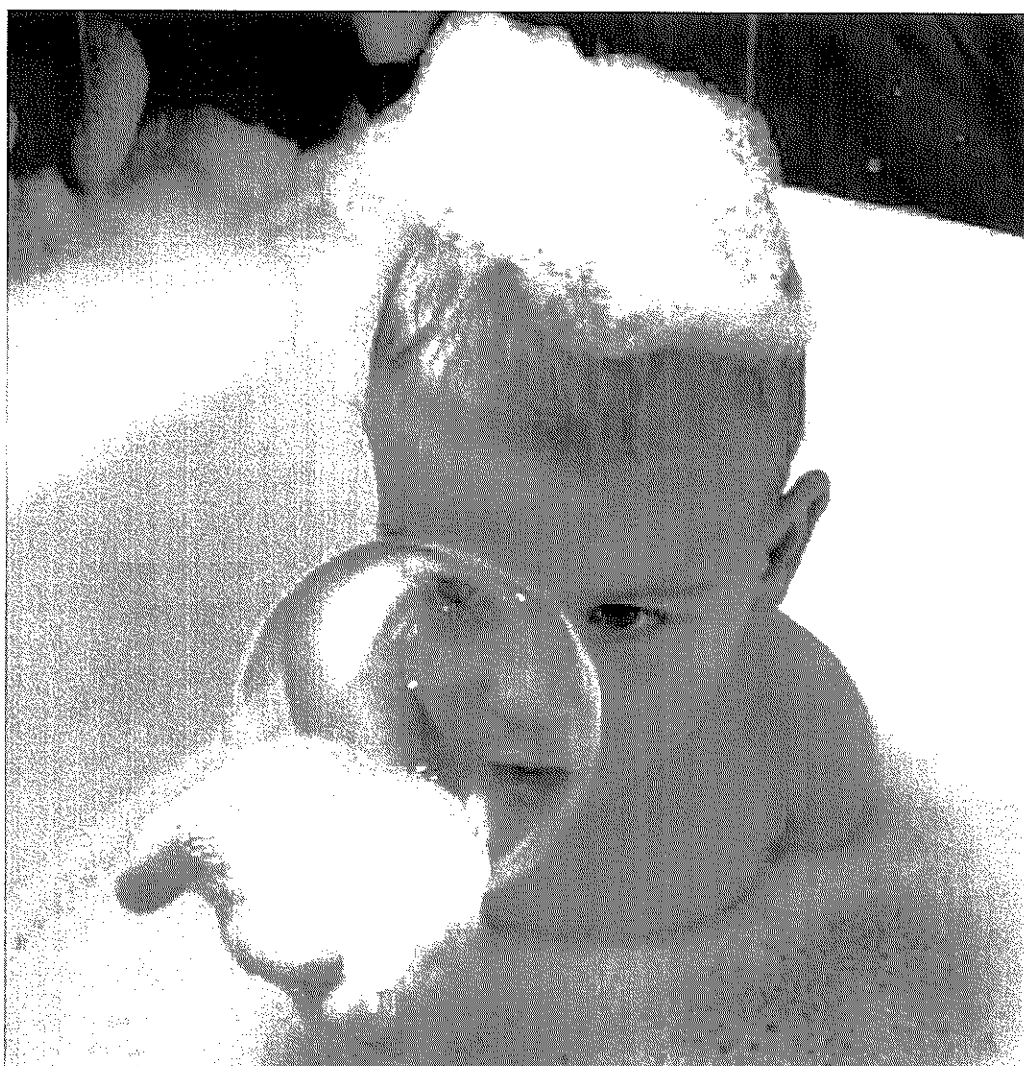


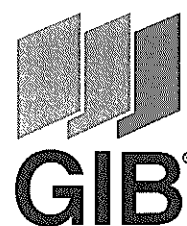
CBI 5113

March 2007

GIB Aqualine® Wet Area Systems



www.gib.co.nz





THIS PUBLICATION

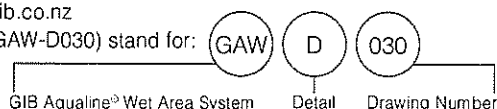
This publication is not intended as the definitive guide on wet area construction and wet area systems, but rather as a helpful guide to best practice around areas where there is intermittent water exposure and splash zones within residential and non-residential buildings – in particular, areas covered by the New Zealand Building Code (NZBC), Clause E3 Internal Moisture. The information herein is designed to be helpful to designers, contractors and home-owners wishing to achieve a result that is easy to incorporate into modern design, simple and clear to construct, and that will satisfy the needs, requirements and expectations of both the NZBC and the end user.

Wet areas in the home often require relatively frequent and expensive renovation or repair, often because of the ingress of water to the structure of the building.

It is important to introduce materials and systems which have been specially designed to cope with the conditions that are common in wet areas, and to ensure they are installed correctly, using best practice, and are compatible to form a complete wet area system.

The code numbers shown with each "typical detail", e.g. GAW-D030, match the code numbers for drawings available as downloads on the GIB® website at www.gib.co.nz

The reference numbers (e.g. GAW-D030) stand for:



WHAT IS A WET AREA?

Generally, wet areas are described as spaces to where fresh water is reticulated, such as bathrooms, toilets, laundries and kitchens. Wet areas fall into two categories; these are well explained and documented in the NZBC, Clause E3.

1. Water splash areas – These are areas subject to intermittent splash of liquid water around sanitary fittings and appliances such as baths, vanities, laundry tubs, sinks, etc. These areas are required to have an impervious, easily cleaned surface.
2. Shower enclosures – These are areas subject to more frequent, larger quantities of water, and include shower enclosures and shower over bath areas. The NZBC E3/AS1 requires these areas to be impervious, and specifically excludes any paint and wallpaper finishes. Where ceramic tile or stone finishes are applied, E3/AS1 requires that they "shall be laid on a continuous impervious substrate or membrane".

The requirements of these wet areas are described on page 6 of this publication and in full in Clause E3 of the NZBC. Clause E3 also refers to other requirements not covered in this publication, such as ventilation, condensation control and overflow management, which will require separate consideration. Ongoing maintenance of wet areas is also important to maximise the life of the wet area.

GIB AQUALINE®

Although able to cope with infrequent short-term exposure, standard gypsum plasterboard will have a shortened life expectancy when frequently exposed to water or moisture.

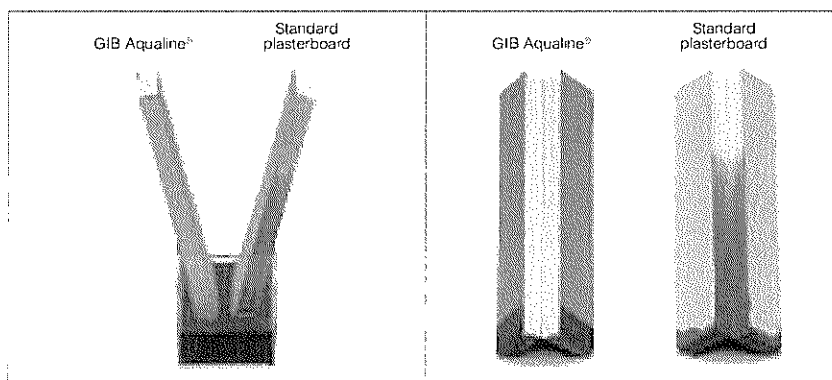
The NZBC does not call for water resistant linings in wet areas but it is highly desirable to incorporate lining materials which will maintain their integrity longer when exposed more frequently to water or steam and particularly to one-off events such as leakages or flooding of a room.

GIB Aqualine® is ideal in such situations because it features a water resistant wax polymer impregnated core.

Unlike other commonly used substrates, the GIB Aqualine® core not only resists penetration of water through the lining into the framing behind, but also resists water "wicking" up the core, a common cause of long-term damage where a water resistant lining has not been used.

GIB Aqualine® will maintain its integrity for extended periods, particularly where wicking over large areas can destroy the integrity of the interface between the lining and paint or wallpaper surfaces or between the lining and the tile adhesive.

The illustrations below graphically show the difference between GIB Aqualine® and standard plasterboard after a two-hour soak test in red dye.



GIB AQUALINE® WET AREA SYSTEMS – DESIGN



Introduction/Design Considerations

GIB AQUALINE® *continued*

Where to Use GIB Aqualine®

Though not required by NZBC, it is highly desirable to include GIB Aqualine® in all areas at risk of water or moisture damage, in order to prolong the life expectancy of that space.

They include:

	WALLS	CEILINGS
BATHROOMS	✓	✓
SHOWERS	✓	✓
LAUNDRY	✓	✓
KITCHEN	✓	
TOILET	✓	

Benefits

- Water resistant and durable to help protect against water damage
- Proven substrate for paint, wallpaper, tiles, sheet vinyl and rigid sheet shower linings with installations in over 300,000 bathrooms in New Zealand
- Suitable for both residential and non-residential applications
- Dimensionally stable, will not buckle or warp, hence an excellent substrate for ceramic tiles
- Conventional jointing methods
- Easy to cut and form openings
- Contains fibreglass and other additives for strength and fire resistance
- May be used in GIB® Bracing, GIB® Fire Rated and GIB® Noise Control Systems (see Compliance with the NZBC, Clauses B1, C3 and G6). Consult the appropriate GIB® literature for installation details
- Green face paper for ease of recognition.

Sheet Dimensions and Weights

SHEET DIMENSIONS (ALL SHEETS 1200mm WIDE AND TE/TE)		MAXIMUM WEIGHT/m ²
Thickness (mm)	Length (mm)	
10	2400, 2700, 3000, 3600	7.8kg
13	2400, 2700, 3000, 3600	10.2kg

Handling and Storage

- GIB Aqualine® must be stored under cover, stacked flat and clear of the floor with sufficient support to avoid sagging
- GIB Aqualine® must be handled as a finishing material.

APPRAISAL

The document entitled *GIB Aqualine® Wet Area Systems 2007* has been appraised by BRANZ, Appraisal Certificate, No. 427 (2007).

COMPLIANCE WITH THE NEW ZEALAND BUILDING CODE (NZBC)

Structure – Clause B1

The design and material specification for steel and timber framing used in GIB Aqualine® systems must be in accordance with the performance requirements of NZBC Clause B1 (Structure). See Bracing in Wet Areas on page 5.

Durability – Clause B2

When installed and maintained in accordance with this literature, GIB Aqualine® tiled or vinyl covered systems have a serviceable life of at least 15 years. They comply with the requirements of NZBC Clause B2 (Durability) for use in wet areas directly exposed to liquid water, e.g. showers, showers over baths and splash-backs.

When used as a general wet area lining and maintained under normal dry internal conditions, GIB Aqualine® systems have a serviceable life of at least 50 years and comply with NZBC Clause B2 (Durability) for use within toilets, kitchens, bathrooms and laundries not directly exposed to liquid water.

Spread of Fire – Clause C3

GIB® Fire Rated Systems provide passive fire protection in accordance with the requirements of NZBC Clause C3 (Spread of Fire). When GIB Aqualine® is substituted into fire rated systems in place of the equivalent thickness GIB Fyrelite®, the Fire Resistance Rating (FRR) of that system will be maintained.

COMPLIANCE WITH THE NEW ZEALAND BUILDING CODE (NZBC) *continued***Internal Moisture – Clause E3**

When installed in accordance with this literature, tiled or vinyl covered GIB Aqualine® systems may be used in areas directly exposed to liquid water, such as showers, to provide an impervious and easily cleaned wall surface. These systems comply with the requirements of NZBC Clause E3 (Internal Moisture).

Hazardous Building Materials – Clause F2

At no stage during handling, installation, or serviceable life does GIB Aqualine® constitute a health hazard. It therefore meets the provisions of NZBC Clause F2 (Hazardous Building Materials). Dust resulting from the sanding of stopping compounds may be a respiratory irritant and the use of a suitable facemask is recommended.

Ventilation – Clause G4

NZBC Clause G4 (Ventilation) requires buildings to have a means of collecting or otherwise removing steam generated from laundering, utensil washing, bathing or showering. To prolong the life of interior linings and surface finishes and to minimise the risk of moisture related problems such as condensation and mould growth, adequate heating and mechanical ventilation must be provided in kitchens, bathrooms and laundries.

Airborne and Impact Sound – Clause G6

GIB® Noise Control Systems can be used to provide ratings for Sound Transmission Class (STC) and Impact Insulation Class (IIC) in accordance with the requirements of NZBC Clause G6 (Airborne and Impact Sound). When GIB Aqualine® is substituted into GIB® Noise Control systems in place of the equivalent thickness GIB® Standard plasterboard or GIB Fyrelite®, the STC and IIC rating of that system will be maintained. When GIB Aqualine® is substituted in place of the equivalent thickness GIB Noiseline®, a small performance loss may occur. For further information contact the GIB® Helpline 0800 100 442.

LIMITATIONS

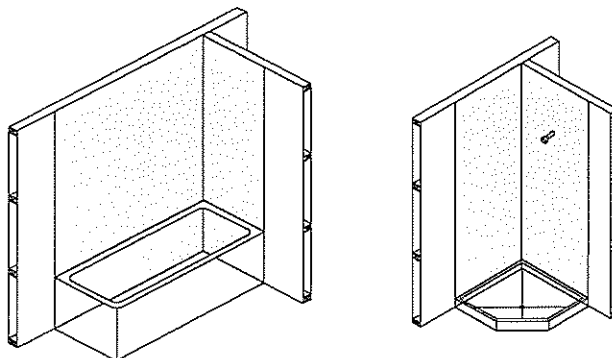
- GIB Aqualine® must not be used for bracing purposes in shower cubicles or above baths (see Bracing in Wet Areas below)
- Do not use GIB Aqualine® where it may be exposed for extended periods to humidities of 90% RH and above. Such areas include group shower or steam rooms as well as moisture and chlorine rich environments such as indoor swimming pools
- GIB Aqualine® must not be directly applied to solid plaster (gypsum or cement), wood based sheet linings or similar materials, masonry or concrete. GIB Aqualine® may only be applied to these materials where timber strapping or steel furring channels are installed
- GIB Aqualine® must not be installed over a vapour barrier or a wall acting as a vapour barrier
- Cracked or damaged sheets must never be used
- GIB Aqualine® must not be used in external applications
- GIB® plasterboard must not be exposed to temperatures in excess of 52°C for prolonged periods. Heat-generating devices may include halogen lighting, cooking elements, radiant heating, solid fuel exhausts and fire surrounds. Consult the appliance manufacturer for installation details.

BRACING IN WET AREAS

Bracing elements are required to have a durability of 50 years. GIB® bracing elements are not to be located in shower cubicles or behind baths because of durability requirements, the likelihood of renovation, and practical issues associated with fixing bracing elements to perimeter framing members.

Otherwise, GIB® Bracing Systems can be used in water-splash areas as defined by NZBC Clause E3/AS1, provided these are maintained impervious for the life of the building.

GIB Aqualine® can be used in place of GIB® Standard plasterboard in GIB® bracing elements. GIB Aqualine® can be used in place of GIB Braceline® in GIB® bracing elements 900mm or longer, provided the perimeter of the element is fixed with GIB Braceline® Nails or GIB Braceline® screws at 100mm centres, using the GIB Braceline® corner fixing pattern.



No bracing in the shaded areas.



NEW ZEALAND BUILDING CODE

E3.3.4 requires impervious and easily cleaned surfaces to all surfaces adjacent to sanitary fixtures or laundering facilities.

E3.3.5 requires that surfaces of building elements likely to be splashed or contaminated in the course of the intended use of the building must also be impervious and easily cleaned.

E3.3.6 requires that surfaces of building elements likely to be splashed must be constructed in a way that prevents water from penetrating behind linings or into concealed spaces (e.g. wall cavities).

Walls in wet areas therefore need to be addressed according to whether they fall within the scope of one of the following descriptions:

1. Wall surface likely to be splashed
2. Shower walls. Although not a requirement of NZBC it is highly recommended that the wall surfaces within 150mm of the top edge of a bath, and the vertical faces immediately under the edge of a bath, are treated in the same way as for a shower wall.

WALL SURFACES IN AREAS LIKELY TO BE SPLASHED

Suitable linings include:

- a. Integrally waterproof sheet material (e.g. polyvinylchloride) with sealed joints
- b. Ceramic or stone tiles having 6% maximum water absorption, waterproof grouted joints, and bedded with an adhesive specified by the tile manufacturer as being suitable for the tiles, substrate material and the environment of use
- c. Cement based solid plaster or concrete having a steel trowel or polished finish (semi-gloss or gloss paint must be used if a paint finish is required)
- d. Cork tile or sheet sealed with waterproof applied coatings
- e. Monolithic applied coatings having a polished, non-absorbent finish (e.g. terrazzo)
- f. Sheet linings finished with vinyl coated wallpaper, or semi-gloss or gloss coating
- g. Water resistant sheet linings finished with decorative high pressure laminate or factory applied polyurethane or resin
- h. Modular or multiple lining units which are themselves *impervious* and easily cleaned, and are installed with *impervious* joints
- i. Timber or timber-based products such as particleboard sealed with waterproof applied coatings.

NB: Floor surfaces and floor/wall junctions are required by E3 to be impervious.

SURFACES IN SHOWERS AND AROUND BATHS

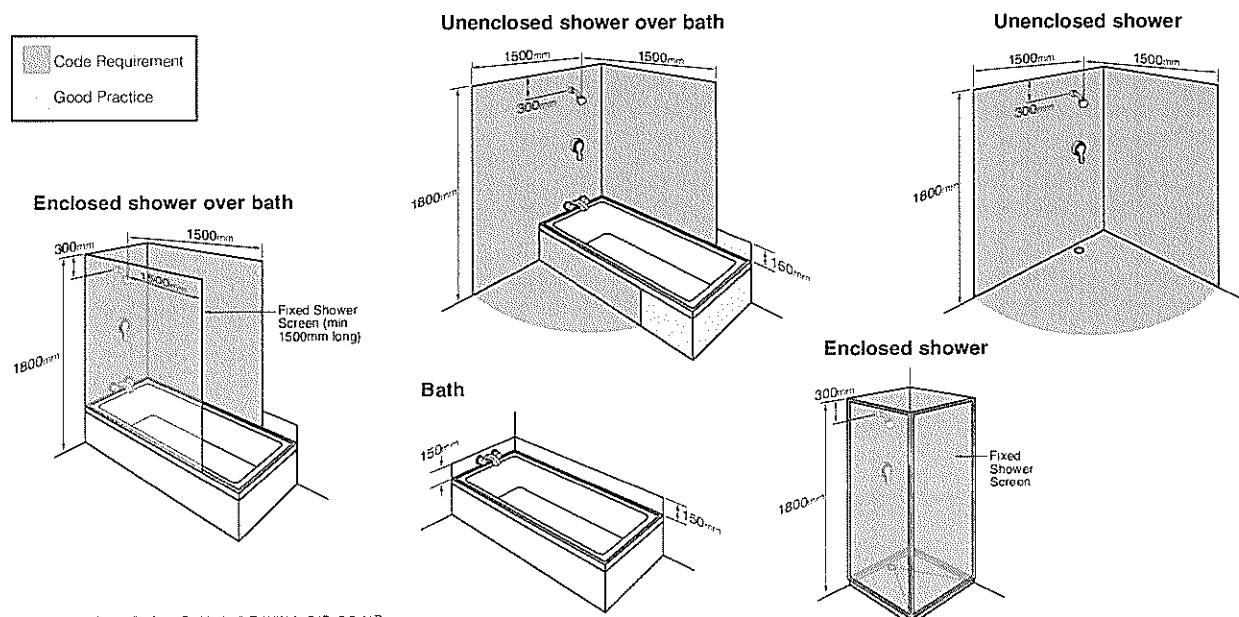
Suitable linings include all of the above, but **NOT including items (d) and (f) from the above list.**

Note that a waterproof membrane complying with AS/NZS 4858: 2004 **MUST** be applied to all lining materials used under ceramic tiles in these areas.

The waterproof membrane must extend to a 1500mm horizontal radius from a shower rose unless the shower is contained within a fixed enclosure. A shower curtain does not constitute a fixed enclosure.

