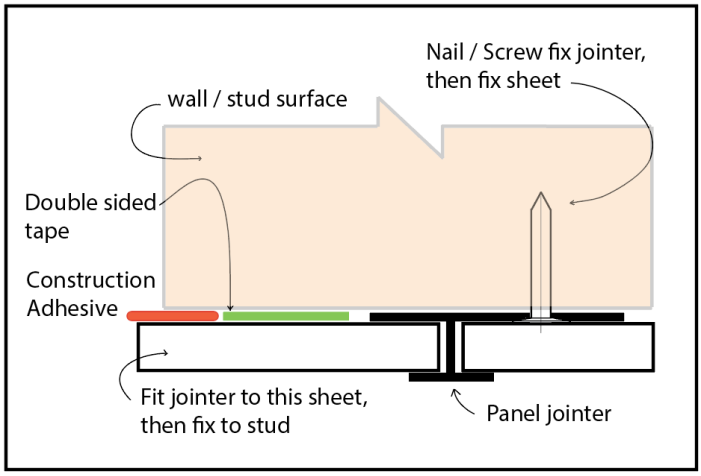
Detail 1




Detail 2 - Hold sheets in place with nail block until glue is s



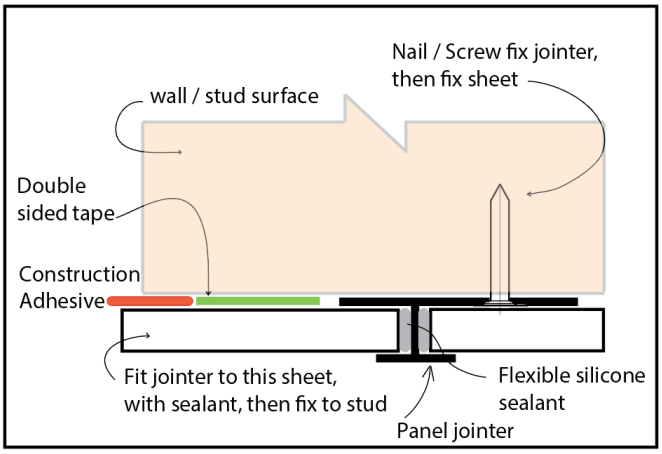

## 8. DRY WALL JOINTS




cut vertical jointers to fit
all horizontal jointers should be full length

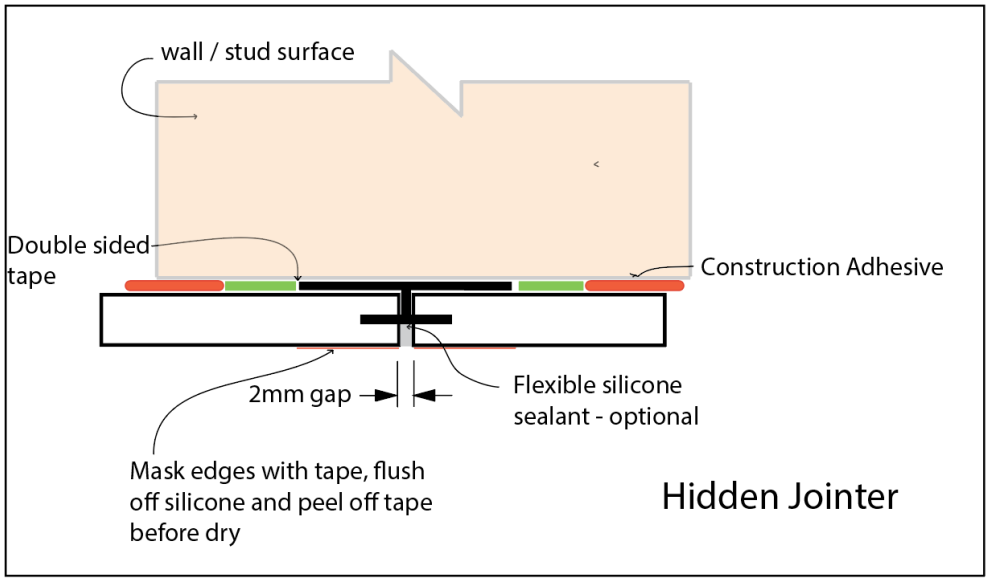
Dry area jointer detail

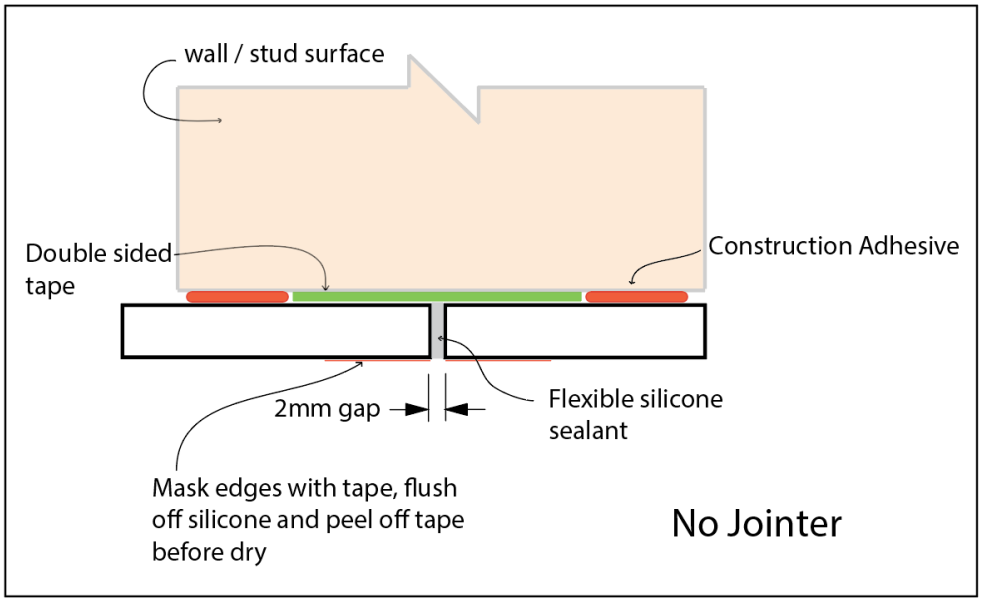
## 9. WET AREA WALL JOINTS




Wet Area jointer detail, for showers and wet areas all jointers including corners and caps must be filled with flexible silicone sealants.

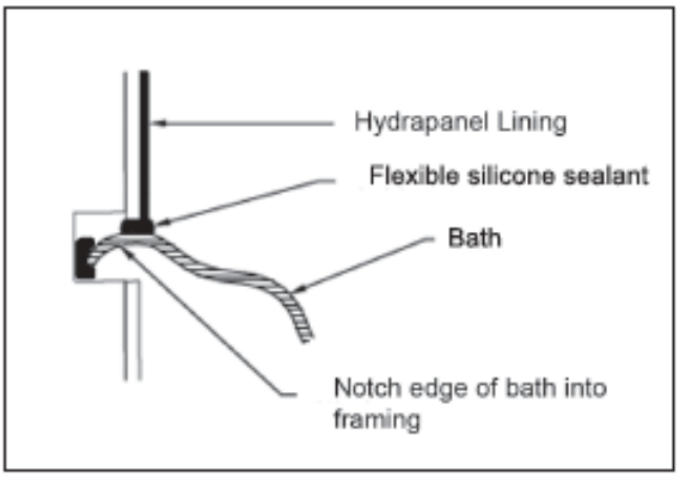
## 10. NEGATIVE / HYGENE SILICON FLUSH JOINT



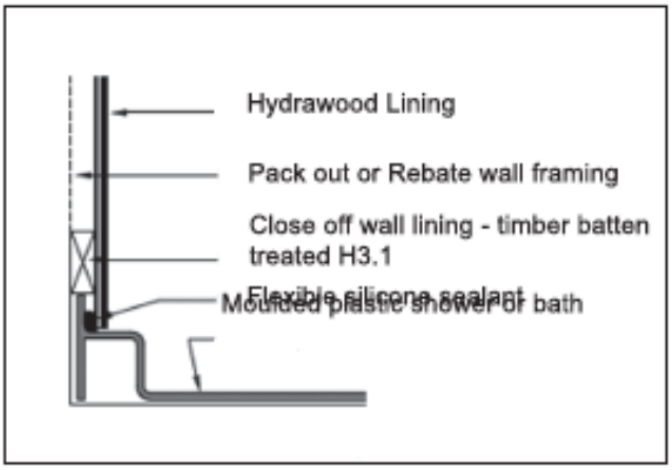



## 11. WET AREA FIXTURES, FITTINGS AND FLOOR JOINTS

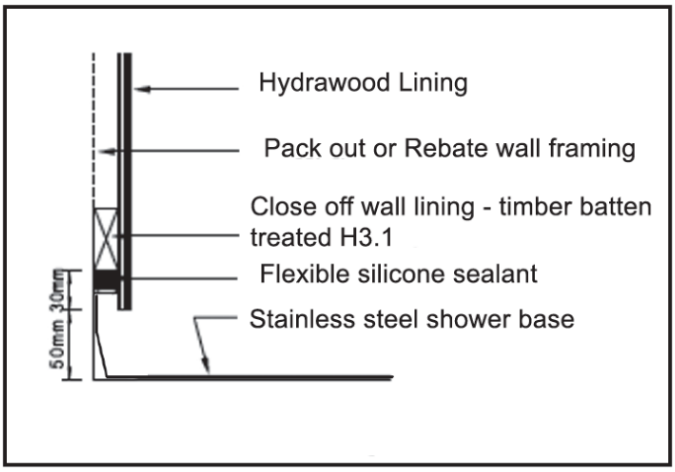
### 11.1 Acrylic bath / shower detail 1



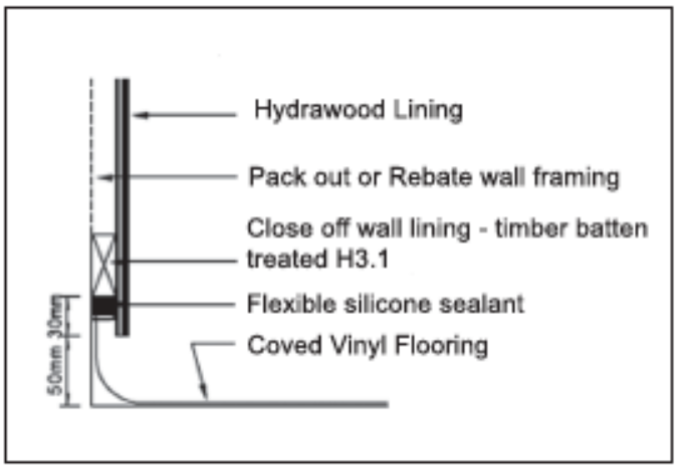

### 11.2 Acrylic high upstand bath / shower detail 2



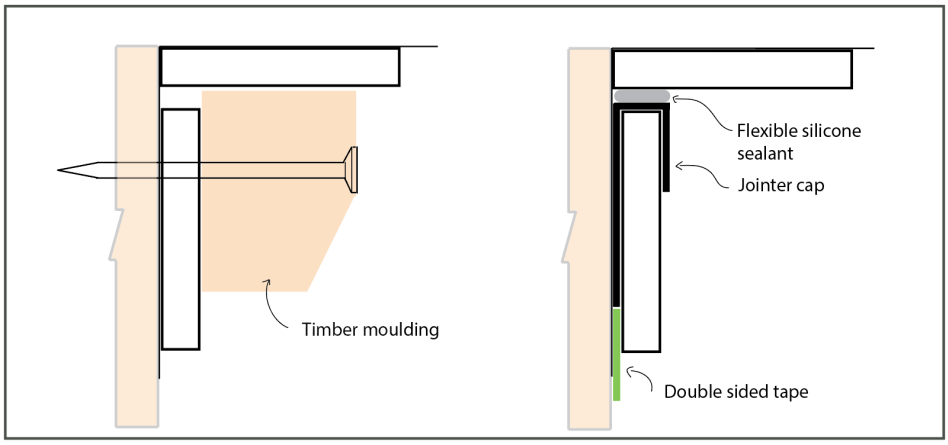

### 11.3 Stainless steel drip edge detail



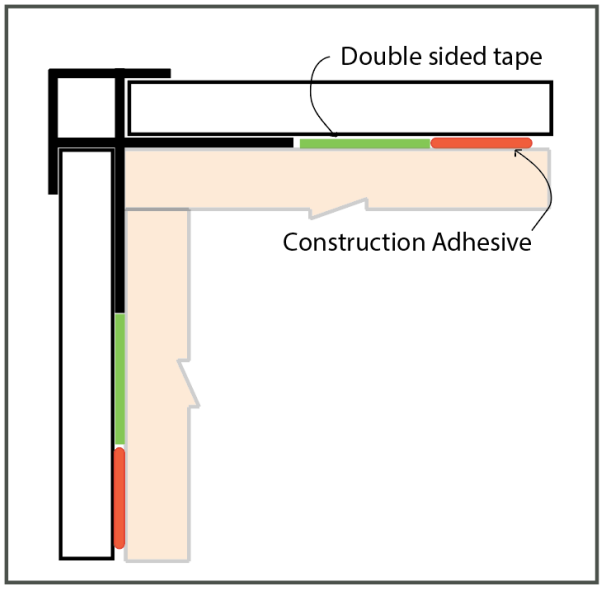
11.4 Coved vinyl floor drip edge detail



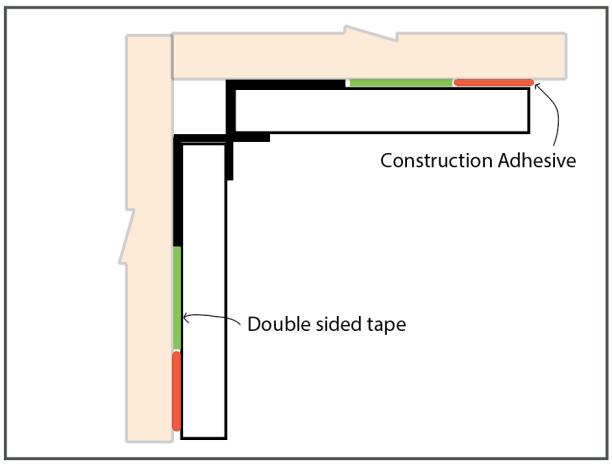

## 12. CEILING JOINTS




## 13. EXTERNAL CORNER JOINTS



## 14. INTERNAL CORNER JOINTS




## 15. SPLASHBACKS

Hydrapanel Linings are suitable to be used as a splash back behind gas and electric cook tops;

Warning:

For electric cook tops - A distance of at least 100mm must be kept from the outer ring of the nearest heating element.

For gas cook tops - A distance of at least 200mm must be set from the closest outer ring of the hob.

All installations of Hydrapanel must be in accordance with the cook top manufacturers recommendations.

## 16 MAINTENANCE

Hydrapanel Linings are moisture resistant panels, however the sheets must be installed and maintained to resist water penetration.

Care must be given to joints and penetrations and these must be maintained to ensure that no water can penetrate to the framing.

Hydrapanel Linings are finished in High Pressure Laminate, the cleaning of HPL should be with non abrasive cloths and non abrasive cleaners such as spray and wipe

## 17. STORAGE AND HANDLING OF SHEETS

Long term storage of the sheets must be under cover on evenly spaced bearers (500mm max) to keep them flat and dry.
Outside storage requires panels to be covered with a breathable waterproof material that allows air to circulate around the panel stack.

**Panels must be lifted and not dragged off the stack.**

## 18. PACKAGING AND LABELLING

Panels are protected with a plastic foil membrane attached to the laminate

Panels are packed gloss to matt per pallet / delivery – shrink wrapped with corner protection

On the panels (one side) is a label giving the production number and date of manufacture

## 19. TECHNICAL SPECIFICATION

Hydrapanel

| Panel Size (mm) | Thickness Nominal (mm) | Weight (kg/m2) | Weight per panel (kg) |
|---|---|---|---|
| 2400 x 1200 | 7.6 | 8.3 | 24 |

**Panel Tolerances**

| | |
|---|---|
| Length | - 1mm |
| Width | - 1mm |
| Thickness | + 0.2mm |
| Diagonal | 1 mm |

**Substrate Properties**

| | |
|---|---|
| Density | 0.81 t/m3 |
| Moisture Content | 6.7% |
| Bending Strength | 11.2 MPa |
| Water Swelling | 0.34 % |
| Dry Shrinkage | 0.29% |
| Impact Strength | 4.5J/m2 |
| Screw Withdrawl | 47.7N/mm |

## 20. Product Warranty

Hydrapanel Flooring Systems Limited warrants the product, will be free of defects due to factory manufacturing and, subject to condition set out below, will be resistant to delaminating, rotting, cracking, termite damage and fire for a period of 15 years from the date of purchase.
This warranty applies to the first purchaser of the product and is not transferable

Conditions apply

# CERTIFICATE OF CONFORMITY

CODEMARK™

SAI GLOBAL

This is to certify that

**HYDRAPANEL**

**Product description**

Hydrapanel wall and ceiling panels are a magnesium oxide board, laminated face and back with High Pressure Laminate as a sandwich construction.
The panels are pre-finished high-pressure decorative laminate having nominal thickness of 7.5mm

**Product purpose or use**

A wall and ceiling panel lining intended for use in wet areas such as bathrooms and kitchens.

**Certificate holder**

Hydrawood Holdings Limited

PO Box 47-927, Ponsonby, Auckland 1144, New Zealand

p +649 365 1660 f + 649 365 1680

www.hydrawood.co.nz

**CodeMark certification body**

**SAI Global Certification Services Pty Limited**
(ACN 108 716 669) Trading as "SAI Global"
JAS-ANZ Accreditation No. Z1440295AS
Address 680 George Street, Sydney, NSW 2000
Website: www.saiglobal.com

**Complies with the New Zealand Building Code (NZBC)**:
if designed, used, installed and maintained in accordance with the scope of this Certificate, the above mentioned product will meet the following provisions of the NZBC:

B2 Durability - B2.3.1 (c)

E3 Internal Moisture - E3.3.4, E3.3.5 & E 3.3.6

F2 Hazardous Building Materials - F2.3.1

G3 Food Preparation and Prevention of Contamination – G3.3.2

Subject to the following conditions and limitations:

1. The system must be installed in accordance with the Hydrapanel Installation and Specification Guide (Version 4 September 2016).
2. The system must be installed by appropriately skilled persons.

**Paul Simpson - Global Policy Risk and Certification Manager**

**John Clampett- Unrestricted Building Certifier**

04/11/2016
**Date of issue**

SAIG-CM20090
**Certificate Number**

JAS-ANZ

WWW.JAS-ANZ.ORG/REGISTER

This certificate is issued by SAI Global Certification Services Pty Limited, an independent certification body accredited by the product certification accreditation body (JAS-ANZ) appointed by the Chief Executive of the Department of Building and Housing under the Building Act 2004. The Department of Building and Housing does not in any way warrant, guarantee, or represent that the building method or product the subject of this certificate conforms with the NewZealand Building Code, nor accept any liability arising out of the use of the building method or product. The Department of Building and Housing disclaims, to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages, and costs arising as a result of the use of the building method(s) or product(s) referred to in this certificate. This Certificate may only be reproduced in its entirety

Always follow these instructions when installing Hydrapanel

Hydrawood Flooring Systems Limited
PO Box 47927
Ponsonby
Auckland
New Zealand

Mammoth™
MODERN INSULATION

50 Year Warranty*

BRANZ Appraised
Appraisal No.797 [2012]

NEW ZEALAND MADE™

# Wall Insulation

## APPLICATION

Mammoth™ Wall insulation is made from 100% thermally bonded polyester fibres. Mammoth wall sections and blanket are designed to be installed into wall cavities to provide thermal insulation. Airlay sections are designed to be friction fitted into the wall cavity, creating a seamless, smooth fit without tucks, creases or gaps. This supports higher thermal performance across the system.

## PRODUCT FEATURES AND BENEFITS

- Mammoth™ insulation creates a healthier, more comfortable home or work environment, costing less to heat and cool.
- Most of Mammoth™ Wall products are BRANZ appraised (durability 50 years) and performance is guaranteed for 50 years*.
- Mammoth™ is safe and easy to work with. No precautions are required and for handling the product. It will not cause irritation when touched and is odourless
- As an added benefit, Mammoth™ will help reduce noise to create a quieter environment.
- Mammoth™ airlay wall sections were tested and found to outperform the construction (system) R-value

Click here to view full report

- Mammoth™ products are not affected by moisture.
- Mammoth™ is manufactured in New Zealand.

## PRODUCT RANGE

## PACK SIZES R1.9

| MAMMOTH™ WALL SECTIONS & BLANKET | | BRANZ Appraised Appraisal No. 797 [2012] | PRODUCT R-VALUE | NOMINAL THICKNESS (mm) | DIMENSIONS (mm) | PIECES PER PACK | TOTAL AREA ($m^2$) |
|---|---|---|---|---|---|---|---|
| Wall Sections<br>airlay, friction fit insulation<br>(does not apply to R2.5) | | √ | 1.9 | 90 | 370x800 | 8 | 2.37 |
| | | √ | 1.9 | 90 | 580x800 | 6 | 2.78 |
| | | √ | 2.0 | 90 | 360x760 | 9 | 2.46 |
| | | √ | 2.0 | 90 | 560x760 | 6 | 2.55 |
| | | √ | 2.2 | 90 | 360x760 | 9 | 2.46 |
| | | √ | 2.2 | 90 | 560x760 | 6 | 2.55 |
| | √ | √ | 2.5 | 90 | 360x760 | 9 | 2.46 |
| | √ | √ | 2.5 | 90 | 560x760 | 6 | 2.55 |
| | | √ | 2.8 | 140 | 360x760 | 18 | 4.92 |
| | | √ | 2.8 | 140 | 560x760 | 12 | 5.10 |
| Wall Blanket | | √ | 2.2 | 90 | 360x9820 | 2 | 7.11 |
| | | √ | 2.2 | 90 | 560x10800 | 1 | 6.05 |
| | √ | √ | 2.6 | 140 | 580x8550 | 4 | 13.00 |
| | √ | √ | 2.6 | 140 | 580x7470 | 4 | 13.00 |
| Masonry Wall Blanket and Sections | | | 1.0 | 45 | 580x12930 | 2 | 15.00 |
| airlay, friction fit insulation<br>(does not apply to R1.0) | | | 1.3 | 45 | 360x2400 | 9 | 7.78 |
| | | | 1.3 | 45 | 560x2400 | 6 | 8.06 |

* Terms and conditions apply

# TECHNICAL DETAILS

| Technical Attributes | Standard | Test Result |
|---|---|---|
| **New Zealand Building Code** | | |
| ✓ Durability | Clause B2.3.1 a) 15 years<br>Clause B2.3.1 b) 50 years | According to BRANZ Appraisal No.797 [2012] Mammoth™ Wall Products will meet or contribute to meeting these provisions[1] |
| ✓ Internal Moisture | Clause E3.3.1 | |
| ✓ Hazardous Building Materials | Clause F2.3.1 | |
| ✓ Energy Efficiency | Clause H1.3.1(a)<br>Clause H1.3.2 E | |
| **Product Safety** | | |
| ✓ Non Toxic | OSH Health and Safety Guidelines[2] | Polyester products 'non-toxic' and 'non-irritant' |
| ✓ Non Irritant | OSH Health and Safety Guidelines[2] | |
| ✓ Respiratory Safe | n/a | Polyester fibres are non-respirable |
| ✓ Fire Test | AS 1530 Part 3: | |
| | Ignitability | 0 (Scale 0:20) |
| | Spread of Flame | 0 (Scale 0:10) |
| | Heat Evolved | 0 (Scale 0:10) |
| | Smoke Developed | 3 (Scale 0:10) |
| | AS/NZS 60695.2.11 | Passed - Glow wire Flammability test |
| | AS/NZS 60695.11.5 | Passed - Test flames (Needle-flame test) |
| ✓ VOC Emission Safe[3] | Total VOC ≤ 0.5mg/m$^3$<br>Formaldehyde ≤ 0.06mg/m$^3$ | < 0.005mg/m$^3$ - level below detection [4]<br>< 0.009mg/m$^3$ - level below detection |
| ✓ Glue Free | n/a | Free from all glues |
| **Other** | | |
| ✓ Non Corrosive | AS/NZS4859.1 | Materials composed entirely of polyester are regarded as non-corrosive and are exempt from testing. Polyester has alkalinity of PH7.8 |
| ✓ Vermin Resistant | n/a | Not a food source for vermin (and not treated) |

1 Designed, used, installed and maintained in accordance with the statements and conditions of BRANZ Appraisal 797 (2012) available from www.mammoth.co.nz
2 Occupational Safety and Health Service. Health and Safety Guidelines for the Selection and Safe Handling of Synthetic Mineral Fibres. Department of Labour, 1994, p18.
3 Mammoth™ has been tested under ASTM D5116.
4 All individual VOCs were less than their threshold limit values. Carcinogens and reproductive toxins were not identified as part of the VOCs. Based on test results for a product with similar nominal weight.

# SPECIFICATION AND INSTALLATION

For further Mammoth™ Wall Sections and Blanket specifications, please contact Mammoth™ on 0800 MAMMOTH

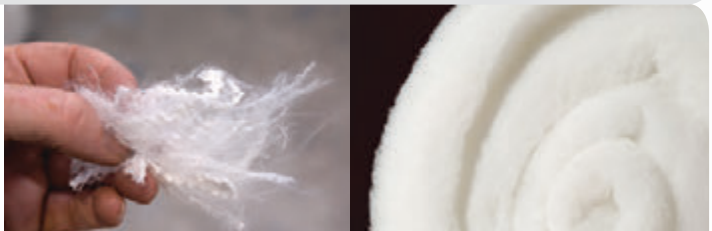
Mammoth™ Wall must be installed according to the manufacturer's guidelines and in accordance with NZ Standard 4246 (Energy Efficiency - Installing Insulation in Residential Buildings).

For step by step installation guidelines see **mammoth.co.nz** or call Mammoth™.

# A SUSTAINABLE CHOICE

- All Mammoth™ products are Red List Free - International Living Future Institute.
- Manufactured within a carboNZero certified organisation.
- Mammoth™ products contain recycled polyester fibres. The recycled fibre used by Mammoth™ comes from recycled plastic bottles.
- Recycling plastic protects the environment by keeping the carbon content locked up in the polyester fibre and reducing landfill waste.
- Mammoth™ products are made in a near zero waste production process and are fully recyclable.
- R2.5 Wall Section & R2.6 Wall Blanket is Environmental Choice certified

For more information go to **mammoth.co.nz** or contact a Mammoth™ representative



Mammoth™
MODERN INSULATION

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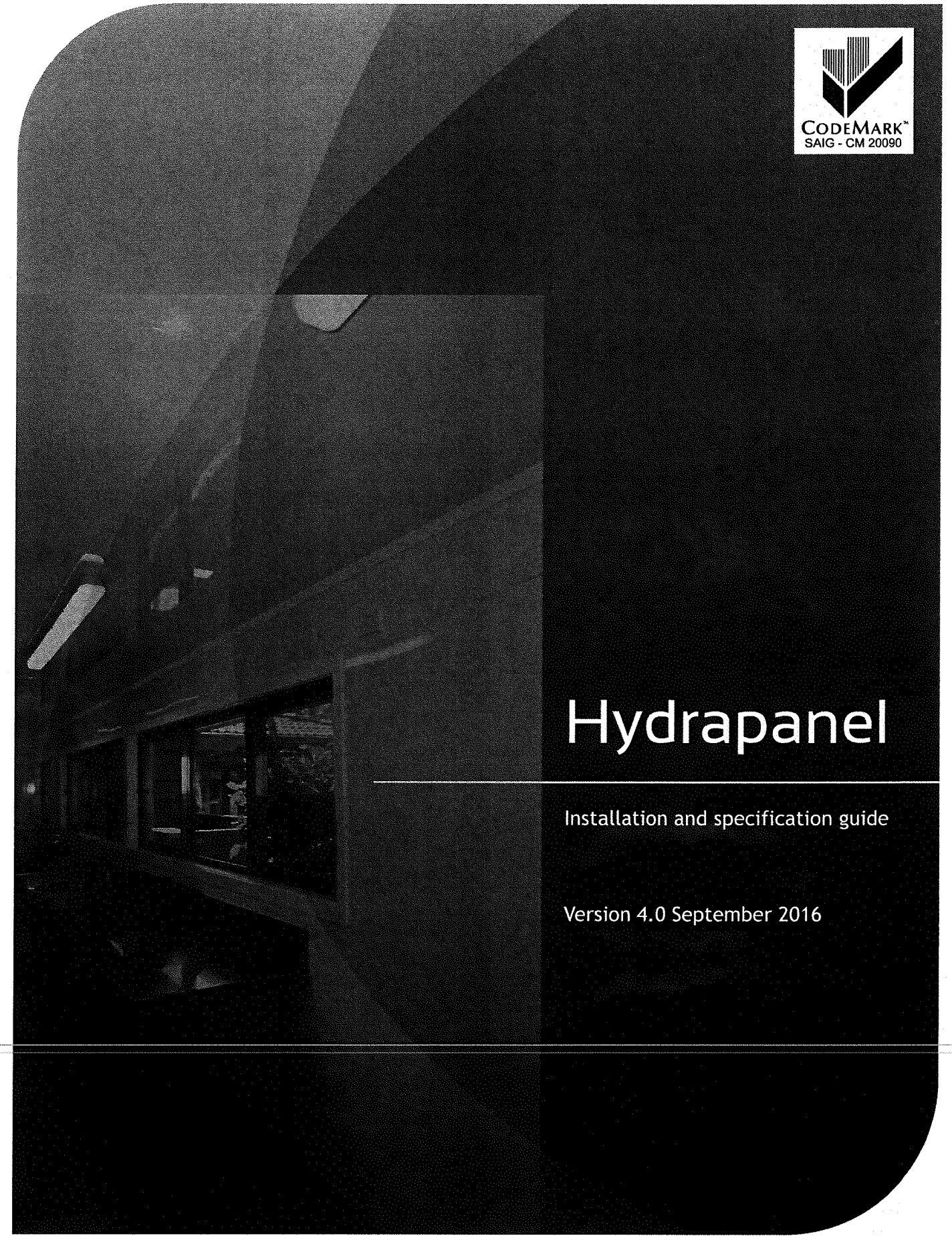

CodeMark™
SAIG - CM 20090

# Hydrapanel

Installation and specification guide

Version 4.0 September 2016

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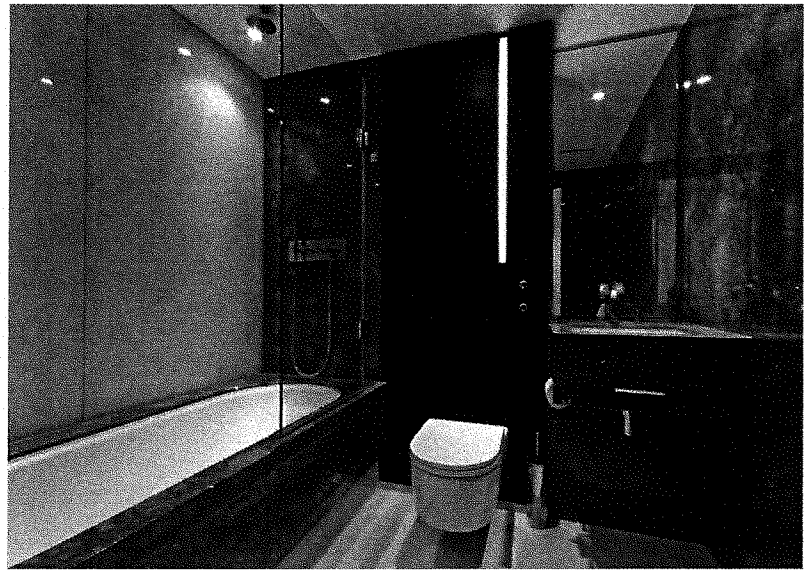

Featuring an Anti-Bacterial High Pressure Laminate surface that carries the Greenguard Guarantee for air quality

**Hydrapanel is a non-structural wall and ceiling panel lining that is impervious to moisture and resistant to water, steam, abrasion and typical cleaning materials.**

Intended primarily for use in wet areas such as bathrooms and kitchens. Intended also for use in food preparation areas, where the code and health regulations require an impervious surface that will withstand water and chemicals, that is easily maintained and cleaned and are capable of withstanding high use hygienic cleaning.

