



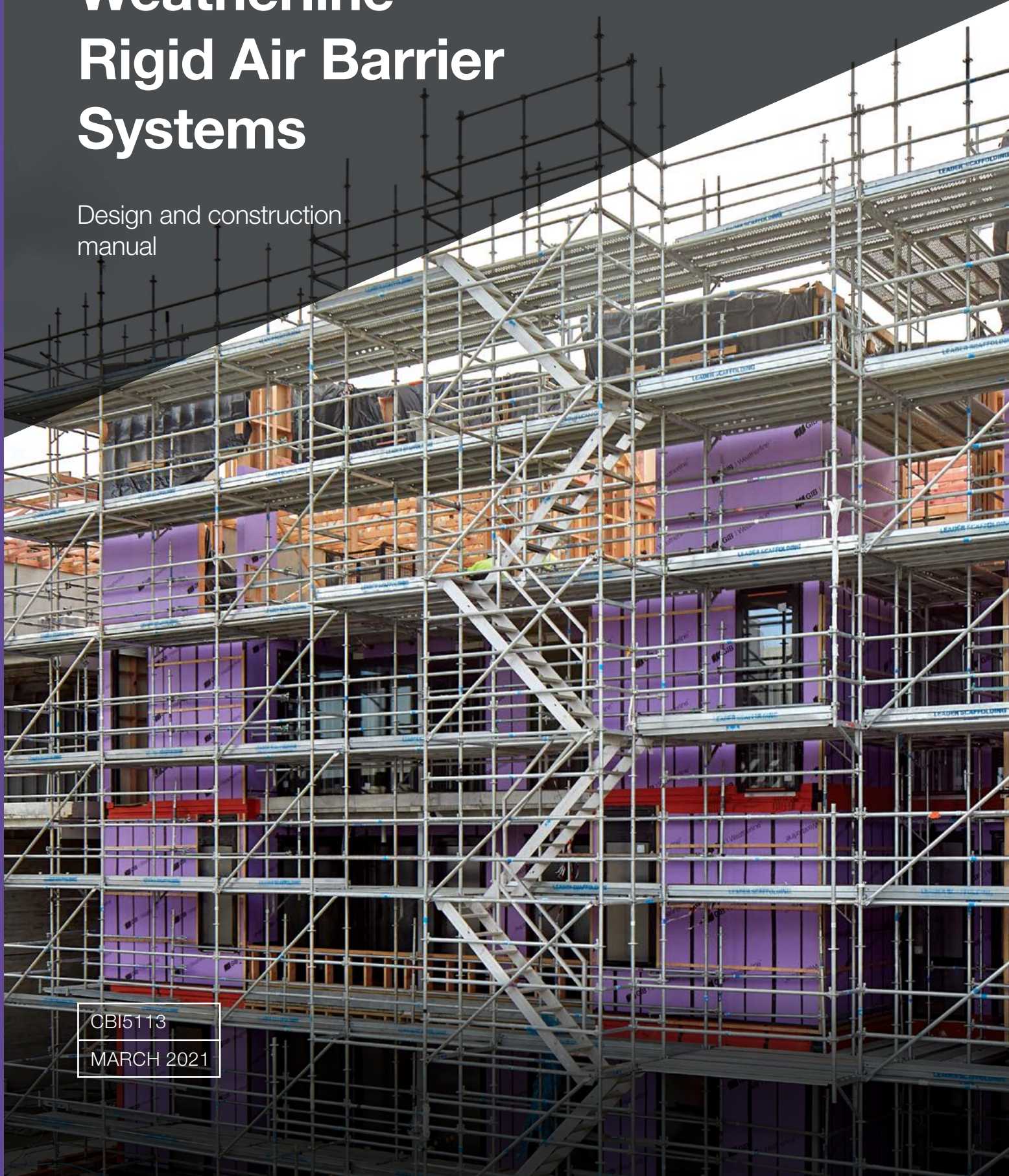
**GIB®**

# Weatherline® Rigid Air Barrier Systems

Design and construction  
manual

CBI5113

MARCH 2021



## **NATIONAL SUPPORT**

**VISIT:** Winstone Wallboards Limited  
37 Felix Street, Penrose,  
Auckland 1061, New Zealand

**POST:** PO Box 12 256, Penrose,  
Auckland 1642, New Zealand

**PHONE:** +64 9 633 0100

**EMAIL:** [info@gib.co.nz](mailto:info@gib.co.nz)

**WEB:** [gib.co.nz](http://gib.co.nz)

## **GIB® HELPLINE**

0800 100 442

# GIB Weatherline® Rigid Air Barrier Systems are intended for use exclusively with drained and vented cavity cladding systems (used in place of a flexible wall underlay). They function as an air barrier and as an effective secondary line of defence against water penetration into the building interior.

This document covers the use of GIB Weatherline® Rigid Air Barrier Systems in buildings designed within the scope of the current version of NZS 3604, and within specific engineering design (SED).

## Why use a rigid air barrier

A rigid air barrier is an extremely effective way of managing the air pressure that acts on the exterior of a building – the higher pressure external air has the potential to drive external moisture through the exterior weather envelope (cladding) and into the wall assembly or lower pressure building interior. By installing a rigid air barrier to moderate this pressure, the external driving force is reduced and any potential moisture penetration is mitigated.

In situations where external moisture is driven through the exterior cladding (the main line of defence against moisture), in a correctly designed and built cavity cladding system this moisture should drain down the back face of the cladding and out through the opening at the bottom of the cladding.

In extreme situations where moisture that is driven through the exterior cladding goes beyond the back of the cladding and reaches the face of the rigid air barrier, the barrier acts as a secondary line of defence and in a correctly designed and built system, effectively drains this moisture downwards and out through the opening at the bottom of the cavity cladding system.

GIB Weatherline® Rigid Air Barrier Systems constitute an effective rigid air barrier and a weather resistant secondary line of defence to manage potential external moisture penetration.

Other benefits of the GIB Weatherline® Rigid Air Barrier Systems are covered in this manual.

## GIB Weatherline® Rigid Air Barrier Systems

The systems have been developed as both a rigid air barrier and also as temporary weather protection for the exterior of a building (in conjunction with installed roof, soffit linings and exterior joinery) for a period of up to 180 days, prior to the installation of the exterior cladding. They are suitable for use in both residential and commercial buildings.

GIB Weatherline® Rigid Air Barrier Systems provide structural bracing and fire protection performance. They can also assist in the reduction of external environmental noise.

GIB Weatherline® Rigid Air Barrier Systems consist of a 10mm or 13mm sheet with a water and mould resistant fibreglass reinforced gypsum core and a water resistant synthetic glass fibre sheet facing on both sides. Sheets are screw fixed to the outside face of a timber or steel frame with all vertical or horizontal joints, and penetrations covered with a weathertight flashing tape. A range of sheet sizes are available. All of the GIB Weatherline® Rigid Air Barrier Systems are fast and easy to install.

GIB Weatherline® Rigid Air Barrier Systems comply as an Alternative Solution proprietary system within the New Zealand Building Code (NZBC) requirements for

rigid wall underlays. These are covered in E2/AS1 (the compliance document for Building Code clause E2 External Moisture) section 9.1.4, 9.1.7.2 and the performance requirements of Table 23 (Properties of roof underlays and wall underlays).

GIB Weatherline® Rigid Air Barrier Systems have been tested for wind speeds up to and including Extra High wind zone as defined in NZS 3604 and for buildings outside the scope of NZS 3604 (specific engineering design).

GIB Weatherline® Rigid Air Barrier Systems must be accurately installed in accordance with Winstone Wallboards Ltd's instructions and in line with good building practices and sound design principles to comply with the Building Act 2004, the NZBC, and any applicable New Zealand Standards.

This document contains information and instructions regarding the properties, handling, installation, usage and maintenance of GIB Weatherline® Rigid Air Barrier Systems.

Winstone Wallboards Ltd accepts no liability if the GIB Weatherline® Rigid Air Barrier Systems are not used in accordance with the instructions contained in this publication.



## GIB Weatherline® Rigid Air Barrier Systems

Specification		LB/ NLB	FRR	Lining requirements	Page
<b>Wind Loading Fixing Options</b>					
Rigid Air Barrier Systems	Structural batten, screw and tape NZS 3604	LB	—	<b>Interior:</b> Any GIB® plasterboard <b>Exterior:</b> 10mm or 13mm GIB Weatherline®	20
	Screw and tape NZS 3604	LB	—	<b>Interior:</b> Any GIB® plasterboard <b>Exterior:</b> 10mm or 13mm GIB Weatherline®	22
	Screw and tape SED	LB	—	<b>Interior:</b> Any GIB® plasterboard <b>Exterior:</b> 10mm or 13mm GIB Weatherline®	24
<b>Structural Bracing Systems</b>					
Structural Bracing Systems	GSW-N	LB	—	<b>Interior:</b> 10mm or 13mm GIB® Standard plasterboard <b>Exterior:</b> 10mm or 13mm GIB Weatherline®	28
	GSW-H	LB	—	<b>Interior:</b> 10mm or 13mm GIB® Standard plasterboard <b>Exterior:</b> 10mm or 13mm GIB Weatherline®	30
	W-H	LB	—	<b>Interior:</b> None <b>Exterior:</b> 10mm or 13mm GIB Weatherline®	32
	BLW-H	LB	—	<b>Interior:</b> 10mm or 13mm GIB Braceline® GIB Noiseline® <b>Exterior:</b> 10mm or 13mm GIB Weatherline®	34
<b>Fire Rated Timber Frame Systems*</b>					
External Walls	GWTLE 30	LB	30/30/30	<b>Interior:</b> 10mm GIB Fyreline® <b>Exterior:</b> 10mm GIB Weatherline®	37
	GWTLE 60a	LB	60/60/60	<b>Interior:</b> 13mm GIB Fyreline® <b>Exterior:</b> 13mm GIB Weatherline®	38
	GWTLE 60b	LB	60/60/60	<b>Interior:</b> 13mm GIB Fyreline® <b>Exterior:</b> 2 x 10mm GIB Weatherline®	39
Parapet or Wingwalls	GWTLP 30	LB	30/30/30	<b>Exterior:</b> 10mm GIB Weatherline® both sides	40
	GWTLP 60	LB	60/60/60	<b>Exterior:</b> 13mm GIB Weatherline® both sides	41

\*See page 16 for recommendations to limit vertical fire spread in multi-level buildings or refer to proprietary cladding supplier data.

## GIB Weatherline® Rigid Air Barrier Systems

Specification	LB/ NLB	FRR	Lining requirements	Page	
<b>Fire Rated Steel Frame Systems*</b>					
External Walls	GWSE 60	NLB	-/60/60	<b>Interior:</b> 13mm GIB Fyreline® <b>Exterior:</b> 13mm GIB Weatherline®	42
Parapet or Wingwalls	GWSP 60	NLB	-/60/60	<b>Exterior:</b> 13mm GIB Weatherline® both sides	43
<b>Fire Rated Soffit Systems</b>					
Fire Rated Soffits	GWUC 30	LB	30/30/30	<b>Exterior:</b> 1 x 13mm GIB Weatherline®	44
	GWUC 60	LB	60/60/60	<b>Exterior:</b> 2 x 13mm GIB Weatherline®	45
<b>Fire Rated Protection of Columns and Beams</b>					
Timber Strapping	GWCBT 15	LB	15/-/-	<b>Exterior:</b> 13mm GIB Weatherline®	46
	GWCBT 30	LB	30/-/-	<b>Exterior:</b> 2 x 10mm GIB Weatherline®	46
	GWCBT 60	LB	60/-/-	<b>Exterior:</b> 2 x 13mm GIB Weatherline®	46
Steel Clip and Channel	GWCBS 15	LB	15/-/-	<b>Exterior:</b> 13mm GIB Weatherline®	47
	GWCBS 30	LB	30/-/-	<b>Exterior:</b> 2 x 10mm GIB Weatherline®	47
	GWCBS 60	LB	60/-/-	<b>Exterior:</b> 2 x 13mm GIB Weatherline®	47
<b>Environmental Noise</b>					
GIB Weatherline® Systems when combined with GIB® internal linings contribute to quieter indoor spaces by effectively reducing the transmission of environmental noise.				49	

\*See page 16 for recommendations to limit vertical fire spread in multi-level buildings or refer to proprietary cladding supplier data.