Particleboard manufacturers recommend that in wet areas, panels should be protected with a suitable wet area membrane or an integrally waterproof sheet material. Some local authorities call for this treatment on all timber based floors. Local requirements should be checked before proceeding.

Dark grey shaded areas in the diagrams below represent the minimum extent of wall surfaces requiring impervious sheet materials or waterproof membranes prior to tiling. Light grey shaded areas represent good practice.





WALL SURFACES SURROUNDING COOKTOPS

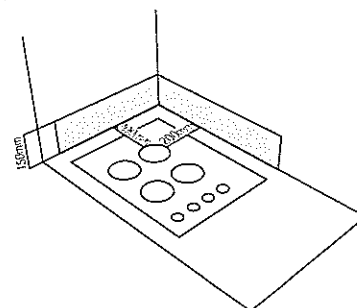
The protection of combustible surfaces surrounding gas cooking appliances is covered by NZS 5261. Consult the current version of this standard to ensure compliance.

However, as a guide the following options are acceptable for wall surfaces within 200mm of the periphery of a gas element to a height of 150mm above the element for the full dimension (width and depth) of the cooktop surface area:

- 5mm ceramic tiles on GIB® plasterboard
- 5mm toughened glass on GIB® plasterboard
- or any system that can be demonstrated to meet the requirements of Clause 2.6.2.6 of NZS5261.

Because of the moisture generated by cooking, it is highly recommended that GIB Aqualine® is used in kitchen areas.

GIB® plasterboard products must not be exposed to temperatures in excess of 52°C for sustained periods. Check with the appliance manufacturer that this requirement will be met. However, it would be unusual for surfaces outside 200mm to exceed 52°C for sustained periods.



PENETRATIONS AND SEALANTS

As leaks and water ingress typically occur at junctions between building elements and at penetrations, it is essential that particular attention is given to these details at the time of installation. Lack of attention to detail can result in water damage that could remain undetected for a long time.

- Ensure that all cut-outs for pipe penetrations are made neatly, and slightly oversize, with a hole saw. These penetrations should be of a diameter no more than 12mm greater than that of the pipe
- Sealants should be of a mould inhibiting type and be neutral cure. Neutral cure silicones will generally meet these requirements
- Surfaces should be dry and free from dust before application, a minimum of a 4mm joint width provided and the depth should not exceed the width
- Gun a bead of silicone sealant to the full depth of the GIB Aqualine® in the following locations:
 - Around all tap/pipe bodies
 - The gap between the bath rim and the bottom edge of the GIB Aqualine®
 - Between the upstand of preformed shower bases and the bottom edge of the lining
 - Where an impervious junction is required at the floor/wall line, carefully seal the gap between the bottom edge of the board and the finished floor. Leave a 5-10mm gap at the bottom of the GIB Aqualine® wall lining for this purpose, ensuring the gap is free from dirt and dust
- Do not locate shower heads or taps on fire rated or intertenancy walls. Should this be unavoidable then refer to the publication *Penetrations in GIB® Fire Rated Systems*. Always use tested and approved proprietary solutions.

WATERPROOF MEMBRANES

- A waterproof membrane must be applied to **all** lining materials used as a substrate for ceramic tiles in a shower or shower over bath situation
- The wall surface in a shower or shower over bath situation is not complete and ready for tiling until coated with a waterproof membrane over the lining and the jointed areas shown shaded on page 6
- Only in-situ waterproofing materials which are manufactured to AS/NZS 4858:2004 "Wet Area Membranes" are recommended and applied to manufacturer's recommendations. Typically, these types of membranes are not suitable for paint and wallpaper finishes
- Waterproof membranes must be fully cured and dry prior to application of tiling adhesives
- Embed reinforcing mats in the membrane at all internal corners of the shower (including floor/wall junctions)
- Preformed sheet membranes are also available and may be more suitable where curing times or specialist skills are an issue
- The details shown in this technical literature are generic in nature. For accurate detailing, follow the specifications provided by the supplier of the proprietary waterproof membrane.

TILING

GIB Aqualine® is suitable as a substrate for tiling up to the following weights:

- 10mm GIB Aqualine® up to 20kg/m²
- 13mm GIB Aqualine® up to 32kg/m².

Note: Most ceramic and porcelain tiles weigh less than 20kg/m².

For further information on tiling consult the BRANZ *Good Practice Guide – Tiling*.



FLEXIBLE SHEET VINYL – SHOWERS AND OTHER WET AREAS

- GIB Aqualine® is a suitable substrate for flexible vinyl wall finishes in wet areas of residential, commercial or institutional buildings
- Framing requirements and installation procedures for the GIB Aqualine® substrate shall be as per page 10 or 11, except that the lining gap at the floor should be reduced to 5mm when a pencil cove detail is used
- The installation of galvanised steel reinforcing angles (32 x 32 x 0.55mm) behind internal GIB Aqualine® corners is recommended for sheet vinyl applications in showers or shower over bath situations (see illustration page 14)
- The GIB Aqualine® lining must be jointed and stopped to a paint quality finish (Level 4) – trowel marks can telegraph through even a commercial grade 2mm vinyl
- A commercial grade vinyl is recommended for the wall finish in commercial or institutional bathrooms and showers
- In areas directly exposed to liquid water, all joints in flexible sheet vinyl must be heat welded
- Installation of the flexible vinyl must be carried out strictly in accordance with the specifications provided by the suppliers/manufacturers of the vinyl.

RIGID SHEET SHOWER LININGS

- The manufacturers/suppliers of thin (usually 2-3mm) and rigid acrylic shower linings commonly recommend direct adhesive fixing to wall linings using solvent-based adhesives
- Water temperature changes will cause movement of the thin acrylic sheet, which in turn will stress the adhesive and wall lining substrate
- **Do not pre-seal or paint** areas which are to be covered by the rigid shower linings
- The wall surface must be free of dust before installation of the lining
- Suppliers of rigid sheet acrylic shower linings recommend a minimum of 24 hours for the adhesive to cure fully prior to the shower being put into service
- Care must be taken to ensure that rooms are adequately ventilated and the adhesive is fully cured before the shower is used
- Consult the manufacturer/supplier of the shower lining for full installation details.

RENOVATIONS

Bathrooms, kitchens and laundries are the most renovated rooms in the house, partly due to fashion considerations and partly because of damage sustained by ingress of water and moisture within those spaces.

In most cases when renovating these rooms it is often easier and more cost-effective to remove the existing linings and replace them with GIB Aqualine®. This allows for a completely new start in the room and offers sound substrates for new surfaces such as tiling and painting, where otherwise flaking paint or damaged plasterboard may compromise good and sound finish or practice.

At the very least re-lining will:

- Allow for inspection of framing where damage may have occurred and provide the opportunity to repair such damage
- Allow plumbing and electrics to be checked and altered or replaced where required
- Provide the opportunity to install thermal and acoustic insulation and water resistant linings where appropriate
- Make the job easier.

MAINTENANCE

Lack of maintenance is frequently the cause of premature and often very expensive failure of components and building elements within wet areas.

It is important to regularly inspect and repair any potential problem before it becomes a major problem and expensive to reinstate. Good maintenance should include:

- Ongoing ventilation. At the very least, good passive ventilation (e.g. window vents); but good active ventilation (e.g. extraction fans) of an appropriate size for the room is recommended
- Impervious coatings and surfaces should be checked for wear and damage and maintained and recoated before ingress of water to the substrate occurs
- Regular cleaning with appropriate cleaners so that build-up of matter, such as mould, is well controlled
- Sealants at junctions and penetrations should be checked for adhesion on a regular basis and replaced where adhesion failure to substrates occurs
- Where pipe leaks have become evident, however small, they should be repaired promptly and any area around such leaks dried out completely before any other repairs are carried out.



High-rise and commercial wet areas can generally be divided into four separate categories:

HIGH-RISE APARTMENTS AND INTERTENANCY

Wet areas in apartment complexes are generally covered by Clause E3 of the NZBC and will have the same requirements as shown for residential applications. However, apartment buildings will also involve intertenancy walls requiring noise control and fire resistance.

Generally, noise control and fire resistance are the first consideration and then the water resistance is added to those systems.

For noise control, GIB Aqualine® can substitute for the equivalent thickness GIB® Standard plasterboard or GIB Fyrelite®.

For fire resistance, GIB Aqualine® can substitute for GIB Fyrelite® of equivalent thickness.

In all cases the prescribed noise control or fire resistance system specifications must be followed completely as presented in the GIB® publications *GIB® Noise Control Systems* and *GIB® Fire Rated Systems*.

Refer to typical details on page 25.

The NZBC for intertenancy calls for special consideration to be given to preventing water from travelling from one tenancy to another. This calls for a waterproof membrane to all wet area floors with upstands to walls and the inclusion of floor wastes.

It is important to avoid penetrations such as taps, shower roses, etc. in intertenancy walls as this will compromise fire and noise ratings.

OFFICE, WORKPLACE AND SCHOOLS

These wet areas are generally no different in requirements to those shown in this publication or those of high-rise apartments, and are treated in the same manner.

As there is often a higher impact requirement in commercial applications, 13mm GIB Aqualine® is the minimum thickness recommended.

These areas are often finished in sheet vinyl or ceramic tiles and GIB Aqualine® is an ideal substrate, particularly in the case of sheet vinyl where a high quality finish is required to minimise telegraphing of imperfections in the substrate.

HEALTHCARE AND HOSPITALS

This industry will generally have special requirements for wet areas. GIB Aqualine® will generally satisfy specific design needs in healthcare facilities and in particular is an ideal substrate for the preferred finish of sheet vinyl.

PUBLIC AMENITIES AND SPORTS CLUBS

Public amenities and sports clubs often have a high demand for impact resistance, therefore 13mm GIB Aqualine® should be used, and suitable impact resistant wall coverings considered, such as heavy duty sheet vinyl or ceramic tiles over waterproof membrane to 1200mm high.

Also full consideration should be given to the usage of the amenity and whether high pressure or chemical cleaners will be used or if the amenity may be subject to vandalism.

Because of extreme humidity and presence of chemicals, GIB Aqualine® is not suitable for enclosed swimming pool areas.

Contact the GIB® Helpline on 0800 100 442 for further assistance.



If bracing, noise control or fire rating considerations exist, consult the relevant GIB® technical publication, e.g. *GIB® Fire Rated Systems*, *GIB® Noise Control Systems*, *GIB® Bracing Systems*, for the appropriate information.

Wall Framing

Framing dimensions must comply with the requirements of NZS 3604:1999.

- The moisture content of timber framing shall be 18% or less at the time of lining
- Studs shall be spaced at 600mm centres maximum for both 10mm and 13mm GIB® plasterboard
- Nogs to be evenly spaced with a maximum spacing of 1350mm. Alternatively, nogs may be staggered 150mm maximum either side of a horizontal joint line
- Nogs are not required behind horizontal joints except in shower situations or specific fire or noise control systems.

Fasteners

- 10mm GIB Aqualine® – minimum 25mm x 6g GIB® Grabber® High Thread Drywall Screws or 30mm x 2.8mm GIB® Nails
- 13mm GIB Aqualine® – minimum 32mm x 6g GIB® Grabber® High Thread Drywall Screws or 30mm x 2.8mm GIB® Nails.

Fastener Centres

- 300mm centres to top and bottom plates and to perimeter studs
- Single fasteners to each stud where the horizontal joint crosses the studs
- Place fasteners 12mm from sheet edges
- Daubs of GIBFix® adhesive at 300mm centres to intermediate studs
- Do not place adhesive at sheet edges or under fasteners. Sheet edges at door or window openings can be adhesive fixed unless forming part of the perimeter of a bracing element.

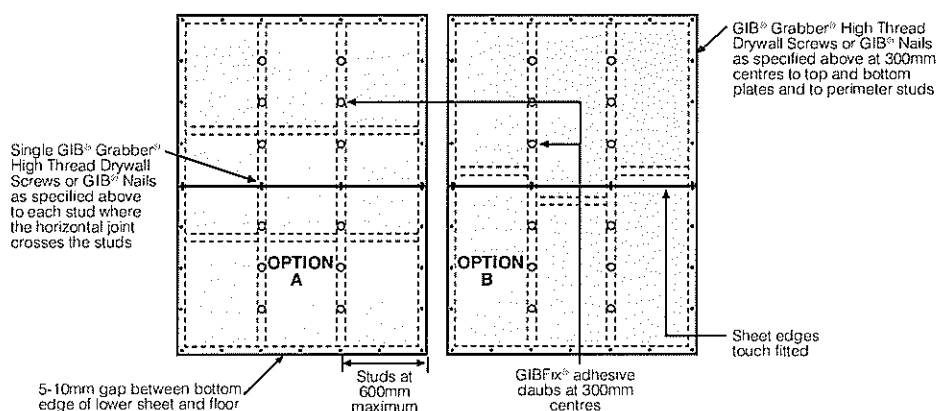
Lining

- Install the sheets leaving a 5-10mm gap at the floor line to allow for movement of the framing members and to allow for cleaning dirt and rubbish before sealing
- Sheets to be touch fitted.

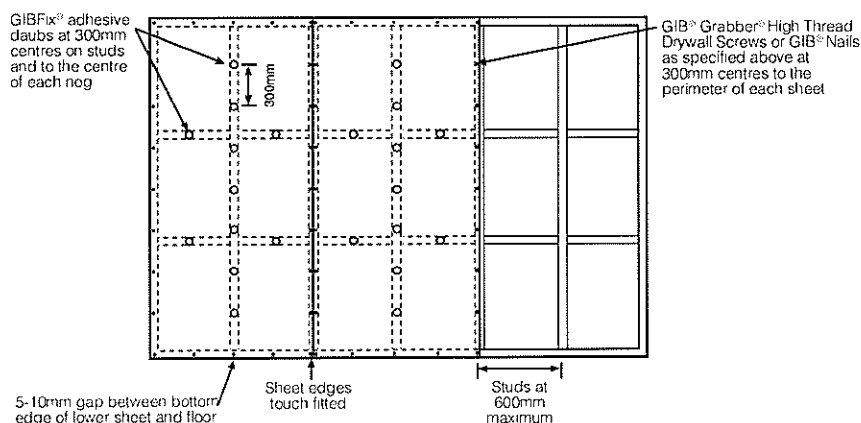
Jointing

- Jointing shall be carried out in accordance with the instructions in the *GIB® Site Guide*; GIB® AquaMix is recommended for the first two coats.

Fastening the Linings – Horizontal Fixing Only



Fastening the Linings – Vertical Fixing Only



GIB AQUALINE[®] WET AREA SYSTEMS – FRAMING AND LINING INSTALLATION



Non-tiled Walls – Steel Framing

MARCH 2007

The minimum sheet thickness for fixing on light gauge steel framing is 13mm GIB[®] plasterboard.

Steel framing for residential construction is by specific design.

If noise control or fire rating considerations exist, consult the relevant GIB[®] technical publication (e.g. *GIB[®] Fire Rated Systems* or *GIB[®] Noise Control Systems*) for the appropriate information.

Wall Framing

- Steel stud dimensions to be minimum 63 x 34 x 0.55mm nominal with a 6mm return
- Steel channel dimensions to be minimum 63 x 30 x 0.55mm nominal
- Studs shall be spaced at 600mm centres maximum
- Ensure that the studs are placed with the open side facing in the same direction (see *GIB[®] Site Guide*).

Fasteners

- 25mm x 6g GIB[®] Grabber[®] Self Tapping Drywall Screws.

Fastener Centres

- 300mm centres to top and bottom channels and to end studs
- Single screws to each stud where the horizontal joint crosses the studs
- Place fasteners 12mm from sheet edges
- Daubs of GIBFix[®] All-Bond adhesive OR screws at 300mm centres to intermediate studs
- Do not place adhesive at sheet edges or under fasteners. Sheet edges at door or window openings can be adhesive fixed.

Lining

- Lay the sheets, leaving a 5-10mm gap at the floor line.

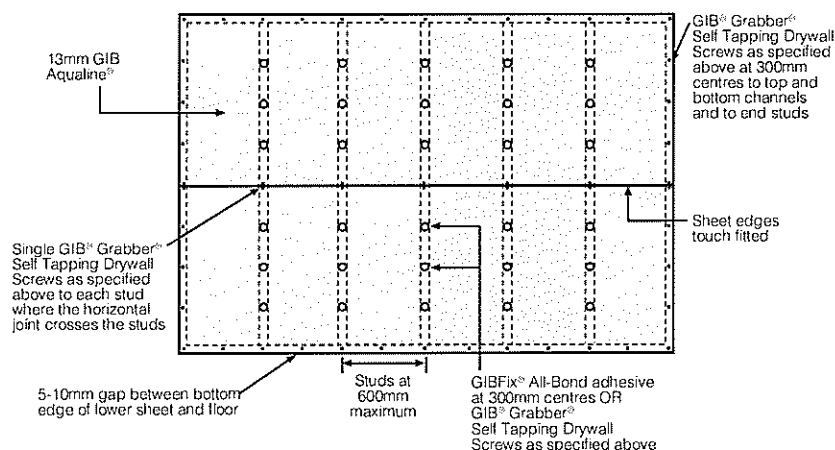
Note: If friction fitted steel studs have been used, sheets must be fitted hard to the floor. Ensure floor is cured and dry

- Sheets to be touch fitted.

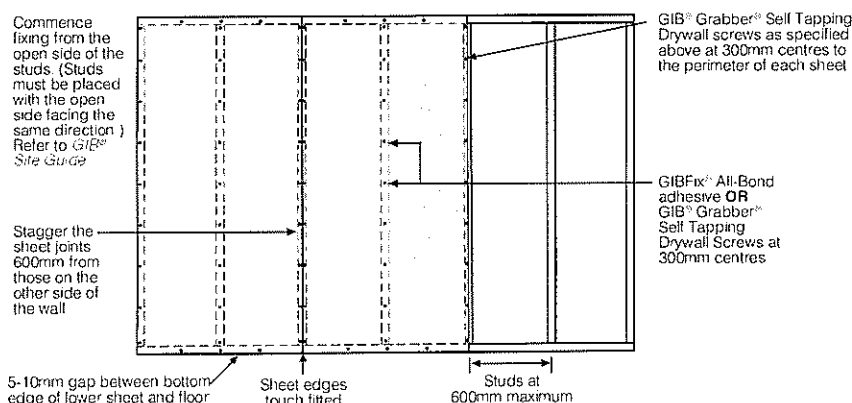
Jointing

- Jointing shall be carried out in accordance with the instructions in the *GIB[®] Site Guide*. GIB[®] AquaMix is recommended for the first two coats.

Fastening and Jointing the Linings – Horizontal Fixing



Fastening and Jointing the Linings – Vertical Fixing



GIB AQUALINE® WET AREA SYSTEMS – FRAMING AND LINING INSTALLATION



Tiled Walls

MARCH 2007

Important: See page 6 and 7 for waterproof membrane requirements.

Wall Framing

Framing dimensions and spacing must comply with the requirements of NZS 3604:1999 or relevant NZ Standard.

- Prior to lining in tiled areas (shower cubicles and shower over bath only) the internal corners shall be reinforced with a minimum 32 x 32 x 0.55mm galvanised metal angle. Each side of the angle shall be fastened to the framing with 30mm galvanised clouts at 300mm centres
- Steel stud systems do not generally require nogs except as below:
 - Adjacent to each pipe penetration and behind sink and tub flashings
 - Between all studs above bath flanges and preformed shower bases
- For impact protection in shower cubicles or shower over bath situations it is important that all sheet joints are made on solid framing. This may require either vertical fixing of the GIB Aqualine® or the installation of some additional nogs.

Fasteners

- For 10mm GIB Aqualine® use minimum 25mm x 6g GIB® Grabber® Drywall Screws
- For 13mm GIB Aqualine® use minimum 32mm x 6g GIB® Grabber® Drywall Screws.

Fastener Centres

- GIB® Grabber® Drywall Screws at 100mm centres to perimeter of wall and to all intermediate studs
- Adhesive is not to be used in place of mechanical fastenings.