The panels are also to be used as a decorative pre-finished lining that can withstand high use and require low maintenance

The panels can be fixed to timber and steel framing are to be fixed in accordance with NZS 3604 Light timber framed buildings and must not be fixed to framing that exceeds moisture content as per NZS 3602.

Hydrapanel lining systems are also suitable for areas that require protection from dirt and germs and can also be used in areas that require strict hygiene, such as food processing and preparation areas

Hydrapanel Lining is a magnesium fireproof board, laminated face and back with High Pressure Laminate as a sandwich construction.

Hydrapanel lining systems can be installed with either proprietary aluminium track or flush fit jointer systems

Hydrapanel Lining systems consist of a range of pre-finished high-pressure decorative laminate panels and jointing accessories.

Hydrapanel lining systems are suitable for use in wet and dry areas, that require an impervious surface that is sealed and easy to clean and maintain.

## Typical uses

- Pre finished wall and ceiling panels
- Bathrooms
- Showers
- Laundries
- Toilet
- Kitchens
- Kitchen Splashbacks
- Utility Rooms
- Garages
- Retail fit outs
- Cabinetry panels
- Sliding doors
- Display Panels
- Shop Linings
- Food preparation
- Restaurants
- Commercial kitchens
- Industrial and public showers and wet areas

## NZBC AS/NZS 2908

Hydrapanel Linings have been tested in accordance with the New Zealand Building Code requirements and carry the CodeMark Certification

B1 – STRUCTURE

Hydrapanel Lining complies with the requirements of B1.3.2, Acceptable solution B1/AS1 Table 1, Shower Linings

B2 – DURABILITY

Hydrapanel Lining are manufactured in accordance with Clause B2 - B2.3.1(b) 15 years, B2.3(c) 5 years - Acceptable solution B2/AS1,Table 1

C3 – FIRE PERFORMANCE

Hydrapanel Lining have a fire classification C-s1,d0 and must be used only where the surface requirements of Acceptable Solution C3/AS1 Table 4.
There are no restrictions on use within detached dwellings, within household units in multi-unit buildings, or outbuildings and ancillary buildings.
Material Class - 2

E3 – INTERNAL MOISTURE

Hydrapanel Lining complies with the requirements of Clause E3 – section 3.1.2
Acceptable Solution E3/AS1 - section 3.1.2 (g), section 3.3.4, 3.3.5, 3.3.6

G3 – FOOD PREPARATION AND PREVENTION OF CONTAMINATION

Hydrapanel Lining complies with the requirements of Clause G3 – G3.3.2 (a)
Acceptable solution G3/AS1 section 1.6, section 2.1.5 / 2.2.3

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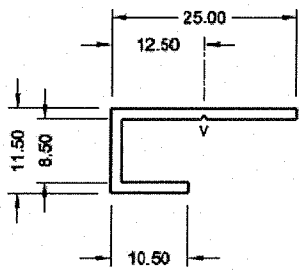
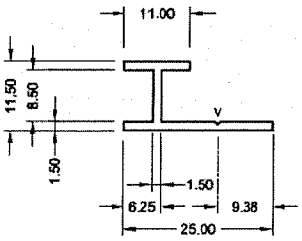
# Hydrapanel Aluminium Jointers




End Cap - SKU 271532

Use to finish the end of a panel.

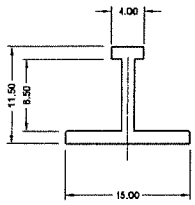
Also used as a top cap and bottom cap to the panels as required




Standard H Jointer – SKU 271553

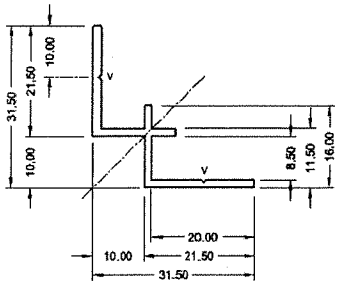
Use to join sheets on a flat surface

Can also be used as an end cap where a negative detail is required

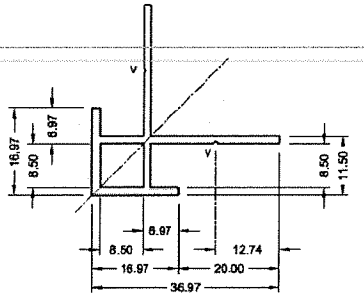



Mini H Jointer – SKU 271538

Use to join sheets on a flat surface with a minimum profile cover




Internal Corner – SKU 271550




External Corner – SKU 271545

Use to join sheets and to protect edges at an External corner junction

## Scope

Hydrapanel Lining products can be fixed directly to Steel and also timber frame constructions.

## Timber Framing

Studs must be placed at 600mm maximum centres for 1200 wide sheets and 450 wide centres for 900 wide sheets, with nogs and top and bottom plates at 1200mm maximum centres.

Timber support faces must be straight, flush, in alignment and the bonded surfaces must be dry and clean.

Moisture content of support surfaces must be less than 18% moisture content and must be in accordance with NZS 3604.

Hydrapanel Lining products can be affixed directly to existing wall linings such as plasterboard.

## Lined Walls

Surfaces, such as plasterboard must be flat, sound and suitably fixed

Concrete, Masonry or brick walls and ceilings

Ensure concrete, masonry is dry and seal if necessary

Panels may be fixed directly to existing linings provided the linings are structurally sound

Timber battens, if required must be fixed as follows;

For 1200mm panels, battens are spaced horizontally and vertically at 600mm centres

For 900mm panels, battens are spaced horizontally at 600mm and vertically at 450 centres

For ceilings, battens are spaced at 400mm centres

Battens / strapping must have DPC between the timber and concrete surface

## Shower linings

Old shower linings must be removed, framing and plumbing must be inspected to ensure items are fit for covering

**Fixing with Adhesives**

Hydrapanel Lining panels are easy to install using suitable polyurethane construction adhesive.

Hydrapanel Lining panels can be installed using Aluminium or plastic jointers.

Hydrapanel Linings can also be installed edge to edge with a silicon joint between the panels.

Hydrapanel Linings can be installed combined with double sided tape to be used to hold the sheets in place while the adhesive sets or the sheet can be braced for approx 24 hours to allow for full adhesive cure and adhesion.

When using tape with jointing strips, do not apply tape on the stud where the jointer is located, as this will not allow for the Hydrapanel lining sheet to slide into the jointer section.

Construction adhesives should be used in accordance with this guide and manufactures instructions.

Recommended adhesive :

Selleys Armour Flex FC

Bostic Gold Xtreme

## INSTALLATION PROCESS

### 7.1 Materials Required

- Sells Armour Flex FC
- Hydrapanel Double Sided FoamTape 18mm
- Solvent Based Cleaner
- Screws / nails (size dependant on substrate materials)
- Silicone sealant and masking tape
- Edge sealer (for penetrations)
- Lint free cloths
- Packing blocks – minimum 10mm

### 7.2 Tools Required (suggested minimum)

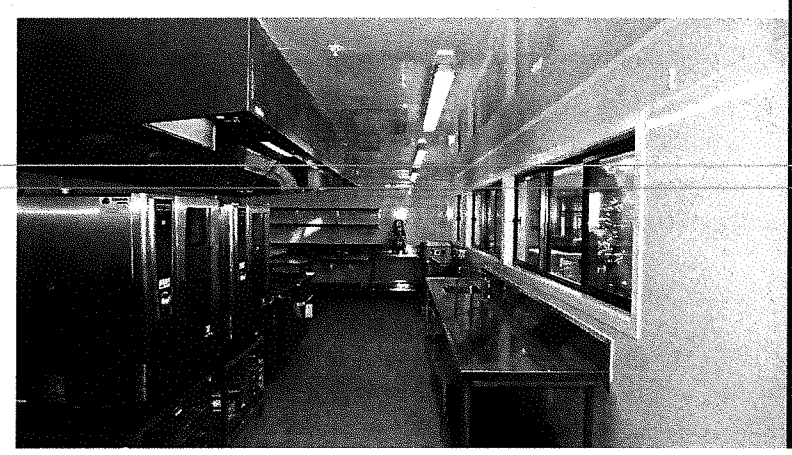
- Cartridge Gun
- Tape measure
- Sharp blade knife
- Hand Saw or power saw (jigsaw and circular saw)
- Battery or power drill
- Level
- Sanding block

### 7.3 Preparation

- Check all walls and ceiling and floor intersections are square
- Check substrate / framing is dry, all timber and sheet surfaces are clean and free of contaminates
- Check framing is straight, flat and level across the face surface
- Measure and mark sheet positions to centres of corresponding framing, if using jointers allow tolerances of 2mm for the panels to fit easily between
- We recommend using full sheets in the centre and cut sheets at wall junctions

### 7.4 Cut and prepare sheets

- Measure panel sizes from top and bottom of the wall to determine panel width
- Using a straight edge, cut the panels to suit, using either a table saw, circular saw, hand saw or router
- Remove the protective plastic film 60mm from each edge, DO NOT remove all of the film until the panels are completely installed.
- Remove the plastic protection from the back side of the sheet if fitted
- Smooth finish the edges of the sheets with a planer or a block with 200 grit sandpaper
- Mark and cut out for penetrations
- **Seal edges of all penetrations with silicon sealant**



### 7.5 Installation using adhesive with standard aluminium or plastic jointers

Option 1 – External Jointers

- Ensure that you have a clean and prepared surface to work with.
- Wipe down the timber/steel framing that you are going to overlay with Cleaner. Ensure that you use plenty of clean lint free cloths.
- Wait for Cleaner to completely dry.
- Fix the first jointer to the stud – screw or pin (see tip below)
- Fix second jointer to Right hand side of first sheet
- Use sealant in jointers if using in wet areas
- Position Hydrapanel Foam Double Sided Tape to centre stud / framing
- Apply a continuous bead of Armour Flex FC Adhesive 5mm x 5mm (positioned approx 25mm from the edge of the Hydrapanel Double Sided Tape).
- Wipe down the corresponding reverse side of the Hydrapanel Lining (that surface that is going against the timber/steel framing or wall) with Cleaner.
- Fit the edge of the sheet into the jointer and press the panel against the adhesive on the framing whilst packing the sheet of the floor / base with 10mm packers.
- Roll or press firmly over all areas of the Framing or Wall to ensure that the adhesive is compressed to a point where the Hydrapanel™ is in full contact with the Double Sided Tape.
- Screw or nail the jointer attached to the sheet to the corresponding timber frame.
- Repeat this process until finished.
- Leave finished Hydrapanel™ lined a full 24hours for the adhesive to cure before carrying out further work in the area/room being lined with Hydrapanel™
- Apply silicone sealant to all penetration edges after sheets have been fixed
- Remove masking tape whilst the silicone is still wet. (do not touch the silicone with skin as this can promote mould growth)
- When installing in a 3 sided shower, fix the centre sheet with jointers attached to both sides of the sheet


- Leave finished Hydrapanel™ lined a full 24hours for the adhesive to cure before carrying out further work in the area/room being lined with Hydrapanel™
- Apply silicone sealant to all penetration edges after sheets have been fixed
- Remove masking tape whilst the silicone is still wet. (do not touch the silicone with skin as this can promote mould growth)
- When installing in a 3 sided shower, fix the centre sheet with jointers attached to both sides of the sheet


- HANDY TIP – When screw fixing aluminium jointers, use 6 g x 30mm screws / pilot drill hole with1/4inch drill bit, this will allow the 6 gauge screw to countersink and sit flush with the aluminium edge.

Option Two – Hidden Jointers

- Hydrapanel has a 2mm grooved edge on the long edges to take a hidden jointer section
- This allows the panels to be installed with a flush 2mm gap between each sheet
- This gap can be left as a negative detail or can be filled with a flexible sealant / silicon to fill the joint

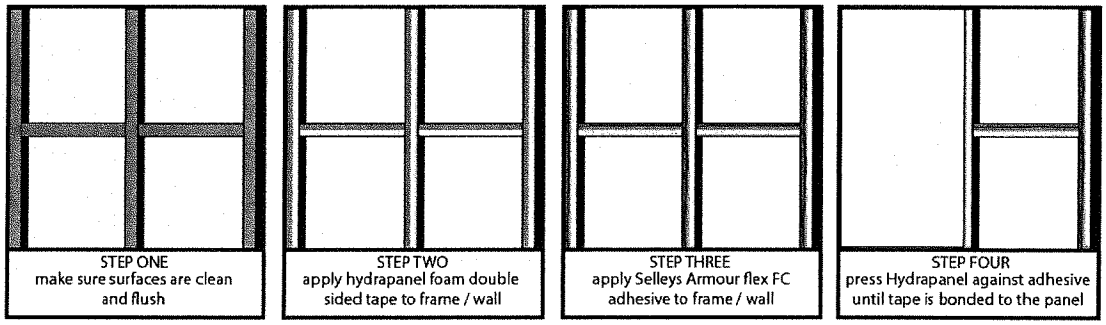
- Refer to instruction 7.6 below for instructions on how to fill the gap if required
- For installation of Hydrapanel ;
- Repeat steps 7.5 for external jointers

**7.6 Installation using adhesive and silicone joints**

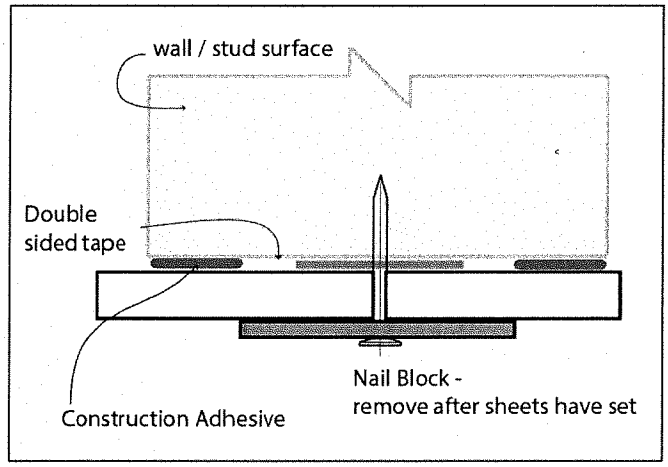
- Remove the plastic protection from the back side of the sheet if fitted
- Position Hydrapanel Foam Double Sided Tape to stud in centre position of the panel (refer detail 1)
- Apply a continuous bead of ArmourFlex FC Adhesive 5mm x 5mm to framing (positioned approx 25mm from the edge of the Double Sided Tape). (refer detail 1)
- Wipe down the corresponding reverse side position of the Hydrapanel Lining (that surface that is going against the timber/steel framing or wall) with Cleaner.
- Roll or press firmly over all areas of the Framing or Wall to ensure that the adhesive is compressed to a point where the Hydrapanel™ is in full contact with the Double Sided Tape, whilst packing the sheet of the floor / base with 10mm packers.
- Position corresponding sheets with a continuous joint of 2mm
- Hold sheets in place with Nail blocks (refer detail 2 )
- Prop sheets if required
- Repeat this process until finished
- Leave finished Hydrapanel™ lined a full 24hours for the adhesive to cure before carrying out further work in the area/room being lined with Hydrapanel™
- Once adhesive has cured, remove nail blocks
- Remove 60mm of the protective film from each edge of the panels
- Apply masking tape to the panel edges and apply silicone sealant to the gap between the panels
- Apply silicone sealant to all penetration edges after sheets have been fixed
- Remove masking tape whilst the silicone is still wet. (do not touch the silicone with skin as this can promote mould growth)

## Installation steps

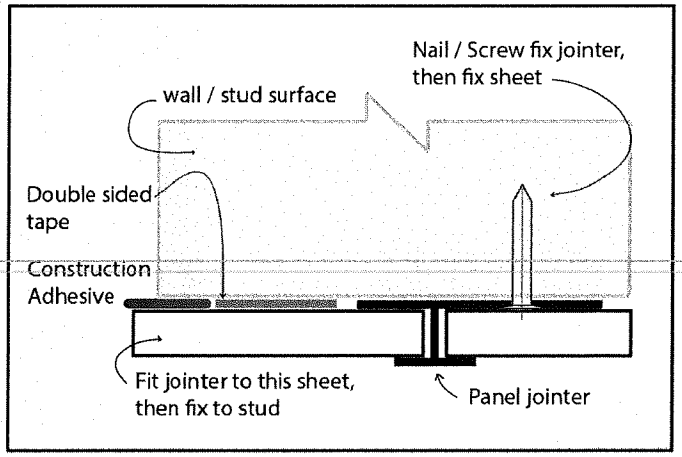
Detail 1




Detail 2 - Hold sheets in place with nail block until glue is s



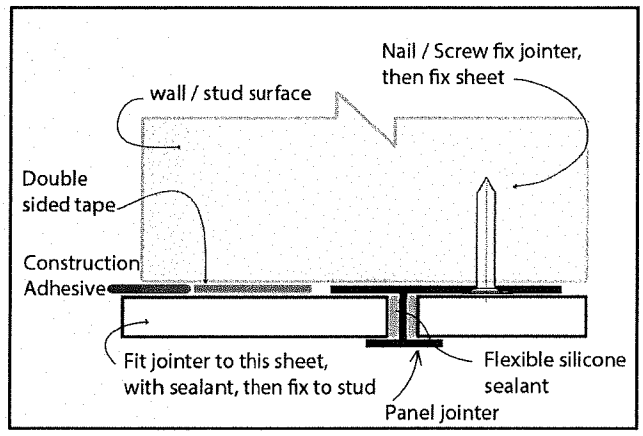

## 8. DRY WALL JOINTS




cut vertical jointers to fit
all horizontal jointers should be full length

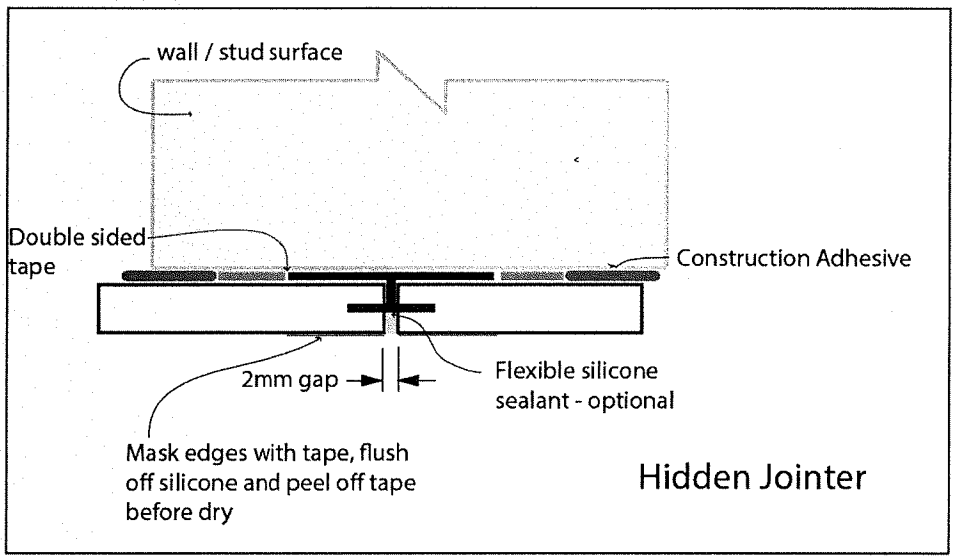
Dry area jointer detail

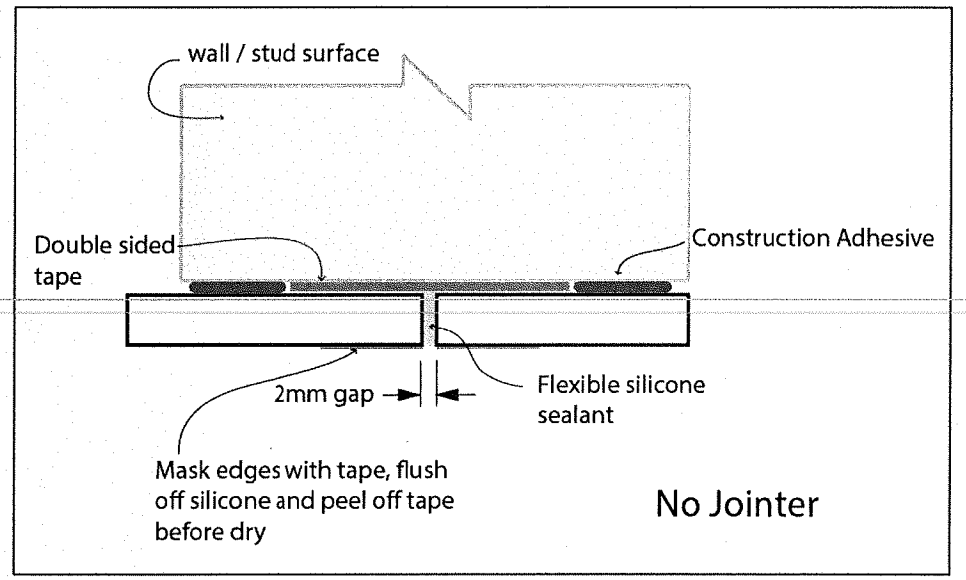
## 9. WET AREA WALL JOINTS




Wet Area jointer detail, for showers and wet areas all jointers including corners and caps must be filled with flexible silicone sealants.

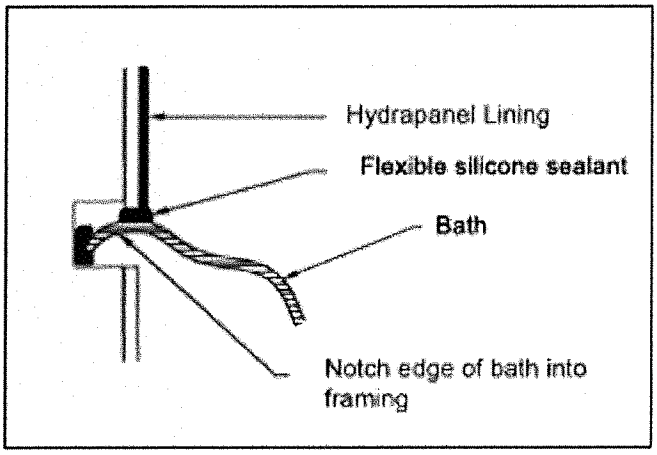
## 10. NEGATIVE / HYGENE SILICON FLUSH JOINT



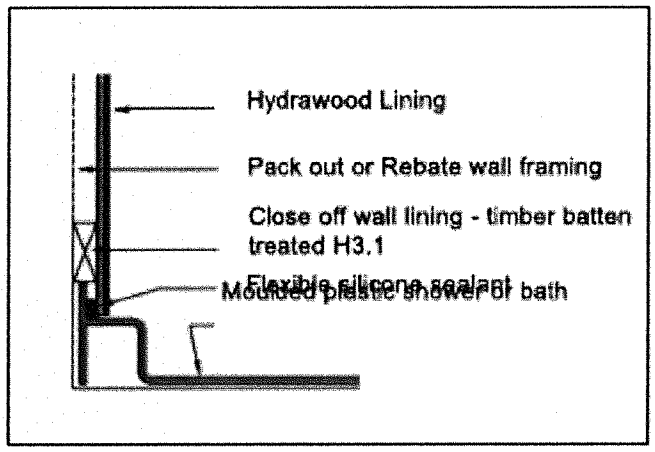



## 11. WET AREA FIXTURES, FITTINGS AND FLOOR JOINTS

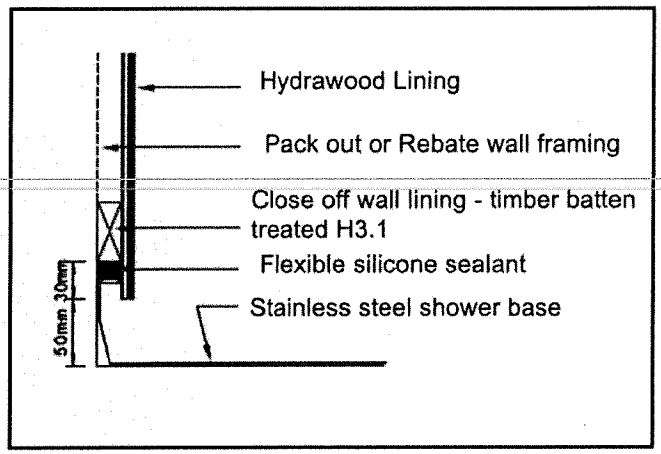
### 11.1 Acrylic bath / shower detail 1



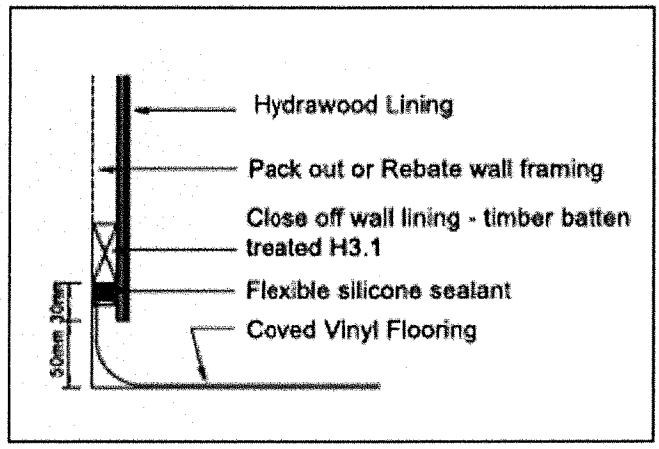

### 11.2 Acrylic high upstand bath / shower detail 2



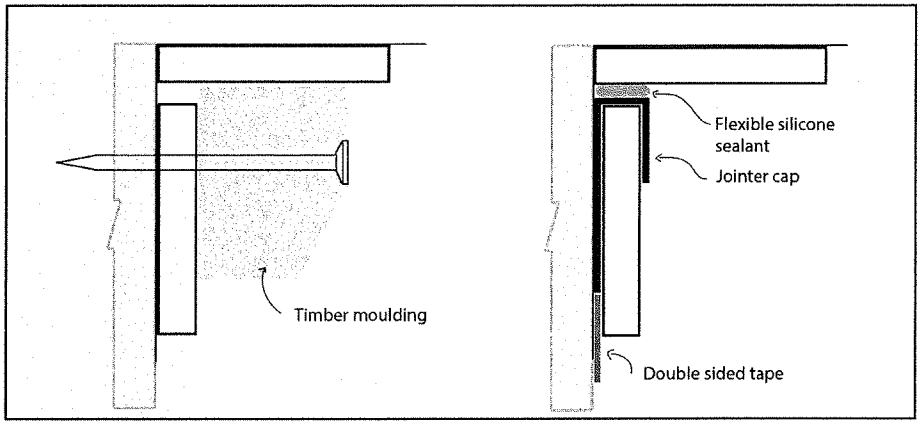

### 11.3 Stainless steel drip edge detail



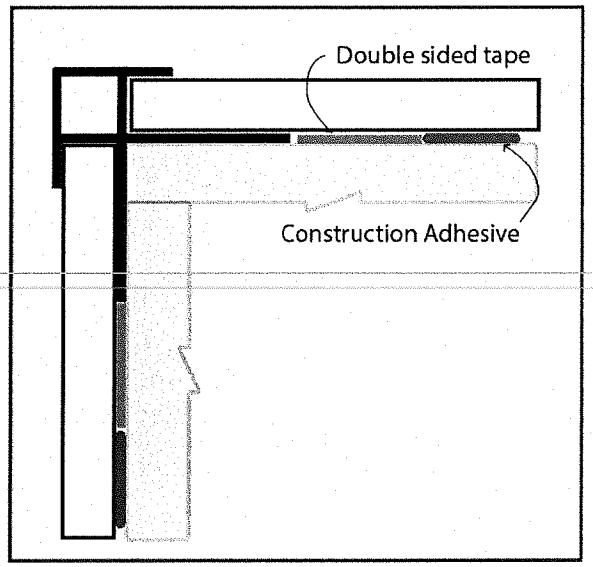
11.4 Coved vinyl floor drip edge detail



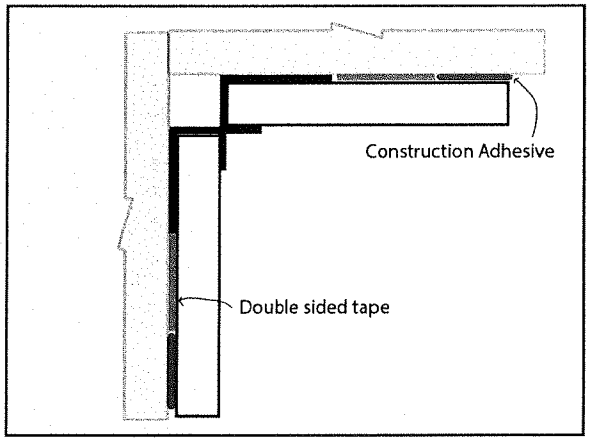

## 12. CEILING JOINTS




## 13. EXTERNAL CORNER JOINTS



## 14. INTERNAL CORNER JOINTS




## 15. SPLASHBACKS

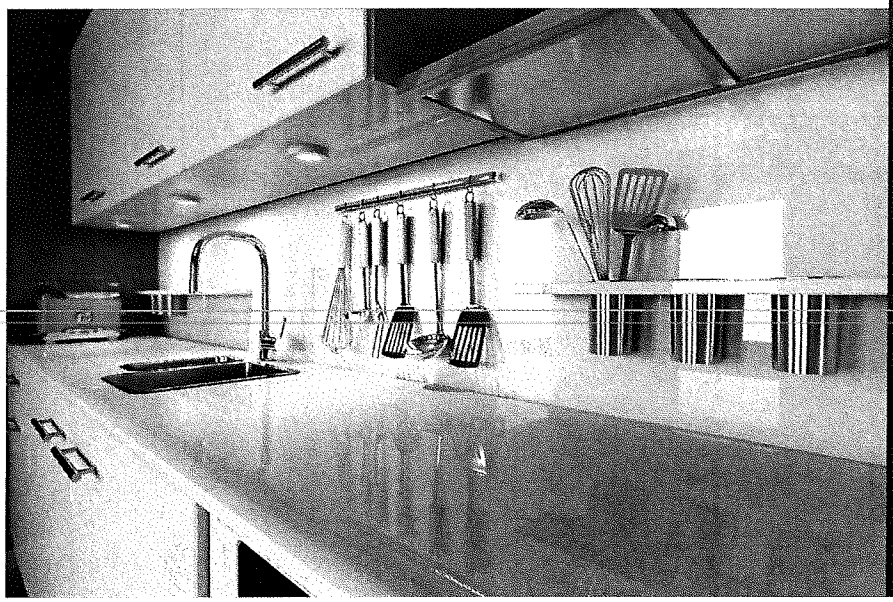
Hydrapanel Linings are suitable to be used as a splash back behind gas and electric cook tops;

Warning:

For electric cook tops - A distance of at least 100mm must be kept from the outer ring of the nearest heating element.