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# GIB Weatherline® Rigid Air Barrier System benefits

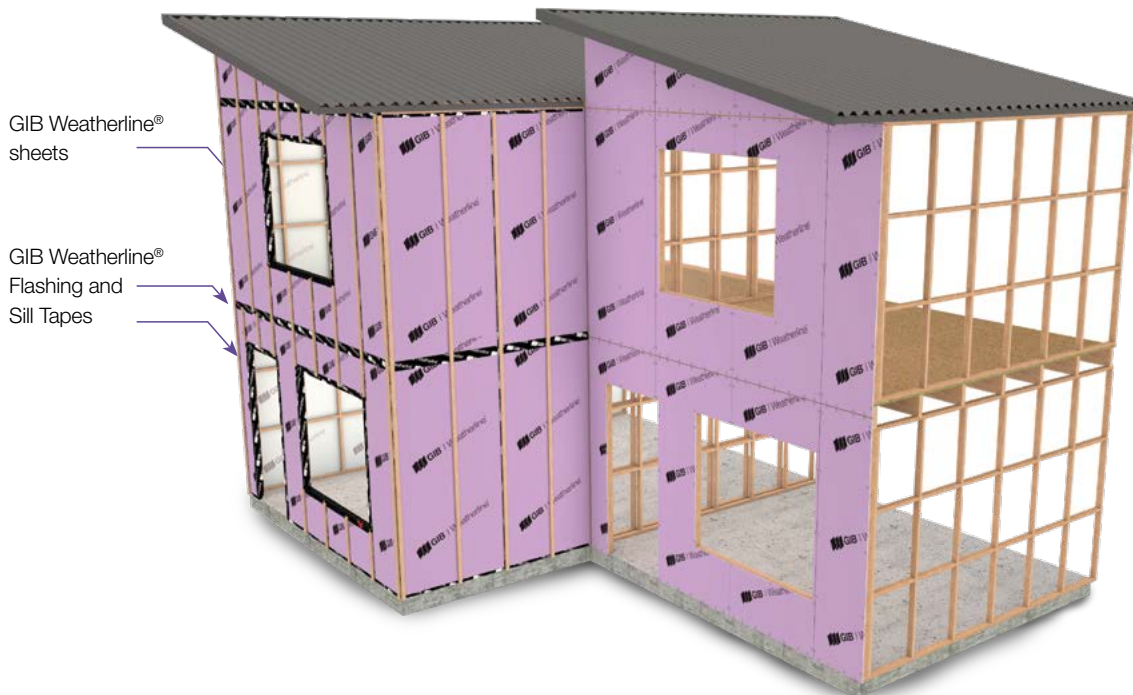
**MAIN GIB WEATHERLINE® BENEFITS:**

- Moisture protection.
- Early close-in.
- Ease of handling.
- Cost effective.
- NZBC compliant.

**GIB WEATHERLINE® PERFORMANCE OPTIONS:**

- Wind pressure solutions.
- Bracing systems.
- Fire rated systems.
- Façade solutions.
- Environmental noise.

**FIGURE 1: TYPICAL INSTALLATION OF GIB WEATHERLINE® SYSTEM**





# GIB Weatherline® Rigid Air Barrier System benefits



## BENEFITS TO BUILDING AND HOME OWNERS

- **Enhances thermal efficiency** of the building by reducing uncontrolled air movement.
- **Protection against moisture penetration** by providing a water resistant secondary line of defence.
- **Quicker construction times** by allowing work to commence inside before the cladding is installed.
- **Fire protection options** for external walls.
- **Environmental noise control options** to help make a quieter home.



## BENEFITS TO BUILDERS

- **Easy handling and fast installation:** simply score, snap and screw fix.
- **Safe to handle:** no harmful dust created when cutting.
- **Early close in** providing temporary weather protection for up to 180 days allowing construction inside to proceed. Unless the building envelope is fully weathertight, insulation and lining of external walls is best carried out once the cladding is installed.
- **NZBC compliant:** made and tested in New Zealand specifically for New Zealand conditions.
- **Cost effective fire rated systems** including 30min and 60min FRR options.
- **Structural bracing elements** with double and single sided options.
- **Dimensionally stable sheets** with moisture and mould resistance.



## BENEFITS TO DESIGNERS

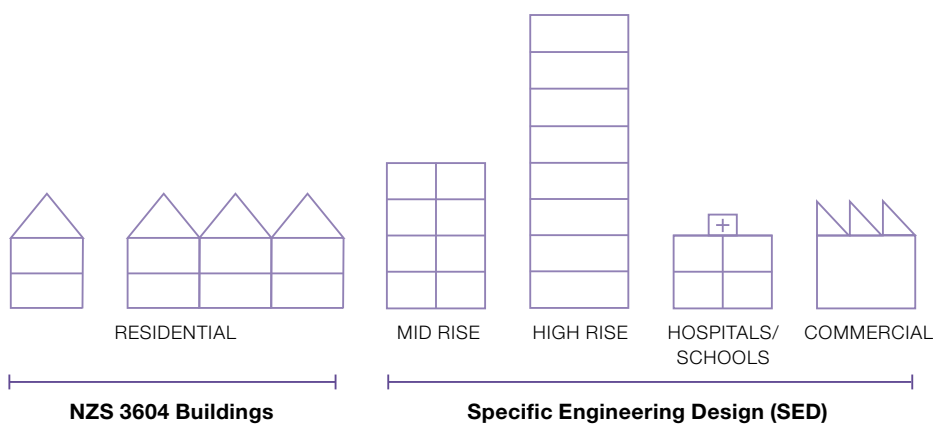
- **Moisture protection** by providing a second line of defence against water penetration.
- **Enhanced thermal efficiency** of the building by reducing uncontrolled air movement.
- **NZBC Compliant:** thoroughly tested for New Zealand conditions up to and including Extra High wind zones.
- **Cost effective fire rated systems** including 30min and 60min FRR for external, parapet and wing walls. Also 30min and 60min FRR for soffits and structural steel.
- **Structural bracing elements** with double and single sided options easily accessed in the GIB Ezybrace® calculator.
- **Environmental noise control options** using typical claddings.
- **Tested as a cladding substrate** to limit vertical fire spread.



## BRANZ APPRAISAL

- **GIB Weatherline® Rigid Air Barrier Systems** have been appraised by (BRANZ), Appraisal No. 1048 (2019).
- **It is of prime importance** to comply with the details of design construction and workmanship as outlined in this manual.

## SUITABLE BUILDING TYPES FOR GIB WEATHERLINE® SYSTEMS



# GIB Weatherline® Rigid Air Barrier Systems components

## GIB WEATHERLINE® SHEET RANGE

Edge Profile*	Thickness (mm)	Sheet width (mm)	Sheet length (mm)	Max. kg/m <sup>2</sup>
SE/SE	10	1200	2450	9.0
SE/SE	10	1200	2750	9.0
SE/SE	10	1200	3000	9.0
SE/SE	13	1200	2750	11.5
SE/SE	13	1200	3000	11.5



## GIB WEATHERLINE® FLASHING TAPE

- Available widths 30mm, 60mm, 100mm, 150mm and 200mm
- 30m roll length



## GIB WEATHERLINE® SILL TAPE

- Available widths 150mm and 200mm
- 20m roll length



## GIB® GRABBER® SCREW RANGE

### Timber framing

41mm x 6g Ceramic Coated High Thread Screw for timber framing

- Available in cartons of 1,000 (collated only).

63mm x 8g Ceramic Coated High Thread Screw for timber framing

- Available in cartons of 500 (loose only).



### Steel framing

32mm x 8g Ceramic Coated Drill Point Screw for steel framing

- Available in cartons of 1,000 (collated only).

47mm x 8g Ceramic Coated Drill Point Screw for steel framing

- Available in cartons of 800 (collated only).



## Handling and installation

### ON-SITE STORAGE

GIB Weatherline® Rigid Air Barrier Systems components must be stored and handled with care to maintain their condition prior to installation.

GIB Weatherline® Rigid Air Barrier Systems components must be covered and protected from the elements when stored on site. The sheets must be protected from any mechanical damage and must be kept dry prior to installation.

GIB Weatherline® Rigid Air Barrier Systems sheets must be fully supported on pallets or consistently along the length and width of the sheets when supported flat on the structure prior to installation.

GIB Weatherline® Rigid Air Barrier Systems sheets must be stacked flat and never on their edges.

Any sheets or part sheets that are damaged on site must not be installed. Ensure that sheets are dry at time of installation.

### HANDLING AND CUTTING

Position the sheet with the purple side of the sheet facing up. Mark and cut the sheet as required with a straight edge and utility knife, cutting through the face and the core.

Break the sheet core by snapping the sheet back along the cut line. Turn the sheet over and cut along the back liner to complete the cut.

#### Cutting out openings

Openings can be marked and cut out either prior to installing GIB Weatherline® sheets or after the sheets are fixed in place. Create a small nail hole in each corner then use a pencil to mark out the edges of the opening. Use the score and snap method or a handsaw to cut along the marked lines. Ensure cut out edges are smoothed off and free of dust to allow a good bond when flashing tapes are applied.

#### Hole forming

- Hole saw:  
Mark the centre of the hole on the sheet and pre-drill a pilot hole. Cut the hole to the correct diameter with a circular hole saw fitted to a drill.
- Handheld saw or jigsaw:  
Mark the diameter of the hole to be cut on the face of the sheet, pre-drill a pilot hole on the cut line and cut it out with a hand held keyhole saw or a jig-saw.

### SHEET LAYOUT

GIB Weatherline® sheets must be installed with the purple branded face outwards. Ensure the sheets are in good condition with no damage prior to installation and are dry and free of sawdust, dirt or any other contaminants.

Sheets must be installed vertically when GIB Weatherline® Rigid Air Barrier Structural Bracing or Fire Rated Systems are specified. Otherwise sheets may be installed vertically or horizontally. Sheets shall be touch fitted. Select sheet lengths to ensure that a 10mm horizontal movement control joint is achievable at any mid or intermediate floor. Fill this joint with a continuous bead of GIB® Fire Soundseal when facade fire spread is a design consideration. All sheet edges (vertical, horizontal and raked) must be fully supported by wall framing.

Bottom edges of the sheets at the ground floor bottom plate junction must overhang by 15mm minimum. Cavity closers, as required, must be installed in conjunction with cavity battens.

Fix soffit framing over the GIB Weatherline® Rigid Air Barrier Systems, once all sheets have been installed and joints have been taped.

### FASTENERS

Screw fix GIB Weatherline® sheets to exterior timber wall framing with GIB® Grabber® 41mm x 6g Ceramic Coated High Thread Screws. GIB® Grabber® 63mm x 8g Ceramic Coated High Thread Screws are available for some multiple layer installations.

Screw fix GIB Weatherline® sheets to the exterior steel wall framing with GIB® Grabber® 32mm x 8g Ceramic Coated Drill Point Screws. GIB® Grabber® 47mm x 8g Ceramic Coated Drill Point Screws are available for some multiple layer installations.

GIB® Grabber® Ceramic Coated Screws can be used for all sheet fixings when covered with GIB Weatherline® Rigid Air Barrier Systems Flashing Tape, a self-adhesive Water Resistive Barrier (WRB) or a structural cavity batten for NZS 3604 Exposure Zones B, C and D.

### FIXING SHEETS

All GIB Weatherline® sheet edges must be fixed to vertical and horizontal framing. The mid-sheet is fixed to studs placed at a maximum of 600mm centres. Screw centres depend on wind loading requirements as set out in this manual. Screw fixings are also required to wall framing at any raked sheet edges. There is no requirement to screw fix sheets to any nogs or any other horizontal mid-sheet framing.

Edge fixing for screws must be a minimum distance of 12mm from bound sheet edges and 18mm from unbound sheet edges (or cut sheet edges).

Ensure screws are not over driven and that the head of the screw finishes flush with the face of the sheet. Where screws have been over driven (and the face liner has been damaged and the core exposed), install a new screw fixing 25mm away and adjacent to the over driven fixing.

### FLASHING AND SILL TAPE INSTALLATION

Once the GIB Weatherline® sheets have been screw fixed in place, GIB Weatherline® Flashing and Sill Tapes are to be installed, as shown within the diagram in this section. It is strongly recommended that horizontal flashing tapes be installed before vertical flashing tapes. Ensure all tape is firmly pressure fitted using a plastic paddle.

Handling and installation instructions are contained inside the centre of each tape roll. It is recommended that you contact your local Building Consent Authority regarding the inspection sequence.

## GIB WEATHERLINE® FLASHING AND SILL TAPE RANGE

GIB Weatherline® branded tapes must be used as part of the systems contained within this manual, to ensure the required level of performance.

### Timber framing

GIB Weatherline® Flashing and Sill Tape application location and width

- mid-sheet vertical stud fasteners 30mm flashing tape (not required for structural batten, screw and tape option)
- bottom plate fasteners 30mm flashing tape
- fasteners beneath soffits or gable end overhangs 30mm flashing tape
- vertical sheet joints 60mm flashing tape
- horizontal sheet joints 100mm flashing tape
- midfloor horizontal sheet joints 100mm flashing tape
- interior/exterior corners 100mm flashing tape
- window & door jambs 90mm frame 150mm flashing tape
- window & door jambs 140mm frame 200mm flashing tape
- window & door sills 90mm frame 150mm sill tape
- window & door sills 140mm frame 200mm sill tape

### Steel framing

GIB Weatherline® Flashing and Sill Tape application location and width

- mid-sheet vertical stud fasteners 30mm flashing tape
- bottom channel fasteners 30mm flashing tape
- fasteners beneath soffits or gable end overhangs 30mm flashing tape
- vertical sheet joints 60mm flashing tape
- horizontal sheet joints 100mm flashing tape
- midfloor horizontal sheet joints 100mm flashing tape
- interior/exterior corners 100mm flashing tape
- window & door jambs 92mm frame 150mm flashing tape
- window & door jambs 150mm frame 200mm flashing tape
- window & door sills 92mm frame 150mm sill tape
- window & door sills 150mm frame 200mm sill tape

## TAPE STORAGE AND HANDLING

GIB Weatherline® Flashing and Sill Tapes should be stored in a dry area, away from heat or direct sunlight, prior to installation.