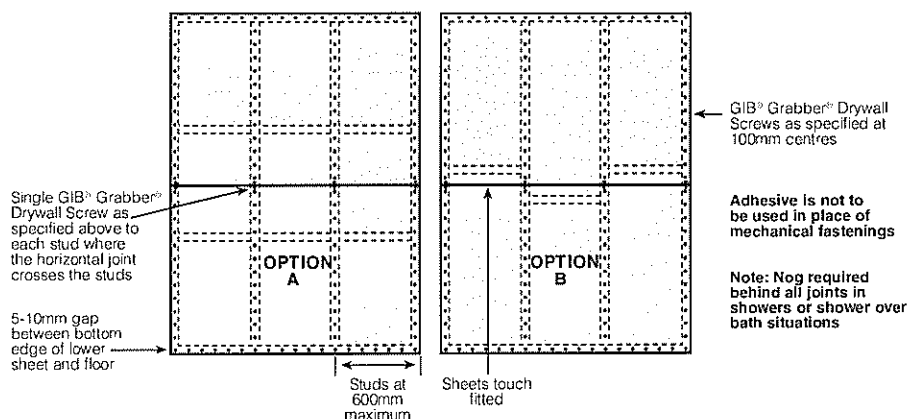
Lining

- 10mm or 13mm GIB Aqualine® is suitable for use on timber framing and for tile weights up to 20kg/m²
- 13mm GIB Aqualine® must be used for tile weights between 20 and 32kg/m² and when light steel framing has been used
- GIB Aqualine® may be fixed vertically or horizontally
- Provide a 5-10mm gap at the wall/floor junction
- Provide a 5-10mm gap between the bottom edge of the GIB Aqualine® and any bath rim or preformed shower base to allow for placement of sealant
- GIB Aqualine® sheets shall be touch fitted
- Where the framing or fastener centres required for tiled areas are closer than those specified for GIB® Fire Rated and GIB® Noise Control Systems, the tiling specification shall prevail. Where relevant, check that fastener lengths comply with the requirements of GIB® Fire Rated Systems or GIB® Noise Control Systems.

Jointing

- Jointing shall be carried out in accordance with instructions in the *GIB® Site Guide*
- Water resistant GIB® AquaMix is recommended for the first two coats
- No top coat is required.

Fastening the Linings – Horizontal Fixing in Tiled Areas



Note:

GIB Aqualine® is suitable for tiling to full height of walls, but if a wall is to be partially tiled (i.e. half high), only the area of wall under the tiles needs to be fixed as above. The remainder of the wall may be fixed as for non-tiled area (see page 10 & 11).

GIB AQUALINE® WET AREA SYSTEMS – FRAMING AND LINING INSTALLATION



Ceilings

MARCH 2007

Ceiling Framing

Framing dimensions and spacing must comply with the requirements of NZS 3604:1999 or relevant NZ Standard. If bracing, noise control, fire rating considerations exist consult the relevant GIB® publication for appropriate information.

Fasteners

- Steel battens – 25mm x 6g GIB® Grabber® Self Tapping Drywall screws
- Timber battens or Joists – 32mm x 6g GIB® Grabber High Thread Drywall screws.

Adhesives

- Steel battens – GIBFix® All-Bond
- Timber battens – GIBFix® Wood Bond (not suitable for LOSP treated timber).

Fasteners Centres

- Single screws to the edges and centre of the sheets across each batten
- Screws to be 12mm from sheet edges
- Daubs of adhesive at 200mm centres between the screws
- Do not place adhesive at sheet edges or under fasteners, this may lead to screw or nail pops.

Lining

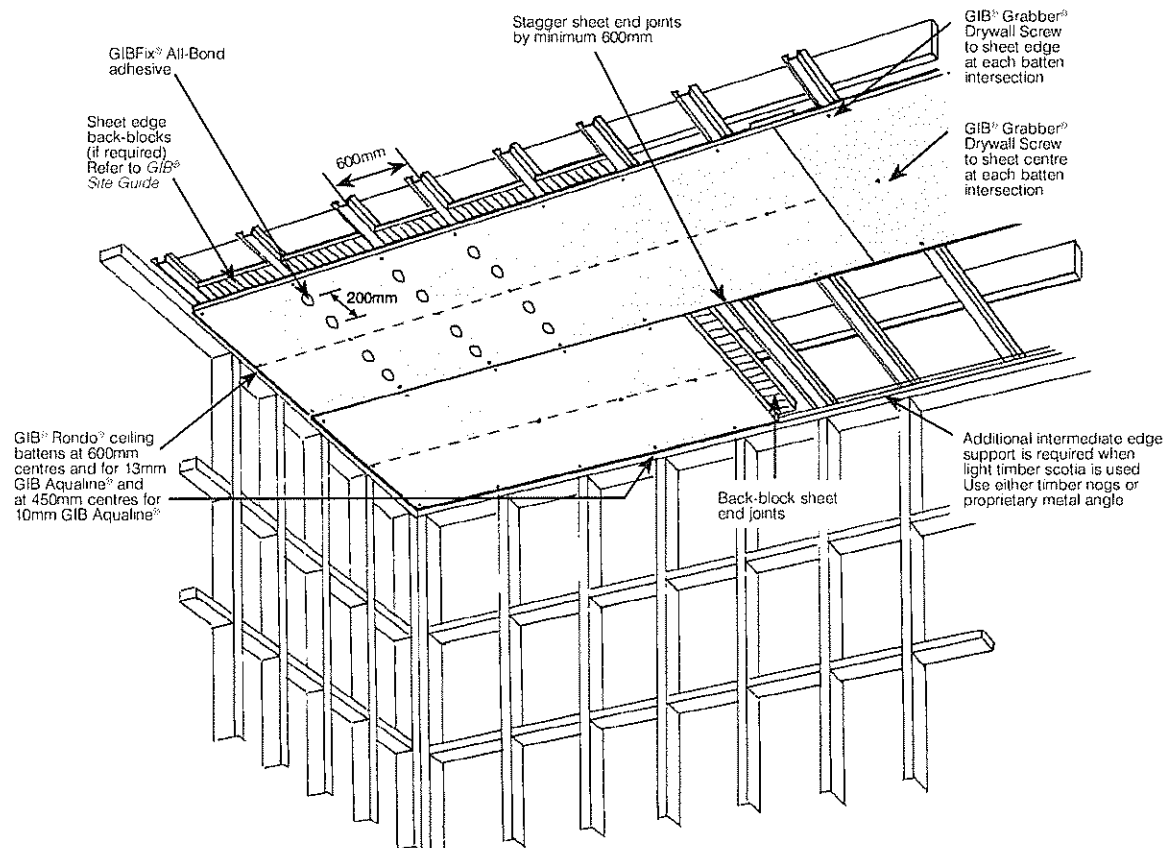
- The lining shall be fixed at right angles to the battens or joists
- Commence fixing from the centre of the sheets outwards
- Sheets to be touch fitted
- Use long length sheets to minimise sheet end butt joints
- Back-block sheet end butt joints
- See GIB® Site Guide for sheet edge backblocking requirements.

Batten Spacings

- 13mm GIB Aqualine® plasterboard – 600mm centres max
- 10mm GIB Aqualine® plasterboard – 450mm centres max.

Jointing

- All sheet joints must be paper tape reinforced and stopped in accordance with instructions in the GIB® Site Guide. Water resistant GIB® AquaMix is recommended for the first two coats.
- Do not fix tiles to GIB® plasterboard ceilings.

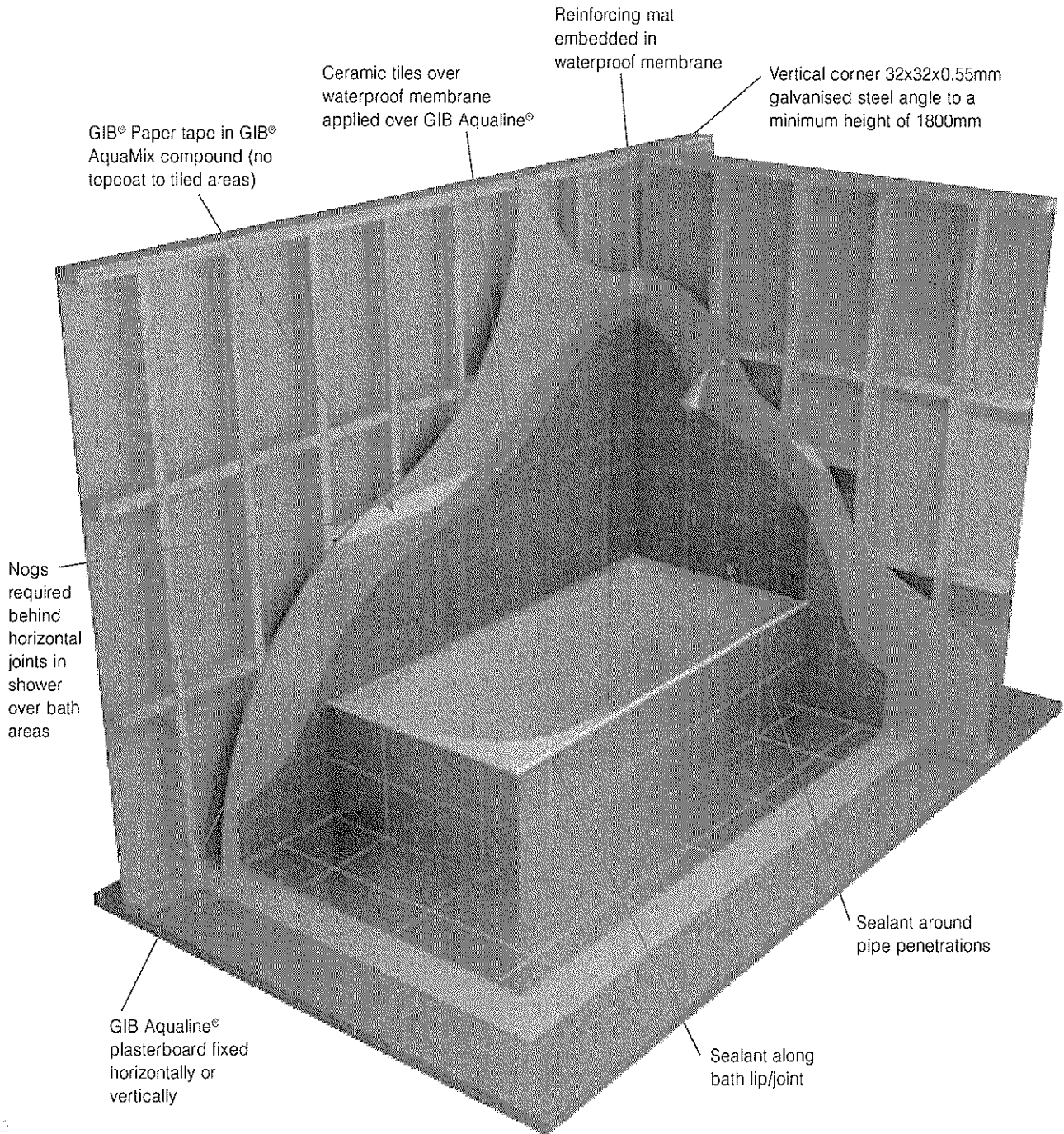


GIB AQUALINE® WET AREA SYSTEMS – TYPICAL DETAILS



Shower Over Bath – Tiled Walls

MARCH 2007



Run a bead of silicone sealant around the mixer unit on the tiles extending below the bottom of the pipe aperture.

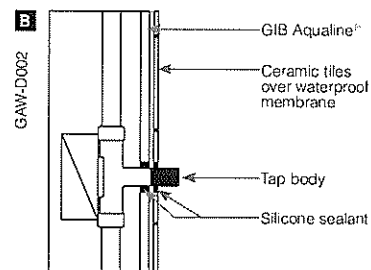
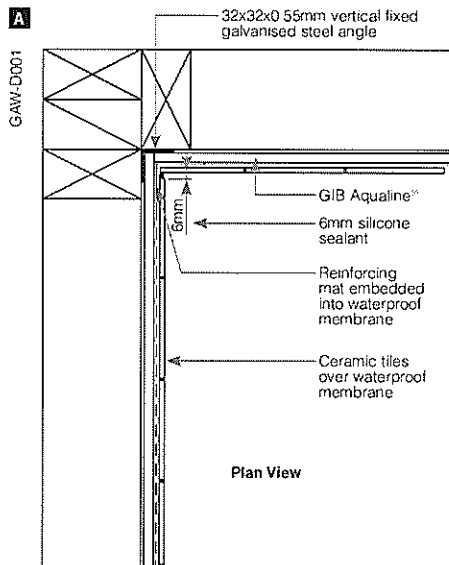
For typical details, see the following pages.

GIB AQUALINE® WET AREA SYSTEMS – TYPICAL DETAILS

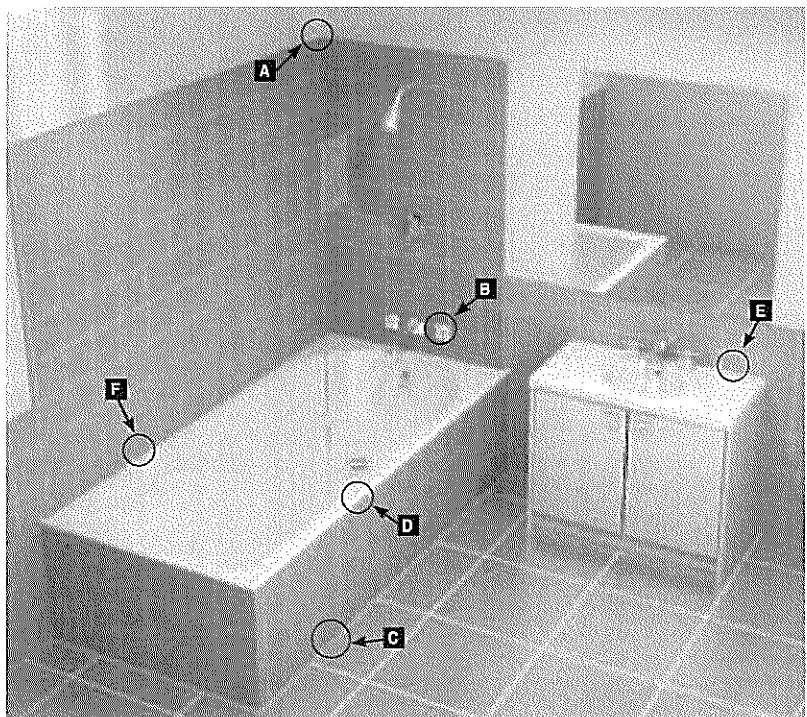
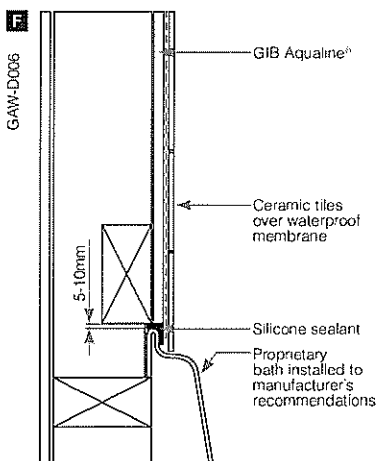
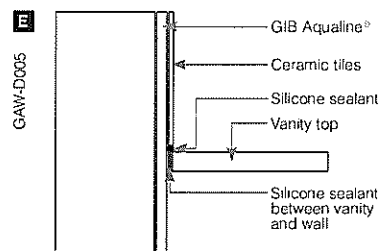
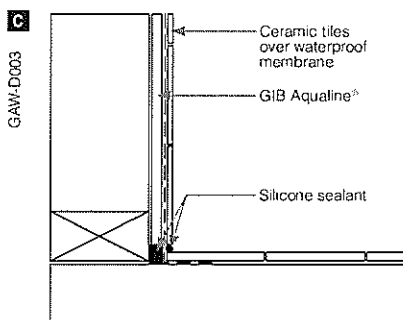
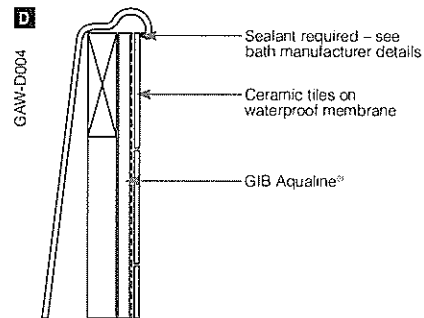


Shower Over Bath – Tiled Walls

MARCH 2007



Note:
Where impact noise from pipes is an issue, fix all pipes on resilient brackets.

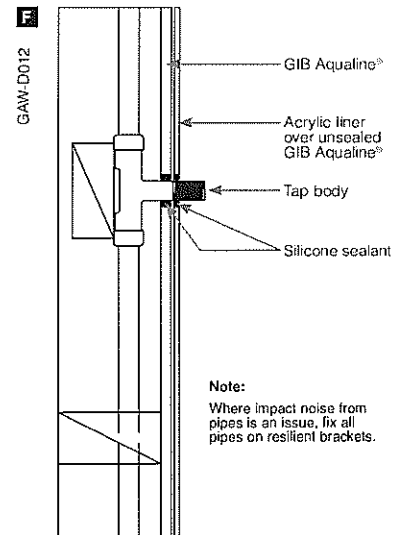
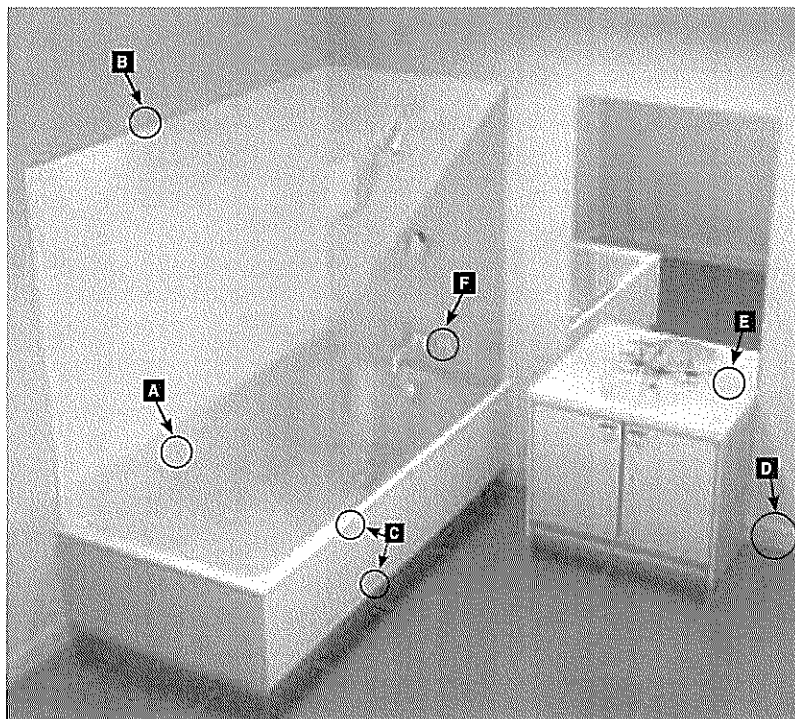
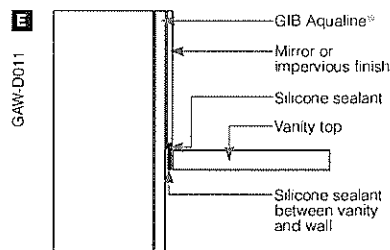
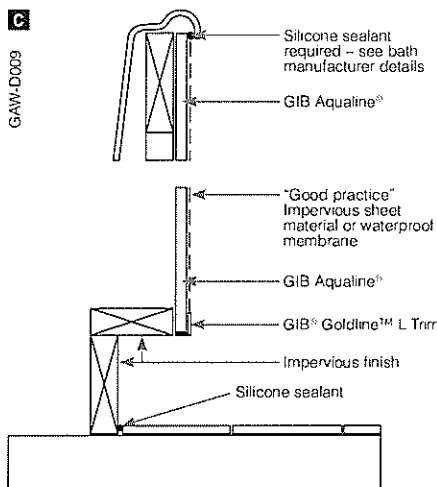
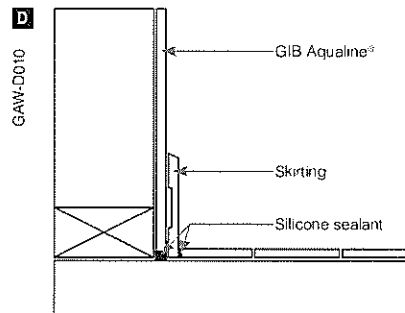
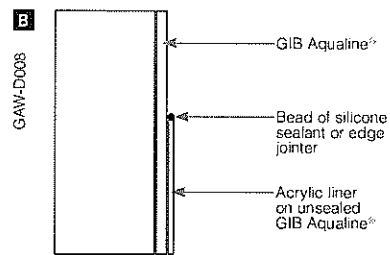
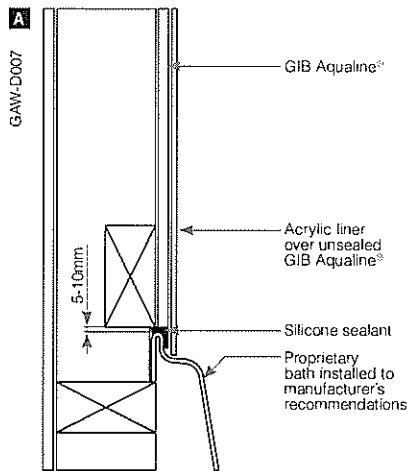