For gas cook tops - A distance of at least 200mm must be set from the closest outer ring of the hob.

All installations of Hydrapanel must be in accordance with the cook top manufacturers recommendations.



## 16 MAINTENANCE

Hydrapanel Linings are moisture resistant panels, however the sheets must be installed and maintained to resist water penetration.

Care must be given to joints and penetrations and these must be maintained to ensure that no water can penetrate to the framing.

Hydrapanel Linings are finished in High Pressure Laminate, the cleaning of HPL should be with non abrasive cloths and non abrasive cleaners such as spray and wipe

## 17. STORAGE AND HANDLING OF SHEETS

Long term storage of the sheets must be under cover on evenly spaced bearers (500mm max) to keep them flat and dry.
Outside storage requires panels to be covered with a breathable waterproof material that allows air to circulate around the panel stack.

**Panels must be lifted and not dragged off the stack.**

## 18. PACKAGING AND LABELLING

Panels are protected with a plastic foil membrane attached to the laminate

Panels are packed gloss to matt per pallet / delivery – shrink wrapped with corner protection

On the panels (one side) is a label giving the production number and date of manufacture

## 19. TECHNICAL SPECIFICATION

Hydrapanel

| Panel Size (mm) | Thickness Nominal (mm) | Weight (kg/m2) | Weight per panel (kg) |
|---|---|---|---|
| 2400 x 1200 | 7.6 | 8.3 | 24 |

**Panel Tolerances**

| | |
|---|---|
| Length | - 1mm |
| Width | - 1mm |
| Thickness | + 0.2mm |
| Diagonal | 1 mm |

**Substrate Properties**

| | |
|---|---|
| Density | 0.81 t/m3 |
| Moisture Content | 6.7% |
| Bending Strength | 11.2 MPa |
| Water Swelling | 0.34 % |
| Dry Shrinkage | 0.29% |
| Impact Strength | 4.5J/m2 |
| Screw Withdrawl | 47.7N/mm |

## 20. Product Warranty

Hydrapanel Flooring Systems Limited warrants the product, will be free of defects due to factory manufacturing and, subject to condition set out below, will be resistant to delaminating, rotting, cracking, termite damage and fire for a period of 15 years from the date of purchase.

This warranty applies to the first purchaser of the product and is not transferable

Conditions apply

# CERTIFICATE OF CONFORMITY

CODEMARK™

SAI GLOBAL

This is to certify that

**HYDRAPANEL**

**Product description**

Hydrapanel wall and ceiling panels are a magnesium oxide board, laminated face and back with High Pressure Laminate as a sandwich construction.
The panels are pre-finished high-pressure decorative laminate having nominal thickness of 7.5mm

**Product purpose or use**

A wall and ceiling panel lining intended for use in wet areas such as bathrooms and kitchens.

**Certificate holder**

Hydrawood Holdings Limited
PO Box 47-927, Ponsonby, Auckland 1144, New Zealand
p +649 365 1660 f + 649 365 1680
www.hydrawood.co.nz

**CodeMark certification body**

**SAI Global Certification Services Pty Limited**
(ACN 108 716 669) Trading as "SAI Global"
JAS-ANZ Accreditation No. Z1440295AS
Address 680 George Street, Sydney, NSW 2000
Website: www.saiglobal.com

**Complies with the New Zealand Building Code (NZBC):**
if designed, used, installed and maintained in accordance with the scope of this Certificate, the above mentioned product will meet the following provisions of the NZBC:

B2 Durability - B2.3.1 (c)

E3 Internal Moisture - E3.3.4, E3.3.5 & E 3.3.6

F2 Hazardous Building Materials - F2.3.1

G3 Food Preparation and Prevention of Contamination – G3.3.2

Subject to the following conditions and limitations:

1. The system must be installed in accordance with the Hydrapanel Installation and Specification Guide (Version 4 September 2016).
2. The system must be installed by appropriately skilled persons.

JAS-ANZ

WWW.JAS-ANZ.ORG/REGISTER

| Paul Simpson - Global Policy Risk and Certification Manager | John Clampett- Unrestricted Building Certifier | 04/11/2016 Date of issue | SAIG-CM20090 Certificate Number |
|---|---|---|---|

This certificate is issued by SAI Global Certification Services Pty Limited, an independent certification body accredited by the product certification accreditation body (JAS-ANZ) appointed by the Chief Executive of the Department of Building and Housing under the Building Act 2004. The Department of Building and Housing does not in any way warrant, guarantee, or represent that the building method or product the subject of this certificate conforms with the NewZealand Building Code, nor accept any liability arising out of the use of the building method or product. The Department of Building and Housing disclaims, to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages, and costs arising as a result of the use of the building method(s) or product(s) referred to in this certificate. This Certificate may only be reproduced in its entirety

Always follow these instructions when installing Hydrapanel

Hydrawood Flooring Systems Limited
PO Box 47927
Ponsonby
Auckland
New Zealand

Mammoth
MODERN INSULATION

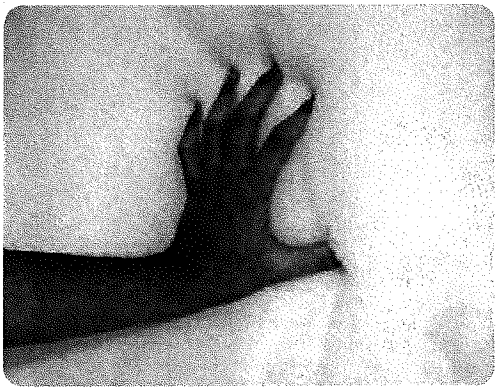
50 Year Warranty*

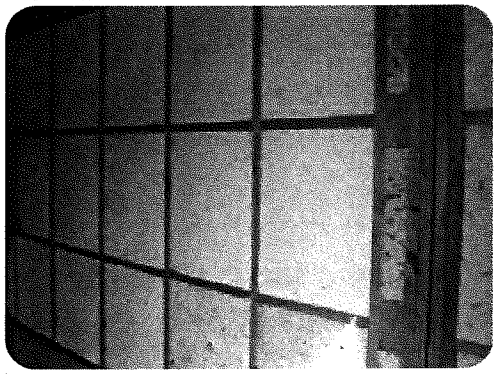
NEW ZEALAND MADE

# Wall Insulation

## APPLICATION

Mammoth™ Wall insulation is made from 100% thermally bonded polyester fibres. Mammoth wall sections and blanket are designed to be installed into wall cavities to provide thermal insulation. Airlay sections are designed to be friction fitted into the wall cavity, creating a seamless, smooth fit without tucks, creases or gaps. This supports higher thermal performance across the system.





## PRODUCT FEATURES AND BENEFITS

- Mammoth™ insulation creates a healthier, more comfortable home or work environment, costing less to heat and cool.
- Most of Mammoth™ Wall products are BRANZ appraised (durability 50 years) and performance is guaranteed for 50 years*.
- Mammoth™ is safe and easy to work with. No precautions are required and for handling the product. It will not cause irritation when touched and is odourless
- As an added benefit, Mammoth™ will help reduce noise to create a quieter environment.
- Mammoth™ airlay wall sections were tested and found to outperform the construction (system) R-value

Click here to view full report

- Mammoth™ products are not affected by moisture.
- Mammoth™ is manufactured in New Zealand.

## PRODUCT RANGE

### PACK SIZES R1.9

| MAMMOTH™ WALL SECTIONS & BLANKET | | BRANZ Appraised | PRODUCT R-VALUE | NOMINAL THICKNESS (mm) | DIMENSIONS (mm) | PIECES PER PACK | TOTAL AREA ($m^2$) |
|---|---|---|---|---|---|---|---|
| Wall Sections | | √ | 1.9 | 90 | 370x800 | 8 | 2.37 |
| airlay, friction fit insulation (does not apply to R2.5) | | √ | 1.9 | 90 | 580x800 | 6 | 2.78 |
| | | √ | 2.0 | 90 | 360x760 | 9 | 2.46 |
| | | √ | 2.0 | 90 | 560x760 | 6 | 2.55 |
| | | √ | 2.2 | 90 | 360x760 | 9 | 2.46 |
| | | √ | 2.2 | 90 | 560x760 | 6 | 2.55 |
| | √ | √ | 2.5 | 90 | 360x760 | 9 | 2.46 |
| | √ | √ | 2.5 | 90 | 560x760 | 6 | 2.55 |
| | | √ | 2.8 | 140 | 360x760 | 18 | 4.92 |
| | | √ | 2.8 | 140 | 560x760 | 12 | 5.10 |
| Wall Blanket | | √ | 2.2 | 90 | 360x9820 | 2 | 7.11 |
| | | √ | 2.2 | 90 | 560x10800 | 1 | 6.05 |
| | √ | √ | 2.6 | 140 | 580x8550 | 4 | 13.00 |
| | √ | √ | 2.6 | 140 | 580x7470 | 4 | 13.00 |
| Masonry Wall Blanket and Sections | | | 1.0 | 45 | 580x12930 | 2 | 15.00 |
| airlay, friction fit insulation (does not apply to R1.0) | | | 1.3 | 45 | 360x2400 | 9 | 7.78 |
| | | | 1.3 | 45 | 560x2400 | 6 | 8.06 |

* Terms and conditions apply

# TECHNICAL DETAILS

| Technical Attributes | Standard | Test Result |
|---|---|---|
| **New Zealand Building Code** | | |
| ✓ Durability | Clause B2.3.1 a) 15 years<br>Clause B2.3.1 b) 50 years | According to BRANZ Appraisal No.797 [2012] Mammoth™ Wall Products will meet or contribute to meeting these provisions[1] |
| ✓ Internal Moisture | Clause E3.3.1 | |
| ✓ Hazardous Building Materials | Clause F2.3.1 | |
| ✓ Energy Efficiency | Clause H1.3.1(a)<br>Clause H1.3.2 E | |
| **Product Safety** | | |
| ✓ Non Toxic | OSH Health and Safety Guidelines[2] | Polyester products 'non-toxic' and 'non-irritant' |
| ✓ Non Irritant | OSH Health and Safety Guidelines[2] | |
| ✓ Respiratory Safe | n/a | Polyester fibres are non-respirable |
| ✓ Fire Test | AS 1530 Part 3: | |
| | Ignitability | 0 (Scale 0:20) |
| | Spread of Flame | 0 (Scale 0:10) |
| | Heat Evolved | 0 (Scale 0:10) |
| | Smoke Developed | 3 (Scale 0:10) |
| | AS/NZS 60695.2.11 | Passed - Glow wire Flammability test |
| | AS/NZS 60695.11.5 | Passed - Test flames (Needle-flame test) |
| ✓ VOC Emission Safe[3] | Total VOC ≤ 0.5mg/m³<br>Formaldehyde ≤ 0.06mg/m³ | < 0.005mg/m³ - level below detection [4]<br>< 0.009mg/m³ - level below detection |
| ✓ Glue Free | n/a | Free from all glues |
| **Other** | | |
| ✓ Non Corrosive | AS/NZS4859.1 | Materials composed entirely of polyester are regarded as non-corrosive and are exempt from testing. Polyester has alkalinity of PH7.8 |
| ✓ Vermin Resistant | n/a | Not a food source for vermin (and not treated) |

1 Designed, used, installed and maintained in accordance with the statements and conditions of BRANZ Appraisal 797 (2012) available from www.mammoth.co.nz
2 Occupational Safety and Health Service. Health and Safety Guidelines for the Selection and Safe Handling of Synthetic Mineral Fibres. Department of Labour, 1994, p18.
3 Mammoth™ has been tested under ASTM D5116.
4 All individual VOCs were less than their threshold limit values. Carcinogens and reproductive toxins were not identified as part of the VOCs. Based on test results for a product with similar nominal weight.

# SPECIFICATION AND INSTALLATION

For further Mammoth™ Wall Sections and Blanket specifications, please contact Mammoth™ on 0800 MAMMOTH

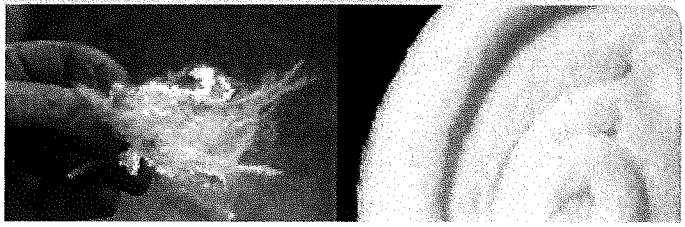
Mammoth™ Wall must be installed according to the manufacturer's guidelines and in accordance with NZ Standard 4246 (Energy Efficiency - Installing Insulation in Residential Buildings).

For step by step installation guidelines see **mammoth.co.nz** or call Mammoth™.

# A SUSTAINABLE CHOICE

- All Mammoth™ products are Red List Free - International Living Future Institute.
- Manufactured within a carboNZero certified organisation.
- Mammoth™ products contain recycled polyester fibres. The recycled fibre used by Mammoth™ comes from recycled plastic bottles.
- Recycling plastic protects the environment by keeping the carbon content locked up in the polyester fibre and reducing landfill waste.
- Mammoth™ products are made in a near zero waste production process and are fully recyclable.
- R2.5 Wall Section & R2.6 Wall Blanket is Environmental Choice certified

For more information go to **mammoth.co.nz** or contact a Mammoth™ representative



**Mammoth™**
MODERN INSULATION
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East Tamaki, Manukau 2013
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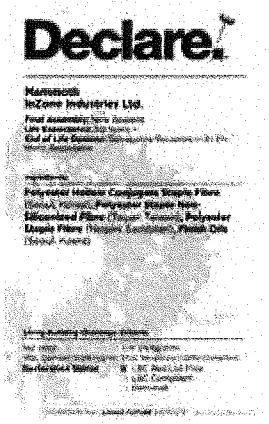


**BRANZ Appraised**
Appraisal No.467 [2005]

**BRANZ Appraisals**

**Technical Assessments of products for building and construction**

# BRANZ APPRAISAL No. 467 (2005)

Amended 30 August 2013

# TITAN® & EXOTEC® FAÇADE PANEL RAINSCREEN

**James Hardie New Zealand**
P O Box 12070
Penrose
Auckland

Tel: 0800 808 868
Fax: 0800 808 988

**BRANZ**
**BRANZ Limited**
**Private Bag 50 908**
**Porirua City**
**New Zealand**
**Tel: +64 4 237 1170**
**Fax: +64 4 237 1171**
**www.branz.co.nz**

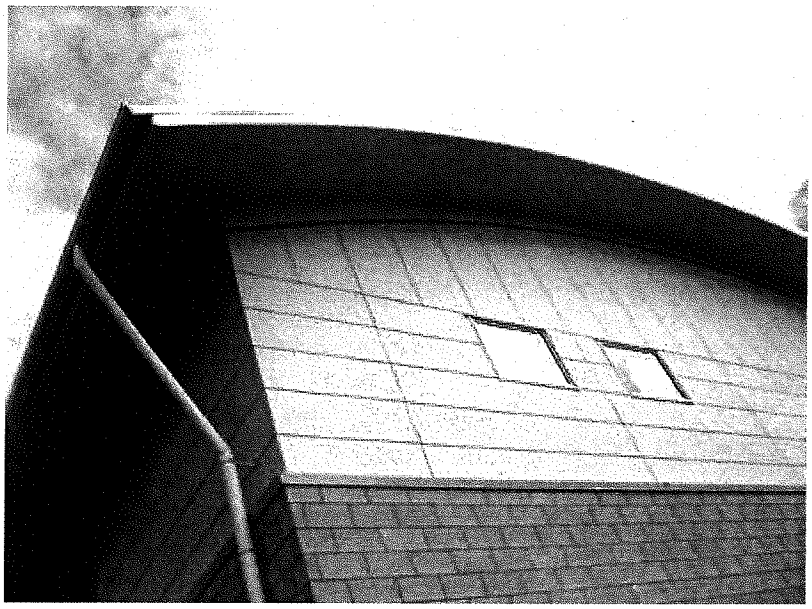
WFTAO

## Product

1.1 Titan® & ExoTec® Façade Panel Rainscreen is a negative expressed joint cladding system for specific design buildings of timber frame and timber frame infill construction.

1.2 The system consists of a rigid air barrier (RAB), timber battens to form a cavity, weather seal tapes, horizontal joint socket and Titan® and ExoTec® façade panels. The Titan® and ExoTec® façade panels are finished with a latex paint system.

1.3 The system incorporates a primary and secondary means of weather resistance (first and second line of defence) against water penetration by separating the façade panels from the rigid air barrier with a nominal 20 mm cavity. The cavity allows for any occasional ingress of water that may get past the external skin to drain to the exterior of the building, and any remaining moisture to dry by evaporation.



## Scope

2.1 Titan® & ExoTec® Façade Panel Rainscreen has been appraised as an external wall cladding system for buildings within the following scope:

- Importance Level I to V buildings as defined in AS/NZS 1170, except that housing and communal residential buildings that fall within the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 are excluded; and,
- constructed with timber framing, or timber frame infill complying with the NZBC; and,
- subjected to maximum wind pressures for structural and weathertightness design of 1.0 kPa Serviceability Limit State (SLS) and 1.5 kPa Ultimate Limit State (ULS) where studs are at maximum 600 mm centres, and 3.0 kPa SLS and 4.5 kPa ULS where studs are at maximum 400 mm centres; and,
- where the maximum seismic displacement under serviceability conditions is 10 mm; and,
- where the cavity is drained and ventilated at every 10 m maximum; and,
- with a rigid air barrier installed at the back of the cavity.

2.2 All buildings incorporating Titan® & ExoTec® Façade Panel Rainscreen must be subject to specific engineering and weathertightness design. Building designers are responsible for the frame design and for the incorporation of the Titan® & ExoTec® Façade Panel Rainscreen into their design in accordance with the instructions of James Hardie Building Products.

2.3 Titan® & ExoTec® Façade Panel Rainscreen must only be installed to vertical flat surfaces.

2.4 Window and door joinery installations in the Titan® & ExoTec® Façade Panel Rainscreen system must be subject to specific weathertightness design. Building designers are responsible for verifying the performance of the joinery installation details. *(The Appraisal of Titan® & ExoTec® Façade Panel Rainscreen relies on the joinery being the subject of specific engineering design with regards to wind load and deflection for the design wind pressure.)*

2.5 The system must be installed using detailing as set out in the Technical Literature.

**Readers are advised to check the validity of this Appraisal by referring to the Valid Appraisals listing on the BRANZ website, or by contacting BRANZ.**

(Note: The Titan® & Exotec® Façade Panel Rainscreen system can be used to provide structural bracing and fire resistance rated construction, but these aspects have not been assessed by this Appraisal and are outside its scope.)

## Building Regulations

### New Zealand Building Code (NZBC)

**3.1 In the opinion of BRANZ, Titan® & Exotec® Façade Panel Rainscreen if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet or contribute to meeting the following provisions of the NZBC:**

**Clause B1 STRUCTURE:** Performance B1.3.1, B1.3.2 and B1.3.4. Titan® & Exotec® Façade Panel Rainscreen meets the requirements for loads arising from self-weight, earthquake, wind, human impact and creep [i.e. B1.3.3 (a), (f), (h), (j) and (q)]. See Paragraphs 9.1 – 9.6.

**Clause B2 DURABILITY:** Performance B2.3.1 (b), 15 years. Titan® & ExoTec® Façade Panel Rainscreen meets this requirement. See Paragraph 10.1.

**Clause E2 EXTERNAL MOISTURE:** Performance E2.3.2. Titan® & Exotec® Façade Panel Rainscreen meets this requirement. See Paragraphs 14.1 – 14.6.

**Clause F2 HAZARDOUS BUILDING MATERIALS:** Performance F2.3.1. Titan® & Exotec® Façade Panel Rainscreen meets this requirement and will not present a health hazard to people.

3.2 This is an Appraisal of an **Alternative Solution** in terms of New Zealand Building Code compliance.

## Technical Specification

4.1 System components and accessories for Titan® & Exotec® Façade Panel Rainscreen which are supplied by James Hardie New Zealand Ltd are:

**Fibre Cement Sheets**

- Titan® façade panels are medium density fibre cement produced with a smooth face and are sealed with an acrylic primer on the front and back face and all four edges. The sheets are 9 mm thick and are available 1190 mm wide by 2400, 2700 and 3000 mm long.
- ExoTec® façade panels are high density compressed fibre cement produced with a smooth face and are sealed with an acrylic primer on the front and back face and all four edges. The sheets are 9 mm thick and are available 1190 mm wide by 1800, 2400 and 3000 mm long.
- RAB sheets are produced with a smooth face and are sealed with an acrylic primer on the front face and all four edges. The sheets are 5.5 mm thick and are available 1200 mm wide by 2400 and 3000 mm long.
- The Titan® & Exotec® façade panels and RAB sheets are manufactured from cellulose fibre cement. The sheets are formed, cut to length and then cured by high-pressure autoclaving. They are manufactured to meet the requirements of AS/NZS 2908.2.

**Accessories**

- Cavity batten packer – 3 mm thick by 40 mm wide fibre cement manufactured to meet the requirements of AS/NZS 2908.2. The packers are available in 1200 mm lengths.
- Aluminium socket – manufactured from Grade 5005 aluminium alloy. It is extruded 1.2 mm thick by 82 mm wide with a 9 mm wide T-lip located 45 mm down from the top edge. The socket is available in 2400 and 3000 mm lengths.
- Inseal® 3259 Tape – black, compressible, medium density PVC (Polyvinyl Chloride) closed-cell foam. The foam is coated on one face with pressure sensitive acrylic adhesive. The other face is covered by a silicone release paper. The tape is 1.5 mm thick and is supplied in rolls 50 and 80 mm wide and 50 m long.
- Inseal® 3109/Butyl Tape – 1 mm thick black Butyl rubber membrane with 6 x 9 mm Inseal® 3109 adhered along each edge of one face with an acrylic adhesive. Inseal® 3109 is compressible, black, low density PVC foam. The tape is supplied in rolls 50 and 80 mm wide and 12 m long.
- Cavity vent strip – uPVC, available in 2700 mm lengths.

4.2 Accessories used with Titan® & Exotec® Rainscreen which are supplied by the building contractor are:

- Cavity battens – nominal 50 mm wide by 25 mm thick (minimum finished size of 45 mm wide by 18 mm thick) timber treated to Hazard Class H3.1.
- Timber packers – nominal 50 mm wide by 25 mm thick (minimum finished size of 45 mm wide by 18 mm thick) timber treated to Hazard Class H3.1.
- Joinery flashings – folded from aluminium or galvanised steel to specific weathertightness design to suit the window or door trim opening. Refer to NZS 3604, Section 4 and NZBC Acceptable Solution E2/AS1, Table 20 for durability requirements.
- Horizontal drained joint flashing – folded from aluminium or galvanised steel to specific weathertightness design. Refer to NZS 3604, Section 4 and NZBC Acceptable Solution E2/AS1, Table 20 for durability requirements.
- Flexible sealant – sealant covered by a valid BRANZ Appraisal for use as a weather sealing sealant for exterior use.
- RAB sheet fixings – 40 x 2.8 mm hot-dip galvanised flat head Hardiflex nails.
- Cavity batten fixings – 40 x 2.8 mm hot-dip galvanised flat head Hardiflex nails.
- Titan® façade panel fixings – 65 x 10g Grade 316 stainless steel wood screws, or 60 x 3.15 mm hot-dip galvanised or Grade 316 stainless steel, ring shank Hardiflex nails. (Note: The screw head must be minimum 9 mm diameter.)
- ExoTec® façade panel fixings - 65 x 10g Grade 316 stainless steel wood screws. *(Note: The screw head must be minimum 9 mm diameter.)*

**Paint System Specification**

4.3 All exposed façade panel surfaces (including panel edges) must be finished with a latex exterior paint system complying with any of Parts 7, 8, 9 or 10 of AS 3730. Proprietary paint systems, including fillers have not been assessed, and are outside the scope of this Appraisal.

## Handling and Storage

5.1 Handling and storage of all materials supplied by James Hardie New Zealand Ltd and the building contractor, whether on or off site, is under the control of the building contractor. The Titan® and Exotec® façade panels and RAB sheets must be stacked flat, off the ground and supported on a level platform. They must be kept dry at all times either by storing under cover or providing waterproof covers to the stack. Care must be taken to avoid damage to edges, ends and surfaces. Sheets must always be carried on edge.

5.2 Cavity battens and other accessories must be stored so they are kept clean, dry and undamaged. All accessories must be used within the maximum storage period recommended.

## Technical Literature

6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for Titan® & Exotec® Façade Panel Rainscreen. The Technical Literature must be read in conjunction with this Appraisal. All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Appraisal must be followed.

## Design Information

### Framing

**Timber Treatment**

7.1 Timber wall framing behind the Titan® & Exotec® Façade Panel Rainscreen system must be treated as required by NZBC Acceptable Solution B2/AS1.

**Timber Framing**

7.2 Timber framing must be minimum No. 1 framing grade in accordance with NZS 3631. The building designer is responsible for the framing design using wind pressures calculated in accordance with AS/NZS 1170 considering local factors. Some guidance is given within the Technical Literature.

7.3 Nominal 75 mm wide studs must be provided at all vertical RAB sheet and façade panel edges. *(This can also be achieved by nailing two nominal 50 mm wide studs together.)*

7.4 Timber framing must have a maximum moisture content of 24% at the time of the RAB sheet application. *(If RAB sheets are fixed to framing with a moisture content of greater than 24% problems may occur at a later date due to excessive timber shrinkage.)*

**Fibre Cement Sheet Setout**

7.5 All vertical and horizontal RAB sheet edges must be supported and fixed directly to the wall framing. At the base of the wall, the RAB sheet must hang 8 mm below the supporting framing.

7.6 All vertical Titan® & Exotec® façade panel edges must be supported and fixed through the cavity battens to the wall framing. At the base of the wall, the Titan® and Exotec® panels must hang 50 mm below the supporting framing.

### General

8.1 Punchings in the cavity vent strip provide a minimum ventilation opening area of 1000 mm² per lineal metre of wall.

8.2 At ground level, the bottom edge of the Titan® & Exotec® Façade Panel Rainscreen system must be kept clear of paved surfaces, such as footpaths, by a minimum of 100 mm and unpaved surfaces by 175 mm in accordance with NZBC Acceptable Solution E2/AS1, Table 18. The ground clearances to finished floor levels as set out in Table 18 must be adhered to at all times.

8.3 The rainscreen must be drained every 10 m maximum. Horizontal Titan® & Exotec® façade panel joints at intermediate floor levels, or sheet joints between floor levels may be formed using the aluminium socket to create a negative expressed non-drained joint.

8.4 The aluminium socket must not be allowed to come into contact with treated timber battens that contain copper (e.g. CCA, copper azole or ACQ). The socket must be separated from the battens by the fibre cement packer.

8.5 Where the system abuts other cladding systems, the building designer must detail the junction to meet their own requirements and the performance requirements of the NZBC. Details not included in the Technical Literature have not been assessed and are outside the scope of this Appraisal.

### Structure

**Mass**

9.1 The mass of the Titan® & Exotec® Façade Panel Rainscreen system is approximately 22 kg/m² at equilibrium moisture content.

**Impact Resistance**

9.2 The system will resist human impact loads likely to be encountered. The likelihood of damage to the system from other soft and hard body impacts should be considered at the design stage, and appropriate protection such as the installation of bollards and barriers provided for vulnerable areas.

**Wind Loading**

9.3 The system is suitable for use when subjected to maximum wind pressures of 1.0 kPa Serviceability Limit State (SLS) and 1.5 kPa Ultimate Limit State (ULS) where studs are at 600 mm centres, and 3.0 kPa SLS and 4.5 kPa ULS where studs are at 400 mm centres.

Seismic Loading

9.4 The system is suitable for use where the maximum seismic displacement is 10 mm under serviceability conditions.

**RAB Sheet Fixing**

9.5 The RAB sheets must be fixed to the wall framing (studs and nogs) at maximum 300 mm centres. The fixings must be installed a minimum of 12 mm from the edge of the sheet.

**Titan® & Exotec® Façade Panel Fixing**

9.6 Titan® & Exotec® façade panels must be fixed through the cavity battens to the wall framing at maximum centres as specified in Table 1. The fixings must be installed a minimum of 18 mm from the edge of the sheet.

**Table 1: Titan® & Exotec® Façade Panel Fixing Centres**

| Façade Panel | Maximum Stud Spacing (mm) | Fixing Type | Maximum Fixing Centres to Edge of Sheet (mm) | Maximum Fixing Centres to Body of Sheet (mm) |
|---|---|---|---|---|
| Titan® | 600 | 60 x 3.15 mm Hardiflex nail | 200 | 250 |
| Titan® and ExoTec® | 600 | 65 x 10g wood screw | 200 | 300 |
| Titan® | 400 | 60 x 3.15 mm Hardiflex nail | 150 | 150 |
| Titan® and Exotec® | 400 | 65 x 10g wood screw | 200 | 200 |

## Durability

**Serviceable Life**

10.1 Provided the Inseal® 3259 tape and Inseal® 3109 foam component of the Inseal® 3109/Butyl Tape is not exposed to the weather or ultra-violet (UV) light for a total of more than 30 days; and provided the system is maintained in accordance with this Appraisal, and the Titan® & Exotec® façade panels and fixings are continuously protected by a weathertight coating and remain dry in service, Titan® & Exotec® Façade Panel Rainscreen is expected to have a serviceable life of at least 15 years. If the Inseal® 3259 tape or Inseal® 3109 foam component of the Inseal® 3109/Butyl Tape is exposed to the weather or UV light for a total of more than 30 days, then it must be replaced with new material.

10.2 Microclimatic conditions, including geothermal hot spots, industrial contamination and corrosive atmospheres, and contamination from agricultural chemicals or fertilisers can convert mildly corrosive atmosphere into aggressive environments for fasteners. The fixing of the Titan® & ExoTec® Facade Panel Rainscreen in areas subject to microclimatic conditions requires specific design in accordance with NZS 3604 Paragraph 4.2.4, and is outside the scope of this Appraisal.

## Maintenance

11.1 Regular maintenance is essential for Titan® & Exotec® Façade Panel Rainscreen installations to continue to meet the NZBC durability performance provision and to maximise the serviceable life of the system.

11.2 Annual inspections must be made to ensure that all aspects of the cladding system, including the paint coating system, flashings, weather seal tapes and any sealed joints remain in a weatherproof condition. Any damaged areas or areas showing signs of deterioration which would allow water ingress must be repaired immediately. Sealant, paint coatings and the like must be repaired in accordance with the sealant or paint coating manufacturer's instructions.

11.3 Regular cleaning (at least annually) of the paint coating surface is required to remove grime, dirt and organic growth and to maximise the life and appearance of the coating. Paint systems must be recoated at approximately 5-10 yearly intervals in accordance with the paint manufacturer's instructions.

11.4 Minimum ground clearances as set out in this Appraisal and the Technical Literature must be maintained at all times during the life of the system. *(Failure to adhere to the minimum ground clearances given in this Appraisal and the Technical Literature will adversely affect the long term durability of the Titan® & Exotec® Façade Panel Rainscreen system.)*

## Control of External Fire Spread

12.1 Titan® & Exotec® Façade Panels are a non combustible material. When Titan® & Exotec® Façade Panels are finished with a paint coating of not more that 1.0 mm in thickness, the exterior surface finishes requirements of NZBC Acceptable Solution C/AS1 Table 5 and NZBC Acceptable Solutions C/AS2 – C/AS6 Paragraph 5.8.1 do not apply in accordance with NZBC Acceptable Solution C/AS1 Paragraph 5.4 and NZBC Acceptable Solutions C/AS2 – C/AS6 Paragraph 5.8.2 a).