## SHEET PREPARATION AND TAPE INSTALLATION

Ensure that all sheets are free of sawdust, dirt or any other contaminants which may affect tape adhesion and that they are dry prior to applying the flashing tapes.

Split back tapes allow for easier installation at internal corners, external corners and window openings.

Tape laps – it is recommended wherever possible that any lower tape is overlapped by the tape above. The minimum tape lap is 30mm and must be pressure fitted. It is also strongly recommended that wherever possible horizontal flashing tapes be installed before vertical flashing tapes.

Tape locations – ensure tapes are centrally located over fasteners and joints. Follow the locations as shown in the diagrams within this section.

Pressure fitted – all tapes must be firmly pressure fitted along the length using the plastic paddle (as supplied).

Wrinkles/bubbles – all wrinkles or bubbles must be pressed out using the plastic paddle. Any upward facing wrinkles must be pressed tight and flat – install another appropriately sized piece of tape over wrinkles that can't be flattened out effectively.

## PENETRATIONS

All exposed framing at external joinery openings and meter boxes (or similar) must be covered with GIB Weatherline® Flashing and Sill Tapes.

Once the GIB Weatherline® Flashing and Sill Tapes have been installed, consideration needs to be given to how the air seals between the window and door joinery and the taped openings will be achieved.

External window and door joinery units must be sealed into their openings to prevent airflow carrying water into the building. This air seal can be formed with self-expanding polyurethane foam or a suitable sealant.

The exposed timber of external openings fitted with Altus Smartfit® window and door joinery do not need to be fitted with an airseal or GIB Weatherline® Flashing and Sill Tapes.

### Air seal formed with self-expanding polyurethane foam

Self-expanding polyurethane foams adhere well to GIB Weatherline® Flashing and Sill Tapes. No additional taping of the window and door openings is required before the joinery is installed. To form the air seal, install the polyurethane foam in accordance with the product data sheet. Insert a closed cell polyethelene foam (PEF) backing rod before installing the self-expanding polyurethane foam. This is to ensure that the expanding foam does not bridge to the outside of the wall.

### Air seal formed with sealant

Sealants may not adhere well to GIB Weatherline® Flashing and Sill Tapes. Additional taping of the window and door openings with Tescon Adhiso WS is required before the joinery is installed. Position the Tescon Adhiso WS Tape in the opening so that the centreline of the tape aligns with the centreline of the sealant that will be used to form the air seal (refer detail GWL036 - p58).

Ensure that all GIB Weatherline® Flashing and Sill Tapes are dry and free of sawdust, dirt or any other contaminants which may affect the adhesion of the Tescon Adhiso WS Tape. If required, wipe down the surfaces with a clean rag before commencing installation of the tape. Once the joinery has been installed, the air seal can be formed by installing sealant in accordance with the manufacturer's instructions.

Install a closed cell polyethelene foam (PEF) backing rod before installing the sealant. This is to ensure that the sealant does not bridge to the outside of the wall.

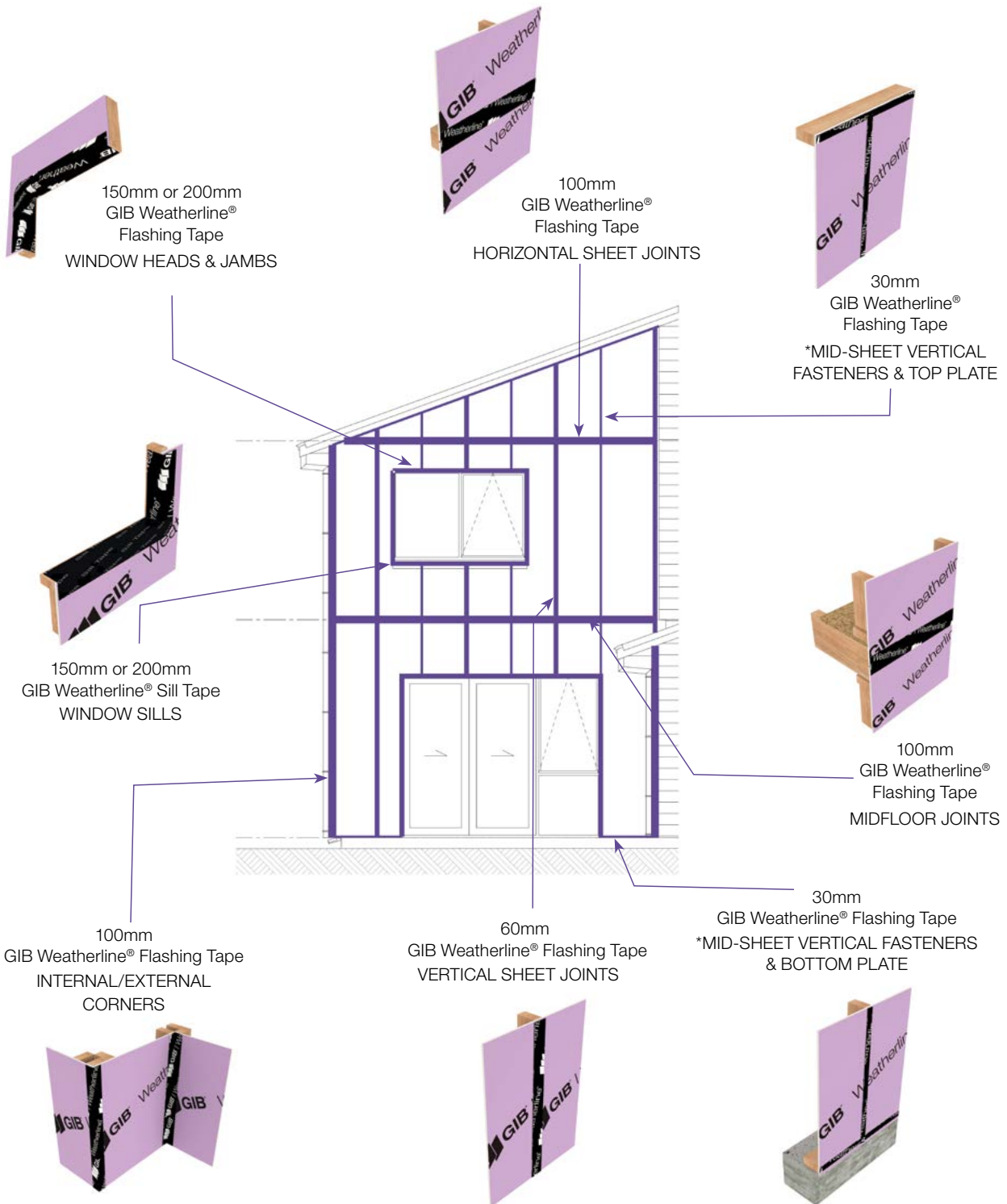
### Building service penetrations

Building services penetrating any of the GIB Weatherline® Rigid Air Barrier Systems must be sealed using the Proclima Kaflex or Roflex penetration seal grommets. Ensure all Proclima installation instructions are followed.

## HOW TO VIDEOS

For more information, call the GIB® Helpline on 0800 100 442 or go to [gib.co.nz](http://gib.co.nz). Helpful 'How-to' installation videos are available on the website and the GIB® app.

FLASHING AND SILL TAPE LOCATION DIAGRAM

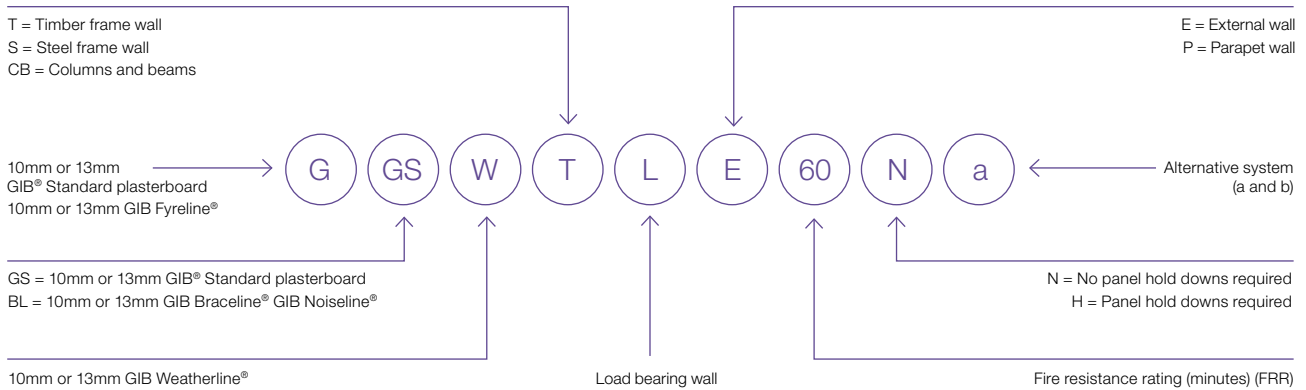


\*Note: Flashing tape to mid-sheet vertical fasteners not required when fasteners are covered with a structural cavity batten.



# Design considerations

## Specification reference example



## SCOPE OF USE

GIB Weatherline® Rigid Air Barrier Systems are designed to provide a NZBC compliant rigid air barrier exclusively for drained and vented cavity cladding systems (used in place of a flexible wall underlay), where they function as an air barrier and as an effective secondary line of defence against water penetration into the building interior.

The systems have been designed both as a rigid air barrier and as temporary weather protection, for the exterior of a building (in conjunction with fully installed roof, soffit linings and exterior joinery) for a period up to 180 days, prior to the installation of the exterior cladding. They are designed for use in buildings designed within the scope of NZS 3604, E2/AS1 or elements may be incorporated into specific engineering design.

GIB Weatherline® Rigid Air Barrier Systems also provide structural bracing and fire protection performance and assist in the reduction of external environmental noise.

## DESIGN RESPONSIBILITY

Responsibility for the design and detailing of the building incorporating GIB Weatherline® Rigid Air Barrier Systems lies with the building owner and the parties that they engage for design services. The Designer and Specifier for the building must ensure that all products and details in the drawings and specification that relate to the GIB Weatherline® Rigid Air Barrier Systems are relevant to the intended application. They must also ensure that additional information is provided for any aspects of construction that fall outside the scope and specifications of this literature, or that incorporate specific design requirements.

## USE ONLY THE CURRENT SPECIFICATION

This manual may be superseded by a new publication. Winstone Wallboards Ltd accepts no liability for reliance upon publications that have been superseded. You should check the current index of publications contained in your GIB® Technical Manual before using this publication. If you are unsure whether this is the current publication, call the GIB® Helpline on 0800 100 442 or go to [gib.co.nz](http://gib.co.nz)

## LIABILITY

Winstone Wallboards Ltd accepts no liability if the GIB Weatherline® Rigid Air Barrier Systems are not designed and installed in strict accordance with instructions contained in this manual, or any other technical information associated with the systems.

## BEWARE OF SUBSTITUTION

The performance of GIB Weatherline® Rigid Air Barrier Systems requires accurate design detailing and construction practices. All GIB® Systems have been developed specifically for New Zealand conditions and independently tested, assessed or appraised, to ensure the required level of performance. It is important to use GIB® components where specified and to closely follow the specified design details and construction practices, to be confident that the required level of performance and quality is achieved on site.

## NZBC CLAUSE B1 – STRUCTURE

The design and material specification for framing used in conjunction with this manual must be in accordance with NZS 3604 and for specific design, with NZS 3603 and AS/NZS 1170.

## BRACING

The GIB Weatherline® Rigid Air Barrier Structural Bracing Systems in this manual are suitable to meet wind and earthquake bracing demand when constructed in accordance with NZS 3604.

## WIND LOADINGS

GIB Weatherline® Rigid Air Barrier Systems have been tested to Extra High wind zone as defined in NZS 3604. For buildings outside the scope of NZS 3604 refer to tables 3, 4 and 5 for framing requirements, fastener type and fixing centres.

## BUILDING MOVEMENT

Design and detailing of the building must take into account movement of the building structure that may affect the installation and performance of GIB Weatherline® Rigid Air Barrier Systems.

Unless specifically designed, a 10mm gap between sheets must be incorporated at the horizontal joints occurring at a building mid or intermediate floor, to facilitate potential movement of the structure.

Cavity battens are discontinuous and cladding systems must include a control joint coinciding with the GIB Weatherline® control joint or be designed to accommodate any movement at these locations.

Where the building is outside the scope of NZS 3604 and may be subject to potential movement under various loads, movement control joints and fixings must be specifically designed by a suitably qualified professional.

## NZBC CLAUSES C1-C6 – PROTECTION FROM FIRE

GIB Weatherline® Rigid Air Barrier Systems can be used to provide passive fire protection in accordance with the requirements of NZBC Clauses C1-C6 – Protection from Fire.

### C3.5 Limiting vertical fire spread

#### Combustibility

GIB Weatherline® is a non-combustible material with an A1 classification in accordance with BS EN 13501-1:2018.

#### Multi-level buildings less than 10m in height

NZBC Acceptable Solution C/AS2 and associated MBIE Guidance Revision 2: 2020 do not contain specific requirements for external walls and cladding systems for multi-level buildings less than 10 metres in height.

Where a rigid air barrier is required or preferred, our recommendation for these applications is specification GWTL 30 for timber framed external walls unless a higher FRR is required.