GIB AQUALINE® WET AREA SYSTEMS – TYPICAL DETAILS



Shower Over Bath – Acrylic Liner

MARCH 2007

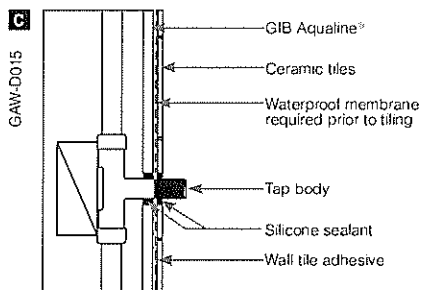
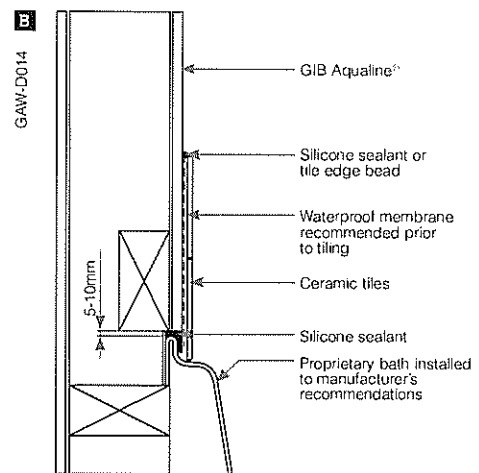
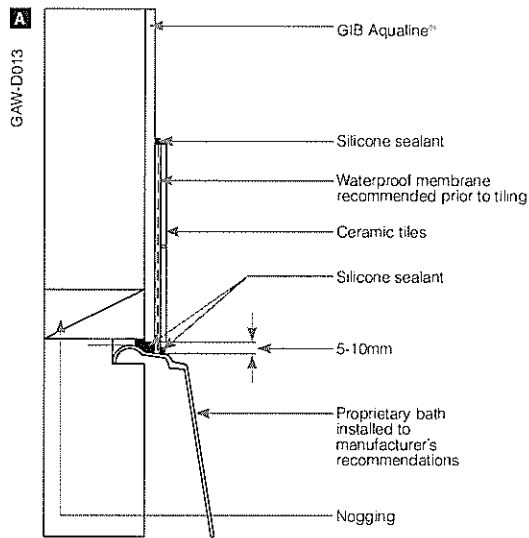


GIB AQUALINE® WET AREA SYSTEMS – TYPICAL DETAILS

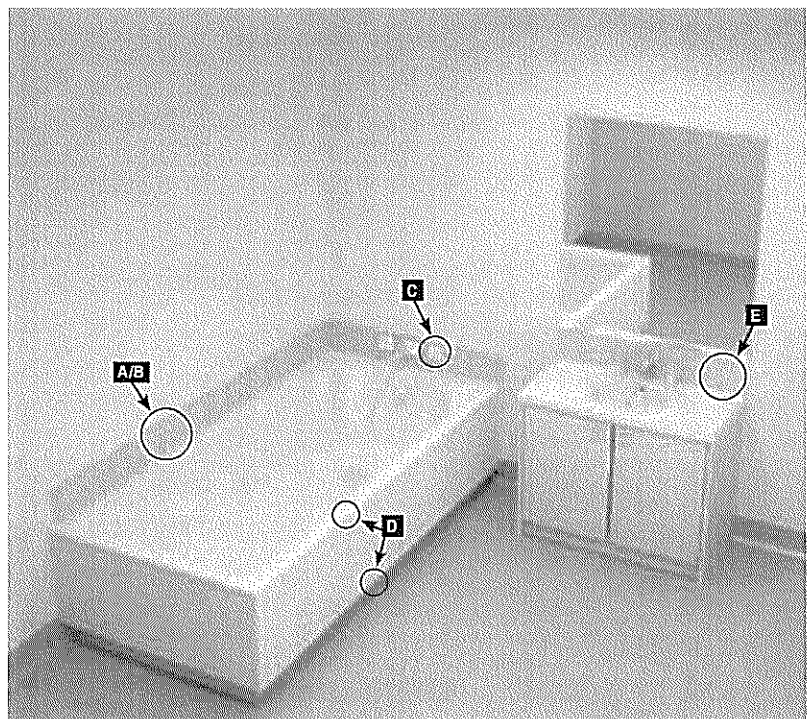
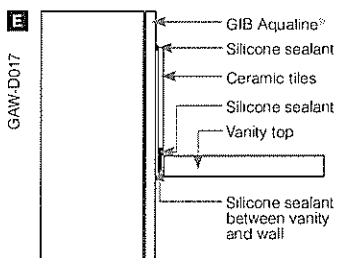
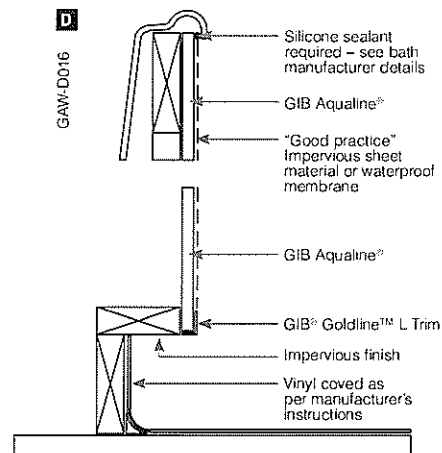


Bath – Tiled Upstand

MARCH 2007



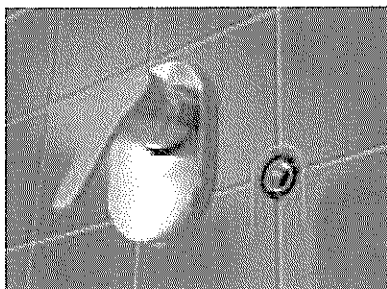
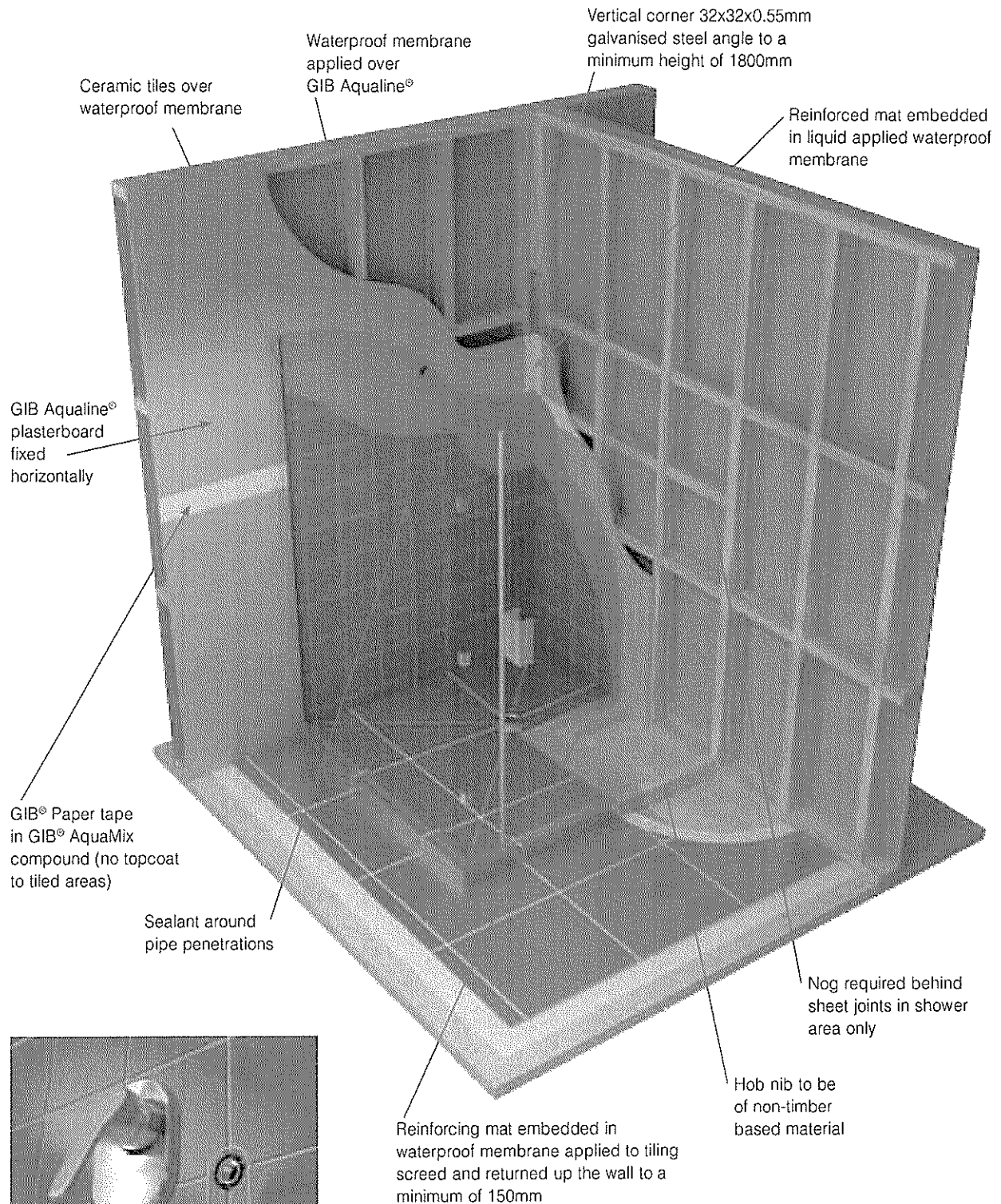
Note:
Where impact noise from pipes is an issue, fix all pipes on resilient brackets.





Shower – Tiled Walls and Base

MARCH 2007



Run a bead of silicone sealant around the mixer unit on the tiles extending below the bottom of the pipe aperture.

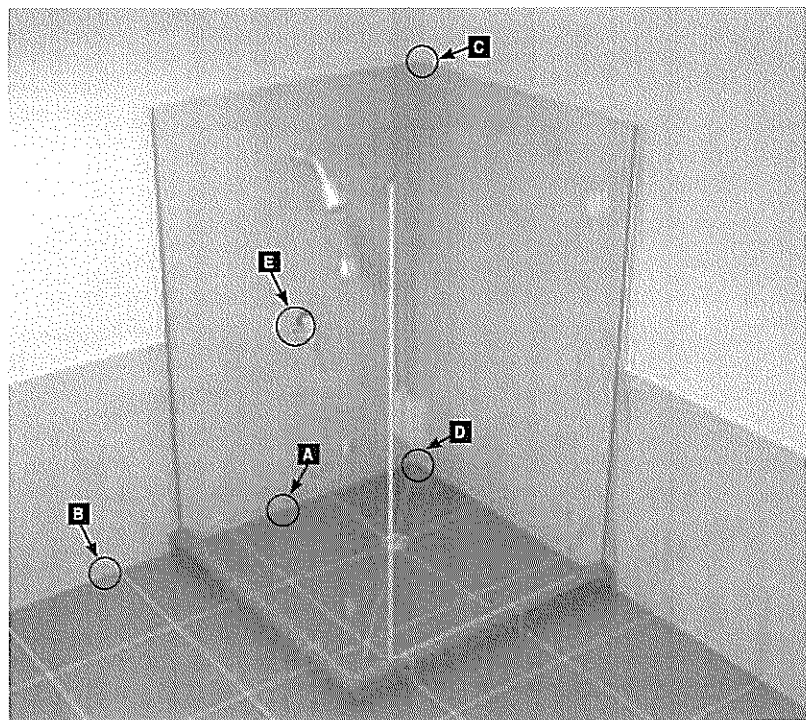
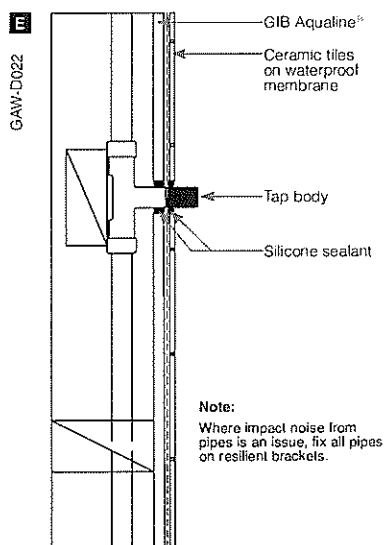
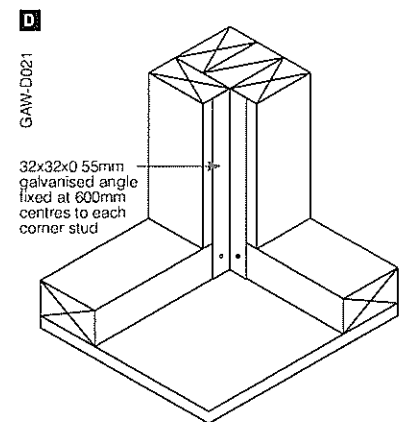
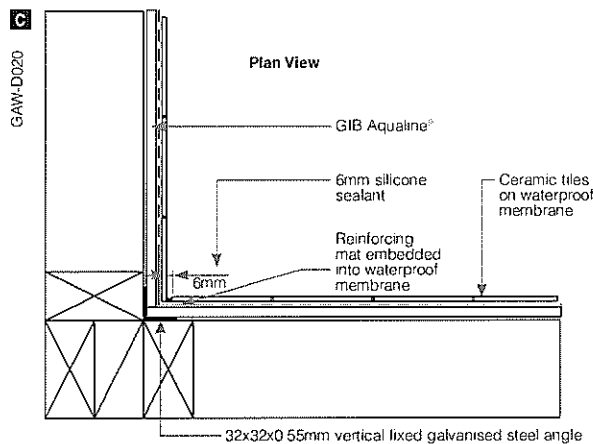
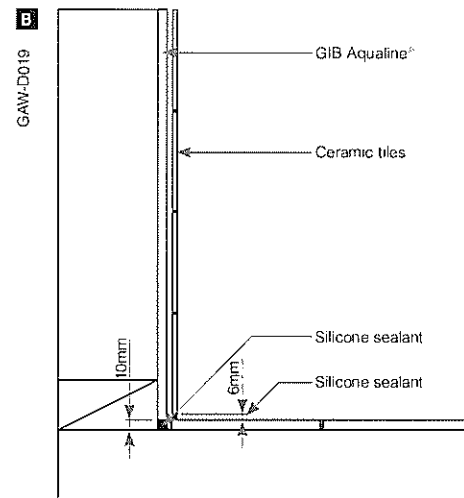
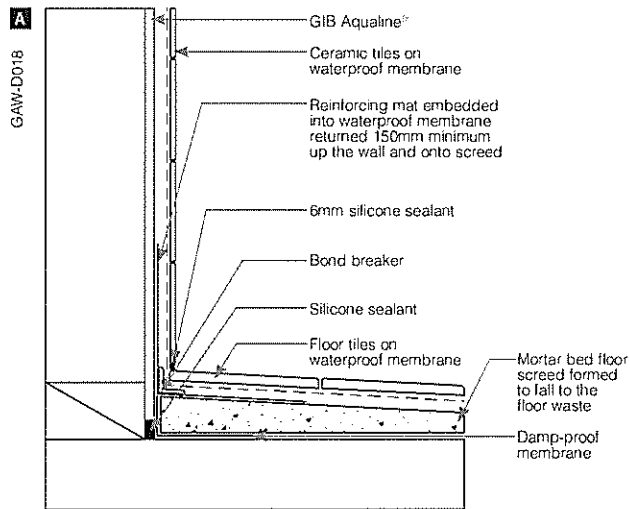
For typical details, see the following pages.

GIB AQUALINE® WET AREA SYSTEMS – TYPICAL DETAILS



Shower – Tiled Walls and Base

MARCH 2007

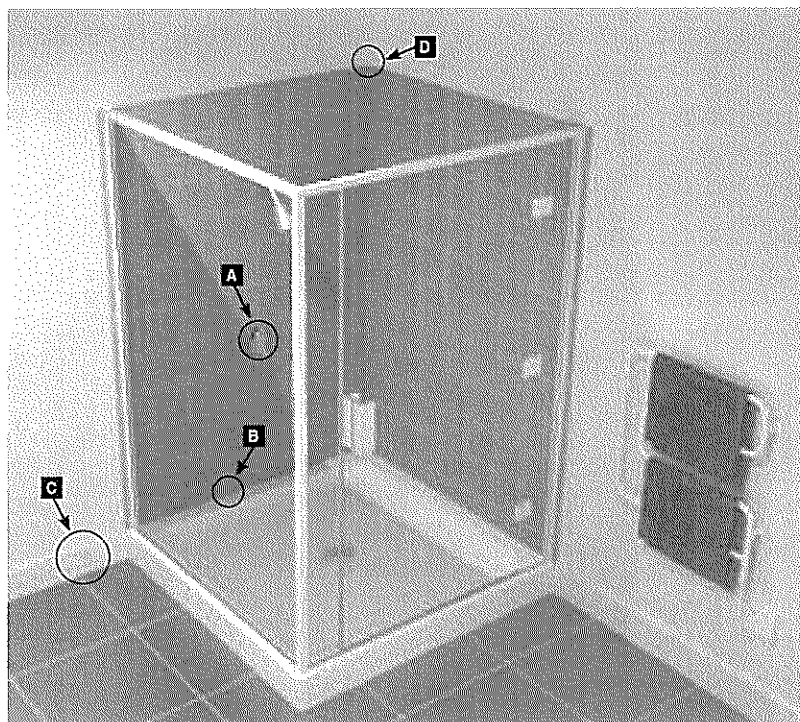
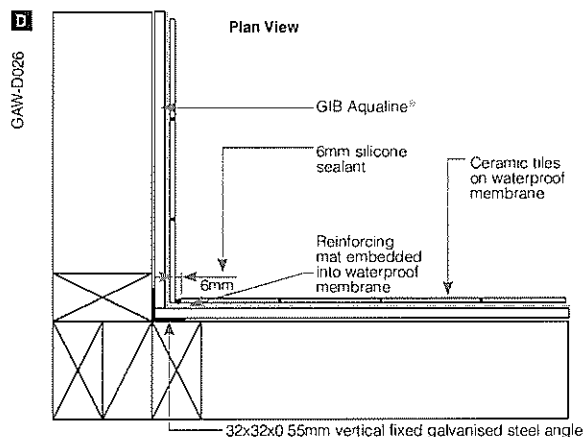
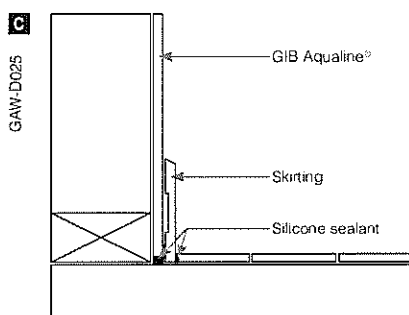
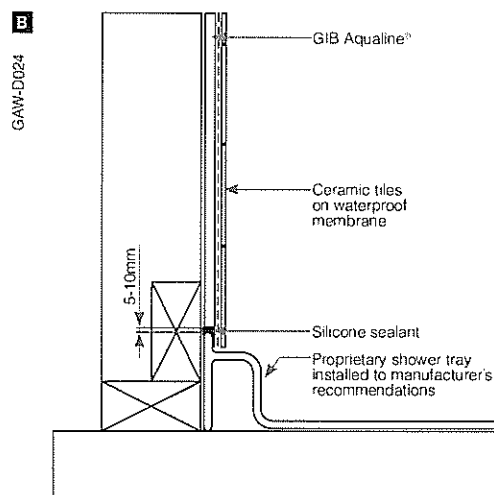
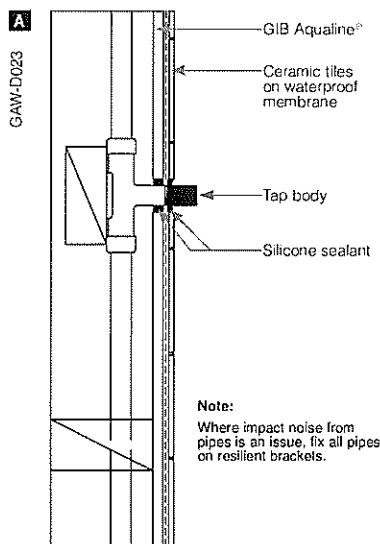