## Prevention of Fire Occurring

13.1 Titan® & Exotec® Façade Panels are considered a non-combustible material and need not be separated from heat sources such as fire places, heating appliances, flues and chimneys. However, when used in conjunction with, or attached to heat sensitive materials, the heat sensitive material must be separated from fireplaces, heating appliances, flues and chimneys in accordance with the requirements of Part 7 of NZBC Acceptable Solutions C/AS1 – C/AS6 and NZBC Verification Method C/VM1.

## External Moisture

14.1 The Titan® & Exotec® Façade Panel Rainscreen system has been tested in accordance with the requirements of AS/NZS 4284 up to 4.5 kPa ULS (refer to Paragraph 2.1). This test method is designed to verify the performance of commercial building facades. *(Titan® & Exotec® Façade Panel Rainscreen has not been tested in accordance with the requirements of the housing and communal residential building test method, NZBC Verification Method E2/VM1.)*

14.2 Titan® & Exotec® Façade Panel Rainscreen, when installed in accordance with this Appraisal and the Technical Literature, prevents the penetration of moisture that could cause undue dampness or damage to building elements.

14.3 The cavity must be sealed off from the roof and sub-floor space to meet code compliance with NZBC Clause E2.3.5.

14.4 Titan® & Exotec® Façade Panel Rainscreen allows excess moisture present at the completion of construction to be dissipated without permanent damage to building elements to meet code compliance with NZBC Clause E2.3.6.

14.5 The details given in the Technical Literature for weather sealing are based on the design principle of having a first and second line of defence against moisture entry for all joints, penetrations and junctions. Weathertightness details that are developed by the designer are outside the scope of this Appraisal and are the responsibility of the designer for compliance with the NZBC.

14.6 The use of Titan® & Exotec® Façade Panel Rainscreen where there is a designed cavity drainage path for moisture that penetrates the cladding, does not reduce the requirement for junctions and penetrations to remain weather resistant.

# Installation Information

## Installation Skill Level Requirements

15.1 Installation of Titan® & Exotec® Façade Panel Rainscreen components and accessories supplied by James Hardie New Zealand Ltd and the building contractor must be completed by tradespersons with an understanding of cavity construction and fibre cement installation, in accordance with the instructions given within the Titan® & Exotec® Façade Panel Rainscreen Technical Literature, the building designers documentation and this Appraisal.

## System Installation

**Rigid Air Barrier (RAB)**

16.1 RAB sheets may be cut on site by power saw. Holes and cut-outs may be formed by drilling a number of holes around the perimeter of the opening required and tapping out the centre with a hammer, or by using a hole saw.

16.2 RAB sheets must be dry prior to installation. Before the sheets are installed, cut edges and any penetrations in the sheet must be sealed with an acrylic primer.

16.3 At the base of the wall, the RAB sheet must hang minimum 8 mm below the supporting framing. The RAB sheets must be fixed directly to the wall framing at maximum 300 mm centres with 40 x 2.8 mm hot-dip galvanised flat head Hardiflex nails. The nails must not be closer than 12 mm from the edge of the sheet.

16.4 Vertical joints in the RAB must be installed with a 2 mm gap between the sheets over nominal 75 mm wide studs. A minimum 10 mm gap must be left at all horizontal RAB sheet joints. The horizontal gap between the sheets must be flashed with 80 x 1.5 mm Inseal® 3259 Tape, 1.0 mm thick by 80 mm wide Butyl rubber or 0.55 mm thick galvanised steel or aluminium. Joints in the RAB sheets do not need to be in line with joints in the façade panels.

16.5 Penetrations through the air barrier must be sealed against the RAB sheets to ensure the integrity of the air barrier is retained.

**Inseal® 3259 Tape**

16.6 Prior to the installation of the cavity battens, all vertical joints in the RAB sheets and at internal and external corners must be covered with Inseal® 3259 Tape. The tape is applied directly from the roll leaving the release liner in place to prevent stretching of the tape. The tape is applied directly to the RAB sheet by pressing firmly along the entire tape to obtain maximum benefit of the pressure sensitive adhesive and to ensure a continuous seal. The release liner is removed only when the cavity battens are ready to be installed.

16.7 Inseal® 3259 Tape installed over vertical RAB sheet joints must always be covered by a cavity batten.

**Cavity Battens**

16.8 Cavity battens must be installed over the RAB sheets to the wall framing. The battens must be fixed in place with 40 x 2.8 mm hot-dip galvanised flat-head Hardiflex nails at maximum 400 mm centres.

16.9 Double battens must be installed behind all vertical Titan® & Exotec® façade panel joints. At horizontal aluminium socket joints, 125 mm long vertical timber packers must be installed at 100 mm centres along the line of the joint to support the aluminium socket.

**Inseal® 3109/Butyl Flashing Tape and Cavity Batten Packer**

16.10 Before installation of the façade panels, Inseal® 3109/ Butyl Tape must be installed behind the vertical panel joints to weatherproof the negative expressed joint. Before fixing in place, the tape must be unrolled, cut to length and allowed to 'relax'. The tape is temporarily fixed in position over the cavity battens by stapling to the battens through the outside edge of the Butyl membrane.

16.11 Cavity batten packers must be fixed to the face of all cavity battens and timber packers that do not have Inseal® 3109/Butyl Tape installed over them.

**Aluminium Socket**

16.12 The aluminium socket must be adhered to the back face of the façade panel. This should be completed on the ground prior to the panel's installation. The socket is installed with the T-lip positioned against the top edge of the façade panel and is adhered to the panel with two continuous beads of sealant.

**Titan® and ExoTec® Façade Panel Installation**

16.13 Titan® & Exotec® façade panels may be cut on site by power saw. Holes and cut-outs may be formed by drilling a number of holes around the perimeter of the opening required and tapping out the centre with a hammer, or by using a hole saw.

16.14 Titan® & Exotec® façade panels must be dry prior to installation. Before the panels are installed, cut edges, any damaged pre-primed factory edges and any penetrations in the panel must be sealed with an acrylic primer.

16.15 The bottom row of façade panels must overhang the bottom plate by a minimum of 50 mm. Vertical negative expressed joints are formed over the Inseal® 3109/Butyl Tape by leaving a 10 mm gap between the sheet edges. Horizontal negative expressed joints are formed by leaving a 10 mm gap between horizontal façade panel edges over the aluminium socket.

16.16 Horizontal drained joints are formed by the installation of a Z flashing which bridges the cavity and allows for cavity drainage. A 10 mm gap must be maintained between the top of the Z flashing and the underside of the façade panel above.

16.17 Titan® façade panel fixing must be carried out using 65 x 10g wood screws or 60 x 3.15 mm hot-dip galvanised or stainless steel, ring shank Hardiflex nails. ExoTec® façade panel fixing must be carried out using 65 x 10g wood screws. The fixings must not be closer than 18 mm from the edge of the panel and at vertical panel joints must penetrate through the outer edge of the Inseal® 3109/Butyl Tape beyond the line of the foam seal.

16.18 Nail fixings must be driven flush with the panel surface. Screw fixings must be countersunk 1.5-2.0 mm below the panel surface.

**Joinery Installation**

16.19 Window and door joinery and associated flashings, air seals etc must be installed by the building contractor in accordance with the building designer's details.

**Inspections**

16.20 The Technical Literature must be referred to during the inspection of Titan® & Exotec® Façade Panel Rainscreen installations.

**Finishing**

16.21 Titan® & Exotec® façade panels must be coated within 3 months of fixing.

16.22 Countersunk screw fixings must be filled with an exterior grade epoxy filling compound recommended for use with the selected paint system. The stopping of screw fixings is for aesthetic purposes only. The quality of finish on the Titan® & Exotec® façade panels is dependant on the quality of finishing materials used, and applicator workmanship.

16.23 The paint coating manufacturer's instructions must be followed at all times for application of the paint finish. Titan® & Exotec® façade panels must be clean and dry before commencing painting.

## Health and Safety

17.1 Cutting of the RAB sheets and Titan® & Exotec® façade panels must be carried out in well ventilated areas, and a dust mask and eye protection must be worn.

17.2 When power tools are used for cutting, grinding or forming holes, health and safety measures as set out in the Technical Literature must be undertaken because of the amount of dust generated.

17.3 Safe use and handling procedures for the RAB sheets, Titan® & Exotec® façade panels and the components that make up the cladding system are provided in the relevant manufacturer's Technical Literature.

## Basis of Appraisal

The following is a summary of the technical investigations carried out:

### Tests

18.1 BRANZ expert opinion on NZBC E2 code compliance for Titan® & Exotec® Façade Panel Rainscreen was based on testing and/or evaluation of all details within the scope of this Appraisal. The Titan® & Exotec® Façade Panel Rainscreen system was tested by BRANZ to AS/NZS 4284 with a design wind pressure of 1.1 kPa Serviceability Limit State. The testing was completed in two stages; the first being the static AS/NZS 4284 test, the second being the dynamic AS/NZS 4284 test. The testing assessed the performance of the foundation detail, window head, jamb and sill details, vertical negative expressed joint, horizontal negative expressed joints, horizontal drained joint and internal and external corners. In addition to the weathertightness test, the details contained within the Technical Literature have been reviewed, and an opinion has been given by BRANZ technical experts that the system will meet the performance requirements of the New Zealand Building Code External Moisture Clause E2, when used within the scope of this Appraisal.

18.2 Titan® & Exotec® Façade Panel Rainscreen has been tested by an IANZ accredited laboratory in accordance with AS/NZS 4284 with a design wind pressure of 3.3 kPa Serviceability Limit State. The test methods and results have been reviewed by BRANZ and found to be satisfactory.

18.3 Testing has been carried out by James Hardie Building Products to determine the performance of the Titan® & Exotec® Façade Panel Rainscreen system under negative suction pressure. The test methods and results have been reviewed by BRANZ and found to be satisfactory.

### Other Investigations

19.1 Structural and durability opinions have been given by BRANZ technical experts.

19.2 Site visits have been carried out by BRANZ to assess the practicability of installation, and to examine completed installations.

19.3 The Technical Literature for Titan® & Exotec® Rainscreen has been examined by BRANZ and found to be satisfactory.

### Quality

20.1 The manufacture of RAB sheets and Titan® façade panels by James Hardie New Zealand Ltd has been examined by BRANZ, and details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory.

20.2 The manufacture of ExoTec® façade panels by James Hardie Australia Pty Ltd has not been assessed by BRANZ, but details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory.

20.3 The quality of materials, components and accessories supplied by James Hardie New Zealand Ltd is the responsibility of James Hardie New Zealand Ltd. The quality control system of James Hardie New Zealand Ltd has been assessed and registered as meeting the requirements of ISO 9001: 2008.

20.4 The quality of materials, components and accessories supplied by James Hardie Australia Pty Ltd is the responsibility of James Hardie Australia Pty Ltd. The quality control system of James Hardie Australia Pty Ltd has been assessed and registered as meeting the requirements of ISO 9001: 2008.

20.5 Quality on site is the responsibility of the installer.

20.6 Designers are responsible for the building design, including weathertightness design of penetrations, and building contractors are responsible for the quality of installation of the Titan® & Exotec® Façade Panel Rainscreen components and accessories in accordance with the instructions of James Hardie New Zealand Ltd.

20.7 Building owners are responsible for the maintenance of Titan® & Exotec® Façade Panel Rainscreen in accordance with the instructions of James Hardie New Zealand Ltd.

### Sources of Information

- AS/NZS 1170: 2002 Structural design actions.
- AS 3730 Guide to the properties of paints for buildings.
- AS/NZS 2908.2: 2000 Cellulose-cement products - Flat sheet.
- AS/NZS 4284: 1995 Testing of building facades.
- NZS 3602: 2003 Timber and wood-based products for use in building.
- NZS 3604: 2011 Timber-framed buildings.
- NZS 3631: 1988 New Zealand timber grading rules.
- Compliance Document for New Zealand Building Code External Moisture Clause E2, Department of Building and Housing, Third Edition July 2005 (Amendment 5, 1 August 2011).
- Ministry of Business, Innovation and Employment Record of Amendments for Compliance Documents and Handbooks.
- The Building Regulations 1992.

BRANZ

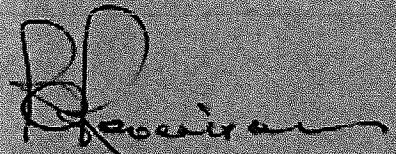
**In the opinion of BRANZ, Titan® & Exotec® Façade Panel Rainscreen is fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided it is used, designed, installed and maintained as set out in this Appraisal.**

**The Appraisal is issued only to the Appraisal Holder, James Hardie New Zealand, and is valid until further notice, subject to the Conditions of Certification.**

## Conditions of Certification

1. This Appraisal:
   a) relates only to the product as described herein;
   b) must be read, considered and used in full together with the technical literature;
   c) does not address any Legislation, Regulations, Codes or Standards, not specifically named herein;
   d) is copyright of BRANZ.
2. The Appraisal Holder:
   a) continues to have the product reviewed by BRANZ;
   b) shall notify BRANZ of any changes in product specification or quality assurance measures prior to the product being marketed;
   c) abides by the BRANZ Appraisals Services Terms and Conditions.
3. The product and the manufacture are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ.
4. BRANZ makes no representation as to:
   a) the nature of individual examples of, batches of, or individual installations of the product, including methods and workmanship;
   b) the presence or absence of any patent or similar rights subsisting in the product or any other product;
   c) any guarantee or warranty offered by the Appraisal Holder.
5. Any reference in this Appraisal to any other publication shall be read as a reference to the version of the publication specified in this Appraisal.

For BRANZ



P Robertson
Chief Executive

Date of issue: 5 May 2005

**Amendment No. 1, dated 31 January 2012.**
This Appraisal has been amended to update clause changes as required by the introduction of NZS 3604: 2011 and NZBC Acceptable Solution E2/AS1 Third Edition, Amendment 5.
**Amendment No. 2, dated 30 August 2013.**
This Appraisal has been amended to update clause changes as required by the introduction of NZBC Fire Clauses C1 – C6 Protection from Fire and A3 Building Importance Levels and to change the name of the Appraisal Holder.

**BRANZ Appraised**
Appraisal No. 238 [2012]

# PINK® BATTS® INSULATION

**Appraisal No. 238 (2012)**

This Appraisal replaces BRANZ Appraisal No. 238 (2008).

Amended 28 July 2016

**BRANZ Appraisals**

Technical Assessments of products for building and construction.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## Product

1.1 Pink® Batts® insulation is a range of resin bonded fibrous glasswool thermal insulating material for use in walls, ceilings and roofs of buildings. Pink® Batts® insulation is pre-cut to suit a range of framing spacings.

## Scope

2.1 Pink® Batts® insulation has been appraised as a thermal insulating material for framed or part-framed walls, ceilings and roofs of domestic and commercial buildings.

## Building Regulations

**New Zealand Building Code (NZBC)**

3.1 **In the opinion of BRANZ, Pink® Batts® insulation, if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet or contribute to meeting the following provisions of the NZBC:**

**Clause B2 DURABILITY:** Performance B2.3.1 (a) not less than 50 years and B2.3.1 (b) 15 years. Pink® Batts® insulation will meet these requirements. See Paragraph 8.1.

**Clause E3 INTERNAL MOISTURE:** Performance E3.3.1. Pink® Batts® insulation will contribute to meeting this requirement. See Paragraphs 13.1 and 13.2.

**Clause F2 HAZARDOUS BUILDING MATERIALS:** Performance F2.3.1. Pink® Batts® insulation meets this requirement and will not present a health hazard to people.

**Clause H1 ENERGY EFFICIENCY:** Performance H1.3.1 (a) and H1.3.2 E. Pink® Batts® insulation will contribute to meeting these requirements. See Paragraphs 14.1 and 14.2.

3.2 This is an Appraisal of an **Acceptable Solution** in terms of New Zealand Building Code compliance. Pink® Batts® insulation thermal resistance (R-value) has been determined by AS/NZS 4859.1 which is an acceptable method.



Readers are advised to check the validity of this Appraisal by referring to the Valid Appraisals listing on the BRANZ website, or by contacting BRANZ.

# Technical Specification

4.1 Pink® Batts® insulation is a resin bonded fibrous glasswool insulation manufactured from recycled and/or virgin glass and cured urea extended phenolic resin.

4.2 Pink® Batts® insulation is manufactured in a range of sizes to suit framing centres and cavity depths. Building Insulation Blanket (BIB) is supplied in rolls for commercial applications. Pink® Batts® insulation is available as set out in Table 1.

**Table 1: Pink® Batts® insulation product table.**

| R-value | Nominal Thickness (mm) | Width (mm) | Length (mm) | Nett Area ($m^2$) | Density ($kg/m^3$) |
|---|---|---|---|---|---|
| **Ceiling Insulation** | | | | | |
| 1.8 | 95 | 432 | 1220 | 13.7 | 8.3 |
| 2.2 | 115 | 432 | 1220 | 12.6 | 8.2 |
| 2.6 | 140 | 432 | 1220 | 10.5 | 7.7 |
| 3.2 | 170 | 432 | 1220 | 8.4 | 8.4 |
| 3.2 | 170 | 432 | 1220 | 8.4 | 7.1 |
| 3.6[1] | 180 | 432 | 1220 | 7.4 | 7.5 |
| 3.6 | 180 | 432 | 1220 | 7.4 | 8.8 |
| 4.0[1] | 195 | 432 | 1220 | 6.3 | 8.1 |
| 4.6[1] | 215 | 432 | 1220 | 5.3 | 9.0 |
| 5.0[1] | 220 | 432 | 1220 | 4.2 | 10.0 |
| 6.0[1] | 235 | 432 | 1220 | 3.7 | 13.0 |
| 6.3[1] | 250 | 432 | 1220 | 3.2 | 12.3 |
| 7.0[1] | 260 | 432 | 1220 | 2.6 | 15.8 |
| **Wall Insulation** | | | | | |
| 1.8 | 90 | 580 | 1140 | 17.2 | 9.0 |
| 2.2 | 90 | 580 | 1140 | 13.9 | 12.0 |
| 2.4 | 90 | 580 | 1140 | 10.6 | 15.5 |
| 2.4 | 90 | 580 | 1140 | 10.6 | 17.4 |
| 2.6[1] | 90 | 580 | 1140 | 9.9 | 20.0 |
| 2.8[1] | 90 | 580 | 1140 | 6.6 | 28.6 |
| 3.2[1] | 140 | 580 | 1140 | 9.9 | 10.7 |
| 3.6[1] | 140 | 580 | 1140 | 7.3 | 14.0 |
| 4.0[1] | 140 | 580 | 1140 | 5.3 | 20.5 |
| **Building Insulation Blanket** | | | | | |
| 1.8 | 75 | 1200 | 8000 | 19.2 | 12.0 |
| **Masonry Wall Insulation** | | | | | |
| 1.0 | 40 | 580 | 1220 | 21.2 | 14.0 |
| **Narrow Wall Insulation** | | | | | |
| 2.2 | 90 | 380 | 1140 | 9.5 | 12.0 |
| 2.6[1] | 90 | 380 | 1140 | 7.8 | 20.0 |
| **Steel Wall Insulation** | | | | | |
| 2.2 | 90 | 610 | 1220 | 15.6 | 12.0 |
| 2.6[1] | 90 | 610 | 1220 | 9.7 | 20.0 |



Readers are advised to check the validity of this Appraisal by referring to the Valid Appraisals listing on the BRANZ website, or by contacting BRANZ.

**Table 1: Pink® Batts® insulation product table cont.**

| R-value | Nominal Thickness (mm) | Width (mm) | Length (mm) | Nett Area (m²) | Density (kg/m³) |
|---|---|---|---|---|---|
| **Pink® Batts® Retrofit Ceiling Insulation** | | | | | |
| 2.9 | 150 | 432 | 1220 | 9.5 | 7.7 |
| 3.3 | 175 | 432 | 1220 | 8.8 | 7.1 |

[1] Pink® Batts® Insulation products that have the Environmental Choice license.

4.3 Pink® Batts® insulation is pink in colour and is baled in pink polythene bags with labelling in compliance with AS/NZS 4859.1.

4.4 Pink® Batts® Retrofit Ceiling Insulation is pink in colour and is baled in teal polythene bags with labelling in compliance with AS/NZS 4859.1.

4.5 Accessories used with Pink® Batts® insulation, which are supplied by the insulation installer, are wire netting, plastic strapping and fixings.

## Handling and Storage

5.1 Pink® Batts® insulation must be stored under cover and in dry conditions. Heavy objects must not be stacked on the bales. The bales must be stored in an orientation that avoids excessive compression of the product.

5.2 In general, insulation products are sensitive to the length of time they are stored in compression packaging. Product that does not recover to its nominal thickness may not achieve the stated R-value.

## Technical Literature

6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for Pink® Batts® insulation. The Technical Literature must be read in conjunction with this Appraisal. All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Appraisal must be followed.

## Design Information

### General

7.1 Pink® Batts® insulation is intended for use as thermal insulation to meet the requirements of the NZBC. Pink® Batts® insulation can be used to meet the minimum schedule method R-values of NZBC Verification Method H1/VM1 or NZBC Acceptable Solution H1/AS1. Greater construction R-values can be achieved where specific design is used. For construction R-values refer to the BRANZ House Insulation Guide. Product R-values and dimensions are given in Table 1.

7.2 Pink® Batts® insulation is designed to be friction-fitted between wall, ceiling or roof framing. It can also be laid directly on a ceiling lining, over ceiling battens or joists/truss chords. In other horizontal situations, it must be adequately supported by galvanised wire netting or some other suitable durable material.

7.3 Where the insulation is installed in exterior walls, the nominal thickness of the insulation material must be selected to provide a snug close fit which touches all sides of the insulation cavity between the wall underlay and the interior wall lining.

7.4 Building Insulation Blanket is designed specifically for commercial roof and commercial wall applications. In residential applications, installation must be completed in line with NZS 4246.

7.5 When the insulation is installed in a wall with a drained cavity, it is recommended that specific wall products with a controlled nominal thickness be used. Where the stud spacings are greater than 450 mm, an intermediate means of restraining the insulation from bulging into the cavity must be installed in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.5.



Readers are advised to check the validity of this Appraisal by referring to the Valid Appraisals listing on the BRANZ website, or by contacting BRANZ.

7.6 To prevent moisture transfer and to provide roof ventilation, a separation of 25 mm minimum is required between the insulation and any rigid substrate or flexible roof underlay. Selecting specifically designed skillion roof insulation products with a controlled nominal thickness can assist with this requirement.

7.7 The building envelope must be constructed to ensure the insulation remains dry during installation and throughout the life of the building.

7.8 The clearance requirements for heating appliances and downlights must be met and reference made to the manufacturers instructions and NZS 4246. See Paragraphs 10.1 - 10.3.

## Durability

**Serviceable Life**

8.1 Where the building is maintained so that provisions of NZBC Clauses E2 and E3 are met, and where the insulation is not crushed or exposed to conditions that will diminish its thermal performance (e.g. moisture), Pink® Batts® insulation can expect to have a serviceable life of at least 50 years.

## Maintenance

9.1 Insulation that has become damp must be removed and the cause of dampness repaired. Cavities must be clean and dry before fitting new insulation of an equivalent thermal rating. NZS 4246 gives guidance on thermal insulation maintenance due to water damage.

## Prevention of Fire Occurring

10.1 Pink® Batts® Insulation is considered a non-combustible material and need not to be separated from heat sources such as fire places, heating appliances, flues and chimneys. However, when used in conjunction with, or attached to heat sensitive materials, the heat sensitive material must be separated from fireplaces, heating appliances, flues and chimneys in accordance with the requirements of Part 7 of NZBC Acceptable Solutions C/AS1 to C/AS6 and NZBC Verification Method C/VM1.

**Downlights**

10.2 Recessed luminaires shall be of type and be installed in accordance with NZBC Acceptable Solution C/AS1 to C/AS6, Section 7.4.

10.3 Insulation materials must maintain a clearance of 100 mm to undefined recessed luminaires in existing buildings.

## Control of Internal Fire and Smoke Spread

11.1 Pink® Batts® Insulation has been classified non-combustible when tested to AS 1530.1 and can therefore be assigned a Group Number of 1-S. Unless foamed plastics building materials are also used as part of the wall or ceiling construction, there are no internal surface finish requirements in Risk Group SH in accordance with NZBC Acceptable Solution C/AS1. When used in an occupied space, Pink® Batts® Insulation does not need to be enclosed in any Risk Group. Refer to NZBC Acceptable Solutions C/AS2 to C/AS6 for the specific internal surface requirements for walls or ceilings in other Risk Groups.

## External Moisture

12.1 The total building envelope must be weathertight and comply with the requirements of NZBC Clause E2 to ensure that the insulation remains dry in use.

12.2 The moisture content of the construction materials at the time of installing and enclosing the insulation must meet the requirements of NZBC Acceptable Solution E2/AS1, Paragraph 10.2 (a), or a lower moisture content if required by the lining manufacturer.

## Internal Moisture

13.1 Buildings must provide an adequate combination of thermal resistance, ventilation and space temperature to all habitable spaces, bathrooms, laundries and other spaces where moisture may be generated or may accumulate. This does not apply to Communal Non-residential, Commercial, Industrial, Outbuildings or Ancillary buildings.



Readers are advised to check the validity of this Appraisal by referring to the Valid Appraisals listing on the BRANZ website, or by contacting BRANZ.

13.2 Roofs and walls of housing complying with the Schedule Method for Compliance with Clause H1.3.2 E will have adequate thermal resistance. Other buildings may require more thermal insulation to satisfy the requirements of NZBC Acceptable Solution E3/AS1 than that to satisfy the energy efficiency provisions alone.

### Energy Efficiency

14.1 Pink® Batts® insulation will contribute to meeting the requirements of NZBC Clause H1, Performance H1.3.1 (a) and H1.3.2 E by compliance with NZBC Verification Method H1/VM1 or NZBC Acceptable Solution H1/AS1. Refer to Paragraphs 7.1 - 7.8.

14.2 Pink® Batts® insulation R-values have been determined by BRANZ testing to AS/NZS 4859.1 and are given in Table 1.

## Installation Information

### Installation Skill Level Requirements

15.1 Installation of Pink® Batts® insulation must be completed by an installer with an understanding of insulation installation.

### General

16.1 Installation of Pink® Batts® insulation must be in accordance with the Technical Literature and this Appraisal. NZS 4246 should be used as a guide for installing insulation in residential buildings.

16.2 The product must be installed only when the building is enclosed and when the construction materials have achieved the required maximum moisture content or less.

16.3 Pink® Batts® insulation must be released from the packaging and allowed to re-loft prior to installation. The time to loft will depend upon the length of time the product has been packaged and stored.

16.4 Pink® Batts® insulation is supplied in segment and blanket form (see Table 1) to suit framing layouts. The product is able to be cut to suit wall cavities and when fitted between roof or ceiling framing. The insulation must be neatly friction-fitted between framing members so that the potential for gaps and convective heat loss is reduced. In wall cavities the insulation must be neatly friction-fitted between framing members to prevent sagging. In ceiling or roofs, the insulation may be fitted between framing members or fitted over framing members and butted tightly. The insulation must extend to the external wall top plate. The insulation must not be folded or compressed. A close even fit provides the most efficient thermal performance. Whenever possible, the insulation should be fitted beneath wiring or plumbing.

16.5 The clearance requirements for heating appliances and downlights must be followed. Refer also to NZS 4246.

**Inspections**

16.6 The Technical Literature, this Appraisal and NZS 4246 must be referred to during the inspection of Pink® Batts® insulation installations.

### Health and Safety

17.1 Refer to the Technical Literature and NZS 4246 for guidance on health and safety requirements such as personal protective clothing and installation hazard assessment.

## Basis of Appraisal

The following is a summary of the technical investigations carried out:

### Tests

18.1 BRANZ has carried out thermal resistance testing of Pink® Batts® insulation in accordance with AS/NZS 4859.1.

18.2 Tests have been carried out in accordance with AS 1530.1. Pink® Batts® insulation is not deemed combustible according to the test criteria. The results have been reviewed by BRANZ technical experts.



Readers are advised to check the validity of this Appraisal by referring to the Valid Appraisals listing on the BRANZ website, or by contacting BRANZ.

## Other Investigations

19.1 An assessment of the durability of Pink® Batts® insulation has been made by BRANZ technical experts.

19.2 The manufacturer's Technical Literature including installation instructions have been reviewed by BRANZ and found to be satisfactory.

19.3 Site inspections have been undertaken by BRANZ to assess the practicability of installation.

## Quality

20.1 The manufacture of Pink® Batts® insulation has been examined by BRANZ, including methods adopted for quality control. Details of the manufacturing processes, and quality and composition of the raw materials used were obtained and found to be satisfactory.

20.2 The range of Pink® Batts® products have been assessed for their environmental impact by the New Zealand Ecolabelling Trust and comply with the requirements of the Environmental Choice Specification, Licence No. 2504017 - Thermal [resistive type] Building Insulants. The products that have the Environmental Choice license are noted in Table 1.

20.3 Tasman Insulation New Zealand Ltd is responsible for the quality of the product supplied.

20.4 Quality of installation of the product on site is the responsibility of the installer.

20.5 Quality of maintenance of the building to ensure the insulation material remains dry is the responsibility of the building owner.

## Sources of Information

- AS 1530.1: 1994 Combustibility test for materials.
- AS/NZS 4859.1: 2002 Materials for the thermal insulation of buildings.
- NZS 4246: 2006 Energy efficiency - Installing insulation in residential buildings.
- BRANZ Bulletin Number 525 Preventing moisture problems in timber-framed skillion roofs.
- BRANZ House Insulation Guide, Fifth Edition 2014.
- Compliance Document for New Zealand Building Code Energy Efficiency Clause H1, Department of Building and Housing, Third Edition, October 2007 [including Amendment 2, October 2011].
- Ministry of Business, Innovation and Employment record of Amendments for Compliance Documents and Handbooks.
- The Building Regulations 1992.

# Amendments

## Amendment No. 1, dated 09 September 2015.

This Appraisal has been amended to update the Appraisal text, Product Range as set out in Table 1 and to update clause changes as required by the introduction of NZBC Fire Clauses C1 to C6 Protection from Fire and A3 Building Importance Levels.

## Amendment No. 2, dated 04 February 2016.

This Appraisal has been amended to update the Appraisal Holders contact details.

## Amendment No. 3, dated 24 March 2016.

This Appraisal has been amended to update the Product Range in Table 1.

## Amendment No. 4, dated 28 July 2016.

This Appraisal has been amended to update the Product Range in Table 1 and to add Pink® Batts® Retrofit Ceiling Insulation into the Appraisal. The Appraisal has also been amended to update the Paragraph in Control of Internal Fire and Smoke Spread.



Readers are advised to check the validity of this Appraisal by referring to the Valid Appraisals listing on the BRANZ website, or by contacting BRANZ.

BRANZ

In the opinion of BRANZ, Pink® Batts® Insulation is fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided it is used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to Tasman Insulation New Zealand Ltd, and is valid until further notice, subject to the Conditions of Appraisal.