#### Multi-level buildings over 10m in height and less than 25m

NZBC Acceptable Solution C/AS2 and associated MBIE Guidance Revision 2: 2020 impose combustibility limits on cladding materials, including the rigid air barrier. There are no additional requirements for the supporting framing to be protected or to have an FRR.

At Winstone Wallboards we believe that it is appropriate to include framing 'robustness' for these applications. Unless a higher FRR is required, our recommendation is specification GWTL 60a for timber framed external walls, or GWSE 60 for non-loadbearing steel stud framing, additionally clad with compliant cladding materials.

#### Multi-level buildings over 25m in height

NZBC Acceptable Solution C/AS2 and associated MBIE Guidance Revision 2: 2020 impose combustibility limits on cladding materials, including the rigid air barrier. In addition, the MBIE Guidance states that timber framing may be used if protected with a robust limited combustibility lining that can be shown to prevent framing char for 30 minutes when exposed to the test conditions of AS 1530.4.

Unless a higher FRR is required, our recommendation is specification GWTL 60b for timber framed external walls, or GWSE 60 for non-loadbearing steel stud framing, additionally clad with compliant cladding materials.

Alternatively, compliance can be achieved if the complete external wall is subjected to medium or large-scale fire testing. For tested systems with a 13mm GIB Weatherline® substrate see [www.gib.co.nz/weatherline](http://www.gib.co.nz/weatherline)

### C3.7 Covering the ignitability of external wall cladding materials

GIB Weatherline® has an A1 non-combustible classification and can be used as a substrate on timber or steel framing behind otherwise compliant cladding materials for buildings located less than 1.0m from a relevant boundary in accordance with NZBC C/AS2 and associated MBIE Guidance Revision 2:2020.

## NZBC CLAUSE E2 – EXTERNAL MOISTURE

GIB Weatherline® Rigid Air Barrier Systems meet the NZBC requirements for rigid underlays (rigid air barriers) as an Alternative Solution proprietary system as outlined in E2/AS1 section 9.1.4, 9.1.7.2 and the performance requirements of Table 23 'Properties of roof underlays and wall underlays'.

## NZBC CLAUSE F2 – HAZARDOUS BUILDING MATERIALS

Under normal conditions of use and serviceable life the products detailed in this manual meet the provisions of the NZBC Clause F2 and do not constitute a health hazard.

There are no harmful components in GIB Weatherline® Rigid Air Barrier Systems and no specific requirements other than normal safe handling practices associated with gypsum plasterboard, which are covered in the current edition of the GIB® Site Guide. Cutting and fixing is easy with no harmful dust created.

There are no special requirements for the disposal of waste.

Ensure safe working practices are always followed when handling and installing GIB Weatherline® Rigid Air Barrier Systems.

**For further information, refer to Material Safety Data Sheets available online from [gib.co.nz](http://gib.co.nz)**



## NZBC CLAUSE B2 – DURABILITY

Under the conditions of use set out in this manual, GIB Weatherline® Rigid Air Barrier Systems comply with NZBC Clause B 2.3.1(a) and will continue to satisfy their performance requirements for no less than 50 years when used as a substrate behind cladding systems with a service life of no less than 50 years.

When the expected service life of the cladding system is less than 50 years, but more than 15 years, the durability of GIB Weatherline® Rigid Air Barrier Systems depends on the cladding being maintained or replaced as appropriate to ensure its ongoing weather-tightness performance.

GIB Weatherline® is a 10mm or 13mm thick sheet with a water and mould resistant fibreglass reinforced gypsum core and a water resistant synthetic glass fibre sheet facing on both sides. Sheets are screw fixed to the outside face of a timber or steel frame with all vertical and horizontal joints, and penetrations covered with a weathertight flashing tape.

## TEMPORARY WEATHER EXPOSURE

Weatherline® Rigid Air Barrier Systems are designed to resist typical New Zealand weather conditions for a period of up to 180 days before the cladding system is installed. Water from a roof or suspended floor should be directed away from the GIB Weatherline® until sufficient drainage is installed.

To ensure long term durability of GIB Weatherline® Rigid Air Barrier Systems all openings and penetrations must be properly flashed and sealed.

## MOULD RESISTANCE

Both 10mm and 13mm GIB Weatherline® exhibit anti-microbial performance, making these products particularly suited for use in drained and vented cavity cladding systems. In laboratory testing, no mould growth was observed. This reduces the risk of infectious agents growing on the sheet surface should any moisture be present. This mould resistance helps ensure a cleaner, healthier environment.

It should be noted that this standard testing (dry film fungal resistance) was conducted in a laboratory environment against a selected strain of micro-organisms (nine different types including *Stachybotrys chartarum*). The mixed spore suspension prepared from fungi was spray inoculated onto the dry sample surfaces. When dry, the samples are suspended in a high humidity cabinet for four weeks under specified conditions favourable for fungal growth. The resultant fungal growth on the surface is assessed visually and microscopically at the end of the test duration.

The dry film fungal challenge test results indicate that there was no fungal growth on either the face or back side of the GIB Weatherline® sheets. The variety of potential microbes that products like GIB Weatherline® could be exposed to outside of laboratory conditions is vast and cannot be replicated in the laboratory environment.

## WATER RESISTIVE BARRIERS

If an open joint or rain screen cladding system is used the GIB Weatherline® Flashing Tapes must be replaced with a self adhesive Water Resistive Barrier (WRB). It is important to check that the self adhesive WRB is compatible with GIB Weatherline® and the type of cladding system being used.

GIB Weatherline® is widely accepted as a suitable substrate for a self adhesive WRB. Any self adhesive WRB attached to GIB Weatherline® must have a water vapour resistance  $\leq 3.0$  MNs/g when tested to ASTM E96-B. Independent testing of commonly available WRBs adhered to 10mm and 13mm GIB Weatherline® show water vapour resistance performance levels that comfortably comply with NZBC E2/AS1 Table 23 (Properties of roof underlays and wall underlays).



**Gypsum sheathing has been widely used for many years in harsh overseas climates.**

## SUSTAINABILITY AND ENVIRONMENT

Winstone Wallboards Ltd is committed to protecting the environment. Environmental planning is integrated into all our business activities:

- Our operations strive to exceed all environmental regulatory requirements at all times.
- Protection of the environment is a day to day responsibility that we must all accept.
- We allocate management time and resources to address relevant environmental issues and continuously improve our activities in that area.
- We will achieve our standards through positive action, employee involvement and constant communication with our neighbours, local authorities and customers.

## MAINTENANCE AND REPAIR

GIB Weatherline® Rigid Air Barrier Systems will not normally require maintenance. However, if damage occurs to the installed system prior to the installation of the exterior cladding system, this damage must be repaired.

If the exterior cladding system installed over GIB Weatherline® Rigid Air Barrier Systems is damaged, repairs or replacement should be carried out immediately to ensure the GIB Weatherline® Rigid Air Barrier System is completely protected from the elements.

Minor damage to the external surface of a sheet (where the face liner has been damaged and the core exposed) can be repaired with the application of suitably sized sections of 100mm or 60mm GIB Weatherline® Flashing Tape.

More extensive damage will require the replacement of the damaged section with a patch of GIB Weatherline® sheet cut to size and GIB Weatherline® Flashing Tape applied to all horizontal and vertical joints formed by the patch.

Damage to sheets in a bracing or fire system require a minimum of 300mm strip to be replaced and all edges formed over solid framing and sealed with GIB Weatherline® Flashing Tape.

## STOPPING AND PAINTING GIB WEATHERLINE®

Sometimes GIB Weatherline® will be installed in dry internal conditions. In other situations, the product will be temporarily exposed to the elements during construction, but then after the building is closed in the GIB Weatherline® will be in a dry internal environment and within view. In these circumstances the design may call for GIB Weatherline® to be decorated like other GIB® plasterboards.

If stopping and painting of GIB Weatherline® is anticipated, make sure section 1.4 of the GIB® Site Guide covering Levels of Finish is read and understood before product is installed. The expectation of a Level 5 finish might not be realistic for GIB Weatherline® that was installed on exposed timber framing and/or following periods of outdoor exposure.

If GIB Weatherline® Flashing Tapes have been required during outdoor exposure it is unlikely that an acceptable quality of paint finish can be achieved. In this case a minimum 10mm GIB® Standard overlay could be considered prior to stopping and painting.

## Stopping

Once the building is fully closed in the timber framing moisture content must be 18% or less, and the GIB Weatherline® must be thoroughly clean and dry, prior to starting any stopping or painting.

After a period of exposure and timber drying induced shrinkage, check fasteners for 'popping' and re-set just below the surface as required. Replace sheets with visible damage. Ensure sheets are touch fitted.

GIB® Compounds and Trims are suitable for use with GIB Weatherline®. Reinforce joints with either GIB® Paper Tape or GIB RocTape® and use a setting compound, such as GIB Tradeset® 90, for the first and second coats. For the final topcoat use an air-drying compound, such as GIB Trade Finish® Multi.

GIB Weatherline® is manufactured with square edges. This means that plastered sheet joints may need to be feathered out to achieve a suitably flat joint. A plaster width of 600mm may be required for a good level of finish, or skim-coat the entire GIB Weatherline® surface with an air-drying compound such as GIB Trade Finish® Multi.

## Painting

GIB Weatherline® can be finished with acrylic or oil-based paints. A minimum of three coats is recommended to fully disguise the GIB Weatherline® sheet markings.

Roller application is the preferred method when painting GIB Weatherline®. When spray painting is used, we recommend back rolling the final coat as described in AS/NZS 2589:2017.

## COMPLETION AND EXPOSURE

GIB Weatherline®, including tape installation, must be completed in a timely sequence when the sheet material is dry. Installed sheets must not be left without tape when extreme wet or windy conditions can be reasonably expected.

The cladding system must be installed within 180 days of the GIB Weatherline® installation.



## Structural batten, screw and tape fixing – NZS 3604

GIB Weatherline® can resist pressures from wind passing over a building provided the following conditions are met:

- Sheet thickness, sheet fixing centres and framing centres are in accordance with Table 1.
- GIB Weatherline® sheets, including installation of tapes or self-adhesive WRBs, are completed in a timely manner when sheet material is dry. Installed sheet joints and fasteners must not be left unprotected when wet or windy conditions can reasonably be expected.
- After installation GIB Weatherline® must not be left exposed for more than 180 days.

### NZS 3604 – STRUCTURAL BATTEN, SCREW AND TAPE

This fixing method is suitable for use with a drained vented cavity cladding system that incorporates a structural cavity batten.

#### FRAMING

All timber framing sizes and set out must comply with NZS 3604 or be specifically designed to NZS 3603 and AS/NZS 1170. Timber framing preservative treatment must comply with the NZBC and any relevant NZ Standard.

All wall framing studs must be at a maximum of 400mm or 600mm centres (as set out in Table 1) and must be true and plumb. The minimum framing width is 45mm.

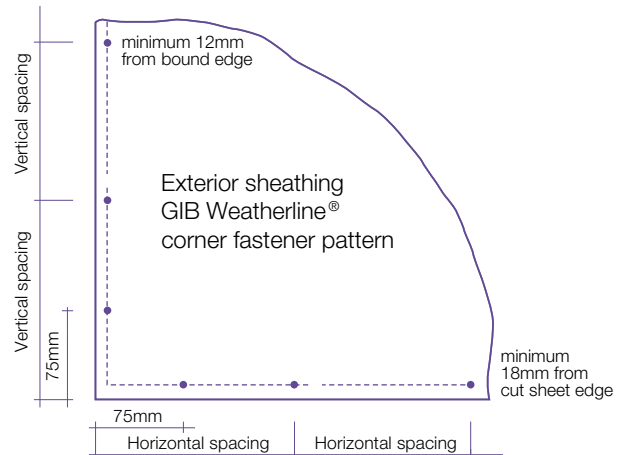
#### FIXING SHEETS

Refer to the Installation section for fastener details.

All GIB Weatherline® sheet edges must be fixed to vertical and horizontal framing. The mid-sheet must be fixed to studs at either 400mm or 600mm maximum (as set out in Table 1). Screw fixings are also required to wall framing at any raked sheet edges. There is no requirement to screw fix sheets to any nogs or any other horizontal mid-sheet framing.

Edge fixing for screws must be a minimum distance of 12mm from bound sheet edges and 18mm from unbound sheet edges (or cut sheet edges).

Ensure screws are not over driven and that the head of the screw finishes flush with the face of the sheet. Where screws have been over driven (and the face liner has been damaged and the core exposed), install a new screw fixing 25mm away and adjacent to the over driven fixing.



### STRUCTURAL CAVITY BATTENS

Timber cavity battens must be minimum H3.1 treated, no smaller than 45 x 18mm. Fixing is with 75 x 3.15mm galvanised jolt head nails or 75 x 3.06mm D Head power-driven galvanised nails, or as required by specific cladding types.

Timber battens are fixed to studs behind at no more than 300mm centres vertically, staggered 12mm either side of the batten centreline.