GIB AQUALINE® WET AREA SYSTEMS – TYPICAL DETAILS



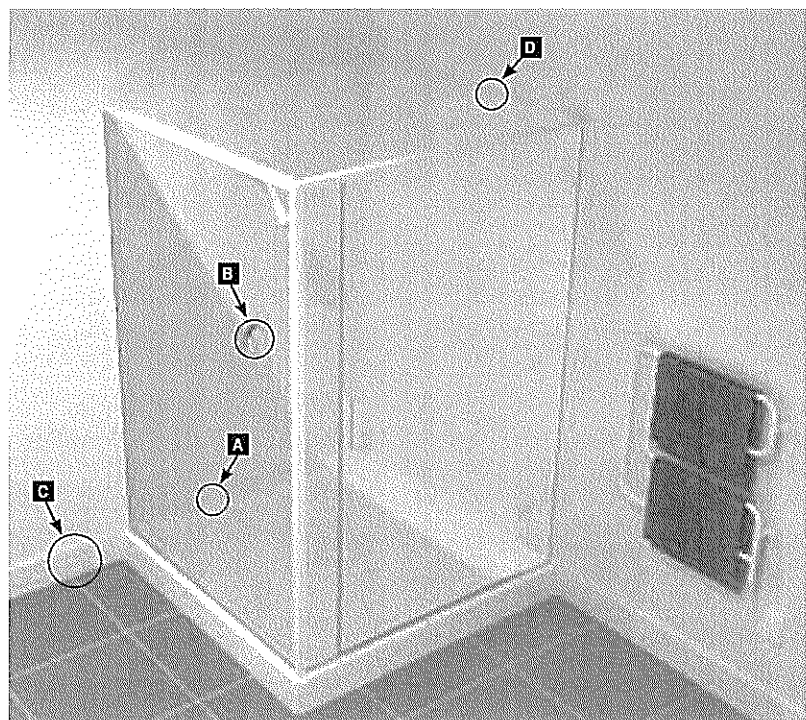
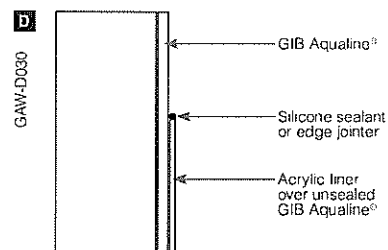
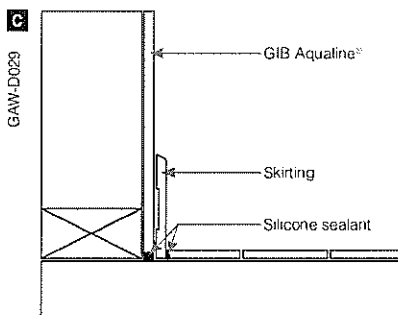
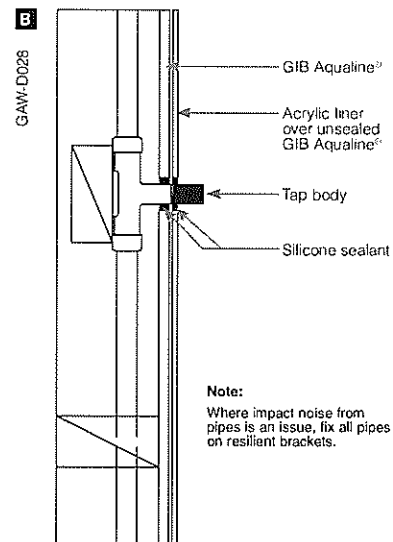
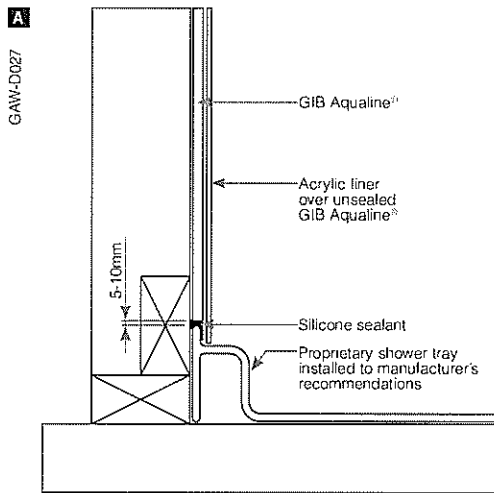
Shower – Tiled Walls and Acrylic Base

MARCH 2007



GIB AQUALINE® WET AREA SYSTEMS – TYPICAL DETAILS

Shower – Acrylic Liner and Base

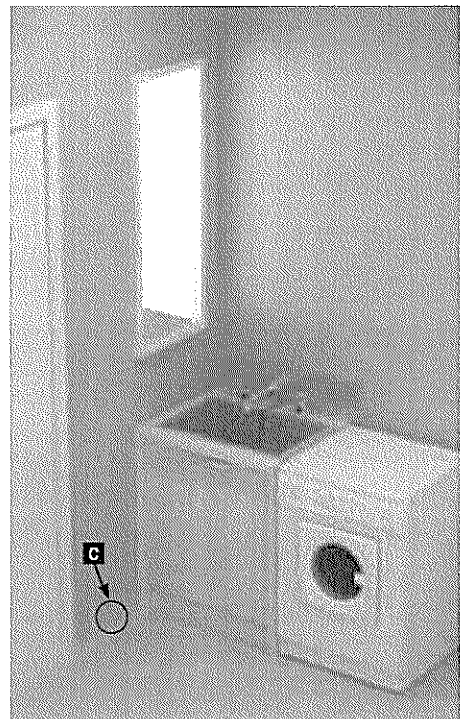
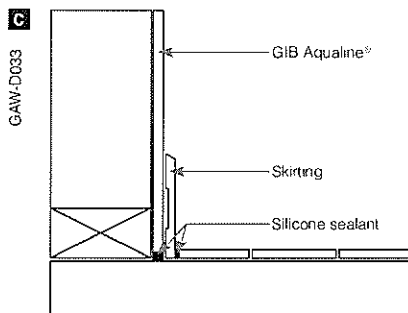
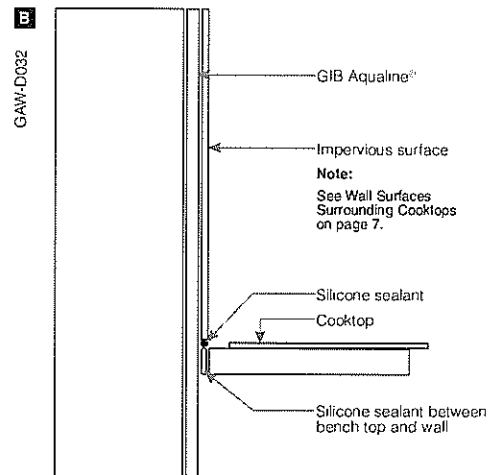
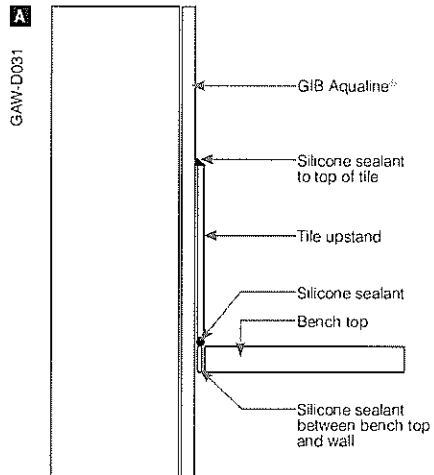


GIB AQUALINE® WET AREA SYSTEMS – TYPICAL DETAILS



Kitchen and Laundry

MARCH 2007



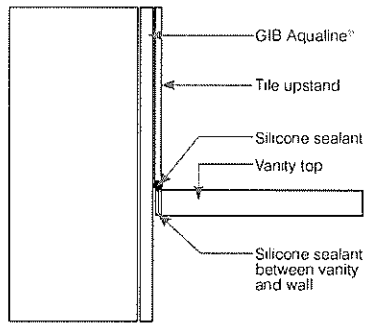
GIB AQUALINE® WET AREA SYSTEMS – TYPICAL DETAILS



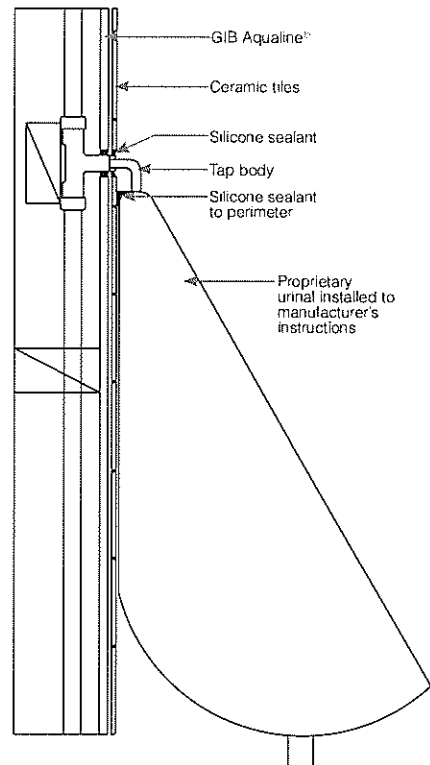
Office, Workplace or School Bathroom

MARCH 2007

A
GAW-D034



B
GAW-D035

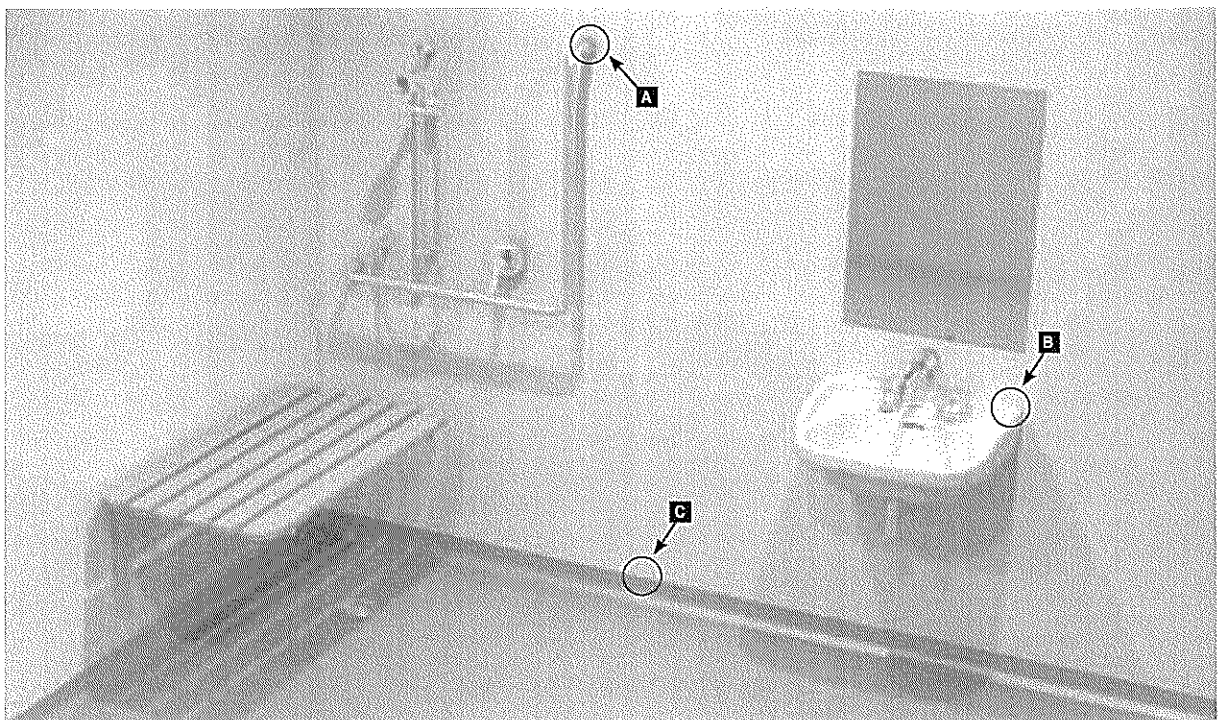
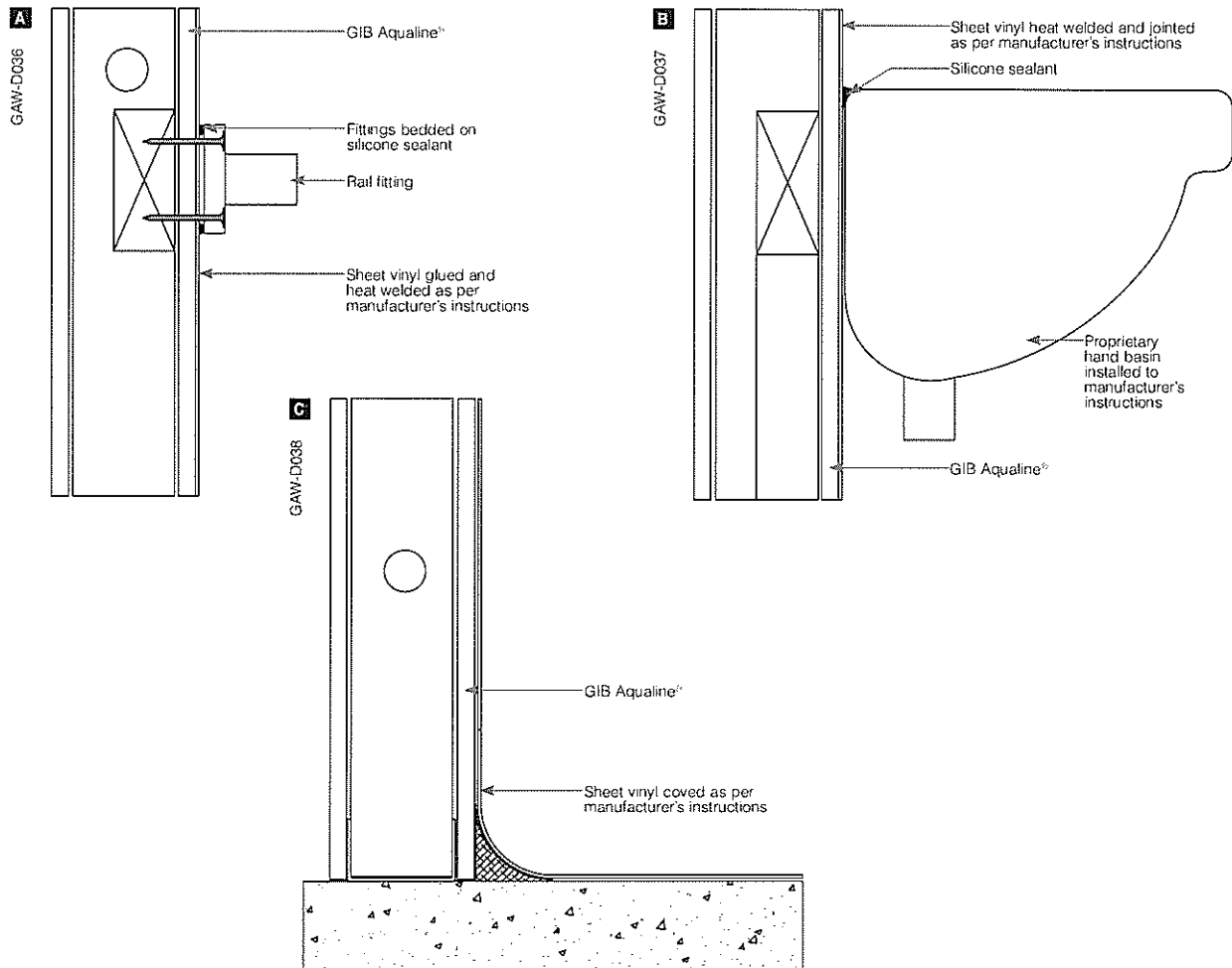


GIB AQUALINE® WET AREA SYSTEMS – TYPICAL DETAILS



Healthcare and Hospital Bathroom

MARCH 2007



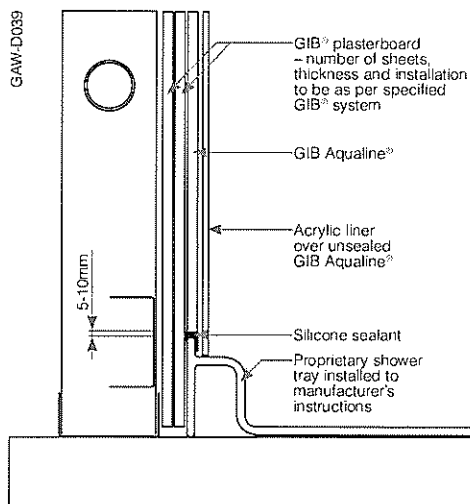
GIB AQUALINE® WET AREA SYSTEMS – TYPICAL DETAILS



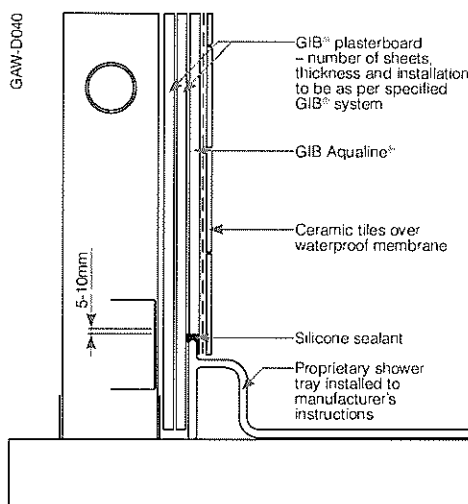
Fire Rated and Noise Control

MARCH 2007

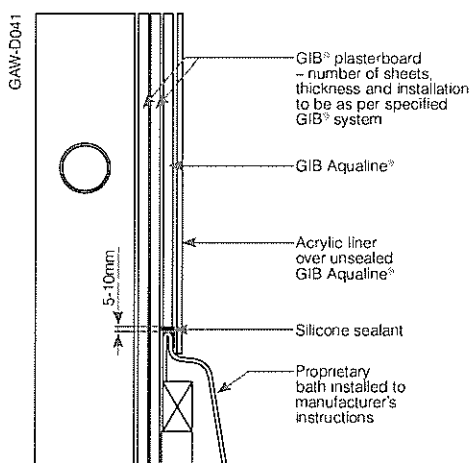
Shower – Acrylic Liner



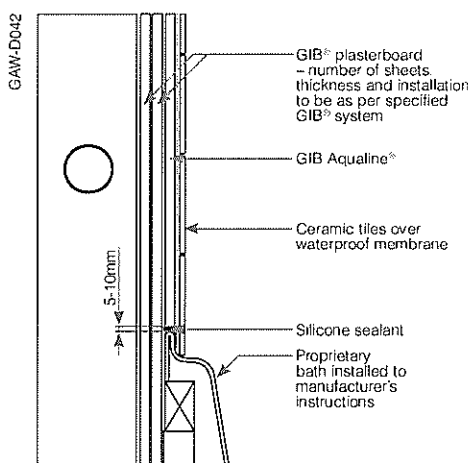
Shower – Tiled Walls



Shower Over Bath – Acrylic Liner



Shower Over Bath – Tiled Walls




GIB Aqualine® Fire Resistance and Noise Control Performance

When GIB Aqualine® is substituted into GIB® Fire Rated systems in place of the equivalent thickness GIB Fyrelite®, the Fire Resistance Rating (FRR) of that system will be maintained.