## Conditions of Appraisal

1. This Appraisal:
   a] relates only to the product as described herein;
   b] must be read, considered and used in full together with the Technical Literature;
   c] does not address any Legislation, Regulations, Codes or Standards, not specifically named herein;
   d] is copyright of BRANZ.
2. Tasman Insulation New Zealand Ltd:
   a] continues to have the product reviewed by BRANZ;
   b] shall notify BRANZ of any changes in product specification or quality assurance measures prior to the product being marketed;
   c] abides by the BRANZ Appraisals Services Terms and Conditions.
   d] Warrants that the product and the manufacturing process for the product are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ pursuant to BRANZ's Appraisal of the product.
3. BRANZ makes no representation or warranty as to:
   a] the nature of individual examples of, batches of, or individual installations of the product, including methods and workmanship;
   b] the presence or absence of any patent or similar rights subsisting in the product or any other product;
   c] any guarantee or warranty offered by Tasman Insulation New Zealand Ltd.
4. Any reference in this Appraisal to any other publication shall be read as a reference to the version of the publication specified in this Appraisal.
5. BRANZ provides no certification, guarantee, indemnity or warranty, to Tasman Insulation New Zealand Ltd or any third party.

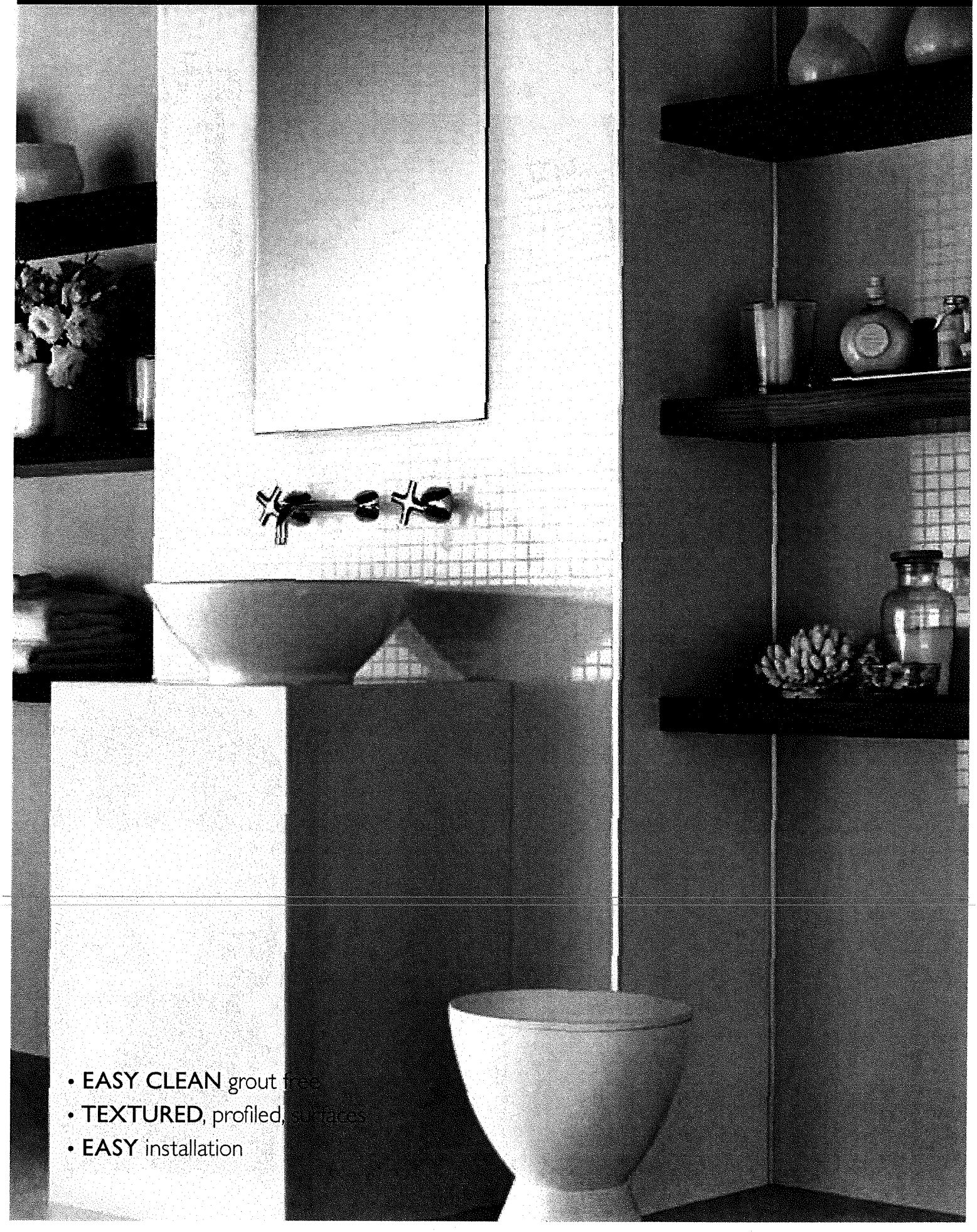
**For BRANZ**

**Pieter Burghout**
Chief Executive
Date of Issue:
01 May 2012



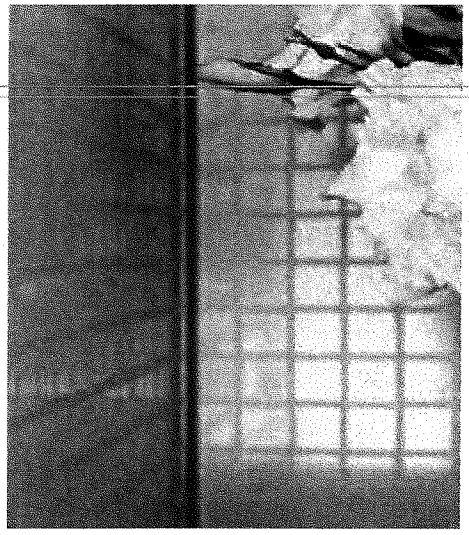
Readers are advised to check the validity of this Appraisal by referring to the Valid Appraisals listing on the BRANZ website, or by contacting BRANZ.

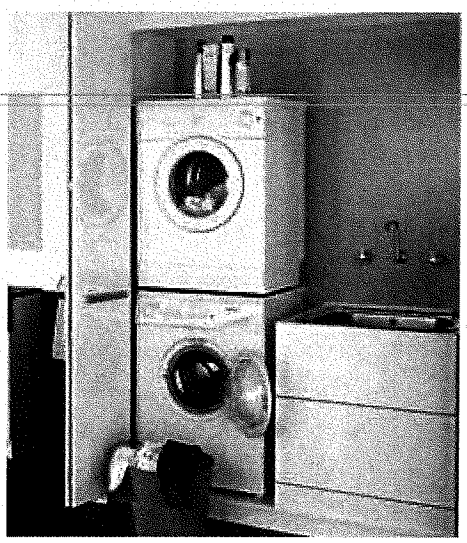
# LAMINEX® AQUAPANEL®



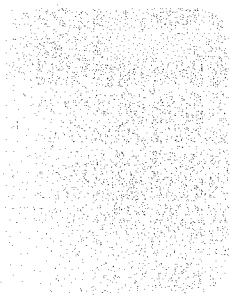
- **EASY CLEAN** grout free
- **TEXTURED**, profiled, surfaces
- **EASY** installation

Whether you want to create a simple backdrop or make a statement, **LAMINEX® AQUAPANEL®** can create the desired look. **LAMINEX® AQUAPANEL®** is a wall surfacing solution that is aesthetically pleasing and immensely practical with endless applications. Including wall panelling, feature walls, partitioning, bathroom and shower recess panelling, and laundry walls. Because it is non-porous and grout free, it is easy to clean with general cleaning regimes in both domestic and commercial environments. **LAMINEX® AQUAPANEL®** is available in a selection of contemporary colours and finishes with colour matched aluminium jointers.





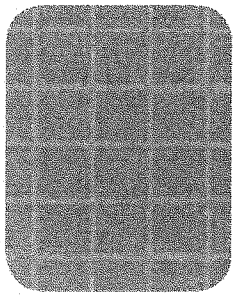
## LAMINEX® AQUAPANEL® COLOUR PALETTE



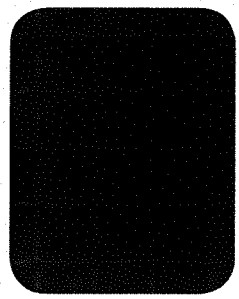
Polar White Tile



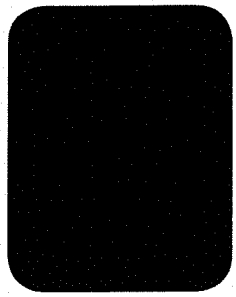
Ash White Tile



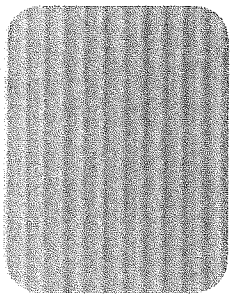
Paper Bark Tile



Fossil Tile



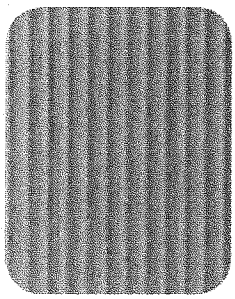
Espresso Tile



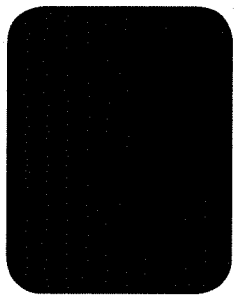
Polar White Ripple



Zinc Lustre Ripple



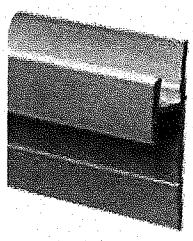
Stellar Illumina Ripple



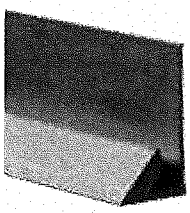
Black Ripple

## LAMINEX® AQUAPANEL® ALUMINIUM JOINTERS

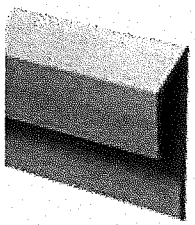
Five aluminium jointer profiles have been developed by The Laminex Group to stylishly integrate joins and minimise areas where mould and grime could gather. Each profile is available in 9 colours so you'll find the perfect match for your choice of Aquapanel.



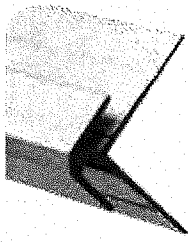
Divisional



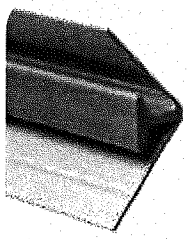
Base



Capping



External



Internal

## LAMINEX® AQUAPANEL®

All colours are available in 2400x1200mm sheet size.

For more information contact your sales representative or customer service on **0800 303 606.**

Laminex®
Inspire your space

When finalising colour selections, please use actual LAMINEX® AQUAPANEL® sample chips rather than printed examples as they are far more accurate.

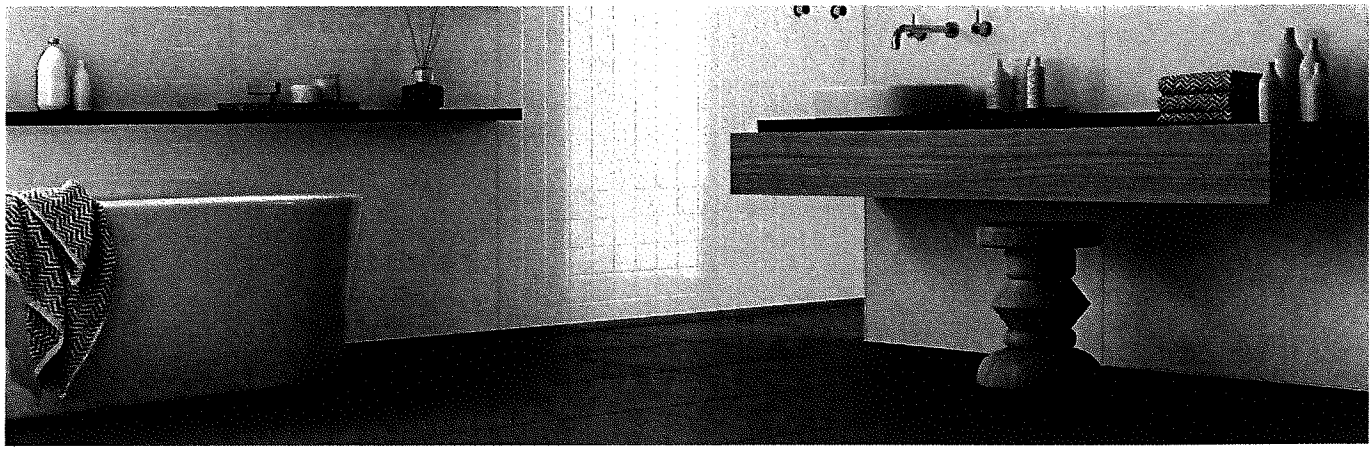
For further enquiries call **0800 303 606** or to request a sample or brochure call **0800 99 99 39. www.laminex.co.nz**

Laminex® Aquapanel® is marketed, and distributed by The Laminex Group. Laminex and Aquapanel® are registered trademarks of Fletcher Building Holdings and are used under licence by The Laminex Group. A division of *FLETCHER BUILDING PRODUCTS LTD.*

Dark colours and gloss finishes require more care and maintenance than light-coloured and lower-gloss surfaces. The Laminex Group recommends the use of laminate cleaning products for dark colours and gloss finishes, please visit www.thelaminexgroup.co.nz for specific care and cleaning information. Please note in certain lights or from different angles wipe down marks may be visible. Laminex Aquapanel is no different to any other material in that darker colours will always show scratches and superficial wear and tear more readily than lighter colours. Laminex Aquapanel should be protected from strong, direct sunlight as continuous exposure may cause discolouration or fading to the surface over time. The colours of the photographs depicted in this brochure are as close to the Aquapanel range as photographic lighting and modern printing processes allow.

# LAMINEX® AQUAPANEL®

Technical data sheet



**Laminex® Aquapanel® systems consist of a range of decorative moisture resistant sheets and jointing options. Laminex Aquapanel sheets are 2.7mm thick compact laminate. Phenolic resin saturated kraft papers are bonded under heat and pressure to create a high moisture and impact resistant material. The surface is smooth, providing a tough, durable, non-porous panel that easily resists marks, stains, steam or moisture. The sheets can be used in dry, wet or hygiene areas. There are a range of colour matched aluminium jointers available.**

***Note: Throughout this brochure "wet" and "dry" areas will be referred to. A wet area is any area within a building supplied with water eg. bathrooms, ensuites, toilets, kitchens, shower rooms, laundries and changing rooms.***

## USES

**Generally as:**

- Bathroom, laundry, shower wall and ceiling linings
- Wall and ceiling linings in commercial, industrial and agricultural hygiene areas, and heavy wash down areas
- Wall and ceiling linings where health regulations require the use of water and chemical resistant lining materials for cleaning and maintenance of surfaces
- Pre-finished decorative wall or ceiling linings
- Retail fitouts
- Sliding cupboard and wardrobe doors
- Flush door facings
- Cabinetry facings
- Furniture
- Feature panels
- Display areas
- For refurbishment work over existing linings
- Service and food processing areas in hotels, motels and fast food outlets
- Kitchen splashbacks

## LIMITATIONS IN USE

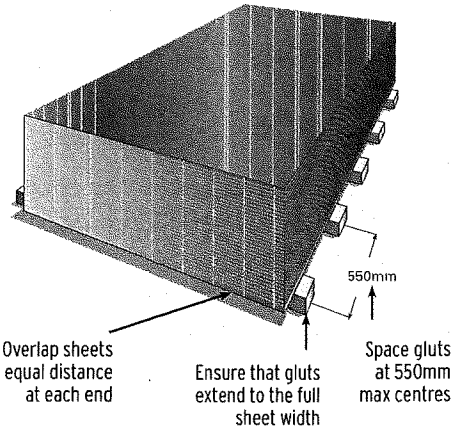
- Laminex Aquapanel sheets must not be subjected to submersion or continuous contact with water. Do not use in saunas or steam rooms
- Some slight fading may be experienced over the course of time when exposed to direct sunlight
- Laminex Aquapanel is only suitable for use between -20°C and up to a maximum of 50°C for medium or long term exposure. For short term exposure maximum temperature should not exceed ambient temperature plus 65°C
- Laminex Aquapanel is not intended for use as a wall bracing sheet
- Laminex Aquapanel sheets are not intended for use in exposed exterior locations

## HANDLING AND STORAGE

**Laminex Aquapanel sheets must be stored in dry conditions and handled in accordance with this document.**

- Keep sheets flat by stacking on evenly spaced bearers (gluts) which extend across the full sheet width (refer to Figure 1)
- When stacking high, line gluts vertically one above the other
- Care of the sheet face is essential to protect the surface
- To avoid damage to the surface, lift rather than drag the sheets off the stack

**Figure 1. Storing Laminex Aquapanel sheets**



## CLEANING LAMINEX AQUAPANEL

**Recommended cleaning products:**

Jif Powerspray®, Sunlight liquid®, Ajax Spray 'n' Wipe® – multi purpose, kitchen antibacterial, bathroom antibacterial, Handy Andy®, bleach.

- Adhere to manufacturer's cleaning instructions
- A soft cloth is recommended
- No abrasive liquid or cream cleaners should be used
- Do not use scouring pads or abrasive cloths or cleaners (e.g. steel wool) as these may damage the surface
- The removal of dust from the surface can be easily achieved by the use of an electrostatic dusting cloth (e.g. Johnson's Pledge Grab-it).

## DURABILITY

When stored, handled, installed and maintained in accordance with this document, Laminex Aquapanel will meet the durability requirements of the New Zealand Building Code (NZBC) B2/AS1 and has a serviceable life of at least 15 years.

Laminex New Zealand will not be liable to any person if the conditions as to storage, handling, installation and maintenance of Laminex Aquapanel as outlined within this document are not complied with. It is the obligation of the installer of the Laminex Aquapanel to convey this information to the relevant owner/occupant.

## DESIGN CHARACTERISTICS

**Table 1. Sheet details**

| Nominal sheet size (mm) | Nominal thickness (mm) | Mean weight (kg/m2) |
|---|---|---|
| 2400 x 1200 | 2.7 | 4.4 |

| Sheet tolerances | |
|---|---|
| **Length and width (mm)** | -0/+3 |
| **Squareness** | The difference between the measured diagonals is no greater than 3mm. |
| **Thickness (mm)** | +/-0.1 |

### Choosing colours

Due to the gloss finishes available for Laminex Aquapanel, care should be taken in choosing colours suitable for the lighting situation. Lighter colours are more tolerant of harsh lighting environments.

### Laminex Aquapanel accessories

The Laminex Aquapanel range of aluminium jointers have been specifically designed for use with Laminex Aquapanel in both wet and dry area applications.

### Moisture content

The dimensions of Laminex Aquapanel sheets can be affected by changes in relative humidity. Therefore conditioning in the environment in which the sheet will be installed is required. This is best achieved by flat stacking sheets with fillets between and leaving for a minimum of 48 hours prior to installation.

In some cases it may be prudent to extend the conditioning time, e.g. where damp site conditions prevail or where large continuous runs of lining will be installed (over 6 lineal metres).

### Effects of heat

Laminex Aquapanel sheets are combustible and they must be separated from chimneys, fireplaces, heaters, flues and fuel-burning appliances in accordance with the requirements of NZBC Acceptable Solution C/AS1 Part 9.

### Fire properties

Table 2 details the Group Number Classification for Laminex Aquapanel, determined by testing to ISO 5660, a cone calorimeter test method to show compliance with NZBC verification method C/VM2 Appendix A.

**Table 2.**

| | |
|---|---|
| **Group Number Classification** | 3 |

### Kitchen splashback installation

Laminex Aquapanel can be used as a splashback (which can be applied directly onto framework, or existing linings). Prior to installation of sheets into kitchens, refer to design characteristics section.

Due to heat and cleaning requirements where Laminex Aquapanel is being used as a splashback, it is recommended that 'full sheets' are used wherever possible (avoid joins). Refer pages 4 and 5 for installation information.

### Splashback compliance

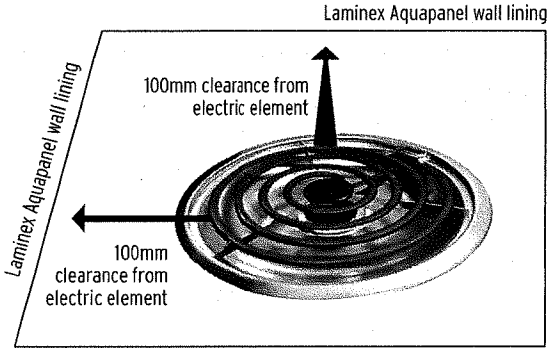
Laminex Aquapanel is a suitable material to use as a splashback behind electric and gas cooktops. The following distances must be adhered to:

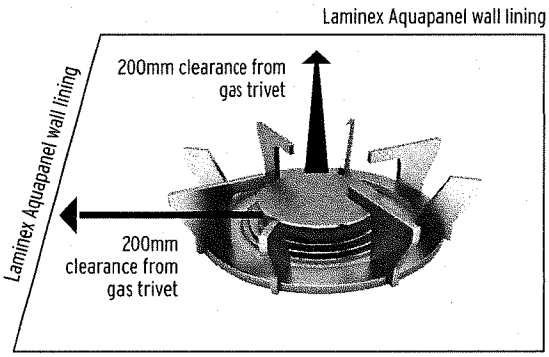
ELECTRIC COOKTOP: Laminex Aquapanel can be used as a splashback material behind an electric cooktop provided it is kept at a ***distance of at least 100mm*** from the periphery of the nearest heating element.

GAS COOKTOP: Laminex Aquapanel can be used as a splashback material behind a gas cooktop provided it is kept at a ***distance of at least 200mm*** from the periphery of the nearest gas trivet.

*Note:*

1. ***All installations must comply with the NZS 5261: 2003 Gas Installations***
2. ***Installation of all sheets must be in accordance with the cooktop manufacturer's recommendations. For more information contact your distributor.***

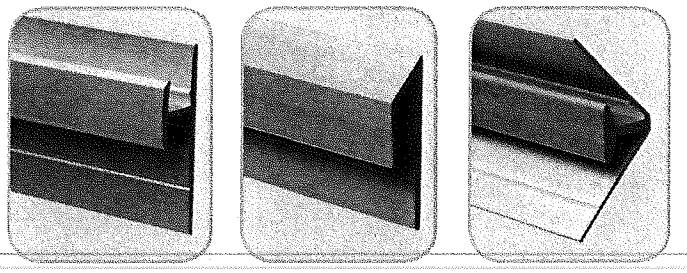


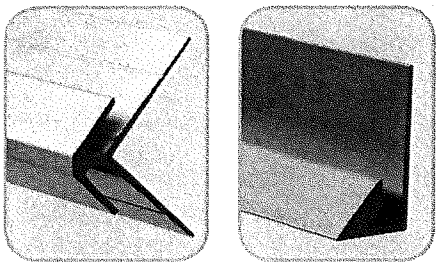

## LAMINEX AQUAPANEL FIXING SYSTEMS PROFILES

Fixing system profiles have been developed by Laminex New Zealand to stylishly integrate joins and minimise areas where mould and grime could gather. Jointers come in 2700mm lengths.

**Figure 2.**



Divisional Capping Internal



External Base

## TECHNICAL INFORMATION

| Laminex Aquapanel | | | |
|---|---|---|---|
| **Property** | **Unit** | **Measure** | **Standard** |
| Application | | | VGS (Vertical General Purpose Standard) |
| Weight | kg/m2 | 4.4 approx. | |
| Resistance to surface wear | Initial wear not less than 50 cycles. Average wear not less than 150 cycles^ | | AS/NZ 2924.1 1998 |
| Resistance to immersion in boiling water | No deterioration other than slight loss of gloss. Gain in weight of not more than 5% | | AS/NZ 2924.1 1998 |
| Resistance to dry heat at 180°C | No deterioration other than slight loss of gloss and/ or colour | | AS/NZ 2924.1 1998 |
| Resistance to steam | No deterioration other than slight change of gloss and/or colour | | AS/NZ 2924.1 1998 |
| Dimensional stability | Dimensional change of not more than 0.3% with grain and 0.65% across grain | | AS/NZ 2924.1 1998 |
| Resistance to staining | Reagents groups 1 & 2 = no visible change, Reagents groups 3 & 4 = slight change of colour and/ or gloss | | AS/NZ 2924.1 1998 |
| Resistance to colour change in artificial light* | Not more than slight colour change in Xenon arc light (min. 6 on Blue Wool Scale) | | AS/NZ 2924.1 1998 |
| Resistance to cigarette burns | No deterioration other than moderate change in gloss and moderate brown staining | | AS/NZ 2924.1 1998 |

^ ***Not applicable to Ripple – low duty wear use only, average wear point of 10 cycles.***

* ***Laminex Aquapanel has good colour retention in normal interior applications, however prolonged exposure to sunlight may cause some change in colour. Laminex Aquapanel is therefore not recommended for exposed external applications and any prolonged exposure to direct sunlight should be avoided.***

## ORDER GUIDELINES

### Suppliers for silicone sealant and PVC mouldings

**Silicone sealant**

- Polar: Sika Sikasil NG Artic White
  Sika Sikasil NG Translucent
  Fuller Sanitary 770
  Silaseal Forever White bathroom & kitchen

## INSTALLATION

Laminex Aquapanel sheets are simple to install using construction adhesive and if desired double sided tape. It can be fixed directly to a timber frame wall or it can be laid over an existing wall lining, such as plaster board.

### Planning the installation

Laminex Aquapanel is suitable for a wide variety of applications. When planning an installation, it is important to select the most appropriate, jointing and fixing method to achieve the desired result.

### Getting started

In planning, remember not all wall/ceiling/floor intersections are square. It is usually advisable to begin in the centre of the wall or ceiling with a full Laminex Aquapanel sheet.

- Plan for part sheets to be placed at the corners of the room
- Ensure sheet joints (and jointers where appropriate) coincide with the centre of studs or supports when installing directly to timber framing
- Complete plan for joint sequence layout

*Note:*

1. ***Sheets are usually installed vertically on walls, but can be fixed with long edge laid horizontally for contrast or to create a feature in a dry area. If sheets are to be laid horizontally, ensure continuous support is provided behind all joints. Ensure all sheets are installed in the same direction.***
2. ***If the sheet is to be installed horizontally (along the wall) in wet areas where water runs over the sheet face, silicone must be used to form the join between the two sheets (do not use an aluminium jointer).***

### Timber framing

- Ensure the timber support (nog/dwang/batten/stud) faces are straight, in alignment and flush
- Studs and nogs need to be at 600mm maximum centres for 1200mm wide sheets. For ceilings, suitable sized battens should be spaced at 400mm maximum centres
- Ensure all support surfaces to be bonded are clean and dry (maximum moisture content: 18%)

### Lined wall and ceilings

Walls and ceilings lined with plasterboard, or similar are suitable for direct fixing providing the surface is flat, sound and properly fixed.

### Concrete and masonry walls and all ceilings

- Ensure concrete/masonry wall is dry and will continue to remain so
- Ensure all strapping (timber battens) is spaced at 600mm maximum centres (vertically and horizontally)
- For ceilings, suitable sized battens should be spaced at 400mm maximum centres
- Strapping and battens must have a damp proof course between timber and concrete
- Fix strapping with nails or screws

### Renovations

- When using Laminex Aquapanel to reline over existing walls or ceilings, previously painted surfaces should be cleaned, then scuffed with coarse abrasive paper to form a key for adhesion
- Old shower linings must be removed before installation of new sheets. Existing framing and plumbing should be inspected to ensure no degradation has occurred
- Check the adhesive does not soften old paint work

### Check sheets & precondition

- Always check for colour match when sheets are on the same wall plane or where colour/shade matching is critical
- Precondition Laminex Aquapanel sheets. Fillet stack sheets on flat and leave for at least 48 hours in room where they will be installed (see moisture content page 2)

### Removing the packaging and protective film

A sheet of protective film protects the face of each Laminex Aquapanel sheet. The film is designed to keep the sheet clean and to protect against scratches. The film should be removed in two stages:

1. Initially 50mm should be removed from all edges to allow for jointing/sealing.
2. Only when the sheet is completely installed should the remainder of the film be removed.

### Cutting sheets

- Horizontally measure the top and bottom of the wall to determine the sheet width required, as not all walls are square
- Use a ballpoint pen to gently mark these measurements onto the protective film
- Always support the Laminex Aquapanel sheet, using a table or sheet material. The use of a felt blanket, or the like, reduces scratching or indentation
- Always ensure that all cutting blades are sharpened prior to use
- For best results a high speed laminate cutter (30,000+rpm) with a 6mm blade should be used

Alternative cutting methods include, table saw, circular saw, router or fine tooth hand saw or fibro cement shears. Specific instructions for each are as follows:

### Laminate cutter or router

- Can be used to size the sheet or alternatively to finish an edge after cutting with alternative equipment (such as fibro cement shears)

### Table saw

- Normally a table saw has a downward blade rotation. If this is the case, cut sheets with decorative surface face up. If the blade rotation is up, cut sheet with the decorative surface down (therefore the blade is cutting into the decorative surface, reducing 'chip out')
- Allow the sheet to pass through the saw with even pressure – do not force the sheet

### Circular saw

- Normally the blade rotation of a circular saw is up. If this is the case, cut sheets with decorative surface down. If blade rotation is down, cut sheet with decorative surface face up (therefore the blade is cutting into the decorative surface, avoiding 'chip out')

- Clamp a straight edge to the sheet as a guide for the tool. Place a piece of timber material under the line you will be cutting. This supporting material is important as it helps reduce the chipping of the decorative surface
- Reduce the depth of cut to allow the blade to cut approximately 7mm through the sheet
- Cut the sheet using the circular saw, cutting slowly with a sharp, high quality tooth blade

**Hand saw**
- A fine tooth hand saw may be used to cut Laminex Aquapanel, with the decorative surface face up
- Mark the sheet for the cut
- Hold the blade of the hand saw at a very low angle, so that it is almost flat to the face of the board
- Cut slowly and carefully with even strokes
- Once cut with a hand saw, clean the cut edges with a plane or very fine sandpaper (e.g. 320 grit)

**Finishing the edge after cutting**
- Use a laminate cutter, router or electric plane to finish the edge
- When using an electric plane, ensure it is held square to the edge of the sheet. The sheet should be well supported and secured
- Lightly chamfer any cut made to Laminex Aquapanel with a block and 320 grit paper, to remove the arris and any ragged edges

**Cutting for penetrations**
- Measure and mark cutouts for light boxes, pipe fittings, etc, ensuring sufficient clearance is allowed
- Ensure that cover plate/tap flanges cover the penetrations
- In wet areas, run a bead of silicone around fittings/cutouts on the face of the board before fitting face plates and tap flanges etc. (see Figure 11)

**Cutting Laminex Aquapanel jointers**

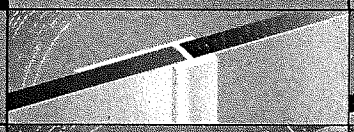
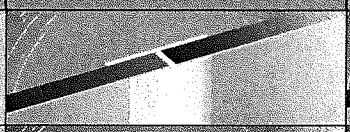
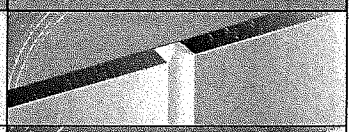
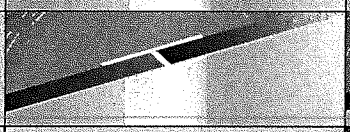
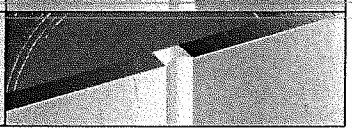
Laminex Aquapanel aluminium jointers and PVC mouldings can be cut with a fine toothed tungsten tipped dropsaw, or a fine toothed hack saw. Ensure all cutting blades are sharp prior to use.