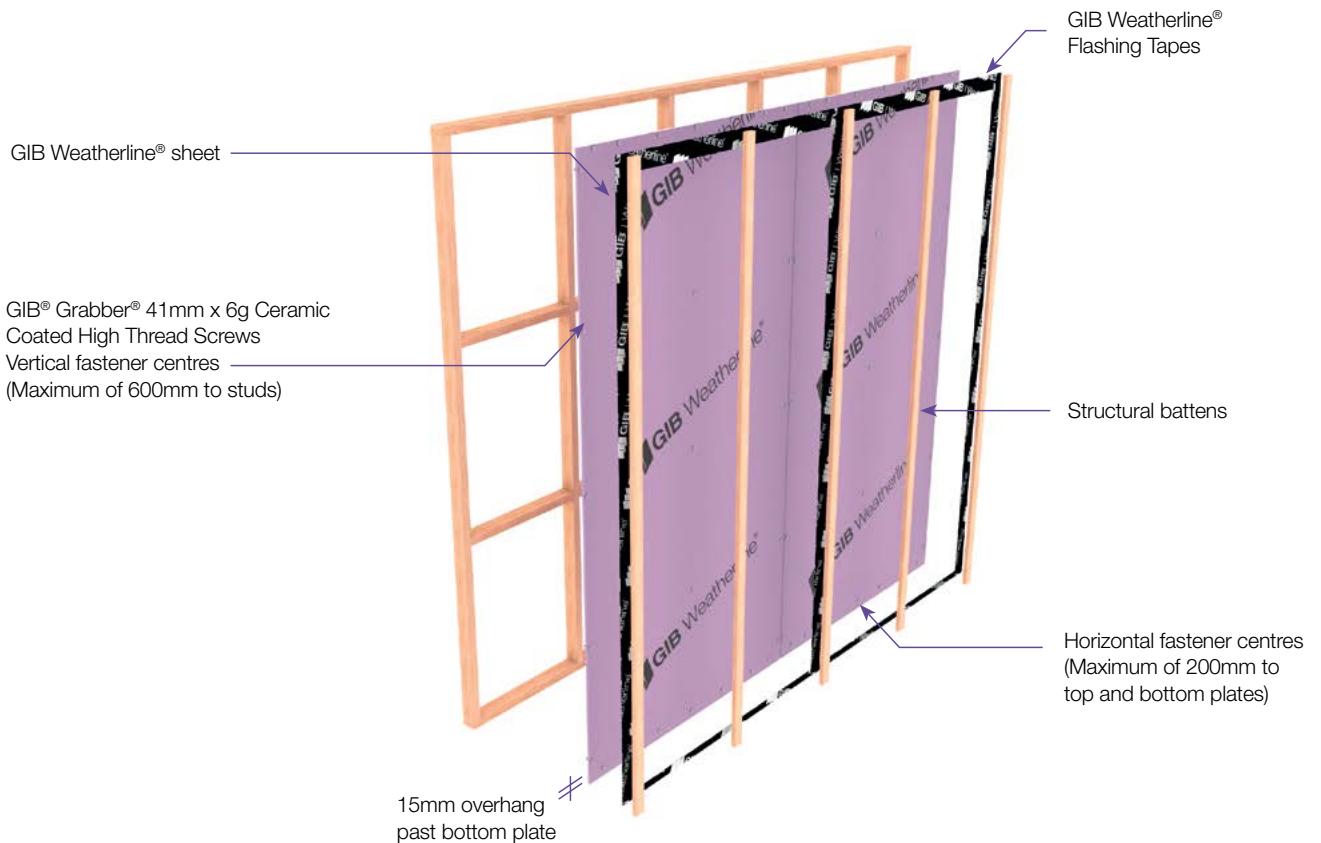
Alternatively use verified proprietary structural cavity battens.

**Table 1: NZS 3604 applications**

GIB Weatherline® – Structural batten, screw & tape		
Wind Zone	Stud Centres	
	400mm	600mm
	<b>VERTICAL SCREW FIXING CENTRES (MAXIMUM)</b>	
L	600mm	600mm
M	600mm	600mm
H	600mm	600mm
VH	600mm	SED
EH	600mm	SED
SED	SED	SED
	<b>HORIZONTAL SCREW FIXING CENTRES (TOP AND BOTTOM OF SHEETS)</b>	
ALL	200mm	200mm

SED = Specific Engineering Design

1. All screw fixings to be taped, apart from mid-sheet vertical screw fixings when covered by a structural cavity batten.
2. Screw fixings to commence 75mm in from sheet corners.
3. H3.1 treated timber structural cavity battens to be fixed at 300mm centres.



## Screw and tape fixing – NZS 3604

GIB Weatherline® can resist pressures from wind passing over a building provided the following conditions are met:

- Sheet thickness, sheet fixing centres and framing centres are in accordance with Table 2.
- GIB Weatherline® sheets, including installation of tapes or self-adhesive WRBs, are completed in a timely manner when sheet material is dry. Installed sheet joints and fasteners must not be left unprotected when wet or windy conditions can reasonably be expected.
- After installation GIB Weatherline® must not be left exposed for more than 180 days.

### NZS 3604 – SCREW AND TAPE

This fixing method must be used with brick veneer, with vertical cladding systems on a drained and vented cavity incorporating horizontal cavity battens, and on any other cladding system on a drained cavity where cavity battens are not structural.

Due to the lack of fixing provided by the structural cavity battens, the ‘screw and tape’ method incorporates significantly closer screw fixing centres.

### FRAMING

All timber framing sizes and set out must comply with NZS 3604 or be specifically designed to NZS 3603 and AS/NZS 1170. Timber framing preservative treatment must comply with the NZBC and any relevant NZ Standard.

All wall framing studs must be at a maximum of 400mm or 600mm centres (as set out in Table 2) and must be true and plumb. The minimum framing width is 45mm.

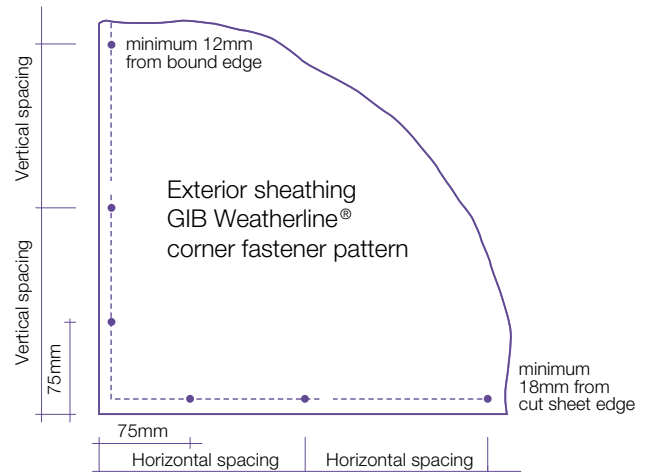
### FIXING SHEETS

Refer to the Installation section for fastener details.

All GIB Weatherline® sheet edges must be fixed to vertical and horizontal framing. The mid-sheet must be fixed to studs at either 400mm or 600mm maximum (as set out in Table 2). Screw fixings are also required to wall framing at any raked sheet edges. There is no requirement to screw fix sheets to any nogs or any other horizontal mid-sheet framing.

Edge fixing for screws must be a minimum distance of 12mm from bound sheet edges and 18mm from unbound sheet edges (or cut sheet edges).

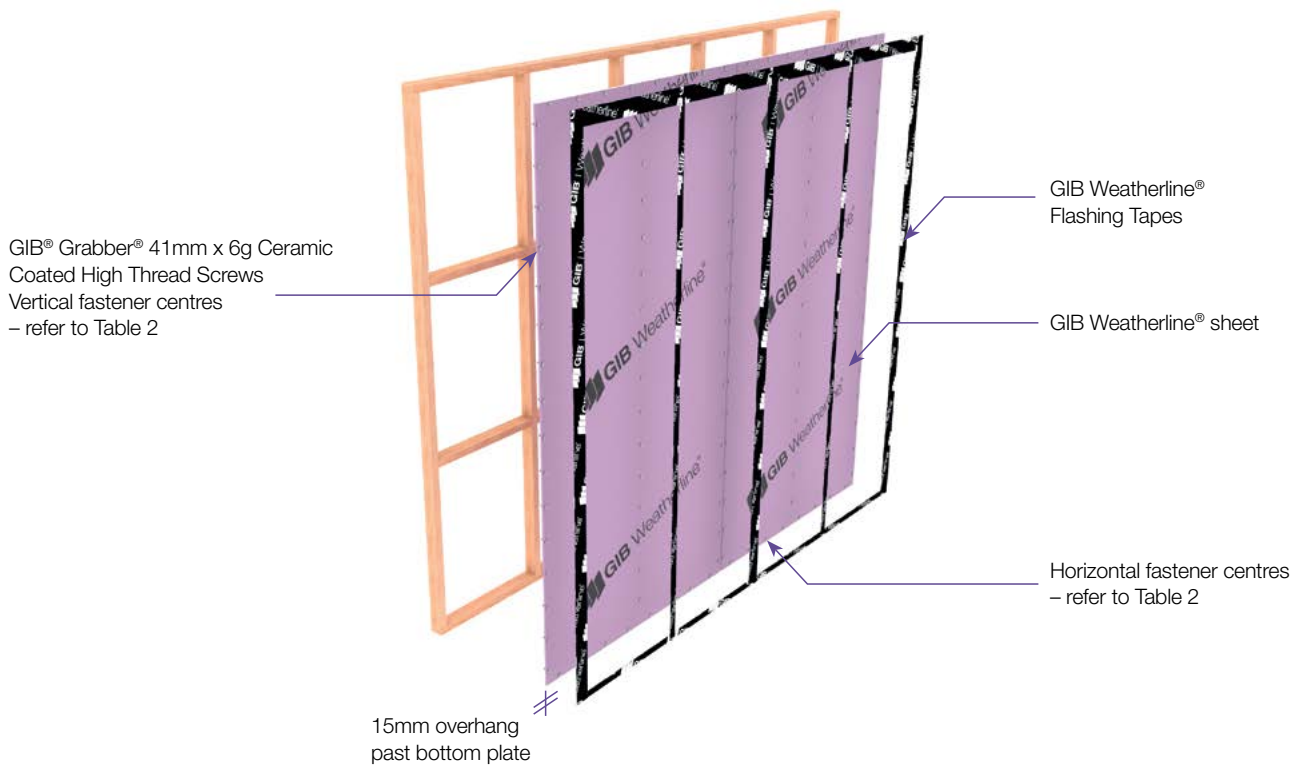
Ensure screws are not over driven and that the head of the screw finishes flush with the face of the sheet. Where screws have been over driven (and the face liner has been damaged and the core exposed), install a new screw fixing 25mm away and adjacent to the over driven fixing.



**Table 2: NZS 3604 applications**

GIB Weatherline® – Screw & tape		
Wind Zone	Stud Centres	
		400mm
	<b>VERTICAL AND HORIZONTAL SCREW FIXING CENTRES (MAXIMUM)</b>	
L	300mm	200mm
M	200mm	150mm
H	200mm	100mm
VH	150mm	SED
EH	100mm	SED
SED	SED	SED

- SED = Specific Engineering Design
1. All screw fixings to be taped
  2. Screw fixings to commence 75mm in from sheet corners



## Screw and tape fixing – SED

GIB Weatherline® can resist pressures from wind passing over a building provided the following conditions are met:

- Sheet thickness, sheet fixing centres and framing centres are in accordance with Table 3.
- GIB Weatherline® sheets, including installation of tapes or self-adhesive WRBs, are completed in a timely manner when sheet material is dry. Installed sheet joints and fasteners must not be left unprotected when wet or windy conditions can reasonably be expected.
- After installation GIB Weatherline® must not be left exposed for more than 180 days.

### SED APPLICATIONS

Buildings outside the scope of non-specific design standards such as NZS 3604, require Specific Engineering Design (SED). This includes the determination of design site wind speeds and associated positive and negative wind pressures that act on building components such as claddings and substrates. Associated GIB Weatherline® fixing details are presented in the following tables. The fixing details apply to both timber and steel framing.

### FRAMING

All timber framing sizes and set out must comply with NZS 3604 or be specifically designed to NZS 3603 and AS/NZS 1170. Timber framing preservative treatment must comply with the NZBC and any relevant Standard. The minimum framing width is 45mm.

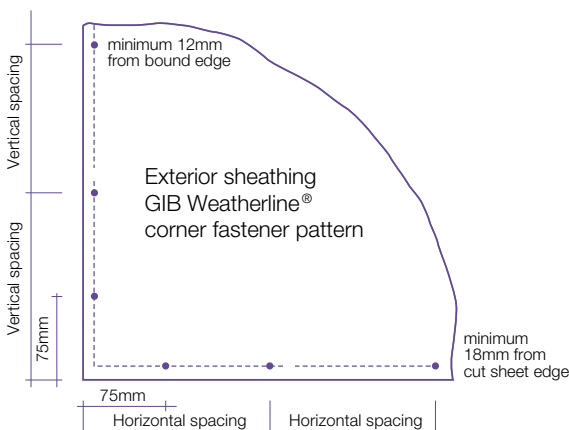
Steel framing in accordance with NASH Standard Part 2 Light Steel Framed Buildings 2019 or by SED. Minimum framing width is 34mm with a minimum BMT of 0.75mm.

Wall framing studs are placed at a maximum of 600mm centres, and must be true and plumb.

### FIXING SHEETS

Refer to the Installation section for fastener details.