When GIB Aqualine® is substituted into GIB® Noise Control systems in place of the equivalent thickness GIB® Standard plasterboard or GIB Fyrelite®, the STC and IIC rating of that system will be maintained. When GIB Aqualine® is substituted in place of the equivalent thickness GIB Noiseline®, a small performance loss may occur. For further information contact the GIB® Helpline on 0800 100 442.

GIB AQUALINE® WET AREA SYSTEMS

	Specification and Installation Checklist	MARCH 2007
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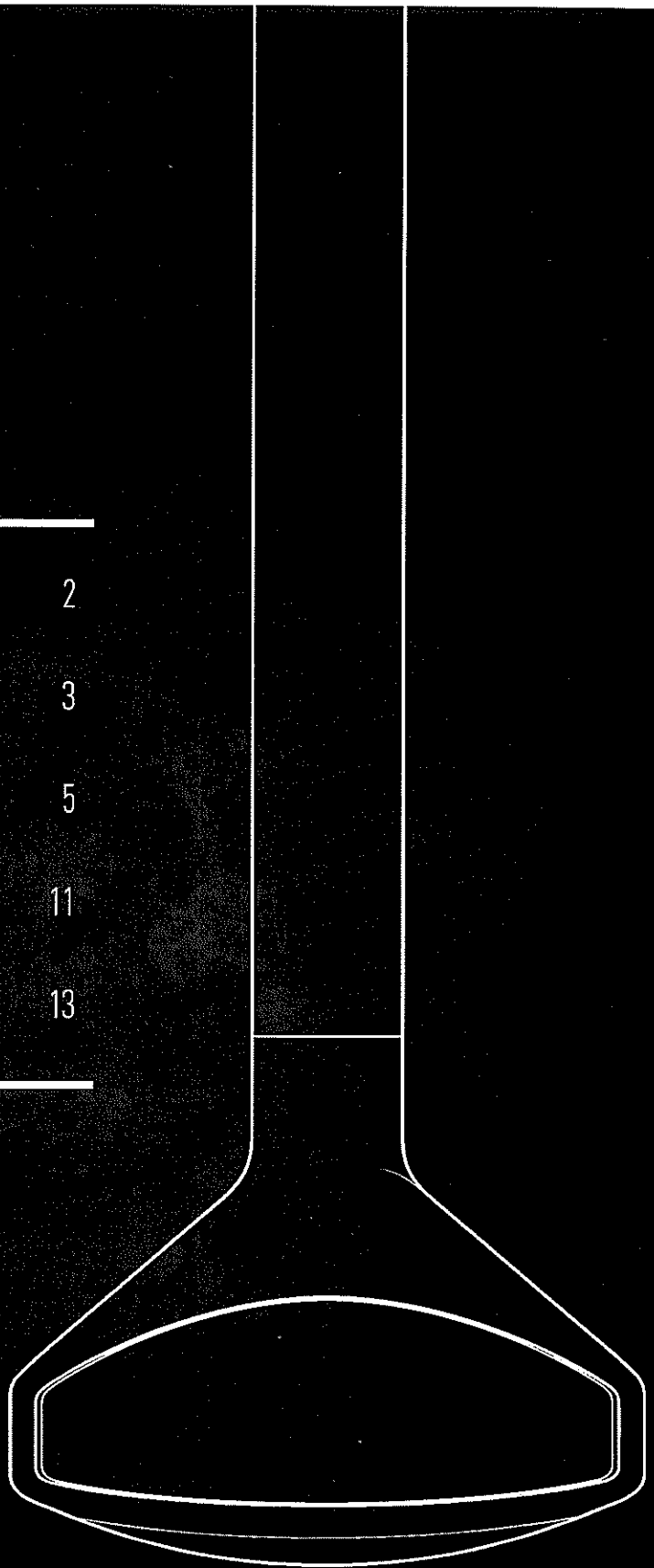
Contract ID	
Site Address	
Client Name	
Designer	
Builder	
Plasterboard Installer	
Plasterboard Supplier	
Tiler	
Shower Installer	

DESIGNER	YES	NO	CHECKED BY	DATE
GIB Aqualine® specified for wet areas and appropriate details included on plans?				
Are tiled areas clearly shown on plans?				
Is area requiring waterproof membrane clearly shown on plan?				
Is the waterproof membrane required to be installed by a licensed applicator? If so, is this noted on the documentation?				
No bracing behind shower or bath?				
BUILDER	YES	NO	CHECKED BY	DATE
Galvanised steel angle installed to the internal corners of tiled shower?				
All sheet joints in showers to be made on solid timber. This may require some additional dwangs for horizontal board installation.				
PLASTERBOARD INSTALLER	YES	NO	CHECKED BY	DATE
10mm GIB Aqualine® for tiles up to 20kg per m²?				
13mm GIB Aqualine® for tiles up to 32kg per m²?				
GIB Aqualine® mechanically fastened at 100mm centres when tiles are to be installed?				
All junctions between GIB Aqualine® and walls, floors, baths, showers and other elements are correctly sealed with appropriate sealant?				
Pipe penetrations sealed?				
PLASTERBOARD STOPPER	YES	NO	CHECKED BY	DATE
Air drying compound (e.g. GIB ProMix® or GIB Plus 4®) not to be used on areas to be tiled.				
Recommended that GIB® AquaMix is used in wet areas.				
TILER	YES	NO	CHECKED BY	DATE
Waterproof membrane applied to shower areas prior to tiling?				
SHOWER INSTALLER	YES	NO	CHECKED BY	DATE
GIB Aqualine® walls must not be sealed or painted under where acrylic linings are to be installed.				
Ensure GIB Aqualine® is free from dust before installation of acrylic liners.				
Sealant applied to top edge of acrylic shower linings?				
BUILDER PLUMBER	YES	NO	CHECKED BY	DATE
Sealant applied under penetration face covers?				

ERGOFOCUS: INSTALLATION AND USER MANUAL

1. TECHNICAL DATA	2
2. PRE-INSTALLATION	3
3. INSTALLATION	5
4. OPERATION	11
5. TESTING	13

Keep for future use



ERGOFOCUS

oblica

OBLICA

200 Argyle St
Fitzroy VIC 3065
03 9416 0400

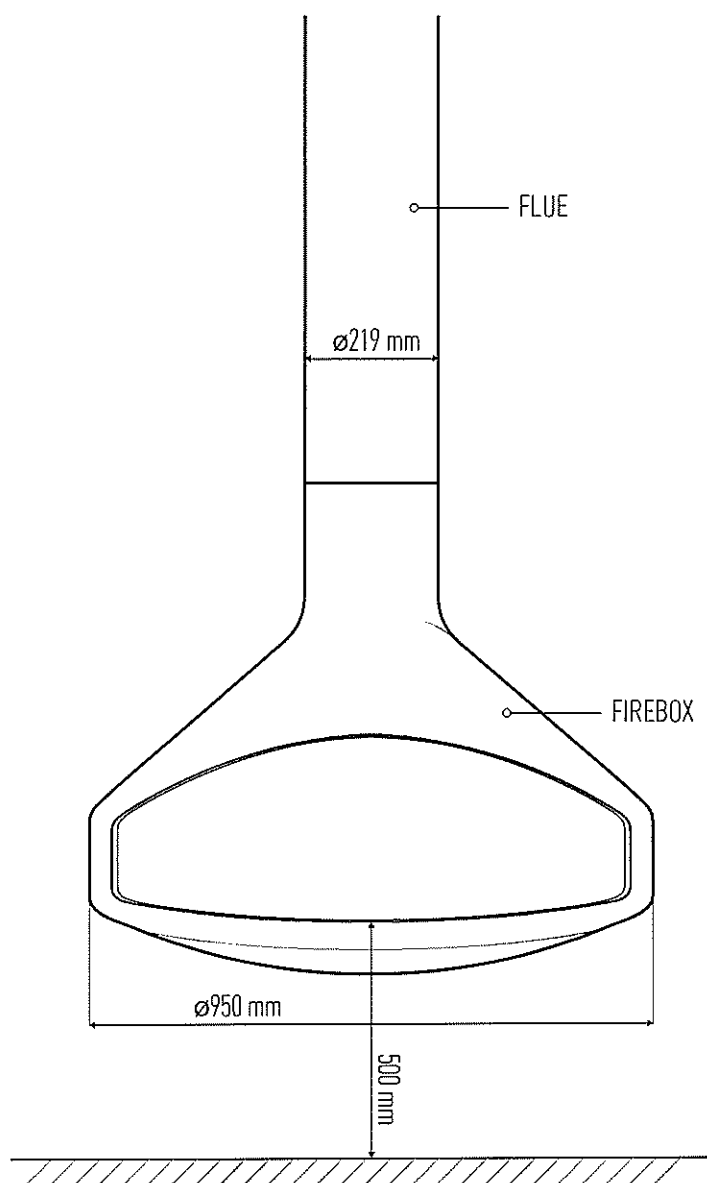
1. TECHNICAL DATA

WEIGHT AND DIMENSIONS:

Firebox diameter	950mm
Firebox weight	63Kg
Flue diameter	219mm
Flue weight	16Kg/meter
Standard bracket weight	20Kg
External flue kit	Triple skin 200/250/300mm

DETERMINED UNDER TEST CONDITIONS:

Nominal thermal output	5kW
Efficiency	46,1%



2. PRE-INSTALLATION

Congratulations on your purchase of the ErgoFocus. This appliance should be installed and checked by a qualified professional. Ensure you have read the operation guidelines thoroughly prior to first use. For any questions or concerns please contact Oblica on 03 9416 0400.

The installation process is outlined below:

- Determine position of firebox and flue carefully observing the clearances described within this section
- Install the suspension bracket
- Install the external flue
- Install the internal flue and engage the firebox
- Ensure the floor has adequate protection

CAUTION:

Using components or parts other than those provided by the manufacturer or modifying the specification of components may result in inferior or unsafe operation. If such action is necessary, consult the manufacturer in the first instance.

WARNING:

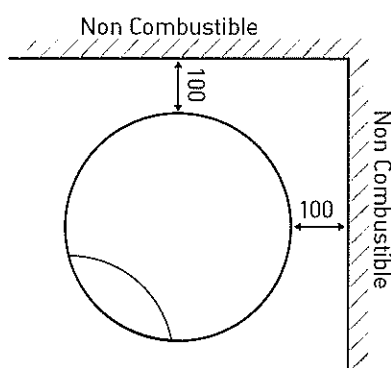
- The appliance and flue-system must be installed in accordance with AS/NZS 2918 and the relevant building code or codes.
- Any modification of the appliance that has not been approved in writing by the testing authority will be in breach of the approval granted for compliance with AS/NZS 4013.
- Once the flue has been installed and approved by a professional installer, the flue must not be modified in any way.

2. PRE-INSTALLATION (CONTINUED)

MINIMUM CLEARANCE — INTERNAL

2.1 Clearance from non-combustible surfaces (eg masonry)

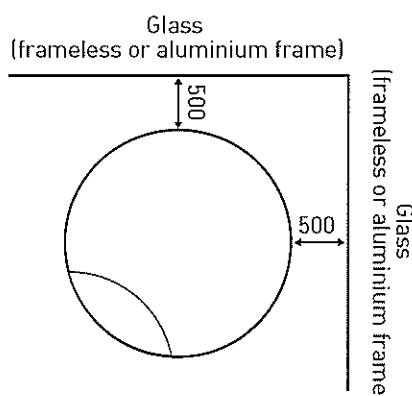
100mm minimum clearance is required from fully non-combustible surfaces.



2.2 Clearance from glass

500mm minimum clearance is required from normal non-combustible glass.

350mm minimum clearance is required from toughened glass.

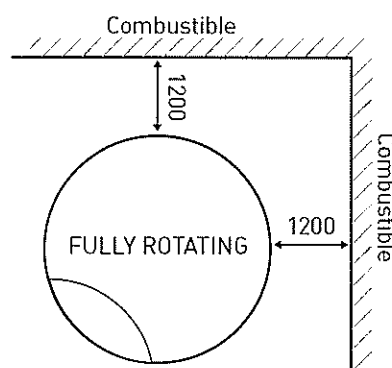


IMPORTANT:

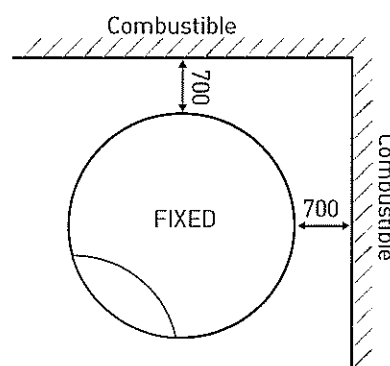
Frames must also be considered. Timber window frames must be treated as combustible surfaces (see 2.3). Aluminium frames can be treated as non-combustible surfaces (see 2.2).

2.3 Clearance from combustible surfaces (eg timber joist & plasterboard)

1200mm minimum clearance is required on all sides when the ErgoFocus can rotate 360°.



700mm minimum clearance is required if the rotation of the ErgoFocus is locked at 120° or 90° away from the wall. Locking the ErgoFocus so that the opening is fixed is an option available on purchase.



Clearances may be reduced with the application of heat shielding to walls in accordance to the Australian Building Code.

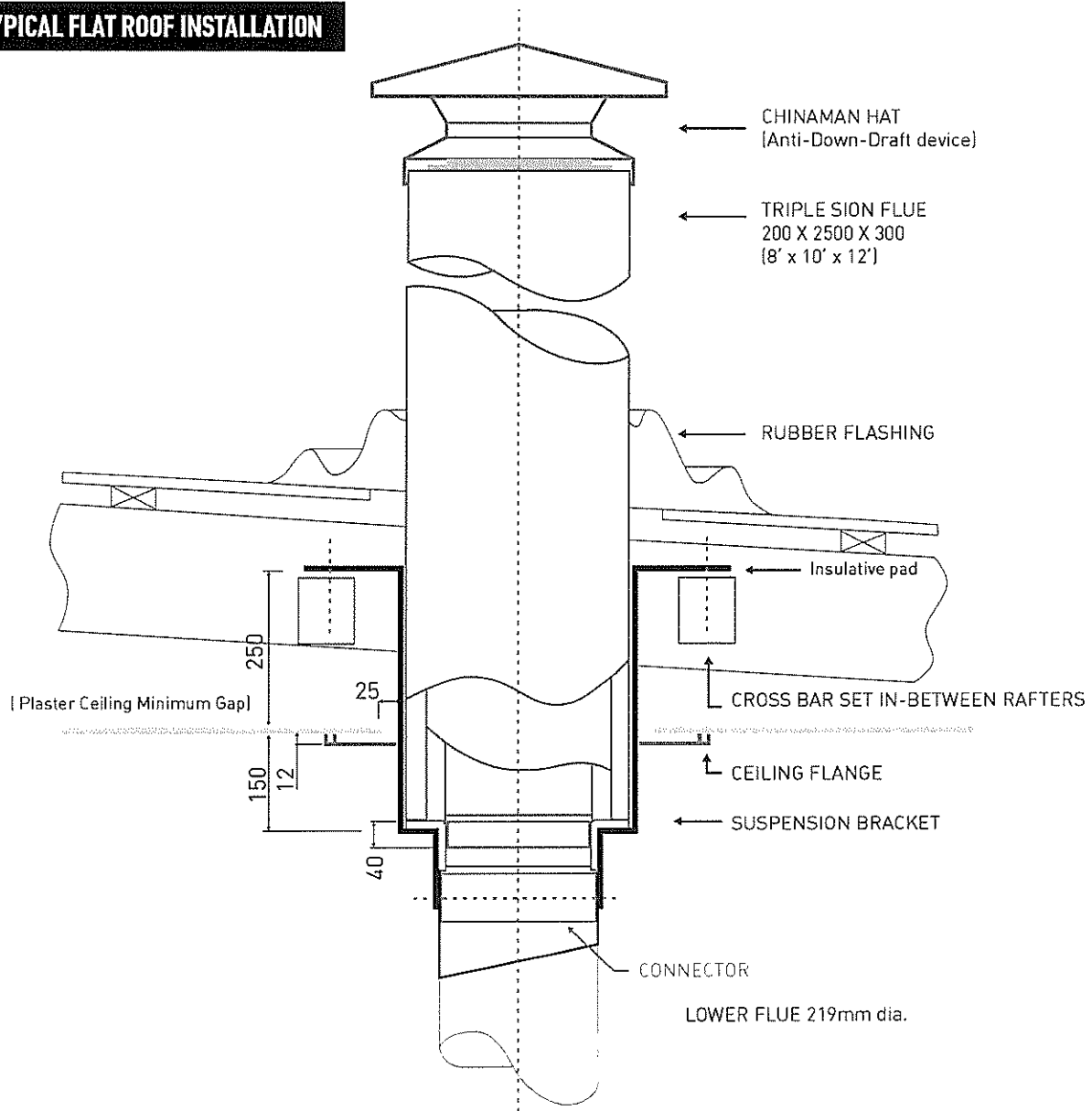
For information on heat shielding please contact our office on 03 9416 0400 or email info@oblica.com.au.