**Fixing**

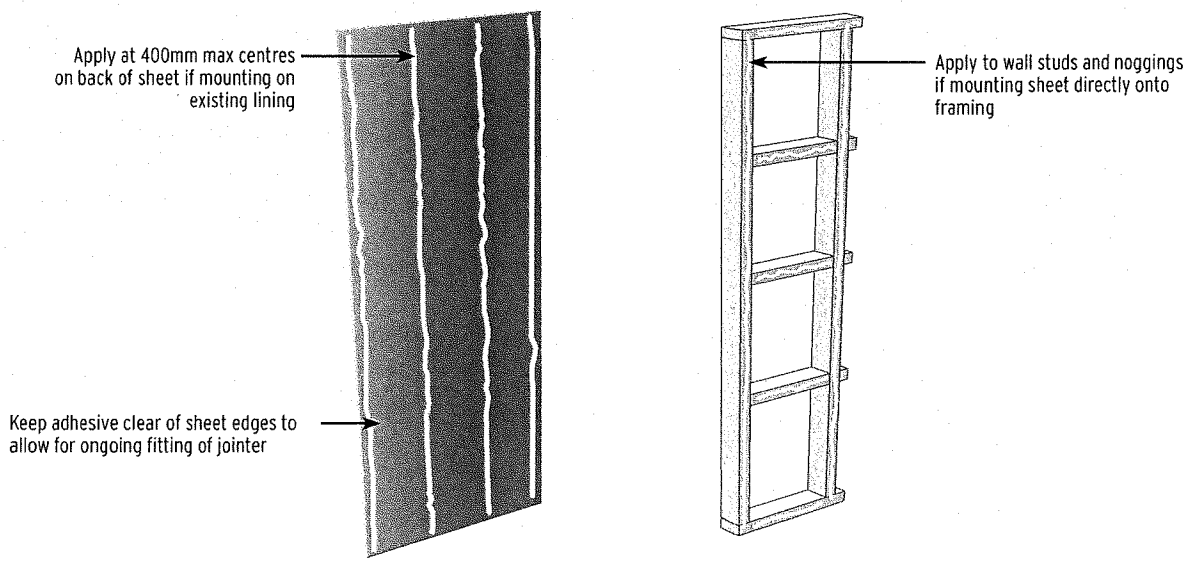
Refer to Table 3 for jointing and fixing methods and Table 4 for sheet fixing instructions.

## JOINTING AND FIXING METHODS

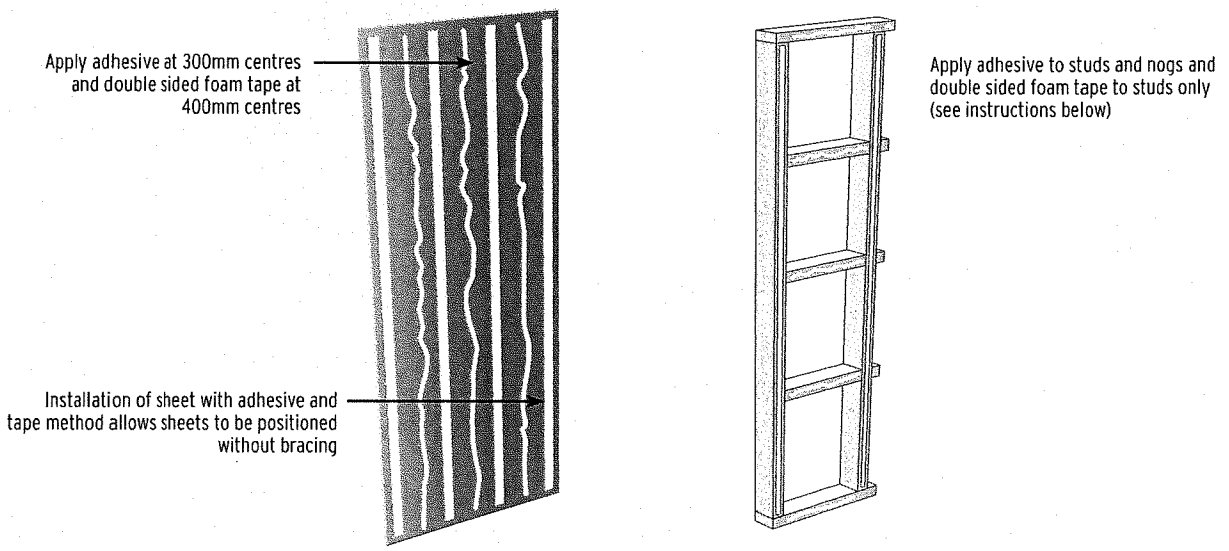
**Table 3. Jointing and fixing methods - Preferred jointing method**

| Application type | Aluminium mouldings | PVC mouldings | Silicone sealant |
|---|---|---|---|
| Dry area |  |  |  |
| Wet area | |  | |
| Hygiene area | | |  |
| **Substrate** (The surface you are fixing Laminex Aquapanel to) | Framing or plasterboard/lining | | |
| **Recommended fixing method** | Construction adhesive or tape and construction adhesive | | |

## Table 4. Fixing instructions

| Fixing method | Construction adhesive: wet, dry and hygiene areas |
|---|---|
| **Layout of tape or adhesive (on framework and back of Laminex Aquapanel sheets)** |  |
| **Instructions** | **Fixing to plasterboard / lining**<br>• Ensure all bond surfaces are clean, dry and free from dirt, dust, oils or any other surface contaminants<br>• Apply continuous full sheet length beads of adhesive no less than 10mm in diameter to the back of the sheet at 400mm centres<br>• Place the sheet into the desired position and apply pressure to ensure full contact over entire surface area of the sheet<br>• Position timber supports to ensure pressure is provided while the adhesive cures<br><br>**Fixing directly onto timber studs**<br>• Ensure all bond surfaces are clean and dry and free from dirt, dust, oils or any other surface contaminates<br>• Apply continuous full sheet length beads of adhesive no less than 10mm in width to the face of each stud<br>• Apply a continuous bead of adhesive over the length of the horizontal timber (nogs and top and bottom plates)<br>• Place the sheet into desired position and apply pressure to ensure full contact between framing and the sheet<br>• Position timber supports to ensure pressure is provided while the adhesive cures<br><br>**Fixing directly onto galvanised steel studs**<br>• Ensure all bond surfaces are clean, dry and free from dirt, dust, oils or any other surface contaminates<br>• Abrade bond surface of galvanised framing with Scotch-Brite<br>• Apply a degreaser (e.g. Sika cleaner 205 or equivalent) with a clean dry rag and wipe off with a separate clean dry rag<br>• Allow the degreaser to fully flash off the bond surface before applying adhesive<br>• Apply continuous full sheet length beads of adhesive no less than 10mm in width to each stud<br>• Apply a continuous bead of adhesive over the length of the horizontal steel frame components<br>• Place the sheet into desired position and apply pressure to ensure full contact between the steel framing and the sheet<br>• Position timber supports to ensure pressure is provided while the adhesive cures |
| **Recommended fixing products** | • SIKA: Showerbond, Nailbond Premium<br>• HBFuller: MaxBond<br>• Hold Fast: Nailpower Shower Grab, Nailpower SB<br>• Bostik: Safe Tech Safe Fix<br>• Bostik: Shower Grip |
| **Important points to note** | • For full instructions on fixing using construction adhesive with silicone joints, refer to pages 8 & 9 |

## Construction adhesive & tape: wet, dry and hygiene areas (this method is an alternative option)




Double sided foam tape is used in conjunction with adhesives to provide temporary support during adhesive cure. This removes necessity of bracing the sheets. When using Laminex Aquapanel as a ceiling lining additional timber bracing will be required.

**Fixing to plasterboard / lining**

- Ensure all bond surfaces are clean, dry and free from dirt, dust, oils or any other surface contaminants
- Apply continuous full sheet length strips of double-sided tape to the back of the sheet at 400mm centres
- Apply continuous full sheet length beads of adhesive no less than 10mm in diameter to the back of the sheet at 300mm centres between the strips of adhesive tape
- Remove tape backing, place the sheet into desired position and apply pressure to ensure full contact over entire surface area of the sheet

**Fixing directly onto timber studs**

- Ensure all bond surfaces are clean and dry and free from dirt, dust, oils or any other surface contaminates
- Apply continuous sheet length strips of double-sided tape to the right or left of centre of each vertical stud where two sheets will be joined (edge stud) Allow sufficient room between the two strips of double-sided tape for the jointer to be located (no adhesive will be applied to these studs)
- Apply continuous sheet length strips of double-sided tape to the right of centre of each vertical stud that is not supporting the edge of a sheet (centre stud)
- Apply continuous sheet length beads of adhesive no less than 10mm in width next to the strips of double-sided tape on each centre stud (each stud supporting the sheet edge should now have a strip of double-sided tape and each stud supporting the centre of the sheet should have both a strip of tape and adhesive)
- Apply a continuous bead of adhesive over the length of the horizontal timber frame components (nogs and top and bottom plates)
- Remove tape backing. Place the sheet into desired position and apply pressure to ensure full contact between the framing and the sheet

**Fixing directly onto galvanised steel studs**

- Ensure all bond surfaces are clean, dry and free from dirt, dust, oils or any other surface contaminants
- Abrade bond surface of galvanised framing with Scotch-Brite
- Apply a degreaser (e.g. Sika cleaner 205 or equivalent) with a clean dry rag and wipe off with a separate clean dry rag
- Allow degreaser to fully flash off the bond surface before applying adhesive
- Apply continuous sheet length strips of double-sided tape to the right or left of centre of each vertical stud where two sheets will be joined (edge stud). Allow sufficient room between the two strips of double-sided tape for the jointer to be located (no adhesive will be applied to these studs)
- Apply continuous full sheet length strips of double-sided tape to the right of centre of each vertical stud that is not supporting the edge of a sheet (centre stud)
- Apply continuous full sheet length beads of adhesive no less than 10mm in width next to the strips of double-sided tape on each stud (each stud supporting the sheet edge should now have a strip of double-sided tape and each stud supporting the centre of the sheet should have both a strip of tape and adhesive)
- Apply a continuous bead of adhesive over the length of the horizontal steel frame components
- Remove tape backing. Place the sheet into desired position and apply pressure to ensure full contact between the steel framing and the sheet

- Double sided foam tape (a 1mm foam tape such as Danco 6620 is suitable)
- SIKA: Showerbond, Nailbond Premium
- HBFuller: MaxBond
- Hold Fast: Nailpower Shower Grab, Nailpower SB
- Bostik: Safe Tech Safe Fix • Bostik: Shower Grip

- The use of tape eliminates the need for full support while construction adhesive cures
- The contact power of the tape will diminish at temperatures 10° celsius and below

***Notes:*** *1. Most Laminex Aquapanel installations are as vertical wall linings. For this reason, all procedures mentioned are for wall installations. For ceiling installations a modified version of the wall installation is required, with timber supports at 400mm centres maximum. 2. The recommended adhesives listed will adhere to timber and steel framing surfaces and clean dry plasterboard. For any alternative linings or surfaces, including applied finishes, an adhesion test is recommended before full application. Please refer to the adhesive manufacturer's technical data sheets for further information on curing times and possible surface preparation requirements.*

## INSTALLATION USING ALUMINIUM OR PVC JOINTERS

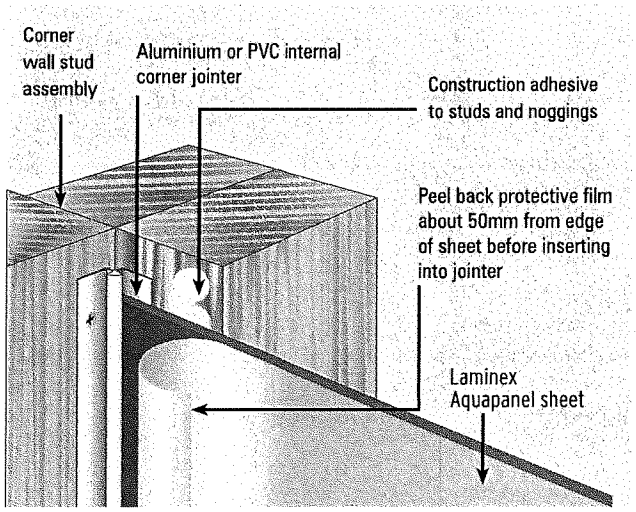
The aluminium and PVC jointing systems are designed for use in both wet and dry areas (refer to Table 3).

The system is suitable for installation on fully lined walls/ceilings (plasterboard) or direct to timber studs.

**At the installation starting point:**

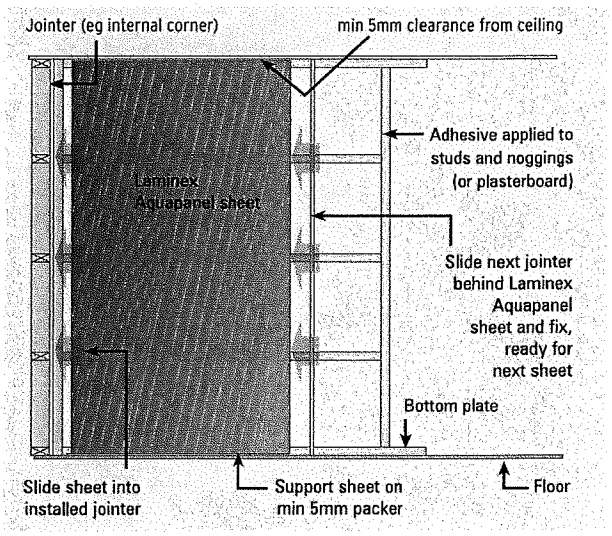
- For cutting Laminex Aquapanel Jointers, refer to page 5
- Mark out areas for penetrations on protective film and cut
- Take the first Laminex Aquapanel sheet and peel the protective film approximately 50mm from the edge – refer to Figure 3

**Figure 3. "Starting point" using internal corner jointers**




- For PVC jointers, nail jointer in place using galvanized flat head nails, at 300mm centres
- For aluminium jointers screw fix, glue or tape in place (countersink screws at 300mm centres)
- For all wet areas, apply a thin continuous bead of silicone into the jointer recess before inserting the sheet
- If you have difficulties inserting sheets into the jointers, sand the back of the sheet
- Apply construction adhesive and/or double sided foam tape to the framing or substrate (refer to Table 4) as per manufacturer's recommendations and fixing instructions
- Press the sheet firmly onto the centre stud/substrate, add jointer to trailing edge, then screw, glue or tape trailing jointer into place (refer to Figure 4)
- Continue installation by inserting each new sheet into the jointer of the previous sheet. Screw, glue or tape jointers to studs/substrates as installation progresses
- Check for adhesive and silicone spillage, and clean off if necessary

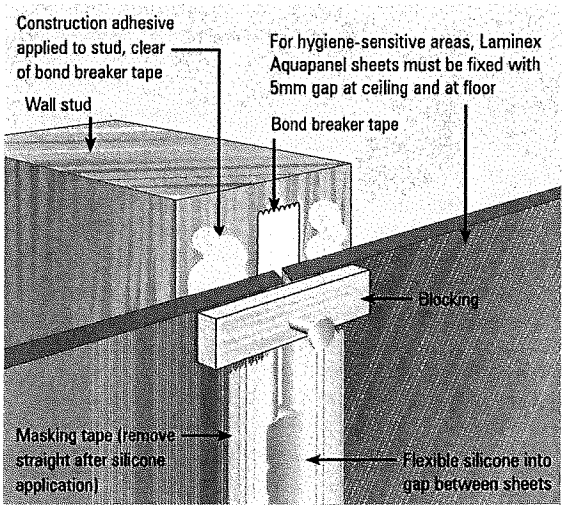
**Figure 4. Installing first sheet**




## INSTALLATION USING SILICONE JOINTS

The silicone jointing system is designed for use in all areas. The system is suitable for installation on fully lined walls/ceilings (eg. plasterboard) or direct to timber framing.
Gaps based on a 1:1 ratio are recommended between sheets when silicone is the jointing method (this is a min 3mm gap).

**Figure 5. Installing Laminex Aquapanel with silicone jointing**




## AT THE INSTALLATION STARTING POINT

- Determine where the joints will be and fix a bond breaker tape to the framing/substrate. This stops the silicone sticking to framing/plaster board
- Apply construction adhesive and/or double sided foam tape to the framing or substrate (refer to Table 4) as per manufacturer's recommendations and fixing instructions. Avoid applying adhesive to the bond breaker tape
- If fixing using construction adhesive, follow the manufacturer's recommendations
- Fix stop nails against the trailing edge of the sheet to provide the required gap between sheets (a minimum 3mm gap between Laminex Aquapanel sheets is recommended)

- If fixing using construction adhesive only, temporarily brace the sheet edges against the stud while the adhesive cures using blocks fixed to framing with small diameter nails. If fixing using a combination of adhesive and tape, this step is not necessary as the tape will hold the sheet in place while the adhesive cures
- Continue the process until sheet installation is complete
- Carefully remove stop nails as installation progresses
- Clean out any adhesive showing between the sheets
- Once adhesive cures, remove blocking
- Peel approximately 50mm of the protective film from sheet edges (leave balance on the sheet until installation completed)
- Carefully apply 20mm masking tape either side of the join
- Cut nozzle of the silicone tube to create an aperture slightly larger than the gap
- Apply a consistent bead of silicone in gap so that it is flush with sheet surface
- Once the gap is filled, remove excess silicone with a clean tool (eg. plastic spoon), or a clean gloved finger – do not use an UNGLOVED finger
- For internal corner joints refer to Figures 6 & 7
- Clean any excess silicone off sheet front by using a clean cloth and a cleaning agent specified by silicone manufacturer (before commencing, check the suitability of the cleaning agent on the Laminex Aquapanel sheet surface)
- Immediately after silicone is applied, carefully remove masking tape in one continuous movement (if the silicone is allowed to cure first, removing the masking tape will result in a 'ragged' edge)
- After tape is removed, do not touch the silicone join until it is completely cured
- Refer to the manufacturer's instructions for the appropriate silicone sealant drying time
- Once silicone has cured, remove remaining protective film and clean sheet surfaces

**Figure 6. Internal corner joint**
**Option 1: Overlapped sheets**

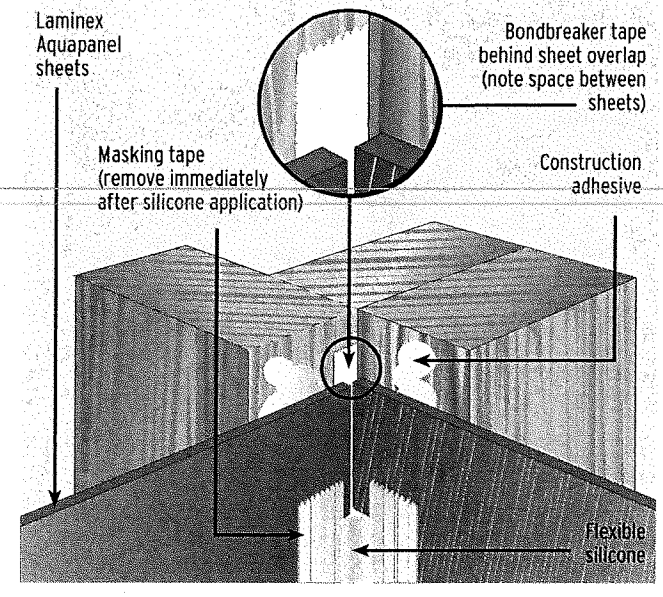
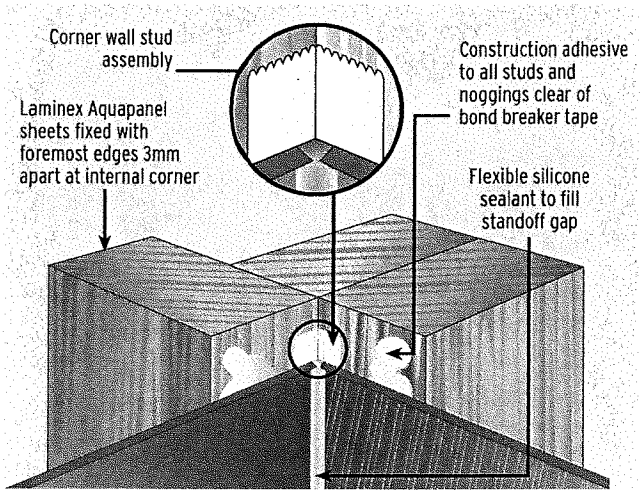



**Figure 7. Internal corner joint**
**Option 2: Standoff sheet**




### Maintaining a silicone joint

- Never wipe sealant with an UNGLOVED finger
- The tool used to finish the sealant surface must be free of saliva
- Mould can grow in wet or steamy areas if attention is not paid to adequate ventilation

### Silicone usage

The amount of silicone required depends on the application, gap width and type. As a "rule of thumb", 5 x 2.4m long joints can be achieved from one 300ml tube of silicone sealant (approximately 12m/tube).

## SPECIFIC WET AREA INSTALLATION

### Shower installation options

There are numerous methods used to install a shower. Figures 8, 9 and 10 are three of the most common methods, however the principles described here must be adjusted to suit the shower tray or tile manufacturer's specific instructions.

**Figure 8.**
**Method 1: Acrylic shower tray detail**

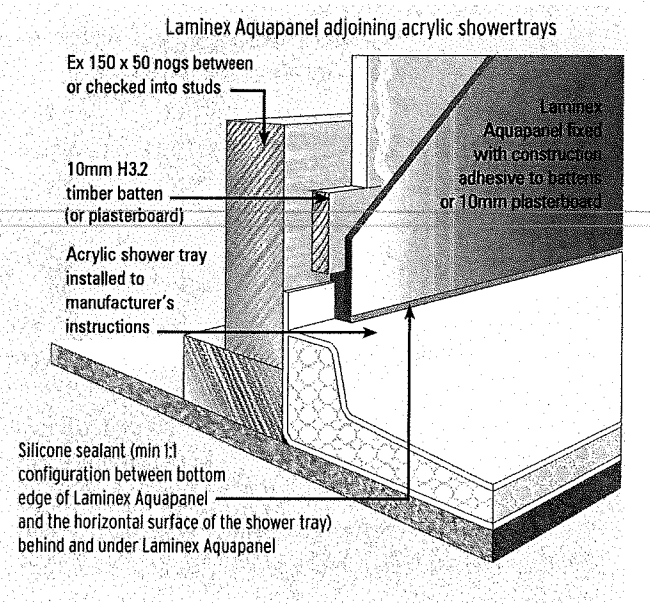


**Figure 9.**
**Method 2: Wall to tiled shower floor detail**

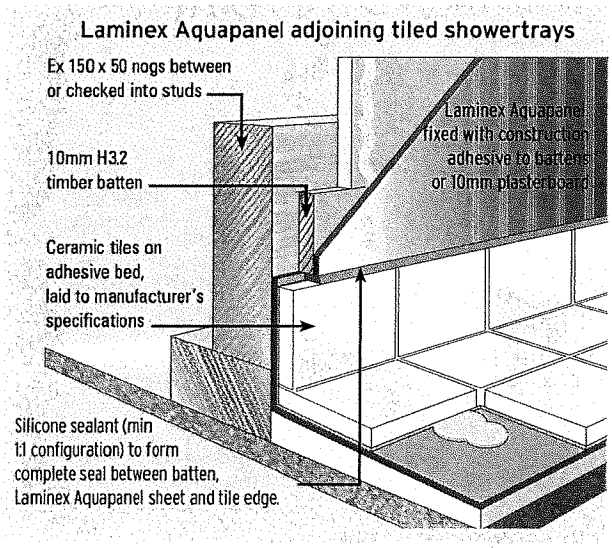
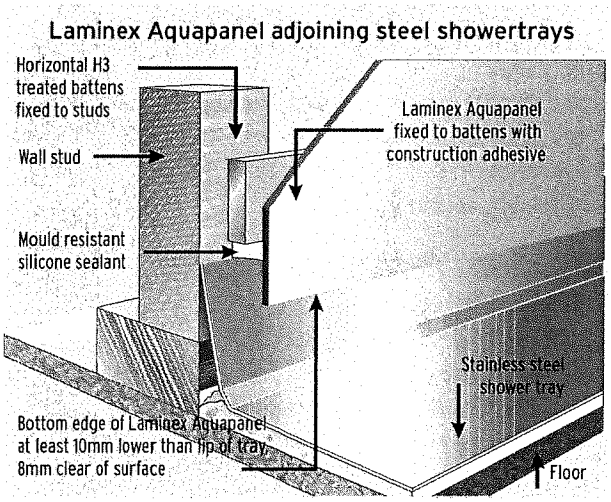



**Figure 10.**
**Method 3: Stainless shower tray**




***Note: When using method 3 please ensure the following:***

a) The bottom edge of the Laminex Aquapanel sheet hangs below the timber batten a minimum of 10mm and a maximum of 30mm.

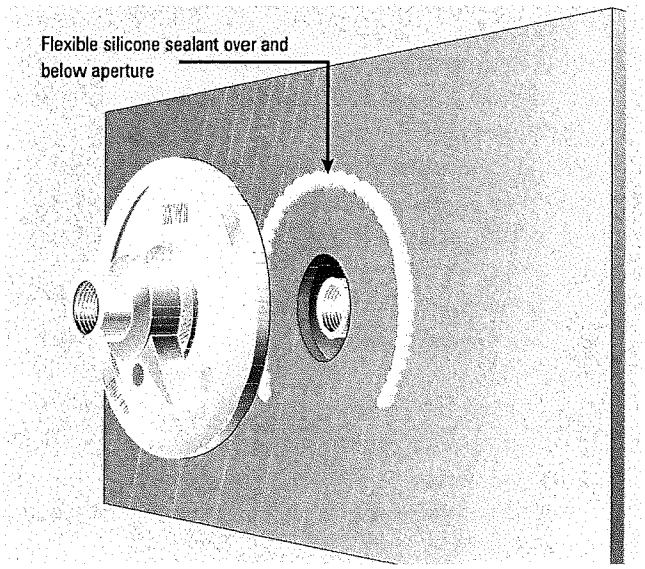
b) There is a gap of at least 8mm between the stainless steel upstand and the back of the Laminex Aquapanel sheet.

c) A bead of sealant is applied immediately below the timber batten before the Laminex Aquapanel sheet is installed.

### Cutting sheets for penetrations

- Measure and mark cutouts for light boxes, pipe fittings, etc ensuring sufficient clearance is allowed
- Ensure that cover plate/tap flanges cover the penetrations
- When drilling always work from the decorative face through to the back of the sheet
- Run a bead of silicone around any fittings/ cutouts on the face of the board before fitting face plates and tap flanges, etc. (see Figure 11)

**Figure 11. Penetrating sheets for wet area installations**

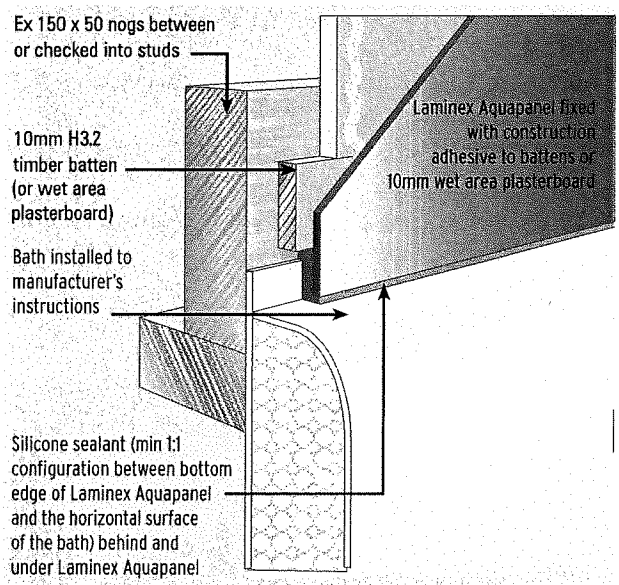



## BATH WALL INSTALLATION OPTIONS

There are numerous baths available from many different manufacturers. The principles shown in Figure 12 should be adjusted to suit the manufacturer's specific instructions

- Refer to bath manufacturer's installation guidelines and typical details

**Figure 12. Typical bath edge installation**



## FINISHING LAMINEX AQUAPANEL AGAINST VINYL FLOORING

Where water will run down over the face of the Laminex Aquapanel sheet use battens to create a gap behind the Laminex Aquapanel. It is recommended to step the back of the Laminex Aquapanel out 10mm minimum from the face of the vinyl and hang the bottom of the Laminex Aquapanel 10-30mm down below the batten (see Figure 13).

Alternatively, in dry areas (outside the shower cubicle) a divisional jointer can be used to form the intersection between the Laminex Aquapanel and the vinyl (see Figure 14).

Note: Horizontal channelled jointers should not be used in situations where water runs over the sheet face. Contact Laminex New Zealand for further advice.

**Figure 13. Finishing Laminex Aquapanel against coved vinyl**

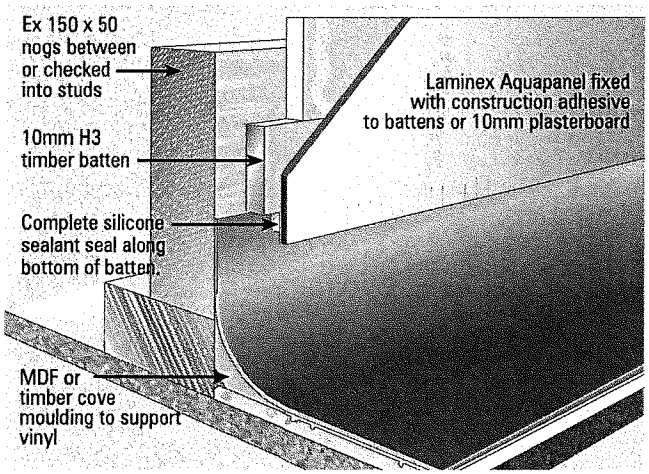
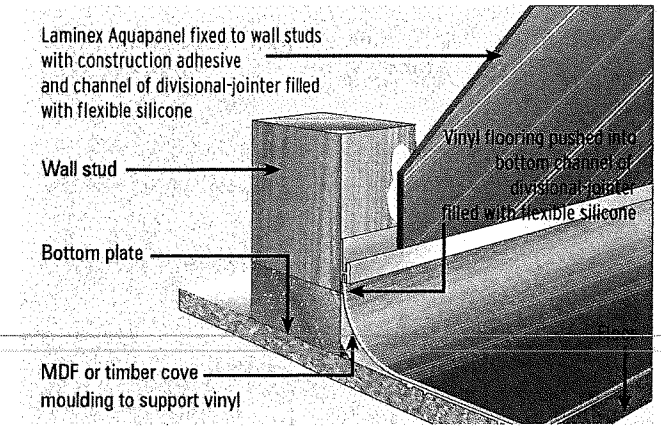



**Figure 14. Coved flooring using an divisional jointer (for use outside the shower cubicle)**




## HEALTH AND SAFETY

Health and safety precautions must be taken when working with sheet products.

Storage areas containing large quantities of Laminex Aquapanel sheets must be adequately ventilated.

Work areas must be well ventilated and kept clean. Sawing and machining equipment must be fitted with dust extractors to ensure that dust levels are kept within standards laid down by Occupational Health and Safety New Zealand. If not, a dust mask conforming to AS/NZS 1715 and AS/NZS 1716 and eye protection conforming to AS/NZS 1337 must be worn.

Offcuts, shavings and dust must be disposed of in a manner that avoids the generation of dust and in accordance with the requirements of local waste authorities.