All GIB Weatherline® sheet edges must be fixed to vertical and horizontal framing. The mid-sheet must be fixed to studs at either 400mm or 600mm maximum (as set out in Tables 3, 4 and 5). Screw fixings are also required to wall framing at any raked sheet edges. There is no requirement to screw fix sheets to any nogs or any other horizontal mid-sheet framing.



Edge fixing for screws must be a minimum distance of 12mm from bound sheet edges and 18mm from unbound sheet edges (or cut sheet edges).

Ensure screws are not over driven and that the head of the screw finishes flush with the face of the sheet. Where screws have been over driven (and the face liner has been damaged and the core exposed), install a new screw fixing 25mm away and adjacent to the over driven fixing.

The following tables give screw centres required for various GIB Weatherline® options to safely resist listed 1:100 year return period ULS design wind pressures.

When using timber framing use GIB Weatherline® Ceramic Coated High Thread Screws and when using steel framing use GIB Weatherline® Ceramic Coated Drill Point Screws.

The fixing centres listed in Tables 3, 4 and 5 have been determined in accordance with the prototype testing procedures given in AS/NZS 1170.0 2002.

**Table 3: SED applications**

10mm GIB Weatherline® – Screw and tape		
Design Wind Pressure (Pa)	Stud Centres	
	400mm	600mm
VERTICAL AND HORIZONTAL SCREW FIXING CENTRES (MAXIMUM)		
500	300mm	300mm
1000	250mm	150mm
1500	175mm	100mm
2000	125mm	SED
2500	100mm	SED
3000	SED	SED
3500	SED	SED
4000	SED	SED

SED = Specific Engineering Design

1. All screw fixings to be protected by GIB Weatherline® Flashing Tape or a Water Resistant Barrier (WRB).
2. Screw fixings to commence 75mm in from sheet corners



**Table 4: SED applications**

<b>13mm GIB Weatherline® – Screw and tape</b>		
<b>Design Wind Pressure (Pa)</b>	<b>Stud Centres</b>	
	400mm	600mm
	<b>VERTICAL AND HORIZONTAL SCREW FIXING CENTRES (MAXIMUM)</b>	
500	300mm	300mm
1000	300mm	225mm
1500	250mm	150mm
2000	200mm	100mm
2500	150mm	<b>SED</b>
3000	125mm	<b>SED</b>
3500	100mm	<b>SED</b>
4000	100mm	<b>SED</b>

SED = Specific Engineering Design

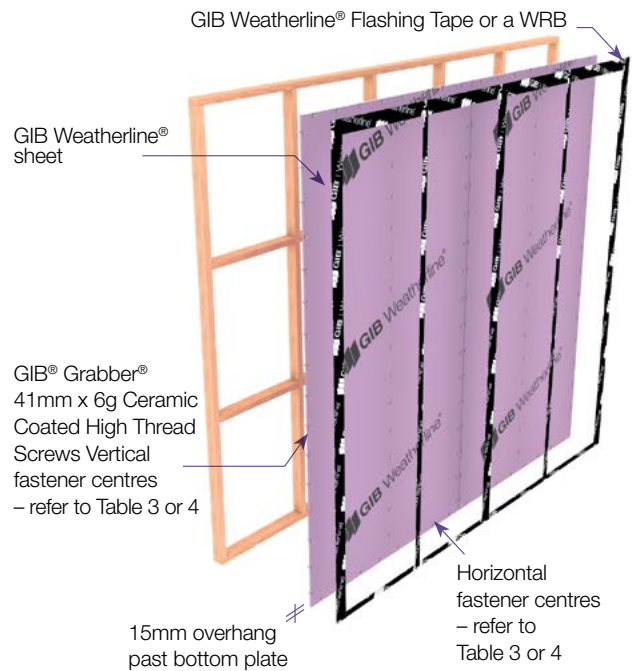
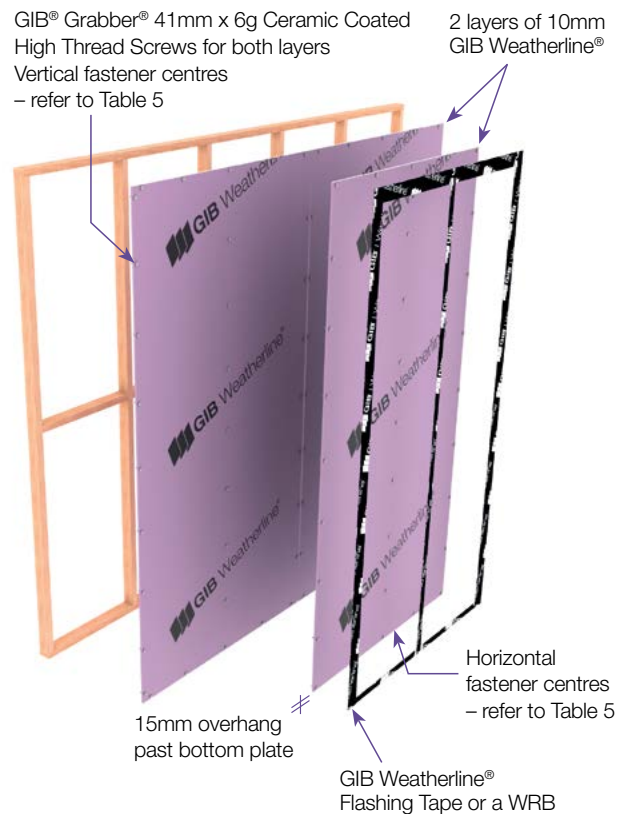
- All screw fixings to be protected by GIB Weatherline® Flashing Tape or a Water Resistive Barrier (WRB).
- Screw fixings to commence 75mm in from sheet corners

**Table 5: SED applications**

<b>2 layers of 10mm GIB Weatherline® – Screw and tape</b>		
<b>Design Wind Pressure (Pa)</b>	<b>Stud Centres</b>	
	400mm	600mm
	<b>INNER LAYER VERTICAL SCREW FIXING CENTRES (MAXIMUM) FOR ALL DESIGN WIND PRESSURES</b>	
	300mm	300mm
	<b>OUTER LAYER VERTICAL AND HORIZONTAL SCREW FIXING CENTRES (MAXIMUM)</b>	
500	300mm	300mm
1000	250mm	150mm
1500	175mm	100mm
2000	125mm	<b>SED</b>
2500	100mm	<b>SED</b>
3000	<b>SED</b>	<b>SED</b>
3500	<b>SED</b>	<b>SED</b>
4000	<b>SED</b>	<b>SED</b>

SED = Specific Engineering Design

- All screw fixings to be protected by GIB Weatherline® Flashing Tape or a Water Resistive Barrier (WRB).
- Inner layer screw fixings to commence 20mm in from sheet corners.
- Outer layer screw fixings to commence 75mm in from sheet corners

**SINGLE 10MM OR 13MM GIB WEATHERLINE®**

**TWO LAYERS 10MM GIB WEATHERLINE®**




## Structural bracing

### GIB EZYBRACE® SYSTEMS

GIB EzyBrace® Systems include four bracing elements that incorporate GIB Weatherline® sheets. The bracing resistance is the same for both 10mm and 13mm GIB Weatherline® sheets. For more information relating to GIB EzyBrace® Systems, refer to the GIB EzyBrace® Systems Specification and Installation Manual.

The GIB EzyBrace® Specification Numbering System (and sub-components thereof) is protected by copyright and makes specification and identification of GIB EzyBrace® Systems transparent.

- ‘GS’ stands for GIB® Standard
- ‘BL’ for GIB Braceline® GIB Noiseline®
- ‘W’ for GIB Weatherline®
- ‘N’ for ‘no specific panel hold-down fixings’
- ‘H’ for ‘specific panel hold-down fixings required’

Where specific panel hold-down fixings are specified, refer to the GIB EzyBrace® Systems Specification and Installation Manual. GIB HandiBrac® is fully contained within the framing cavity and does not interfere with lining installation and quality of finish.

Where no specific hold-down fixings are required, the minimum NZS 3604 bottom plate fixings apply.

Full bracing element construction details are provided on the specification sheets in this section.

**Table 6: Bracing element selection guide**

Specifying GIB EzyBrace® elements that incorporate GIB Weatherline® (minimum wall length 400mm)	
External walls	Nominate available wall lengths as GSW-N elements Use GSW-H, W-H or BLW-H elements if higher ratings required
Internal walls	Not applicable

**Table 7: Bracing unit ratings for elements that incorporate GIB Weatherline®**

Specification	Minimum length (m)	Lining requirements	Other requirements	BU/m	
				W	EQ
GSW-N	0.4	Interior lining: Any 10mm or 13mm GIB® plasterboard Exterior sheathing: 10mm or 13mm GIB Weatherline®	None	85	75
	1.2			95	85
GSW-H	0.4	Interior lining: Any 10mm or 13mm GIB® plasterboard Exterior sheathing: 10mm or 13mm GIB Weatherline®	Panel hold-down fixings	90	85
	1.2			130*	110
W-H	0.4	Interior lining: None Exterior sheathing: 10mm or 13mm GIB Weatherline®	Panel hold-down fixings	105	100
	1.2			125*	105
BLW-H	0.4	Interior lining: 10mm or 13mm GIB Braceline® GIB Noiseline® Exterior sheathing: 10mm or 13mm GIB Weatherline®	Panel hold-down fixings	105	115
	1.2			150*	145*

\*Timber floors – a limit of 120 BU/m for NZS 3604 timber floors applies unless specific engineering ensures that uplift forces generated by elements rated higher than 120 BU/m can be resisted by floor framing.

### GIB EZYBRACE® CALCULATOR

The GIB EzyBrace® calculator is a software tool to determine wind and earthquake bracing demand and to design the bracing resistance for light timber-framed buildings constructed in accordance with NZS 3604.

The GIB EzyBrace® calculator includes four bracing elements that incorporate GIB Weatherline® sheets. The calculator can be downloaded free of charge by visiting [gib.co.nz/ezybrace](http://gib.co.nz/ezybrace) and can be on either Microsoft® or Apple® Mac environments.

### OPENINGS IN BRACING ELEMENTS

For allowable openings in bracing elements that incorporate GIB Weatherline® sheets, refer to the GIB EzyBrace® Systems Specification and Installation Manual. Larger openings must be placed outside designated bracing elements.

## GIB EzyBrace® Systems specification GSW-N

Specification	Minimum length (m)	Lining requirements
<b>GSW-N</b>	<b>0.4</b>	<b>Interior lining</b> 10mm or 13mm GIB® Standard plasterboard <b>Exterior sheathing</b> 10mm or 13mm GIB Weatherline®

### WALL FRAMING

Wall framing to comply with:

- NZBC B1 – Structure B1/AS1 Clause 3 – Timber (NZS 3604).
- NZBC B2 – Durability: B2/AS1 Clause 3.2 – Timber (NZS 3602).

Framing dimensions and height as determined by NZS 3604 stud and top plate tables for load-bearing and non-load bearing walls. The use of kiln dried stress graded timber is recommended.

### BOTTOM PLATE FIXING

#### Timber floor

Pairs of hand driven 100 x 3.75mm nails at 600mm centres; or three power driven 90 x 3.15mm nails at 600mm centres.

#### Concrete floor

In accordance with the requirements of NZS 3604 for external wall bottom plate fixing.

### WALL LINING / SHEATHING

#### Interior lining

- Any 10mm or 13mm GIB® plasterboard.
- Sheets can be fixed vertically or horizontally.
- Sheets must be fixed to top and bottom plates.
- Sheet joints must be touch fitted.
- Use full length sheets where possible.

#### Exterior sheathing

- 10mm or 13mm GIB Weatherline® sheets.
- Sheets must be fixed vertically.
- Sheets must be fixed to top and bottom plates.
- Vertical sheet joints must be touch fitted.
- Use full length sheets where possible.

### PERMITTED ALTERNATIVES

For permitted GIB® plasterboard alternatives, refer to the GIB EzyBrace® Systems Specification and Installation Manual.

### FASTENING THE LINING / SHEATHING

#### Interior lining fasteners

32mm x 6g GIB® Grabber® High Thread Screws or 32mm x 7g GIB® Grabber® Dual Thread Screws. If using the GIBFix® Angle, use only 32mm x 7g GIB® Grabber® Dual Thread Screws.

#### Exterior sheathing fasteners

41mm x 6g GIB® Grabber® Ceramic Coated High Thread Screws.

#### Interior lining fastener centres

For corner fastening pattern refer to diagrams on the following page. For vertically fixed sheets, place fasteners at 300mm maximum centres to intermediate sheet joints. For horizontally fixed sheets, place single fasteners to the sheet edge where it crosses the stud. Use daubs of GIBFix® adhesive at 300mm maximum centres to intermediate studs. Place fasteners no closer than 12mm from paper bound edges and 18mm from any sheet end or cut edge.

#### Exterior sheathing fastener centres

Fix in accordance with the Wind Loading requirements specified in this technical literature. No additional fixings are required.

### JOINTING

#### Interior lining jointing

Joint strength is important in delivering bracing system performance. All fastener heads must be stopped and all sheet joints GIB® Joint Tape reinforced and stopped in accordance with the GIB® Site Guide.