3. INSTALLATION

3.1 Installing the suspension bracket

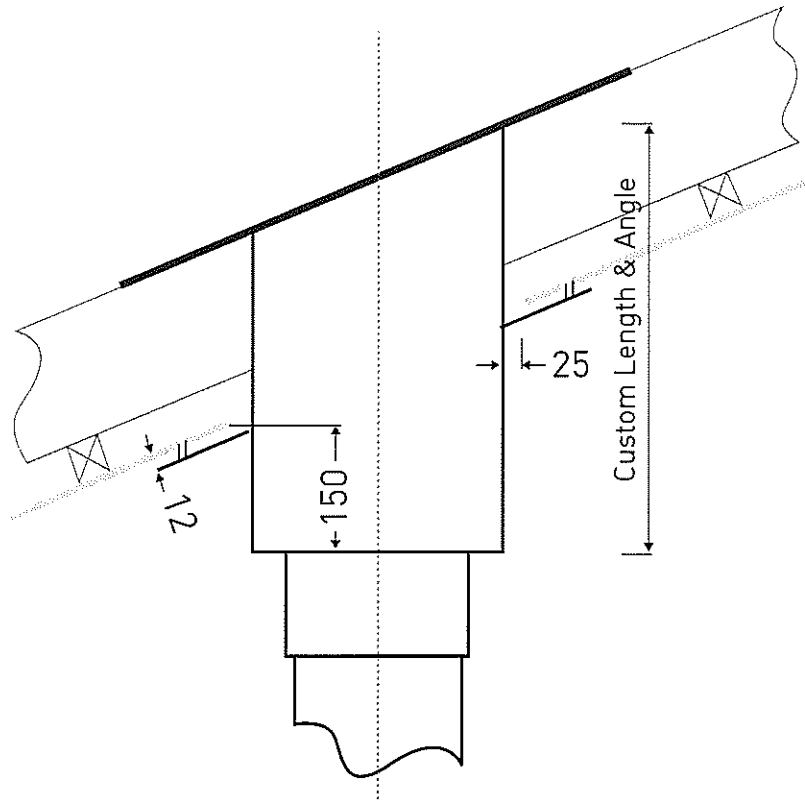
- The bracket must be structurally secured within the roof as shown in the diagram below.
- The largest cylinder must project down from the ceiling by at least 150mm (BCA requirement) unless the ceiling is made from a non-combustible material such as concrete.
- You must leave a 25mm clearance gap between the bracket and the ceiling. This gap will be covered by the ceiling Flange.
- 12mm ventilation gap between the plasterboard and the ceiling flange
- 25mm minimum clearance from the triple skin flue to any combustible material within the roof space
- 40mm minimum overlap of the stainless steel 8" flue into the connector

TYPICAL FLAT ROOF INSTALLATION



3. INSTALLATION (CONTINUED)

PITCHED ROOF INSTALLATION (CUSTOM MADE BRACKET)



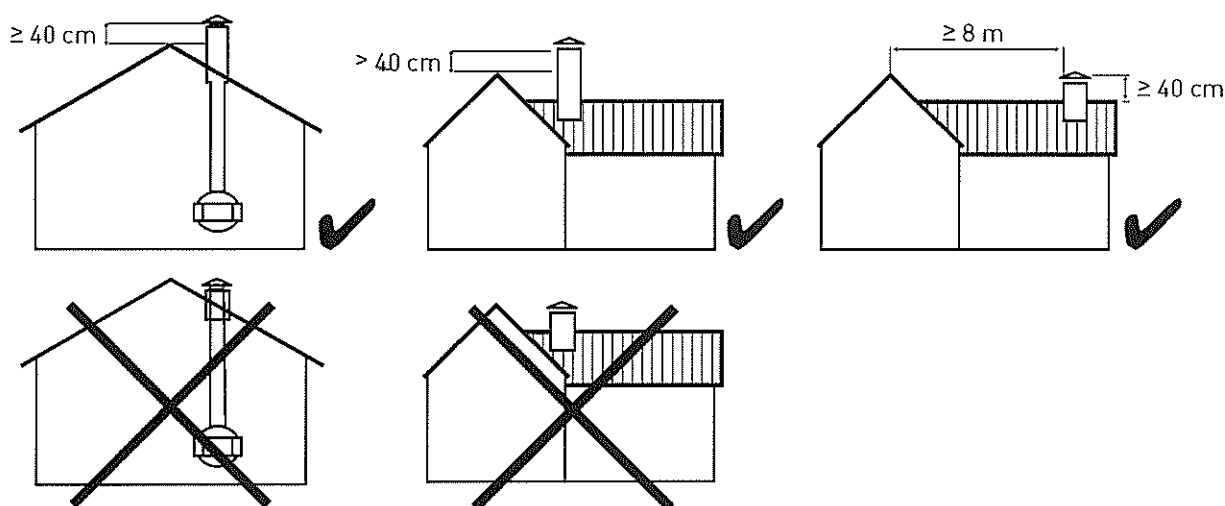
3. INSTALLATION (CONTINUED)

3.2 Installing the external flue

1. Place the connection piece inside the suspension bracket. This will join the single skin flue below the bracket and the triple skin flue above the bracket which have different diameters.
2. Ensure the triple skin flue is installed as per Australian standards (see diagrams below).

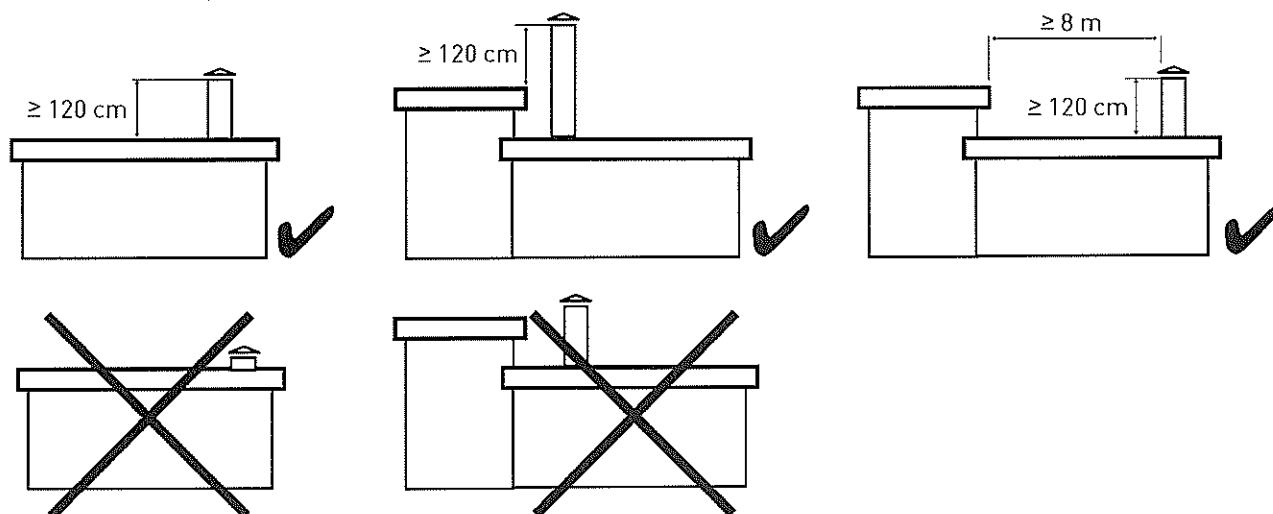
PITCHED ROOF INSTALLATION

The top of the flue must be 400mm higher than the highest point of the roof. Alternatively, there must be a minimum distance of 8 meters from any higher section of roof.



FLAT ROOF INSTALLATION (LESS THAN 5° PITCH)

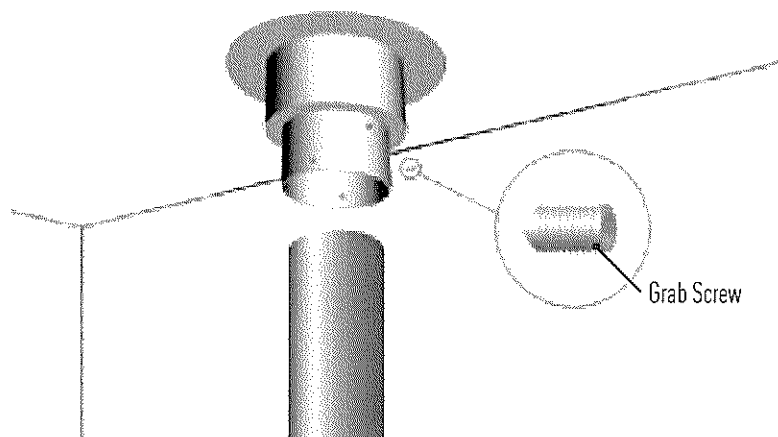
The top of the flue must be 1200mm above the roofline. Alternatively, there must be a minimum distance of 8 meters from any higher section of roof.



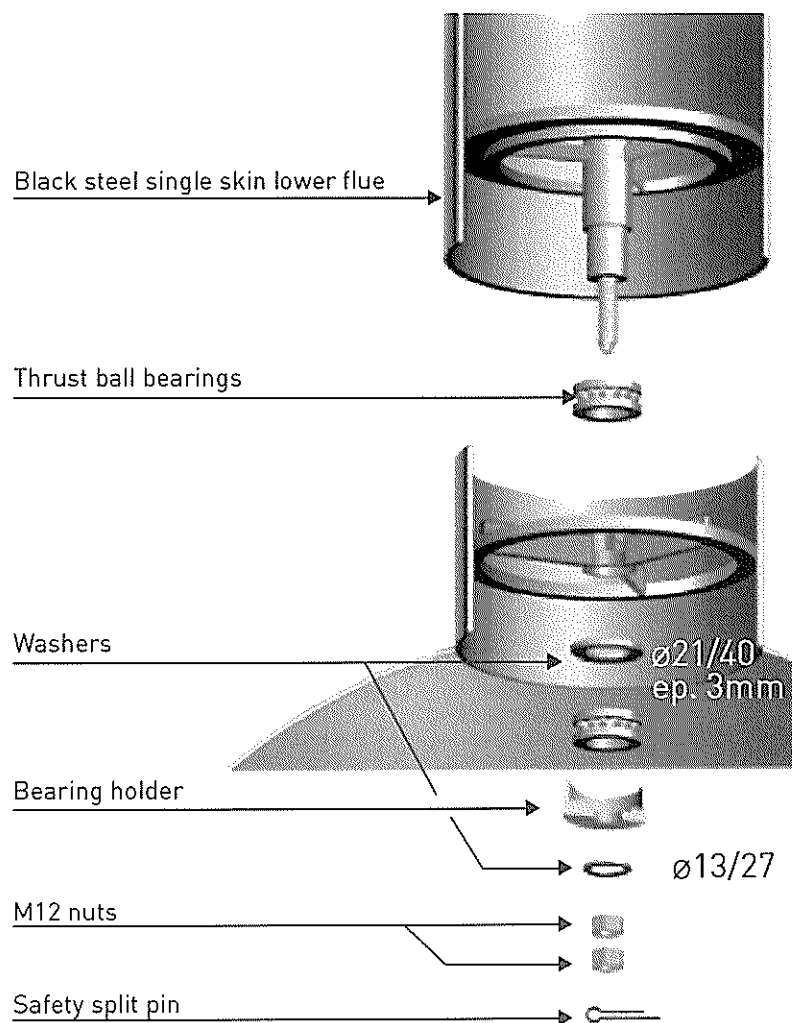
3. INSTALLATION (CONTINUED)

3.3 Installing the internal flue

1. Position the single skin flue inside the suspension bracket and tighten the grab screws. Ensure that the flue is perfectly vertical and the grab screws are tight.



2. Engage the firebox with the bolt bearings as per the diagram below.

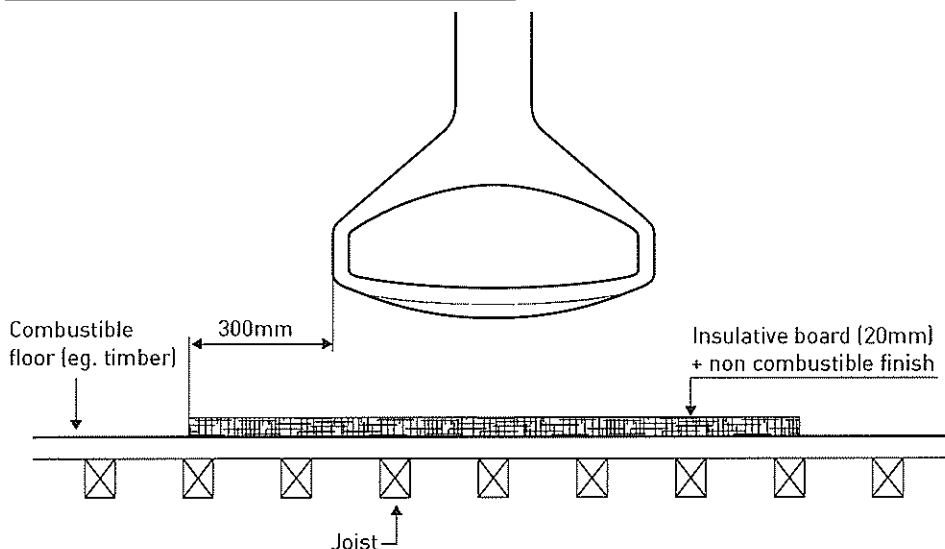


3. INSTALLATION (CONTINUED)

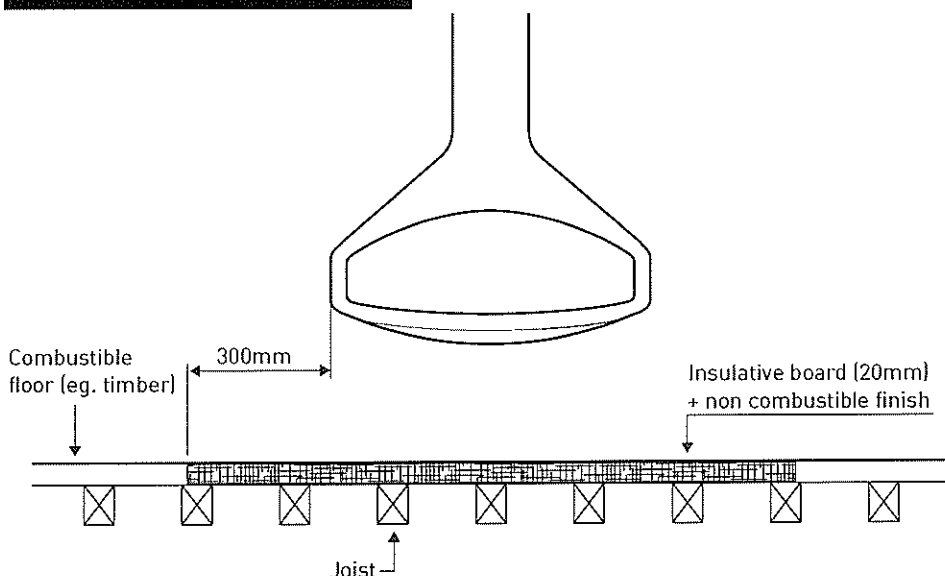
3.4 Protecting the floor

- Any combustible floor beneath a fireplace must have a floor protector that extends 300mm beyond the diameter of the firebox in all directions.
- If installed directly on combustible material, the floor protector must be made of a 20mm thick sheet of material with a thermal conductivity of 0.21W/m.K. Non-combustible finishes can be applied to the floor protector (tiles, steel sheet, light concrete, etc).
- If the combustible floor is installed on concrete, you can replace the combustible material with non-combustible material laid directly onto the concrete.

FLOOR PROTECTOR LAID ON TIMBER FLOOR

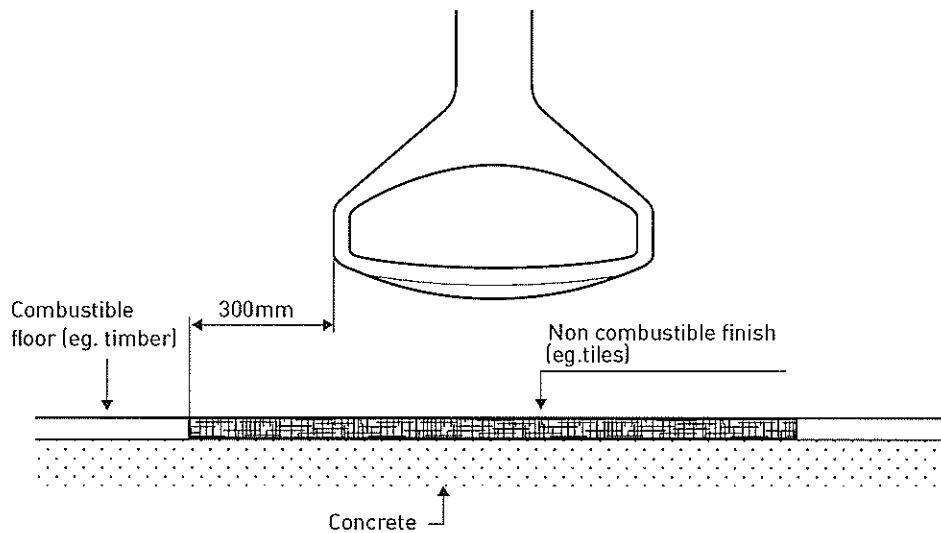


FLOOR PROTECTOR LAID ON JOIST

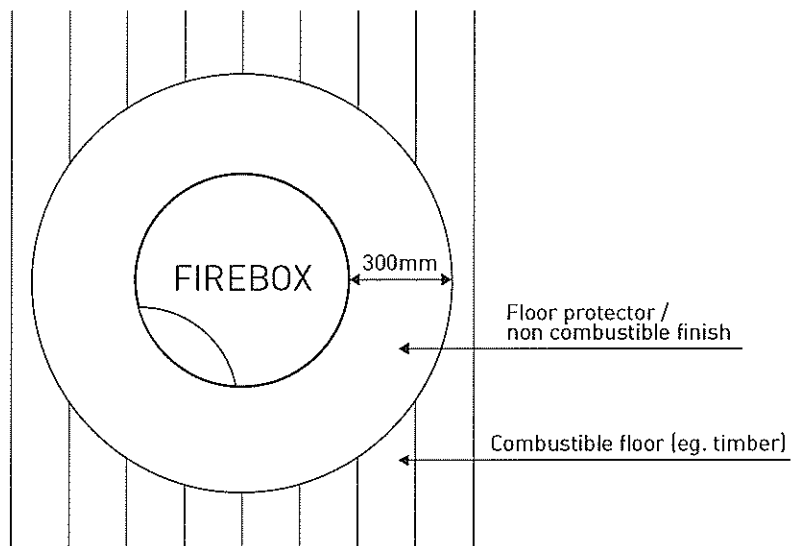


3. INSTALLATION (CONTINUED)

FLOOR PROTECTOR LAID ON CONCRETE



TOP VIEW



4. OPERATION

4.1 What you should burn

- Untreated, air dried hardwood
- Split logs with a humidity content of less than 20%

4.2 Do not burn

- Trash
- Painted plastic
- Coated or preservative treated wood
- Waste or black coal
- Inflammable liquids
- Fire gels
- Moist wood with a residual humidity content of more than 20% (this may cause sooting of the chimney).

IMPORTANT:

- Misuse may lead to unhealthy and environmentally harmful emissions and will void any warranty or guarantee.
- The maximum load capacity for the ErgoFocus is 20kg of wood.
- Burning only seasoned hardwood helps to protect the environment and lower emissions.

For details of a wood supplier in your area please call our office on 03 9416 0400 or email info@oblica.com.au.

WARNING:

- Do not use flammable liquids or aerosols to start or rekindle the fire.
- Do not use flammable liquids or aerosols in the vicinity of the fireplace when operating.
- Do not store fuel within prescribed installation clearance distances.
- The use of some types of preservative-treated woods as a fuel can be hazardous.

5. TESTING

TEST REPORT N° ATL17-10

TESTING LABORATORY:

AHHA Testing Laboratory
6/26 Stirling st
Thebarton, SA 5031
08 8351 8056

MANUFACTURER:

Focus — Atelier Dominique Imbert

MODEL:

ErgoFocus open style fireplace

WORK REQUESTED:

Measure CO2 levels as outlined in AS/NZS 4013:1999 to determine if appliance is excluded from full testing to this standard.

TEST DATES:

09/06/2010

RESULTS:

The maximum carbon dioxide output by the appliance during the high burn rate prescribed in AS/NZS 4013:1999 was 3.75%.

CONCLUSION:

This appliance meets the requirements of AS/NZS 4013:1999 section 1.2.3 (f) and is classified as an excluded appliance.

Important installation preparation

When using this latch on a child-resistant safety gate, always consult appropriate pool or safety authorities in your area and install this latch in accordance with the local fence/barrier regulations. A swimming pool gate must open outward, away from the pool, so this latch must be fitted to the **OUTSIDE** of a pool gate. **Tools required:** Electric drill/cordless drill, drill bits and Phillips No. 2 screwdriver (hand & power).

MAGNA-LATCH®

INSTALLATION INSTRUCTIONS

1. The maximum gap between gate frame and latch post must be between $\frac{3}{8}$ " (10mm) and $1\frac{1}{16}$ " (37mm); $\frac{3}{4}$ " (19mm) is ideal.

2. Determine the desired location of the latch on the fence post. Mark the point indicated by arrow 'L2' (see diagram). Place Mounting Bracket 'A' on the post as shown and mark the center fixing hole. Using one of the 1" (25mm) wafer-head, self-drilling screws, fix the bracket to the post – through the side fixing hole. Now install two more of these screws through the front of the bracket.

3. To install Mounting Bracket 'B' measure up from Bracket 'A' $3\frac{5}{8}$ " (92mm). Mark this point. Place the Bracket 'B' so that the holes are centered on the marked line. Fix bracket using the same screws as per Bracket 'A'. (NOTE: In some applications it may be necessary to add a spacer to clear a post cap. Spacers S1, S2 & S3 are for this purpose and should be inserted behind the mounting brackets during installation.)