For further information and Material Safety Data Sheets, please contact Laminex New Zealand.

## TECHNICAL SUPPORT

Not all use options and technical information can be described herein. Additional end use and specifying information is available as a complimentary service.

The information contained in this brochure must not be reproduced or published in whole or part without the prior consent of Laminex New Zealand.

Laminex New Zealand reserves the right to revise without notice any information contained in this brochure.

For further information and to check the currency of the information contained in this brochure please contact Laminex New Zealand or visit www.laminex.co.nz

## LAMINEX AQUAPANEL DO'S AND DON'TS

### Do

- ✓ Do, at design stage, take care that the chosen colour is suitable for the lighting situation. Lighter colours are more tolerant of harsh lighting environments.
- ✓ Do transport and store sheets flat and clear of ground.
- ✓ Do pre-condition sheets (separate the individual sheets and flat stack for at least 48 hours in the room to be installed. (see moisture content page 2).
- ✓ Do measure rooms and plan the joint positions.
- ✓ Do check timber framing is dry, clean and dust free.
- ✓ Do provide a minimum 5mm gap at the floor and ceiling line to accommodate movement.
- ✓ Do test cut, for chipping.
- ✓ Do follow adhesive and silicone manufacturer instructions.
- ✓ Do use continuous beads of adhesive on framing or existing linings. This reduces internal sheet tension, that may lead to distortion on the front of the sheet.
- ✓ Do use a continuous bead of silicone in all jointers and behind all fittings in wet areas.
- ✓ Do use silicone sealant in internal corners in wet areas.
- ✓ Do use silicone joints when forming horizontal joins where water will run down the face of the sheet.

### Don't

- × Don't store sheets in areas prone to damage or exposed to weather or direct sunlight.
- × Don't store the Laminex Aquapanel sheets upright.
- × Don't install in saunas or steam rooms (see content, page 1).
- × Don't directly bond to masonry or concrete (use dry timber battens).
- × Don't fix sheets over wet or poorly prepared frames.
- × Don't force sheets into position – always allow edge clearance.
- × Don't nail Laminex Aquapanel sheets – this destroys the surface.
- × Don't use aluminium jointers on the bottom edge of the Laminex Aquapanel sheet when installed in areas where water will run down the face of the sheet.
- × Don't use blobs of adhesive to adhere sheet to walls.
- × Don't use an ungloved finger to apply silicone, as bacteria will encourage mould growth.
- × Don't use abrasive cleaners or solvents on the Laminex Aquapanel surface.

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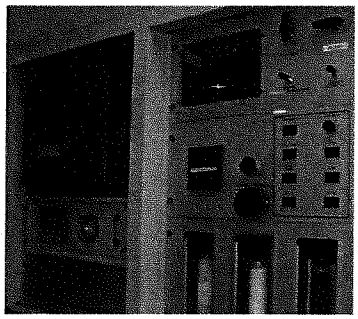

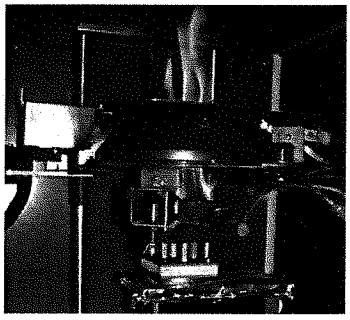

# FIRE TEST REPORT

# FH 5028

## CONE CALORIMETER TEST AND NZBC VERIFICATION METHOD C/VM2 APPENDIX A PERFORMANCE OF LAMINEX AQUAPANEL

**CLIENT**
The Laminex Group
1 O`Rorke Road
Penrose
Auckland
New Zealand

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation.



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# TEST SUMMARY

## Objective

To conduct cone calorimeter testing and reduce the data in accordance with ISO 5660 on client supplied specimens for the purposes of determination of the Group Classification in accordance with;

- New Zealand Building Code (NZBC) Verification Method C/VM2 Appendix A

## Test sponsor

The Laminex Group
1 O`Rorke Road
Penrose
Auckland
New Zealand

## Description of test specimen

The products submitted by the client for testing were identified by the client as Aquapanel, a nominally 2.7 mm thick compact laminate.

## Date of test

22nd and 27th November 2012

## Test results

TEXT For the purposes of compliance with the NZBC Verification Method C/VM2 Appendix A, the following classification is considered applicable to the material as described in Section 1, and others as discussed in Section 6.

| | |
|---|---|
| **Group Number Classification** | **3** |

# LIMITATION

The results reported here relate only to the item/s tested.

# TERMS AND CONDITIONS

This report is issued in accordance with the Terms and Conditions as detailed and agreed in the BRANZ Services Agreement for this work.

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# DOCUMENT REVISION STATUS

| ISSUE NO. | DATE ISSUED | DESCRIPTION |
|---|---|---|
| 1 | 4 March 2013 | Initial issue |



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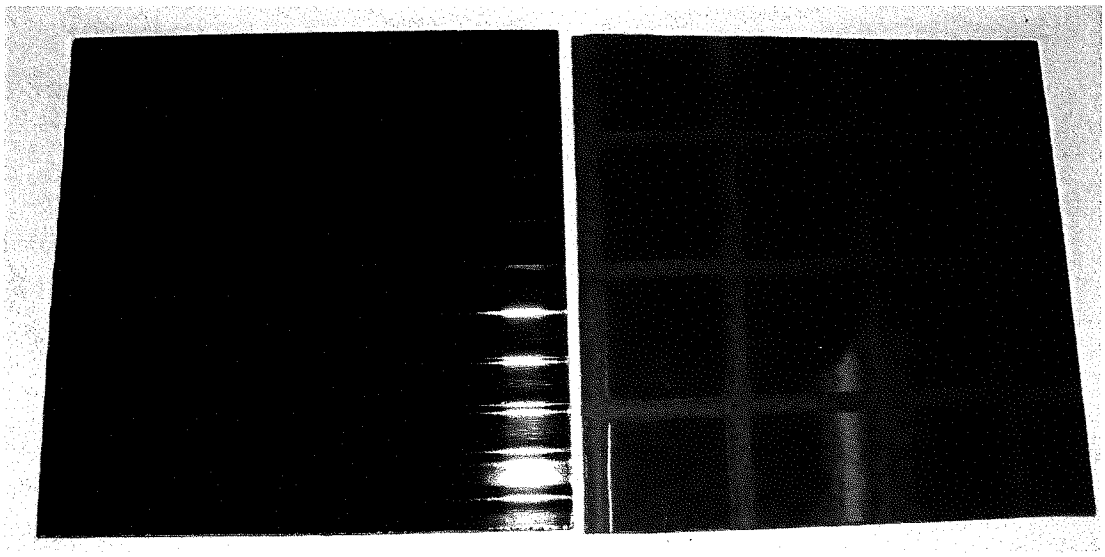
# 1. GENERAL

The product submitted by the client for testing was identified by the client as Aquapanel, a nominally 2.7 mm thick compact laminate. Figure 1 illustrates a representative specimen of that tested.

**Figure 1 Representative specimens (exposed face of "Seal Grey" on left, "Storm" on right)**



## 1.1 Sample measurements

The following physical parameters were measured for each specimen prior to testing.

| Specimen ID | Initial properties | | Overall apparent density ($kg/m^3$) |
|---|---|---|---|
| | Mass (g) | Mean thickness (mm) | |
| FH5028-50-1 (Fossil Tile) | 37.2 | 2.7 | 1,378 |
| FH5028-50-2 (Black Ripple) | 39.0 | 2.8 | 1,393 |
| FH5028-50-3 (Polar White Ripple) | 40.0 | 2.9 | 1,379 |



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# 2. EXPERIMENTAL PROCEDURE

## 2.1 Test standard

The tests were carried out and data reduced according to the test procedure described in ISO 5660: (2002), Reaction-to-fire tests – Heat release, smoke production and mass loss – Part 1: Heat release rate, and Part 2: Smoke production rate (the test standard). The sample preparation and test procedure were as described in 2.4 and 2.5.

## 2.2 Test date

The tests were conducted on 22nd and 27th November 2012 by Mr Roger Stanford at BRANZ Limited laboratories, Judgeford, New Zealand.

## 2.3 Specimen conditioning

All specimens were conditioned to moisture equilibrium (constant weight), at a temperature of 23 ± 2°C and a relative humidity of 50 ± 5% immediately prior to testing.

## 2.4 Specimen wrapping and preparation

All tests were conducted and the specimens prepared in accordance with the test standard. The spark igniter and the stainless steel retainer frame were used. All specimens were wrapped in a single layer of aluminium foil, covering the unexposed surfaces.

## 2.5 Test programme

The test program consisted of three replicate specimens as identified in the above table, tested at an irradiance level of 50 kW/m². All tests were carried out with the specimen horizontal, and with a nominal duct flow rate of 0.024 m³/s.



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# 3. TEST RESULTS AND REDUCED DATA

## 3.1 Test results and reduced data – NZBC C/VM2

| Material | | Test specimens as described in Section 1 (in accordance with ISO 5660) | | | Mean |
|---|---|---|---|---|---|
| Specimen test number | | FH5028-50-1 | FH5028-50-2 | FH5028-50-3 | |
| Time to sustained flaming | s | 46 | 57 | 50 | 51 |
| Observations[a] | | - | - | - | |
| Test duration[b] | s | 1846** | 1857** | 1850** | 1851 |
| Mass remaining, mf | g | 0.4 | 5.0 | 2.3 | 2.6 |
| Mass pyrolyzed | % | 98.9% | 87.2% | 94.1% | 93.4% |
| Specimen mass loss[c] | $kg/m^2$ | 3.86 | 3.70 | 4.14 | 3.90 |
| Specimen mass loss rate[c] | $g/m^2.s$ | 52.1 | 14.7 | 15.3 | 27.4 |
| Heat release rate | | | | | |
| peak, $\dot{q}''_{max}$ | $kW/m^2$ | 388.4 | 218.7 | 188.6 | 265.2 |
| average, $\dot{q}''_{avg}$ | | | | | |
| Over 60 s from ignition | $kW/m^2$ | 175.9 | 125.9 | 130.0 | 143.9 |
| Over 180 s from ignition | $kW/m^2$ | 178.1 | 154.6 | 143.7 | 158.8 |
| Over 300 s from ignition | $kW/m^2$ | 130.5 | 117.3 | 121.0 | 122.9 |
| Total heat released | $MJ/m^2$ | 68.0 | 65.5 | 67.2 | 66.9 |
| Average Specific Extinction Area | $m^2/kg$ | 82.7 | 78.8 | 56.1 | 72.5 |
| Effective heat of combustion[d], $\Delta h_{c,eff}$ | MJ/kg | 16.3 | 17.0 | 15.8 | 16.4 |

Notes :

[a] no significant observations were recorded

[b] determined by * $X_{O2}$ returning to the pretest value within 100 ppm of oxygen concentration for 10 minutes
** 30 minutes after time to sustained flaming

[c] from ignition to end of test;

[d] from the start of the test

[+] value calculated using data beyond the official end of test time according to the test standard.

NR not recorded



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# 4. SUMMARY

The test standard requires that the mean heat release rate (HRR) readings over the first 180 s from ignition for the three specimens should differ by no more than 10% of the arithmetic mean of the three readings. In the event of this criterion not being met, a further three specimens are required to be tested.

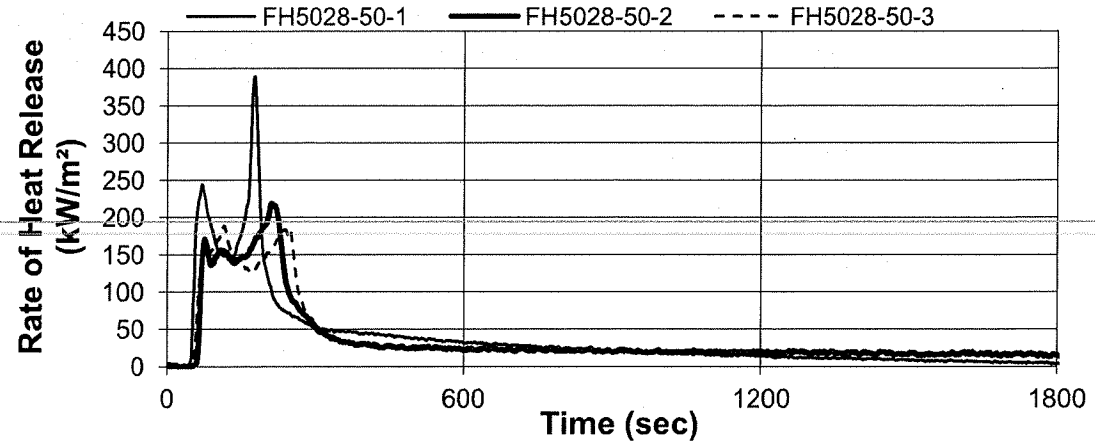
| Specimen ID | Average HRR over 180s from ignition | Arithmetic mean | % difference from the arithmetic mean |
|---|---|---|---|
| FH5028-50-1 | 178.1 | 158.8 | 12.1 |
| FH5028-50-2 | 154.6 | | -2.7 |
| FH5028-50-3 | 143.7 | | -9.5 |

The above table identifies one of the specimens exposed to 50 kW/m² irradiance exceeded the acceptance criteria. Although one of the specimens was outside of the variability criteria of the test standard, the same NZBC Group Classification was determined for each specimen. A further set of three tests as required by the test standard was deemed not to be necessary and would not be expected to lead to an alteration of the classification.

The report summary for the specimens as described in Section 1, exposed to an irradiance of 50 kW/m² is:

| Mean Specimen thickness (mm) | Irradiance ($kW/m^2$) | Mean Time to Ignition (s) | Mean Peak Heat Release Rate ($kW/m^2$) | Average Specific Extinction Area ($m^2/kg$) |
|---|---|---|---|---|
| 2.8 | 50 | 51 | 265.2 | 72.5 |

**Figure 2 Rate of heat release versus time**



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# 5. CLASSIFICATION IN ACCORDANCE WITH NZBC VERIFICATION METHOD C/VM2 APPENDIX A

The following classification has been assessed in accordance with the New Zealand Building Code Verification Method C/VM2 Appendix A: Establishing Group Numbers for lining materials. Calculations were carried out according to section A1.3 for predicting a material's group number for each specimen tested. It states that "If a different classification group is obtained for different specimens tested, then the highest (worst) classification for any specimen must be taken as the final classification for that material." The classification for the specimens as described in Section 1 is as follows:

| | Sample 1 | Sample 2 | Sample 3 | Classification |
|---|---|---|---|---|
| Group number Classification | 3 | 3 | 3 | 3 |

# 6. DISCUSSION

Three alternative variations in the finished colour of the specimens ranging from dark (Black Ripple) to light (Polar White Ripple) were tested with consistent results. It is therefore considered that any variation in the colour would not adversely affect the Group Number Classification or Average Specific Extinction Area achieved by the specimen tested in full and reported herein.

# 7. CONCLUSION

The cone calorimeter testing was carried out on the specimens as described in Section 1. For the purposes of compliance with the NZBC Verification Method C/VM2 Appendix A, the following classification is considered applicable to the material as described in Section 1, and others as discussed in Section 6.

| **Group Number Classification** | **3** |
|---|---|



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Updated
July 2017

# Prime FR MDF
# MSDS

**Prime FR MDF and Prime FR MDF Black are medium density fibre boards specifically manufactured to include flame retardants. This dramatically improves their fire resistance and spread of flame qualities when compared with standard MDF and most other timber-based sheet products.**

**This MSDS information should be read in conjunction with the Prime FR Technical Data Sheet.**

## Section 1 : Identification of the substance/mixture and of the company/undertaking

**1.1 PRODUCT IDENTIFIER**

**Product Name:** Medium Density Fiberboard

**Synonyms, Trade Names:** Medite FR (Flame Retardant)
Euro Class B, Euro Class C

**1.2 Relevant identified uses of the product**
Medite FR can be used in a diverse range of internal applications, i.e. furniture & cabinet making, joinery, flooring, toys & craft works, etc.

**1.3 Company Name:**

Medite Europe Ltd
Redmondstown
Clonmel
Co Tipperary
Tel. +353 (0) 52 6182300
Fax + 353 (0) 52 6121815

**e-mail address of person responsible for this MSDS** : mark.hearne@medite-europe.com

## Section 2 : Hazards identification

**2.1** This product is regarded as a non-hazardous material
The machining of the panel product will generate wood dust particles, i.e. sawing, sanding, etc., and this wood dust should be contained through a combination of vacuum and extraction cleaning equipment.

## Section 3 : Composition / Ingredients

**3.1 Chemical characterisation :** Mixed softwood, polymerised resin, paraffin wax, red dye, fire retardant additive (mixture of phosphate & nitrogen compounds), moisture and formaldehyde
This product conforms to E1 formaldehyde levels as well as also complying with the lower levels required by CARB phase 2 (CARB Phase 2 compliant <0.11ppm)

**Hazardous Ingredients:** None.

## Section 4 : First aid measures

### 4.1 Description of first aid measures

**Inhalation:** During the machining of this product i.e. sawing, sanding, etc., wood dust is generated. Move the exposed person to fresh air and get medical attention if adverse health effects persist or are severe. In the case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 24 hours.

**Ingestion:** Wash out mouth with water. If material is swallowed and the exposed person is conscious, give small quantities of water to drink. Get medical attention if adverse health effects persist or are severe.

**Eye contact:** Immediately flush open eye(s) with tepid water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

**Skin contact:** Wash contaminated skin with soap and water. Get medical attention if irritation occurs.

**General:** During the machining of this product i.e. sawing, sanding, etc., dust is generated. Should adverse effects occur following inhalation of, ingestion of or eye contact with this dust, move the victim to a safe area as soon as possible. If unconscious, place in recovery position and seek medical advice. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Maintain open airway. Loosen tight clothing such as collar, tie, belt or waistband. Allow the victim to rest in a well ventilated area.

**Protection for first-aiders:** No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth to mouth resuscitation.

## Section 5 : Firefighting measures

### 5.1 Extinguishing media

**Suitable fire extinguishing agents:** Water, Dry Powder, Carbon Dioxide ($CO_2$) & Foam.

**Unsuitable fire extinguishing agents :** None

### 5.2 Special hazards arising from the material

**Hazards from the material:** No specific hazard

**Hazardous thermal decomposition products:** Decomposition products may include the following: - Carbon Monoxide (CO), Carbon Dioxide ($CO_2$) and Nitrogenous gases may evolve during combustion.

5.3 **Advice for firefighters**

**Special precautions for firefighters:** Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for firefighters:** Fire-fighters should wear appropriate protective equipment including breathing apparatus equipment suitable for use in hazardous environments generated as a result of the thermal decomposition of the product.

## Section 6 : Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel:** Not applicable for the product in its solid sheet form

**For emergency responders :** Not applicable for the product in its solid sheet form

**6.2 Environmental precautions :** Not applicable for the product in its solid sheet form

**6.3 Methods for containment and cleaning up:** Not applicable for the product in its solid sheet form. The machining of this solid sheet form will generate wood dust particles, i.e. sawing, sanding, etc., and this wood dust should be collected through a combination of vacuum and extraction cleaning equipment. The waste material should be recovered or disposed of in a safe manner.

**6.4 Reference to other sections:**
See section 1 for emergency contact information
See section 8 for information on appropriate personal protection equipment

## Section 7 : Handling and storage

**7.1** The information in this section contains generic advice and guidance to assist employers develop safe practices and procedures that are based on their own specific risk assessments.

**Precautions for safe handling:** In solid sheet form the product may present a manual handling risk due to the physical dimensions and weight of the panel. Sound lifting practices and procedures, including the use of mechanical lifting equipment, should be adhered to at all times. The safe handling risk assessment should give full consideration to the wearing of safety footwear, gloves, helmet, face mask, etc.,

**7.2 Advice on general occupational hygiene:** Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash their hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

**7.3 Conditions for safe storage:** Store the product in a dry, well-ventilated area away from open flame or other ignition sources.

**Specific end use(s):**
Recommendations: Not available
Industrial sector specific guidance: Not available

## Section 8 : Exposure controls/personal protection

**8.1 Occupational exposure limit value:**

| Product/Ingredient name | Exposure limit value |
|---|---|
| **Softwood Dust** | HSA – 2010 Code of practice for S H & W at Work Chemical Agents Regs 2001<br><br>OELV-8hr: 5mg/m3 (Sen) |
| **Formaldehyde** | HSA – 2010 Code of practice for S H & W at Work Chemical Agents Regs 2001<br><br>OELV-8hr: 2ppm (2.5 mg/m3)<br>OELV-15min : 2 ppm (2.5 mg/m3) |

**8.2 General recommended advice:** Medical supervision of all employees who handle or come in contact with respiratory sensitisers is recommended. Personnel with a history of asthma-type conditions or bronchitis conditions should not work with respiratory sensitisers. The Occupational Exposure Limits listed do not apply to previously sensitised individuals.

**Exposure controls**
**Appropriate engineering controls:** Provide exhaust ventilation or other engineering controls to keep airborne concentrations of dust/vapour below their respective occupational exposure limits.

**Individual protection measures**

**Hygiene measures:** Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash their hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

**Eye protection:** Appropriate safety eye wear, complying with an approved standard should be used when a risk assessment indicates this is necessary in order to reduce the exposure risk.

**Hand protection;** Appropriate gloves, complying with an approved standard should be used when a risk assessment indicated this is necessary in order to reduce the exposure risk.

**Skin protection:** Appropriate footwear, safety helmet, overalls, etc., complying with the approved standard for protective device/clothing should be used when a risk assessment indicated this is necessary in order to reduce the exposure risk.

**Respiratory protection:** The choice of the respiratory protection must take account of the known or anticipated exposure levels, the safe working limits of the selected respiratory protection device and work place risk assessments. The respiratory protection should comply with an approved standard and state the level of protection being offered. In case of inadequate ventilation wear respiratory protection.

**Environmental protection:** Emissions from work place exhaust/ventilation systems, vacuum cleaning systems or process equipment should be monitored to ensure they comply with the requirements of environmental protection legislation. Additional downstream scrubber, filtering or engineering modifications to the process equipment may be necessary to achieve these acceptable levels.

## Section 9 : Physical and chemical properties

**9.1 Physical and chemical properties**

| | |
|---|---|
| **State :** | Solid panel form |
| **Odour :** | None under ambient conditions |
| **Dimensions:** | Dimensions will vary with product thickness, length and width. See Medite technical information sheet |
| **Density (kg/m3):** | Density will vary according to product type. See Medite technical information sheet |
| **Flash point :** | Not determined in solid panel state, Layer ignition temperature (5mm layer) for Medite MDF sander dust is 320°C |
| **Inflammability:** | N/A in solid state |
| **Explosive hazard:** | N/A in solid state |

## Section 10 : Stability and reactivity

**10.1 Chemical stability:** This product is chemically stable under normal conditions of use

**10.2 Conditions to avoid:** Store the product in a dry, well-ventilated area, away from flame or other sources of ignition.

**10.3 Materials to avoid:** Keep away from strong acids, bases and oxidising agents

**10.4 Hazardous thermal decomposition products:** Decomposition products may include the following: - Carbon Monoxide (CO), Carbon Dioxide ($CO_2$) and Nitrogenous gases may evolve during combustion.

## Section 11 : Toxicological information

**11.1 Acute and Chronic toxicity:** This product is a safe material in panel form

## Section 12 : Ecological information

12.1 **Ecotoxicity:** Not available

12.2 **Mobility**: Not determined

12.3 **Persistence and degradability:** Not determined

12.4 **Bioaccumulation potential:** Not determined

12.5 **Results of PBT assessment:** Not applicable

## Section 13 : Disposal considerations

13.1 This product is not considered a hazardous material. The generation of waste material should be avoided or minimized wherever possible. All waste material should be collected and stored in a safe manner prior to disposal. The disposed of the waste material should be in accordance with National and EU standards & regulations

## Section 14 : Transport information

14.1 **Transport information:** No labeling is required

## Section 15 : Regulatory information

15.1 **Safety, health and environmental regulations/legislation**
EU Regulation (EC) No. 1907/2006 (REACH), Annex XIV – List of substances subject to authorisation, Substances of very high concern: None of the substances are listed

15.2 **Symbol(s):** None
**R – Phase(s):** No risk phases assigned to this product
**S – Phase(s):** No risk phases assigned to this product
The information contained herein does not constitute the users own risk assessment, as required by workplace health and safety legislation.

## Section 16 : Other information

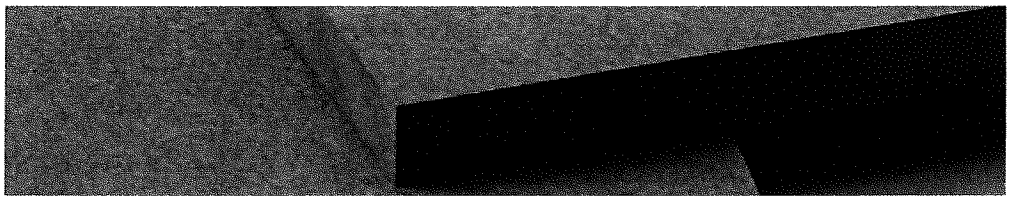
**Conforms to Directive:** EC directive 2001/58/EC
**Conforms to EU Regulation:** EU Regulation (EC) No. 1907/2006 (REACH),
**Dated :** 01/June/2012

This product should be stored, handled and used in accordance with good industrial hygiene practices and in conformity with legal regulations. The information contained herein is based on the present state of our knowledge and is intended to describe our product from the view of safety requirements. It should not therefore be construed as guaranteeing specific properties or their suitability for a particular application

Contact Us
**Prime Panels**
**PO Box 258035, Botany, Auckland 2163.**
Email **sales@primepanels.co.nz**
Phone **0800 477 463**
Website **primepanels.co.nz**

**'A BRANZ tested fire rated panel'**

MDF FR is a fire resistant MDF panel tested to NZ building code standards and can be painted, laminated or veneered to your specification





**Products**

**Surfaces**

- Prime Melamine
- Prime Veneer
- Prime Laminate
- Prime Stone
- Prime Acrylic

**Substrates**

- MDF
- Prime Ply
- Particle Board
- FR MDF
- FR MDF Black

Samples order list

Order sample →

# FR MDF

Description **Sizes**

## Description

**BRANZ tested**

**FSC certified**

**Certified New Zealand standard ISO-5660**

**Environmental Choice certified**

**Melamine overlay Group 1S**

**Available raw or overlaid with Prime Melamine, Prime Veneer or Prime Laminate**

**Painted group 1S**

**2440 & 1220mm length**

**Veneer overlay with polyurethane finish group 1S and Group 2**

**Perfect for public spaces**

**E1 Formaldehyde**

Prime FR MDF is a world class, flame retardant, and BRANZ tested medium density fibre board. It is produced for Prime Panels by Medite, one of the world's premium fire retardant panel manufacturers, and is perfect for wall and ceiling linings, joinery and furniture wherever fire control is required. Download the BRANZ Fire Test Report here.

Download the Prime FR MDF MSDS

Order samples →



Contact us

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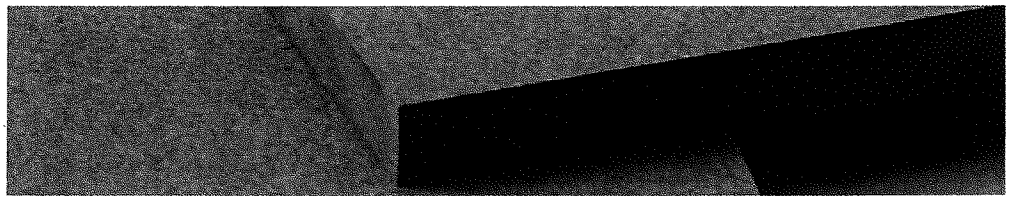



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- FR MDF Black

Samples order list

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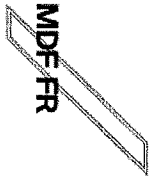
# FR MDF

**Description** Sizes

## Sizes




| | Accreditations | | | | Available board thicknesses (mm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FSC | ENV | E0 | E1 | 6 | 9 | 12 | 15 | 16 | 18 | 25 | 30 |
| Natural | | | | | | | | | | | | |
| **2440 x 1220mm** | ▨ | ▨ | ▨ | | | | ■ | ■ | | ■ | | |
| **2740 x 1220mm** | ▨ | ▨ | ▨ | | | | ■ | | | | | |
| Black | | | | | | | | | | | | |
| **2440 x 1220mm** | ▨ | ▨ | ▨ | | | | ■ | | | | | |
| **2740 x 1220mm** | ▨ | ▨ | ▨ | | | | ■ | | | | | |

**KEY**

| | |
|---|---|
| **FSC** | **Forest Stewardship Council** |
| **ENV** | **Environmental Choice** |
| **E0/E1** | **Formaldehyde Emission Level** |

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Fax 03 349 3315
Email: ppchch@primepanels.co.nz

Free phone.
0800 477 463

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# GIB-Tone®

## Suspended Ceiling Tiles

## Features and Benefits

- Excellent light reflectance
- Rigid dimensional tolerances
- Compatible with conventional grid systems
- Quick and easy to install
- Low maintenance
- GIB-Tone® Vinyl, GIB-Tone® Pure, and GIB-Tone® Colour tiles clean easily. Handling marks simply wash off with a damp cloth
- Vinyl surface tiles resist fading and mould growth

GIB®

# GIB-Tone® Suspended Ceiling Tiles

**GIB-Tone® suspended ceiling tiles now encompass a wider choice than ever. From the popular GIB-Tone® plain and vinyl-faced tiles, through to the Climate™ coated range with their exciting colour collection - designed to create dramatic ceiling spaces and enhance even the most prestigious interior environments.**

**Get the creative edge with the GIB® range of suspended ceiling tiles. Developed with the designer in mind, GIB-Tone® suspended ceiling tiles add flexibility and flair - offering the potential to inspire architects and satisfy modern design solutions.**

**Whether your needs are form or function, you'll add aesthetic value and increase the visual effect of your design.**

## Product Description

- GIB-Tone® suspended ceiling tiles are manufactured from square edged, 10mm and 13mm GIB® Plasterboard.
- A modified gypsum plaster core gives improved stability for the 10mm tile.

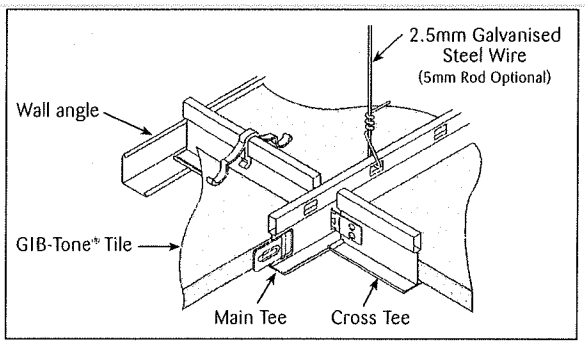
## Applications

GIB-Tone® suspended ceiling tiles are designed to suit a wide range of suspended ceiling grid systems in a variety of applications:

- Retail Shops
- Commercial Offices
- Cinemas
- Supermarkets
- Hospitals
- Night Clubs

## Physical Data

| | |
|---|---|
| **Tile Dimensions** | 1200 x 600mm nominal |
| **Size Tolerances** | +/- 2mm |
| **Maximum weight** | 10mm = 7.2 kg/m²<br>13mm = 9.2 kg/m² |
| **Edge Detail** | Square Cut (Lay in) |
| **Humidified sag** | max. 5mm<br>Test method A, Appendix G, of AS/NZS 2588 |




## Installation

GIB-Tone® tiles must be installed in accordance with the suspended grid manufacturers instructions. Winstone Wallboards recommends that tile installers ensure that hands are clean or gloves are used to prevent the marking of GIB-Tone® suspended ceiling tile surfaces.