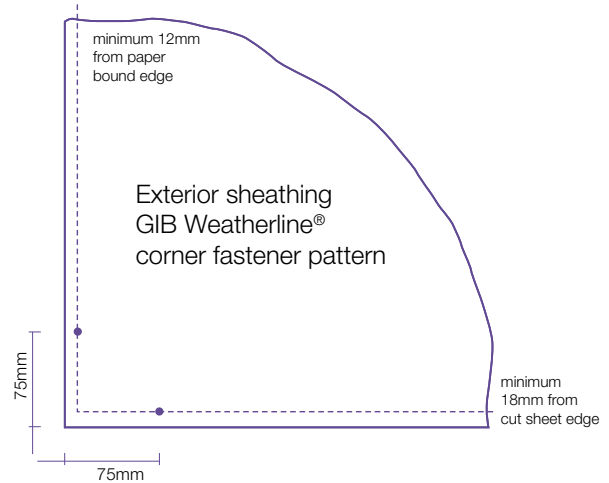
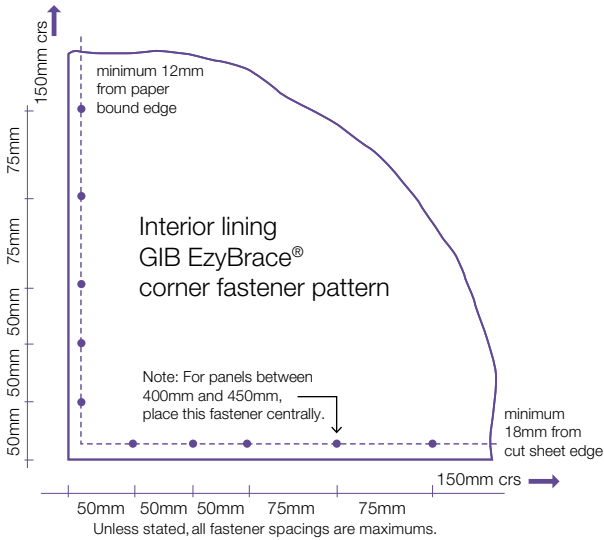
#### Exterior sheathing jointing

No plaster stopping is required. Unless the entire surface is protected with a self-adhesive WRB, all joints and screw fixings must be taped with GIB Weatherline® Flashing Tape. Flashing tape to mid-sheet vertical fasteners is not required when fasteners are covered with a structural cavity batten.

# GIB EzyBrace® Systems specification GSW-N

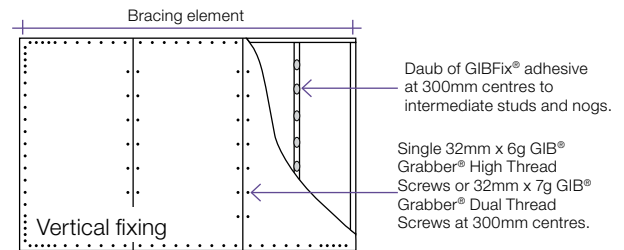
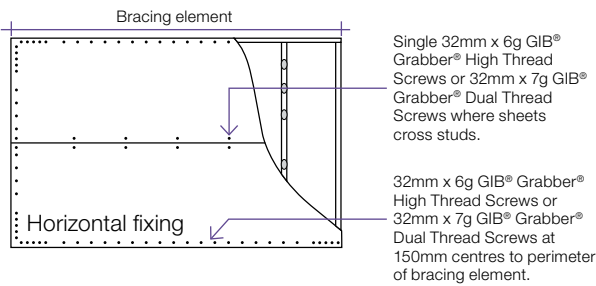
Specification	Minimum length (m)	Lining requirements
GSW-N	0.4	<b>Interior lining</b> 10mm or 13mm GIB® Standard plasterboard <b>Exterior sheathing</b> 10mm or 13mm GIB Weatherline®

## CORNER FASTENING PATTERN



See the wind loading section in this manual for fastening centres.

## INTERIOR SHEET LAYOUT



In order for GIB® systems to perform as tested, all components must be installed exactly as prescribed. Substituting components can produce an entirely different system and may seriously compromise performance. Follow the specifications. This specification sheet is issued in conjunction with the publication GIB EzyBrace® Systems.

# GIB EzyBrace® Systems specification GSW-H

Specification	Minimum length (m)	Lining requirements	Other requirements
GSW-H	0.4	<b>Interior lining</b>	10mm or 13mm GIB® Standard plasterboard
		<b>Exterior sheathing</b>	10mm or 13mm GIB Weatherline®

## WALL FRAMING

Wall framing to comply with:

- NZBC B1 – Structure B1/AS1 Clause 3 – Timber (NZS 3604).
- NZBC B2 – Durability: B2/AS1 Clause 3.2 – Timber (NZS 3602).

Framing dimensions and height as determined by NZS 3604 stud and top plate tables for load-bearing and non-load bearing walls. The use of kiln dried stress graded timber is recommended.

## BOTTOM PLATE FIXING

### Timber floor

Use panel hold downs at each end of the bracing element. The GIB HandiBrac® is recommended. See details in the GIB EzyBrace® Systems Specification and Installation Manual or the GIB® Site Guide. Pairs of hand driven 100 x 3.75mm nails at 600mm centres; or three power driven 90 x 3.15mm nails at 600mm centres

### Concrete floor

Use panel hold downs at each end of the bracing element. The GIB HandiBrac® is recommended. See details in the GIB EzyBrace® Systems Specification and Installation Manual or the GIB® Site Guide. Within the length of the bracing element bottom plates are to be fixed in accordance with the requirements of NZS 3604.

## WALL LINING / SHEATHING

### Interior lining

- Any 10mm or 13mm GIB® plasterboard.
- Sheets can be fixed vertically or horizontally.
- Sheets must be fixed to top and bottom plates.
- Sheet joints must be touch fitted.
- Use full length sheets where possible.

### Exterior sheathing

- 10mm or 13mm GIB Weatherline® sheets.
- Sheets must be fixed vertically.
- Sheets must be fixed to top and bottom plates.
- Vertical sheet joints must be touch fitted.
- Use full length sheets where possible.

## PERMITTED ALTERNATIVES

For permitted GIB® plasterboard alternatives, refer to the GIB EzyBrace® Systems Specification and Installation Manual.

## FASTENING THE LINING / SHEATHING

### Interior lining fasteners

32mm x 6g GIB® Grabber® High Thread Screws or 32mm x 7g GIB® Grabber® Dual Thread Screws. If using the GIBFix® Angle use only 32mm x 7g GIB® Grabber® Dual Thread Screws.

### Exterior sheathing fasteners

41mm x 6g GIB® Grabber® Ceramic Coated High Thread Screws.

### Interior lining fastener centres

For corner fastening pattern refer to diagrams on the following page. For vertically fixed sheets, place fasteners at 300mm maximum centres to intermediate sheet joints. For horizontally fixed sheets, place single fasteners to the sheet edge where it crosses the stud. Use daubs of GIBFix® adhesive at 300mm maximum centres to intermediate studs. Place fasteners no closer than 12mm from paper bound edges and 18mm from any sheet end or cut edge.

### Exterior sheathing fastener centres

Fix in accordance with the Wind Loading requirements specified in this technical literature. No additional fixings are required.

## JOINTING

### Interior lining jointing

Joint strength is important in delivering bracing system performance. All fastener heads must be stopped and all sheet joints GIB® Joint Tape reinforced and stopped in accordance with the GIB® Site Guide.

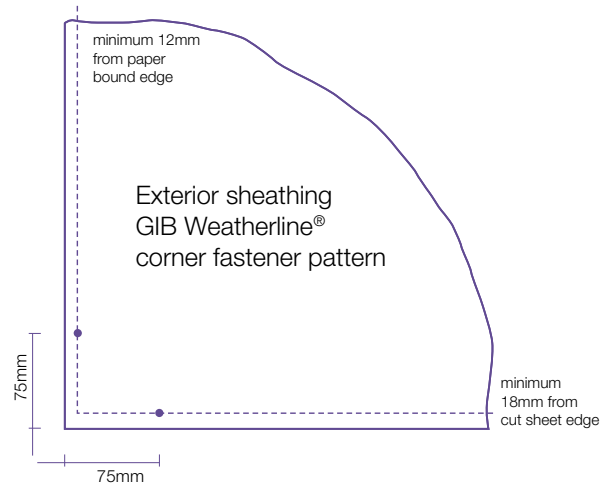
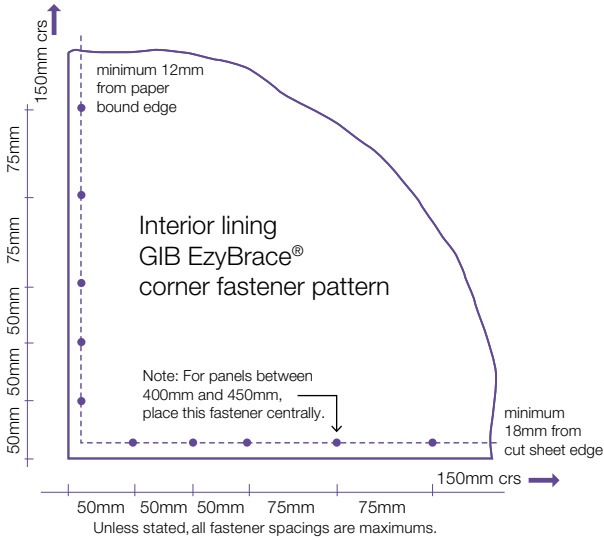
### Exterior sheathing jointing

No plaster stopping is required. Unless the entire surface is protected with a self-adhesive WRB, all joints and screw fixings must be taped with GIB Weatherline® Flashing Tape. Flashing tape to mid-sheet vertical fasteners is not required when fasteners are covered with a structural cavity batten.

# GIB® EzyBrace® Systems specification GSW-H

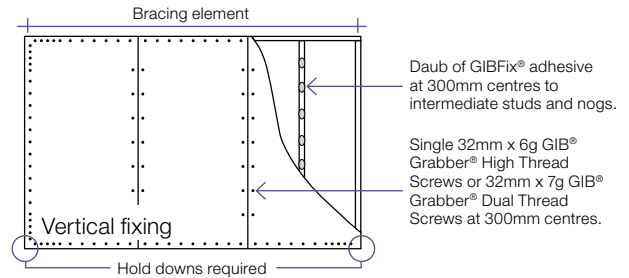
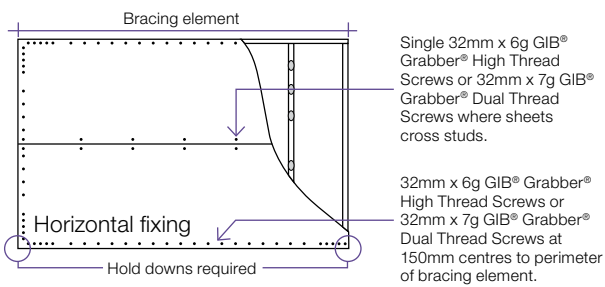
Specification	Minimum length (m)	Lining requirements	Other requirements
GSW-H	0.4	<b>Interior lining</b> 10mm or 13mm GIB® Standard plasterboard <b>Exterior sheathing</b> 10mm or 13mm GIB Weatherline®	Hold downs

## CORNER FASTENING PATTERN



See the wind loading section in this manual for fastening centres.

## INTERIOR SHEET LAYOUT



In order for GIB® systems to perform as tested, all components must be installed exactly as prescribed. Substituting components can produce an entirely different system and may seriously compromise performance. Follow the specifications. This specification sheet is issued in conjunction with the publication GIB EzyBrace® Systems.

## GIB EzyBrace® Systems specification W-H

Specification	Minimum length (m)	Lining requirements	Other requirements
W-H	0.4	<b>Interior lining</b> None <b>Exterior sheathing</b> 10mm or 13mm GIB Weatherline®	Hold downs

### WALL FRAMING

Wall framing to comply with:

- NZBC B1 – Structure B1/AS1 Clause 3 – Timber (NZS 3604).
- NZBC B2 – Durability: B2/AS1 Clause 3.2 – Timber (NZS 3602).

Framing dimensions and height as determined by NZS 3604 stud and top plate tables for load-bearing and non-load bearing walls. The use of kiln dried stress graded timber is recommended.

### BOTTOM PLATE FIXING

#### Timber floor

Use panel hold downs at each end of the bracing element. The GIB HandiBrac® is recommended. See details in the GIB EzyBrace® Systems Specification and Installation Manual or the GIB® Site Guide. Pairs of hand driven 100 x 3.75mm nails at 600mm centres; or three power driven 90 x 3.15mm nails at 600mm centres.

#### Concrete floor

Use panel hold downs at each end of the bracing element. The GIB HandiBrac® is recommended. See details in the GIB EzyBrace® Systems Specification and Installation Manual or the GIB® Site Guide. Within the length of the bracing element bottom plates are to be fixed in accordance with the requirements of NZS 3604.

### WALL LINING / SHEATHING

#### Interior lining

- None.

#### Exterior sheathing

- 10mm or 13mm GIB Weatherline® sheets.
- Sheets must be fixed vertically.
- Sheets must be fixed to top and bottom plates.
- Vertical sheet joints must be touch fitted.
- Use full length sheets where possible.

### FASTENING THE LINING / SHEATHING

#### Exterior sheathing fasteners

41mm x 6g GIB® Grabber® Ceramic Coated High Thread Screws.