4. Take the main LATCH BODY 'C' and slide it down onto the Mounting Bracket 'B', ensuring the rear track of the latch slides over brackets 'B', then 'A'.

5. Slide the Latch Body until the top of the lower molding (L1) is flush with the top of Bracket 'A' (L2) – such that diagram arrow 'L1' aligns with arrow 'L2'. Take the single $\frac{3}{8}$ " (10mm) countersunk screw H and secure the Latch Body – DO NOT use a power or cordless drill – to Bracket 'A'.

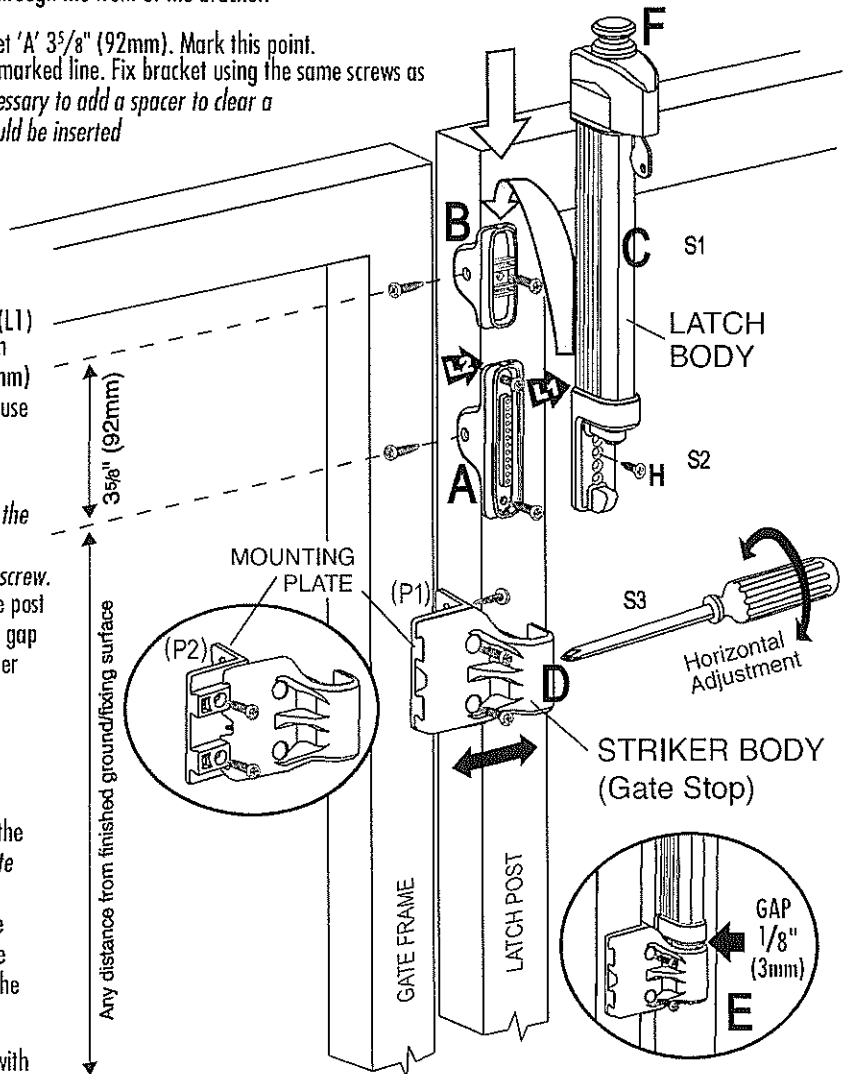
6. The final part to be installed is the STRIKER BODY 'D'. Note that the Striker Body slides on a dovetail track within the Mounting Plate (P1, P2) and is operated by an internal adjustment screw; NEVER use a powered drill to adjust this screw. See Diagram 'E'. Locate the Striker Body assembly onto the post as shown. Position the Striker Body to obtain a $\frac{1}{8}$ " (3mm) gap between the lower part of the latch and the top of the Striker Body as shown. Maintain this gap and fix two 1" (25mm) screws through the two main holes of the Striker Body. The two, small (cylindrical) dress plugs supplied should now be pressed into the screw holes.

7. a) Open the gate and secure two more screws through the side leg of the Mounting Plate. Note: If the width of the gate frame is $1\frac{1}{2}$ " (38mm) or greater, follow step b). . .

b) With the gate open, adjust the Striker Body using the screwdriver in the adjustment screw. Turn counter-clockwise until the two holes are exposed, as in Diagram 'E'. Fix the two remaining screws to secure the Mounting Plate.

8. Use the screwdriver to adjust the Striker Body to align with the Latch Body, as shown in Diagram 'E'. Open and close the gate to check the latch operates correctly. Adjust as necessary at any time after installation to ensure safe operation of the latch.

NOTE: Future vertical adjustment of the latch can be achieved by removing the screw 'H', sliding the Latch Body up or down the post to obtain correct operational alignment, then inserting the screw into the appropriate hole.



Made in Australia

d+d technologies

AUSTRALIA: 192 Harbord Rd, Brookvale NSW 2100
USA: 7731 Woodwind Drive, Huntington Beach, CA 92647

Swimming pool fences, gates and latches cannot substitute for adult supervision. If using this latch on a swimming pool gate, consult all appropriate local authorities for safety requirements. The latch will operate properly only if installed and maintained in accordance with these instructions.

MAINTENANCE: REMOVE KEY FROM LOCK AFTER USE. Regularly lubricate the key-lock part of this latch by spraying oil-based lubricant into lock. Do not lubricate any other part of the latch. Ensure all screws or bolts are tightened firmly and that the release knob [F] and latching bolt are kept free of sand, debris or ice which could impair the latch's performance.

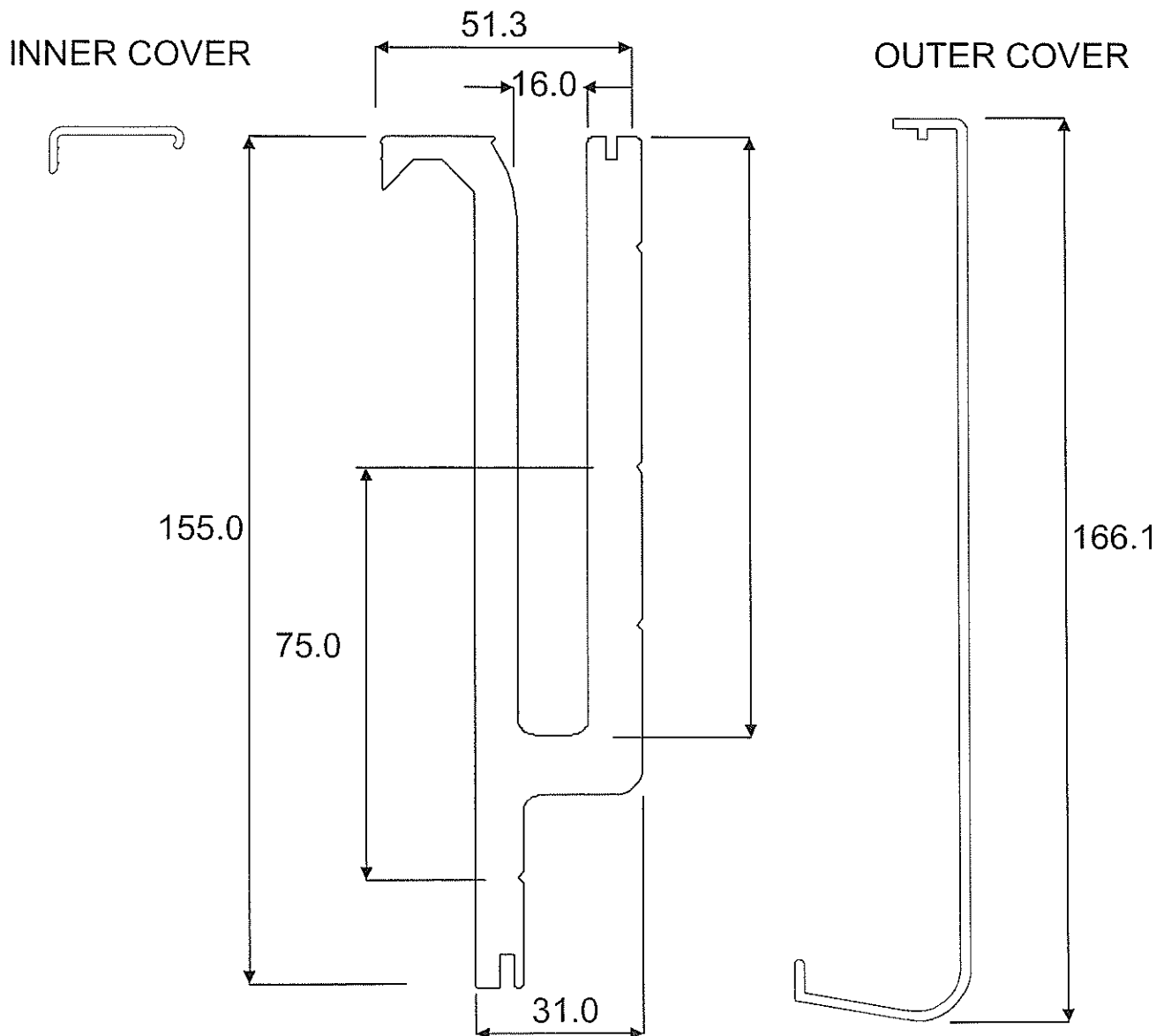
WARRANTY & LIMITATION OF LIABILITY

The products are warranted to be free of defects in materials and workmanship to the original purchaser for as long as he/she owns the product. If a defect appears, the original purchaser may return the item, freight prepaid, together with proof of purchase to the company or its approved international agents. The company or agent will, at its discretion, repair or replace the defective item or part without charge to the purchaser. THIS WARRANTY SHALL NOT APPLY WHEN the product has been tampered with, when repairs or attempted repairs have been made by unauthorised persons, where the item has been subjected to misuse, abuse, accident or damage in transit, or where the installer has not followed the instructions set out during installation or operations. IN NO EVENT SHALL THE COMPANY BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES. No warranty is given other than that set out above. No other express or implied warranties (including statutory warranties) apply, other than warranties which may not be legally excluded.

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GLASS RELATE Ltd.

Technical Information Sheet
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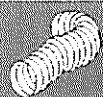
GR4816 DRY BALUSTRADE CHANNEL SIDE FIXED MATERIAL 6060 T5 ALUMINIUM



21 Soljan Drive, Henderson, Auckland, New Zealand.
P.O. Box 104-224 Lincoln North Henderson 0654
E Mail. hardware@glassrelate.co.nz

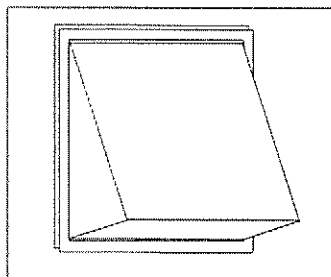
Free Phone 0800 800 075

Website: www.glassrelate.co.nz



Technical Data

MANROSE® Weatherproof Cowl

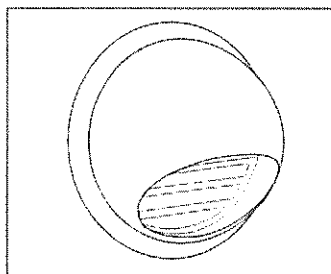


Grille Description	Metric Size (mm)	Order Code	Face Size (mm)	Spigot Diameter (mm)	Spigot length (mm)	Cut-Out Size (mm)
Designer Weatherproof	100	DCT2151	150 x 150	97	52	115
Designer Weatherproof	125	DCT2152	180 x 180	120	52	140
Designer Weatherproof	150	DCT2153	180 x 180	145	62	160
Standard Weatherproof	100	DCT0018	105 x 105	99	35	105
Standard Weatherproof	125	DCT1030	127 x 127	122	27	125
Standard Weatherproof	150	DCT1031	127 x 127	150	35	152

The Designer Weatherproof Cowl requires a minimum pressure to open

- 10Pa - 100mm (DCT2151)
- 10Pa - 125mm (DCT2152)
- 10Pa - 150mm (DCT2153)

MANROSE® Weatherproof Dome Cowl



Grille Description	Metric Size (mm)	Order Code	Face Size (mm)	Spigot Diameter (mm)	Spigot length (mm)	Cut-Out Size (mm)
Designer Dome Cowl	100	DCT2157	140	97	52	115
Designer Dome Cowl	125	DCT2158	180	120	52	140
Designer Dome Cowl	150	DCT2159	200	145	62	155





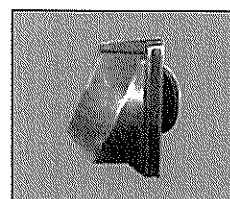
Air Diffusion

MANROSE® Weatherproof Cowl

Designer Series Weatherproof Cowl

Metre Size (mm)	Colour	Order Code
100	Stainless Steel	DCT2151
125	Stainless Steel	DCT2152
150	Stainless Steel	DCT2153

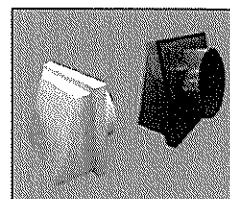
- High quality designer stainless steel finish
- Designed for use where adverse weather conditions are experienced
- Manufactured from a 304 grade stainless steel
- Download: Technical data (pdf)



Weatherproof Cowl

Metre Size (mm)	Colour	Order Code
100	White	DCT0018
100	Brown	DCT0019
125	White	DCT1030
150	White	DCT1031

- Used where adverse weather conditions are experienced
- Download: Technical data (pdf)

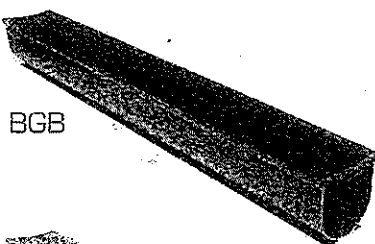


ALLPROOF

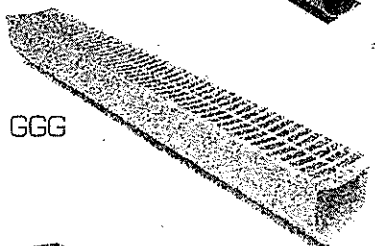
I N D U S T R I E S

DOMESTIC DRAINAGE CHANNEL

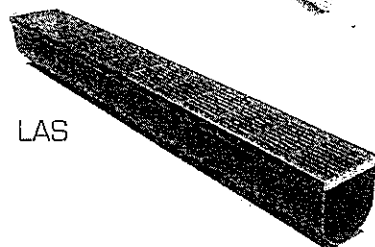
OPTIONS AVAILABLE



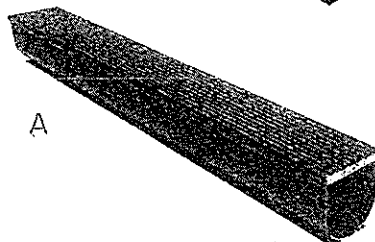
BGB



GGG



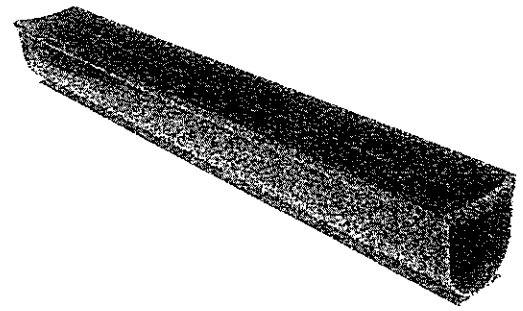
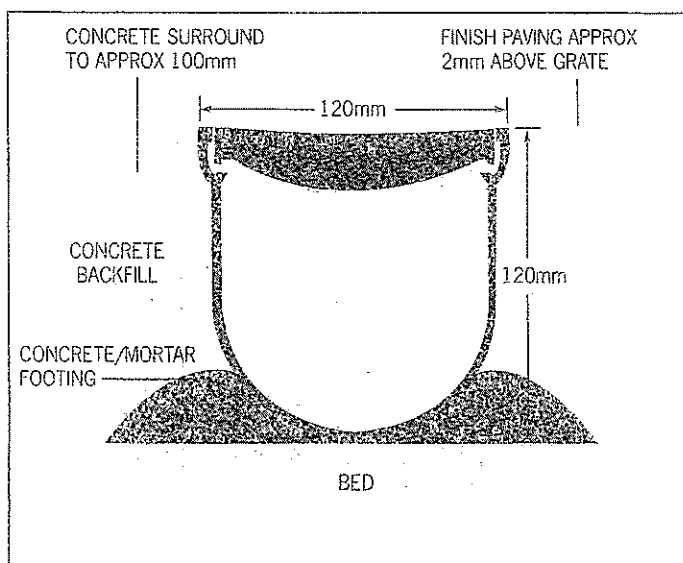
LAS



A



CODES	DESCRIPTIONS
120GBB	120mm x 3m Black Channel & Grates
120GGG	120mm x 3m Grey Channel & Grates
120BLAS	120mm x 3m Black Channel & Laser Grates
120GLAS	120mm x 3m Grey Channel & Laser Grates
120AB	120mm x 3m Black Channel & Architectural Grates
120AG	120mm x 3m Grey Channel & Architectural Grates
120BGB 1m	120mm x 1m Black Channel & Grate
120GGG 1m	120mm x 1m Grey Channel & Grate
120BLAS 1m	120mm x 1m Black Channel & Laser Grate
120GLAS 1m	120mm x 1m Grey Channel & Laser Grate
120AB 1m	120mm x 1m Black Channel & Architectural Grate
120AG 1m	120mm x 1m Grey Channel & Architectural Grate
E120B	Endcap 120mm Drainage Channel Black
E120G	Endcap 120mm Drainage Channel Grey
J120B	Joiner 120mm Drainage Channel Black
J120G	Joiner 120mm Drainage Channel Grey
F120	90mm Vertical Spigot Outlet
120B90A	120mm Black 90 degree corner Channel & Grate
120G90A	120mm Grey 90 degree corner Channel & Grate
120BLAS90A	120mm Black 90 degree corner Channel & Laser Grate
120GLAS90A	120mm Grey 90 degree corner Channel & Laser Grate
120AB90A	120mm Black 90 degree corner Channel & Architectural Grate
120AG90A	120mm Grey 90 degree corner Channel & Architectural Grate
120SUMPB	120mm x 300mm inline Sump & Grate Black
120SUMPG	120mm x 300mm inline Sump & Grate Grey
120SUMPBLAS	120mm x 300mm inline Sump & Joiner Laser Black
120SUMPGLAS	120mm x 300mm inline Sump & Joiner Laser Grey
120SUMPAB	120mm x 300mm inline Sump & Joiner Architectural Black
120SUMPAG	120mm x 300mm inline Sump & Joiner Architectural Grey



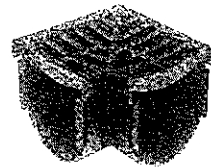
CHANNEL & GRATE (AVAILABLE IN 1 OR 3 MTR LENGTHS)



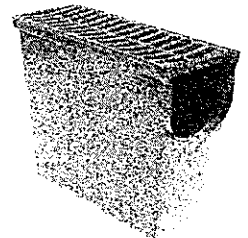
CHANNEL END CAP



CHANNEL JOINER



90 DEGREE CORNER GRATE



INLINE SUMP & JOINER



90MM VERTICAL SPIGOT OUTLET

BASIC INSTALLATION:

- Preform a trench on thick layer of compacted sand or base-course.
- If needed cut channel & grate to length using a Hack Saw.
- Attach stop ends to channel. Seal using silicone sealant.
- Lay channel & grate into preformed trench.
- Stop ends have outlets that can be drilled out to allow for 90mm or 100mm pipe. Drill out accordingly and connect to pipe or a sump box.
- Fix the channels into place and bed into a mortar/concrete mix. This will allow the channel feet to remain flat on the compacted base and also prevents the channel from moving during the pouring of concrete. Pour concrete around channel to fill void of preformed trench where applicable.
- Ensure channel is not sitting proud of concrete.
- Tape can be used to prevent concrete from entering the grate during pouring.

ALLPROOF

I N D U S T R I E S

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