## Early Fire Indices

As per BRANZ Test dated 18 December 1998, GIB-Tone® Plain and GIB-Tone® Vinyl tiles conform to AS1530.3: 1989.

| Results | Index |
|---|---|
| Ignitability | 0 |
| Spread of Flame | 0 |
| Heat Evolved | 0 |
| Smoke Developed | 5 |

## Storage and Handling

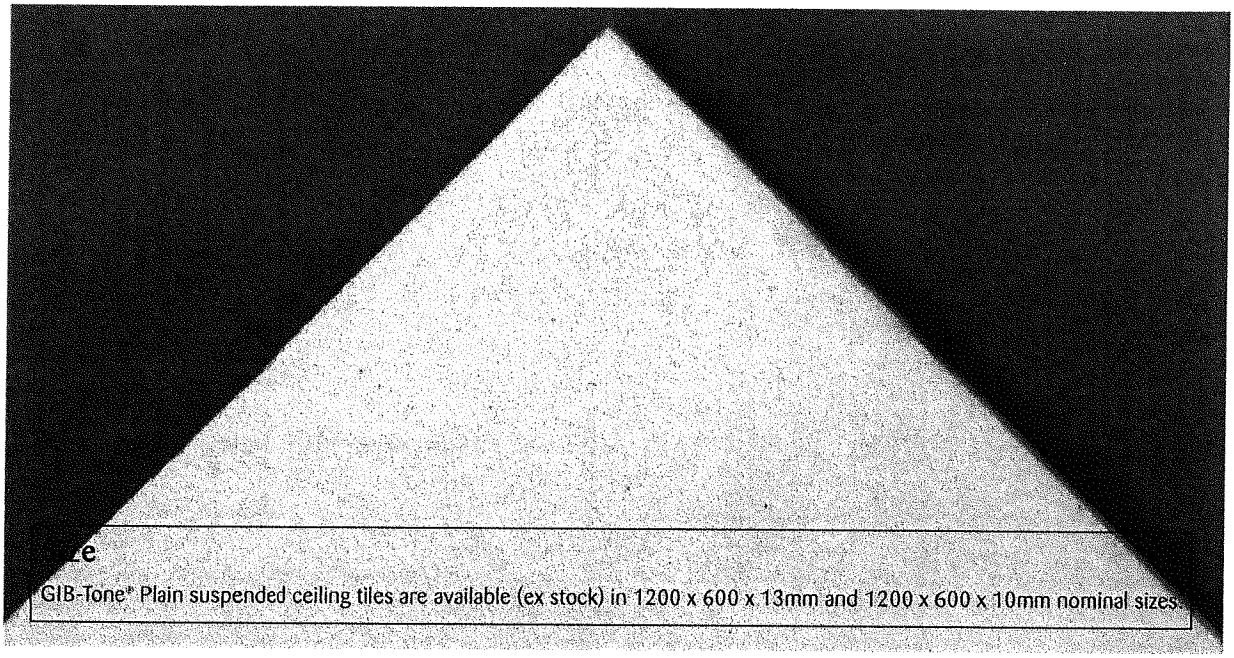
- GIB-Tone® suspended ceiling tiles must be delivered to the site immediately prior to installation to reduce the risk of damage.
- They must be stored in flat stacks (clear of the floor) with care taken to avoid sagging or damage to ends, edges and surfaces.
- Tiles must be kept dry at all times and fully protected from the weather and direct sunlight.

## Limitations

GIB-Tone® suspended ceiling tiles are unsuitable for use in areas subject to continuously damp or humid conditions.

# GIB-Tone® Plain

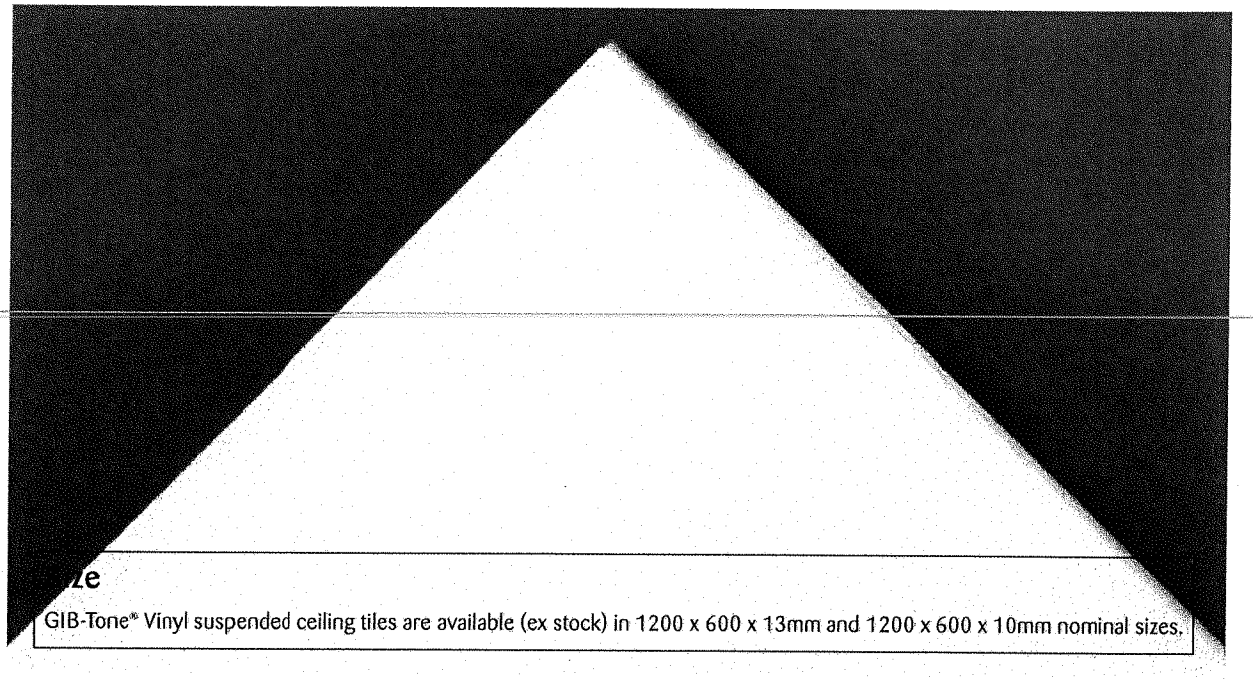
Paper faced GIB® plasterboard tiles.



GIB-Tone® Plain suspended ceiling tiles are available (ex stock) in 1200 x 600 x 13mm and 1200 x 600 x 10mm nominal sizes.

# GIB-Tone® Vinyl

GIB-Tone® Vinyl is an easy-maintenance white vinyl faced GIB® plasterboard tile. Its wipe-clean, long wearing surface makes it ideal for food preparation and other hygiene areas.



GIB-Tone® Vinyl suspended ceiling tiles are available (ex stock) in 1200 x 600 x 13mm and 1200 x 600 x 10mm nominal sizes.

## Applications

GIB-Tone® Pure suspended ceiling tiles have been designed by Winstone Wallboards to suit a variety of suspended ceiling applications.

- Hygiene Applications
- Clinics
- Cafeterias
- Supermarkets
- Shower Rooms
- Commercial Offices
- Heavy Duty Commercial
- Terminals, etc...
- Hospitals
- Food Kitchens
- Restaurants
- Changing Rooms
- Retail Shops
- Schools
- Amenity Areas

## Installation

GIB-Tone® Pure suspended ceiling tiles must be installed in accordance with the suspended grid manufacturers instructions. Winstone Wallboards recommends that tile installers ensure that hands are clean or gloves are used to prevent the marking of GIB-Tone® Pure suspended ceiling tile surfaces.

## Early Fire Indices

As per Applied Physics Laboratory test 11 August 2004, conforming to AS 1530.3: 1999.

| Results | Index |
|---|---|
| Ignitability | 0 |
| Spread of Flame | 0 |
| Heat Evolved | 0 |
| Smoke Developed | 3 |

## Compliance

GIB-Tone® Pure suspended ceiling tiles have been tested and assessed by BRANZ and Southern Monitoring Services. Reports and the opinions undertaken against the requirements of the NZBC Acceptable Solution G3/AS1 and the Food Hygiene Regulations 1974 are available on request from Winstone Wallboards and GIB-Tone® Pure suspended ceiling tile distributors.

## Sealing Cut Edges

Cut edges must be sealed by applying a suitable waterproof, self adhesive tape to the edges.

The tape must be a minimum of 30mm wide and wrap to both front and back faces of the tile by at least 10mm to ensure a good seal is achieved at each end. Take care to ensure that the tape does not show beyond the width of the perimeter ceiling channel, or the face of an exposed grid or any fixture.

An ideal tape for this purpose is Scotch branded, Transparent Duct Tape, or similar.

### Non Critical Areas

Sealing can be accomplished quickly by using an acrylic wallboard sealer.

## Care and Maintenance

To maintain the functional nature of this finish, wash the tile face regularly with a dilute solution of warm water and liquid detergent, followed by a fresh water rinse.
**NB:** Do not allow water onto the back face of the tile.

Do not use abrasive cleaners or active organic solvents on the coating surface.

## Lance Meiklejohn

**From:** Hans Gerlich (WWBWGTN) <HANSG@GIB.CO.NZ>
**Sent:** Thursday, 20 February 2014 3:38 p.m.
**To:** lance@technitrades.co.nz
**Subject:** FW: GIB Tone Ceiling Tiles

Hi Lance,

We have tested GIB® Tone Painted and Vinyl Ceiling Tiles in accordance with ISO 5660 and they achieved a Group Number Classification 1-S.

The average specific extinction area was significantly below the 250 m2/kg limit for Group 1-S.

Unfortunately the conditions of test preclude us from making the report available.

Please let me know if you run into any issues with Council.

Regards,

Hans Gerlich

VINYL FLOORINGS

**iQ and Premium ranges**
**Rolls and Tiles**

# Installation instructions

**iQ Granit, iQ Megalit, iQ Eminent, iQ Optima, iQ Gemstone**
**iQ Natural**
**Micra Premium, Primo Premium, Eclipse Premium**

*Jan 2011*

## IMPORTANT!

- Make sure all specifications and instructions are followed carefully.
- Contact your Tarkett representative if you are unsure about any part of the installation.
- This information is subject to change due to continuous improvement.
- Use the same batch number for each continuous surface (if material from several boxes is used, they should have the same manufacturing serial number and be used in consecutive order).
- Store the boxes in small neat piles (max. 5 boxes high).
- Let the flooring acclimatise for a while before laying.
- The subfloor must be flat, level, clean, without marks (no felt pen, marker, etc.), sound, dry, solid, hard, smooth and not exposed to moisture. Absorbency must be checked.
- Use only adhesives recommended by Tarkett. Always follow the adhesive manufacturer's instructions.
- The work must be completed with an inspection: ensure that the newly laid floor is free from adhesive residues.

## SUBFLOOR

The subfloor must be level, flat, clean, free from marks (no felt pen, marker of any type, ballpoint pens, paint, etc., that could cause discoloration due to migration) sound, dry, solid, hard, smooth (the absorbency must be checked) and not exposed to moisture.

The preparation/dryness of the subfloor and installation procedures should all be in accordance with the current relevant Standard within the country of use. The dryness of a solid subfloor should be below the maximum moisture level permitted when tested in accordance with that Standard.

E.g. in the UK, the relative humidity of concrete surfaces must be below 75%, and less than 2% with the CCM method.
In North America, ASTM F-170 recommends a water-to-cement ratio of 0.40 to 0.45.

Before selecting a smoothing compound, check what type of traffic the floorcovering will be subjected to once installed. Latex smoothing compounds are not suitable for areas that will receive heavy traffic, especially heavy, narrow wheeled traffic (see EN 12529, Castors and wheels). Check levelling compound compatibility, and follow the instructions of the levelling compound manufacturer.

**Note:** exclusion of liability (adhesives, levelling compounds, etc.)
Although Tarkett may list a selection of adhesive, levelling compound and surface damp-proof membrane manufacturers and types, we do not guarantee the products listed. The list of products and manufacturers is not guaranteed complete or current.

Tarkett will accept no liability for any of these products failing to perform in conjunction with any of its products. It is the responsibility of the adhesive, levelling compound and surface damp-proof membrane manufacturer and flooring contractor to ensure the products being used are appropriate for use and applied in accordance with the manufacturers' recommendations.

## LAYING DIRECTION

### ROLLS

Plan the sheet direction for the area to be installed to ensure whenever possible that joins do not coincide with doorways, main traffic lanes, sinks or urinals.
If the room is reasonably square, the sheets should run parallel to the incoming light.
In long, narrow rooms it is best to install the sheets along the length of the room.

Cut the sheets to length. If coving is necessary, the sheets should be cut longer than the room.

**All consecutive sheets should be installed in the opposite direction** to the previous sheet installed, **except for Gemstone, which is laid in the same direction**.

Butt join when edges are straight, or overlap the edges by 3 cm and trim the two sheets simultaneously.

### TILES

Before starting tile installation, determine the method of laying taking into account the shape of the room and the design to be laid. See the various methods on the separate sheet.

Install the tiles edge to edge and flatten by hand as they are placed.

iQ Granit, iQ Optima: install in the same direction or in a checkerboard pattern.
iQ Megalit, iQ Gemstone: install in the same direction.

## GLUING[1]

Glue with an acrylic adhesive emulsion recommended by Tarkett.
Apply 250 to 300 g/m$^2$ using a finely serrated trowel.

## COVING[2]

In some areas, it is recommended to cove the flooring up the wall.

## WELDING[3]

Hot welding with a welding rod is recommended for rolls and for tiles.
Important! Do not weld until the adhesive has bonded completely (wait 24 to 48 hours).
Groove the joints using a hand grooving tool or a machine before welding.
Weld with hot air and a Tarkett Speed Welding Nozzle or equivalent.

[1] For more details on gluing, please refer to the separate sheet: Adhesives.
[2] For more details on coving, please refer to the separate sheet: *Coving*.
[3] For more details on welding, please see the separate sheet: *Welding*.

iQ HOMOGENEOUS VINYL FLOORINGS

**iQ Granit, iQ Granit Acoustic, iQ Megalit, iQ Optima, iQ Eminent, iQ Natural, iQ Gemstone**

# Cleaning instructions

Modern day-room cleaning aims to reduce wet cleaning procedures and replace them with drier cleaning techniques. For example, the use of centrally laundered pre-impregnated mops and the wide application of appropriate machines. This makes work more effective and easier for the cleaning staff, and minimises environmental impact. Less cleaning chemicals and less fresh water are used.

***Jan 2011***

## General advice

- Clean the floorcovering regularly, as this is more cost-effective and hygienic than occasional heavy-duty cleaning.
- Always follow dosage instructions carefully.
- Wipe up any grease and spilt oil immediately, as they may damage the surface.
- Resilient floors are damaged by solvents.
- Black rubber wheels and rubber feet can discolour the floorcovering. All chair and table legs should have good quality floor protectors. Felt pads are not recommended in commercial interiors. Hard plastic is preferred.
- Remember that light colours need more frequent cleaning.

## Preventive care

**Entrance matting**
About 80% of surface soiling that has to be cleaned off is brought in from outside.
And 90% of that soiling can be avoided using an effective and correctly dimensioned entrance mat.
The less dirt that comes in through the entrance, the lower the maintenance requirements.

## Daily and regular cleaning

**Dry mopping**
Remove dust and dirt with yarn or microfibre mops, or disposable mops, dry or impregnated. You can also use a suitable broom with soft bristles.

OR

**Damp mopping**
Use a mop dampened with water or detergent solution. It is essential that water does not stay on the floor or leave a film. The floor should be virtually dry after 15-20 seconds.

**Machine cleaning**
For best results, clean the floor gently with a combined scrubber/dryer machine and medium hard brushes or preferably red pads.

**Cleaning chemicals:** If wet cleaning is necessary, use a neutral floor cleaner. Wet rooms may necessitate occasional cleaning with acidic cleaning agents, pH 3 to 5, in order to remove residual lime and soap.
Always follow dosage instructions carefully.

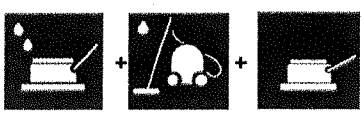
**Spot and stain removal**
Treat stains immediately.
Spot clean by hand with a white/red nylon pad and neutral detergent (solvents should not be used).
Work from the outside of the mark towards its centre. Rinse and wipe afterwards with clean water.

## Periodic cleaning

**IT IS NOT NECESSARY TO TREAT THE FLOORING WITH POLISH.**

**Dry buffing**
Dry buffing is the most efficient way to restore the floor's surface once wear has become visible. It is best to dry buff immediately after the floor has been machine-cleaned. Dry buffing limits renewed soiling. For best results, use 500-1000 rpm and a red pad. The higher the speed, the higher the gloss.
~~Dry buff frequently according to the amount of wear.~~

FOR HEAVY WEAR AND SOILING



**Machine scrubbing + Wet vacuuming + Dry buffing**
Apply the cleaning solution (a fairly strong cleaning agent, pH 10-11, added to water) to the flooring and allow to penetrate for 5-10 minutes. Clean the floor using a heavy single scrub machine and red cleaning pad.
Vacuum away the dirty water immediately. Rinse with clear water. Allow the floor to dry and then dry-buff according to the instructions above.

The iQ range is totally outstanding in offering Unique Surface Restoration, which can only be achieved by Tarkett iQ products.
Unique Surface Restoration makes it possible to fully restore the flooring surface to its original appearance and properties with simple dry buffing.

**Initial site clean**

Always protect the floor with thick paper or hardboard sheeting during the construction period. After installation, we recommend an initial site clean: vacuum, sweep or damp mop the area to remove building dust and loose dirt. A combined scrubber/dryer with brushes or white/yellow pads cleans large areas very effectively. Use detergent with a low pH (3-5).

*If you have any questions, please contact your local Tarkett representative for further information.*
*The above information is subject to change due to continuous improvement.*

**Latest update: 2010-09-11**

# iQ Granit

Tarkett COMMERCIAL

VINYL

**Technical Data**

| | | |
|---|---|---|
| Type of flooring | EN 649 | Homogeneous single layered vinyl flooring |
| CE certification | | Yes |
| Classification | EN 685 | Commercial: 34<br>Industrial: 43 |
| Wear layer thickness | EN 429 | 2,0 mm |
| iQ PUR | | Yes |
| Total thickness | EN 428 | 2,0 mm |
| Total weight/m² | EN 430 | 2950 g |
| Dimensional stability | EN 434 | ≤ 0,40 % for rolls<br>≤ 0,25 % for tiles |
| Abrasion<br>Thickness loss<br>Volume loss | <br>EN 660:Part 1<br>EN 660:Part 2 | <br>Group P: ≤ 0,15 mm<br>Group P: ≤ 4,00 mm³ |
| Residual indentation | EN 433 | Approx. 0,03 mm |
| Castor chair test | EN 425 | Suitable |
| Static electrical charge | EN 1815 | < 2 kV |
| Underfloor heating | | Suitable – max. 27°C |
| Thermal resistance | EN 12667/DIN 52612 | Approx. 0,01 m² K/W |
| Reaction to fire<br><br><br><br>Marine equipment | DIN 4102<br>BS 476: Part 7, 1997<br>EN 13501-1<br>EN ISO 9239-1<br>EN ISO 11925-2<br>IMO FTPC Part 5 and 2<br>IMO Res. A653 | B1<br>Class 2<br>Class $B_{fl}$ s1<br>≥ 8 kW/m²<br>Pass<br>0575 |
| Light fastness | EN ISO 105-B02 | ≥ level 6 |
| Chemical resistance | EN 423 | Good resistance |
| Bacteria resistance | ISO 846:Part C | Does not favour growth |
| Slip resistance | DIN 51130<br>EN 13893 | R9<br>≥ 0,3 |
| Colours | | 29 + 2 Multicolour* |
| Form of delivery | EN 426<br>Sheet<br>(rolls) | Approx. 25 r m x 200 cm<br>art. no. 3040_ _ _<br>3 digit colour number<br>art. no. 3218_ _ _ (Multicolour)<br>3 digit colour number |
| | EN 427<br>Tiles<br>(box) | 61 x 61 cm<br>14 tiles/box=5,21 m²<br>art. no. 3243_ _ _<br>3 digit colour number<br>art. no. 3044_ _ _ (Multicolour)<br>3 digit colour number |

*) iQ Granit Multicolour is not approved for use under the IMO directive.

**Reaction to fire classification report**

**Stockholm**
**No. A12336/2003-02-12**

# REACTION TO FIRE CLASSIFICATION REPORT OF THE PRODUCT HOMOGENEOUS PVC FLOORING GRANIT ART NO 3218

**on behalf of**

**TARKETT SOMMER AB**
Technical Center, S-37281 Ronneby, Sweden

Laboratorier ackrediteras av Styrelsen för ackreditering och teknisk kontroll (SWEDAC) enligt svensk lag. Den ackrediterade verksamheten vid laboratorierna uppfyller kraven i SS-EN ISO/IEC 17 025 (2000).

Denna rapport får endast återges i sin helhet, om inte utfärdande laboratorium i förväg skriftligen godkänt annat. Provningsresultaten gäller enbart för de provade objekten

SWEDAC är en av signatärerna till de multilaterala avtalen inom European co-operation for Accreditation (EA) för ömsesidig acceptans av kalibreringsbevis och provningsrapporter.

Laboratories are accredited by the Swedish Board for Accreditation and Conformity Assessement (SWEDAC) under the terms of Swedish legislation. The accredited laboratory activities meet the requirements in SS-EN ISO/IEC 17 025 (2000).

This report may not be reproduced other than in full, except with the prior written approval the issuing laboratory. The test results are only valid for the tested objects.

SWEDAC is one of the signatories to the Multilateral Agreements of the European co-operation for Accreditation (EA) for the mutual recognition of calibration certificates and test reports.

# 1 Introduction

This classification report defines the classification assigned to the product Homogeneous PVC flooring Granit art no 3218 in accordance with the procedures given in EN 13501-1:2002.

# 2 Details of classified product

## 2.1 Nature and end use application

The product Homogeneous PVC flooring Granit art no 3218 is defined as a flooring. Its classification is valid for the following end use application:
Glued to a substrate of at least class $D_{fl}$ - s1.

## 2.2 Description

The product Homogeneous PVC flooring Granit art no 3218 is fully described in the test reports in support of the classification listed in 3.1.

# 3 Test reports and test results in support of this classification

## 3.1 Test reports

| Name of laboratory | Name of sponsor | Test report ref. no. | Test method |
|---|---|---|---|
| AB Trätek, Swedish Institute for Wood Technology Research | Tarkett Sommer AB | A12330/2003-01-21<br>A12331/2003-01-21 | EN ISO 9239-1:2002<br>EN ISO 11925-2:2002 |

## 3.2 Test results for floorings

| Test method | Parameter | Number of tests | Results | |
|---|---|---|---|---|
| | | | Continuous parameter | Compliance parameters |
| EN ISO 11925-2<br>15 s exposure | Flame spread ≤ 150 mm | 6 | (-) | Yes |
| EN ISO 9239-1 | Critical flux (kW/m²) | 1+3 (1) | 10,8/10,6/10,8<br>mean 10,7 | (-) |
| | Smoke (% min) | 1+3 (1) | 147/97/147<br>mean 130 | (-) |

(-) not applicable
(1) the single test is in one direction, the three tests are in the perpendicular direction and the results are given for the three tests

# 4 Classification and direct field of application

## 4.1 Reference and direct field of application

This classification has been carried out in accordance with clause 11.6 of EN 13501-1:2002.

## 4.2 Classification

The product Homogeneous PVC flooring Granit art no 3218 in relation to its reaction to fire behaviour is classified:

$B_{fl}$

The additional classification in relation to smoke production is:

s1

The format of the reaction to fire classification for floorings is:

| Fire behaviour | | Smoke production | |
|---|---|---|---|
| $B_{fl}$ | - | s | 1 |

i.e.: $B_{fl}$-s1

## 4.3 Field of application

This classification is valid for the following end use conditions:

- substrates: at least class $D_{fl}$ - s1
- type of fixings: glued.

This classification is also valid for the following product parameters given by the sponsor:

- nominal thickness: 1.90 - 2,13 mm
- nominal area weight: 2700 - 3390 g/m$^2$.

# 5 Limitations

## 5.1 Restrictions

No restrictions on the duration of the validity of this classification report as long as the product specifications remain unchanged.

## 5.2 Warning

This document does not represent type approval or certification of the product.

| Report | Name | Signature* | Date |
|---|---|---|---|
| Prepared by | Lazaros Tsantaridis | | 2003-02-12 |
| Reviewed by | Jan Brundin | | 2003-02-12 |

* For and on behalf of
AB Trätek, Swedish Institute for Wood Technology Research, Laboratory, Stockholm

Caroma
design for life

| Date | April 2015 | 13.03 |
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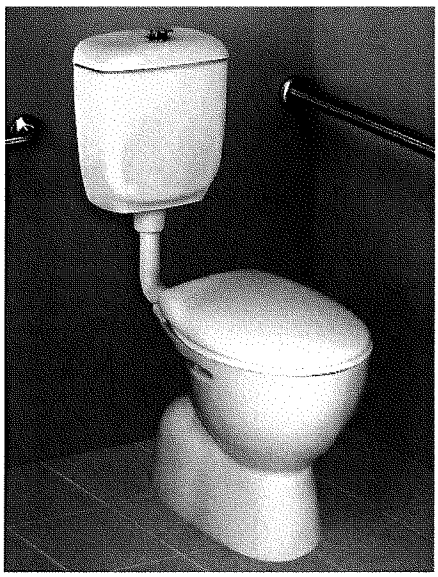
# Care 400

## Sanitary Facilities - Access and Mobility

## 4.5/3 litre Dual Flush Toilet Suite



A contemporary designed 4.5/3 litre dual flush **Care 400** toilet suite installation designed to provide a raised seat height of 460mm for accessible applications. The pan features a concealed trap which facilitates easy cleaning. The versatility of the **Care 400** toilet suite makes it ideal for use by wheel-chair users including wheeled commode chairs.

| | |
|---|---|
| **Important:** | **Further reference must be made to NZS 4121.1 with current amendments to determine circulation space, grab rail and installation requirements. The dimensions in this sheet may change with amendments to the standard.** |
| **Pan:** | **Trident Concealed Trap Care** pan 4.5/3 litre full flush washdown type. |
| **Traps:** | S-trap unvented only Code No.606310. |
| **Inlet:** | 50mm back inlet. |
| **Cistern:** | **Sovereign** 4 Star Cistern (wall fix version). **Important: Working pressure minimum 30kPa to maximum 1000kPa flow pressure. Rain water tank compliant.** |
| **Buttons:** | Round Care Button - Metal (supplied). Other button options sold separately. |
| **Inlet Valve and Overflow:** | **Standard Bottom Entry Cistern** – available as right hand inlet which is interchangeable and incorporates the Apollo inlet valve. Internal overflow only. |
| **Seats:** | **Caravelle Care** seat suppplied, available in Caroma White (W), Sorrento Blue (SB) and Anthracite Grey (AG). |
| **Position of the Pan:** | For wheel chair access, the installed pan must be 700 to 750mm from the front of the pan to the finished wall and provide a seat height of 460mm. |
| **Position of the Cistern:** | The underside of the cistern must be 600mm minimum from the finished floor. The push button height must be no greater than 1100mm from the finished floor. |
| **Colours:** | White only. |
| **Installation:** | The installation of the toilet suite shall be in accordance with the normal minimum drainline grade requirements in AS/NZS 3500.2. |
| **Dimensions:** | All dimensions are in millimetres and are subject to normal manufacturing variations. Caroma pursues a policy of continuing improvement in design and performance of its products. The right is therefore reserved to vary specifications without notice. |

WATER RATING

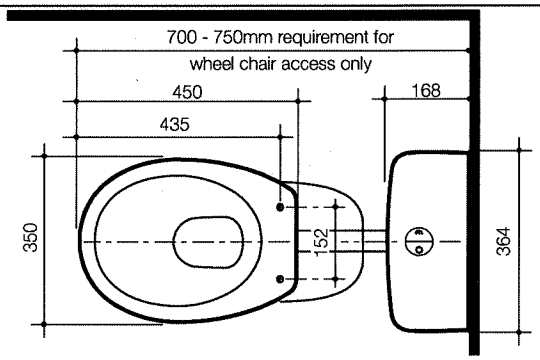
smartflush system

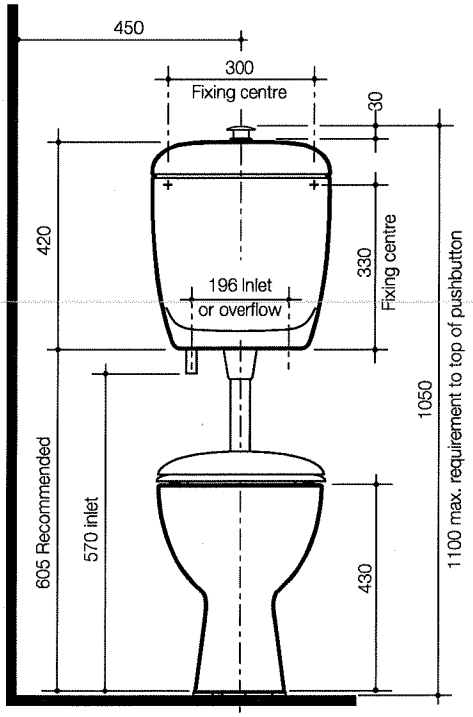
**Note: The projection requirements detailed on this illustration are for wheel chair access only.**

All height dimensions to underside of pan, make allowance for mortar bedding.

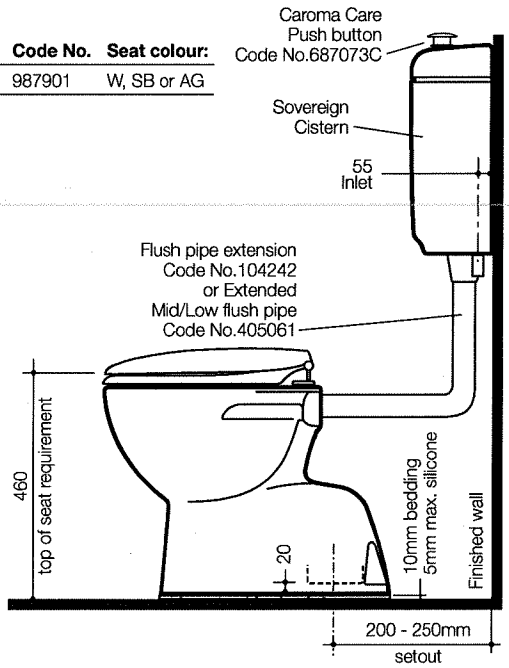
**Mortar bedding:** The pan should be fixed to the floor with a sand cement mixture of 3:1 to a depth of 60mm. When bedded the back of the foot of the pan should be approximately 10mm above the finished floor.

**Screw fixing:** The pan should be bedded with an acetic cured silicone sealant and fixed with corrosion resistant screws and pan guard washers. Use Caroma pan fixing kit. Code No.601150.




| Care 400 Toilet Suites with Caravelle Care Seat | | Code No. | Seat colour: |
|---|---|---|---|
| Double Flap | S trap | 987901 | W, SB or AG |




* Reference must be made to New Zealand Standard NZS 4121.1 to confirm installation

Suitable for installation to comply to New Zealand Standard NZS 4121.1 Design for access and mobility