#### Exterior sheathing fastener centres

For corner fastening pattern refer to diagram on the following page. Intermediate sheet joints fastener centres must be at 150mm centres maximum or less if wind loading specification requires them to be less. Mid-sheet fasteners must be at 300mm centres maximum or less if wind loading specification requires them to be less.

### JOINTING

#### Exterior sheathing jointing

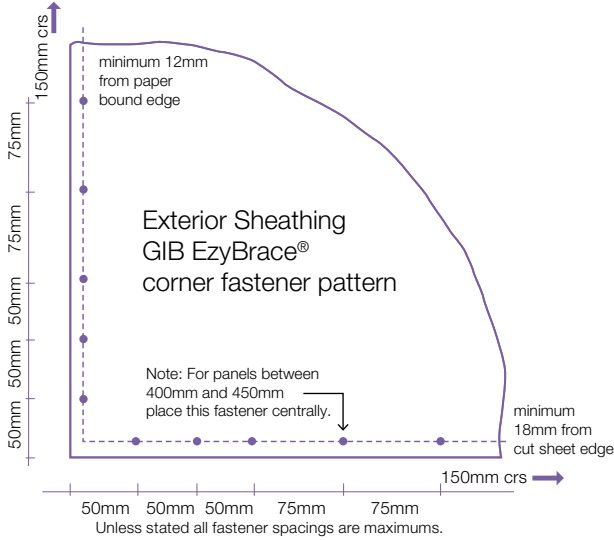
No plaster stopping is required. Unless the entire surface is protected with a self-adhesive WRB, all joints and screw fixings must be taped with GIB Weatherline® Flashing Tape. Flashing tape to mid-sheet vertical fasteners is not required when fasteners are covered with a structural cavity batten.



## GIB EzyBrace® Systems specification W-H

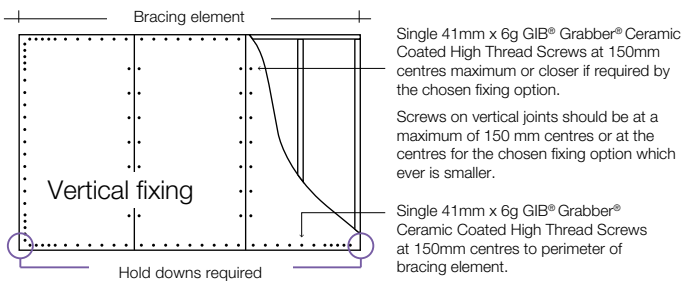
Specification	Minimum length (m)	Lining requirements	Other requirements
W-H	0.4	<b>Interior lining</b> None <b>Exterior sheathing</b> 10mm or 13mm GIB Weatherline®	Hold downs

### CORNER FASTENING PATTERN



See the wind loading section in this manual for fastening centres.

### EXTERNAL SHEET LAYOUT



In order for GIB® systems to perform as tested, all components must be installed exactly as prescribed. Substituting components can produce an entirely different system and may seriously compromise performance. Follow the specifications. This specification sheet is issued in conjunction with the publication GIB EzyBrace® Systems.

# GIB EzyBrace® Systems specification BLW-H

Specification	Minimum length (m)	Lining requirements	Other requirements
<b>BLW-H</b>	<b>0.4</b>	<b>Interior lining</b> 10mm or 13mm GIB Braceline® GIB Noiseline® <b>Exterior sheathing</b> 10mm or 13mm GIB Weatherline®	Hold downs

## WALL FRAMING

Wall framing to comply with:

- NZBC B1 – Structure B1/AS1 Clause 3 – Timber (NZS 3604).
- NZBC B2 – Durability: B2/AS1 Clause 3.2 – Timber (NZS 3602).

Framing dimensions and height as determined by NZS 3604 stud and top plate tables for load-bearing and non-load bearing walls. The use of kiln dried stress graded timber is recommended.

## BOTTOM PLATE FIXING

### Timber floor

Use panel hold downs at each end of the bracing element. The GIB HandiBrac® is recommended. See details in the GIB EzyBrace® Systems Specification and Installation Manual or the GIB® Site Guide. Pairs of hand driven 100 x 3.75mm nails at 600mm centres; or three power driven 90 x 3.15mm nails at 600mm centres.

### Concrete floor

Use panel hold downs at each end of the bracing element. The GIB HandiBrac® is recommended. See details in the GIB EzyBrace® Systems Specification and Installation Manual or the GIB® Site Guide. Within the length of the bracing element bottom plates are to be fixed in accordance with the requirements of NZS 3604.

## WALL LINING / SHEATHING

### Interior lining

- 10mm or 13mm GIB Braceline® GIB Noiseline®
- Sheets can be fixed vertically or horizontally.
- Sheets must be fixed to top and bottom plates.
- Sheet joints must be touch fitted.
- Use full length sheets where possible.

### Exterior sheathing

- 10mm or 13mm GIB Weatherline® sheets.
- Sheets must be fixed vertically.
- Sheets must be fixed to top and bottom plates.
- Vertical sheet joints must be touch fitted.
- Use full length sheets where possible.

## PERMITTED ALTERNATIVES

For permitted GIB® plasterboard alternatives, refer to GIB EzyBrace® Systems Specification and Installation Manual.

## FASTENING THE LINING / SHEATHING

### Interior lining fasteners

32mm x 6g GIB® Grabber® High Thread Screws or 32mm x 7g GIB® Grabber® Dual Thread Screws. If using the GIBFix® Angle, use only 32mm x 7g GIB® Grabber® Dual Thread Screws.

### Exterior sheathing fasteners

41mm x 6g GIB® Grabber® Ceramic Coated High Thread Screws.

### Interior lining fastener centres

For corner fastening pattern refer to diagrams on the following page. For vertically fixed sheets, place fasteners at 300mm maximum centres to intermediate sheet joints. For horizontally fixed sheets, place single fasteners to the sheet edge where it crosses the stud. Use daubs of GIBFix® adhesive at 300mm maximum centres to intermediate studs. Place fasteners no closer than 12mm from paper bound edges and 18mm from any sheet end or cut edge.

### Exterior sheathing fastener centres

Fix in accordance with the Wind Loading requirements specified in this technical literature. No additional fixings are required.

## JOINTING

### Interior lining jointing

Joint strength is important in delivering bracing system performance. All fastener heads must be stopped and all sheet joints GIB® Joint Tape reinforced and stopped in accordance with the GIB® Site Guide.

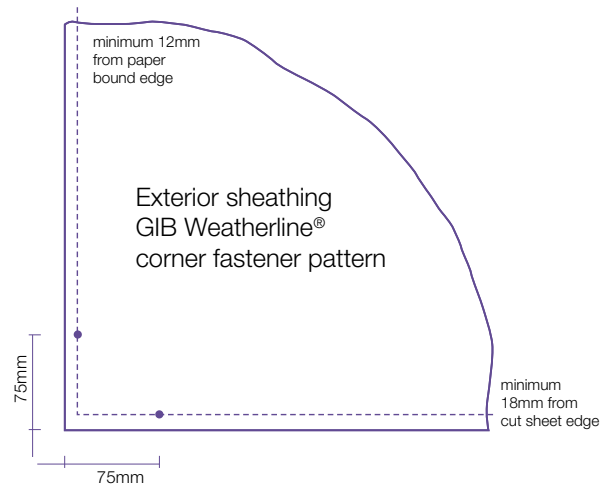
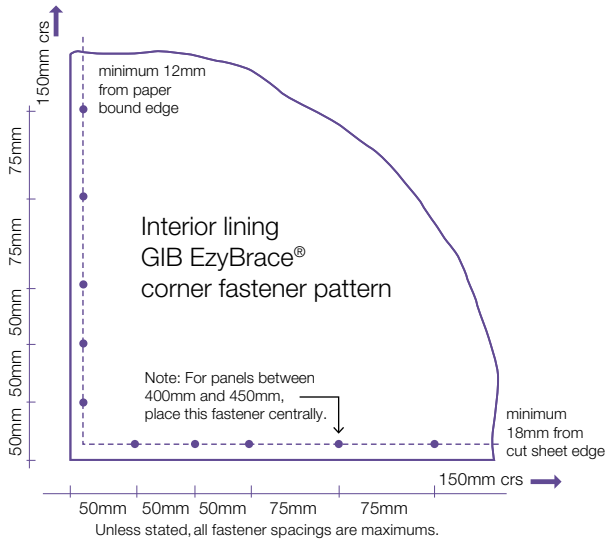
### Exterior sheathing jointing

No plaster stopping is required. Unless the entire surface is protected with a self-adhesive WRB, all joints and screw fixings must be taped with GIB Weatherline® Flashing Tape. Flashing tape to mid-sheet vertical fasteners is not required when fasteners are covered with a structural cavity batten.

# GIB EzyBrace® Systems specification BLW-H

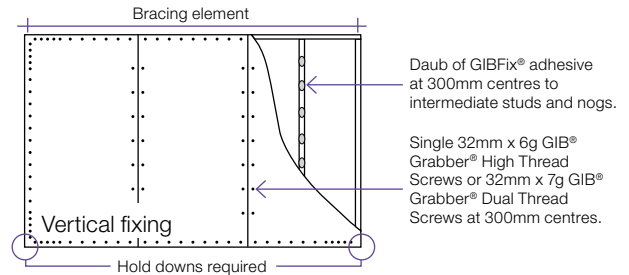
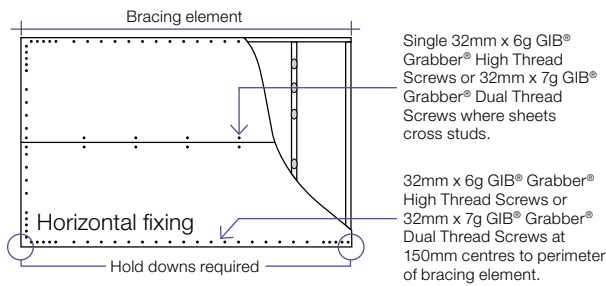
Specification	Minimum length (m)	Lining requirements	Other requirements
BLW-H	0.4	<b>Interior lining</b> 10mm or 13mm GIB Braceline® GIB Noiseline® <b>Exterior sheathing</b> 10mm or 13mm GIB Weatherline®	Hold downs

## CORNER FASTENING PATTERN



See the wind loading section in this manual for fastening centres.

## INTERIOR SHEET LAYOUT



In order for GIB® systems to perform as tested, all components must be installed exactly as prescribed. Substituting components can produce an entirely different system and may seriously compromise performance. Follow the specifications. This specification sheet is issued in conjunction with the publication GIB EzyBrace® Systems.

### FIRE RESISTANCE RATINGS

The GIB Weatherline® Systems in Table 8 achieve the stated Fire Resistance Rating (FRR) when designed and installed in accordance with the relevant specification details.

In order to comply with NZBC Clause E2, the external face of the GIB Weatherline® system will, in all cases, be covered with an exterior cladding system over a drained and vented cavity. The systems in this section do not rely on the cladding system to achieve the stated FRR.

### COMBUSTIBILITY

GIB Weatherline® has been tested to EN ISO 1182 and EN ISO 1716, achieves an A1 Classification in accordance with BS EN 13501-1:2018, and can be nominated as a non-combustible product/material.

### EXTERNAL WALLS

GIB Weatherline® can be used as a substrate and a substantive component of an otherwise compliant external wall cladding system.

The Design section of this literature outlines compliance with relevant NZBC Clauses and associated documents relating to external wall performance. In summary the recommended specification for various applications are;

GWTLT 30 for buildings less than 10m in height.

GWTLT 60a or GWSE 60 for buildings 10 to 25m in height.

GWTLT 60b or GWSE 60 for buildings over 25m in height.

For further details see page 16.

### FULL SCALE FACADE TESTS

Visit [gib.co.nz](http://gib.co.nz) to check for latest updates.

**Table 8: Fire rated systems**

Type	Specification	LB/NLB	FRR	Lining requirements	Page
<b>Fire Rated Timber Frame Systems</b>					
External Walls	GWTLT 30	LB	30/30/30	<b>Interior:</b> 10mm GIB Fyreline® <b>Exterior:</b> 10mm GIB Weatherline®	37
	GWTLT 60a	LB	60/60/60	<b>Interior:</b> 13mm GIB Fyreline® <b>Exterior:</b> 13mm GIB Weatherline®	38
	GWTLT 60b	LB	60/60/60	<b>Interior:</b> 13mm GIB Fyreline® <b>Exterior:</b> 2 x 10mm GIB Weatherline®	39
Parapet and Wingwalls	GWTLP 30	LB	30/30/30	<b>Exterior:</b> 10mm GIB Weatherline® both sides	40
	GWTLP 60	LB	60/60/60	<b>Exterior:</b> 13mm GIB Weatherline® both sides	41
<b>Fire Rated Steel Frame Systems</b>					
External Walls	GWSE 60	NLB	-/60/60	<b>Interior:</b> 13mm GIB Fyreline® <b>Exterior:</b> 13mm GIB Weatherline®	42
Parapet and Wingwalls	GWSP 60	NLB	-/60/60	<b>Exterior:</b> 13mm GIB Weatherline® both sides	43
<b>Fire Rated Soffit Systems</b>					
Fire Rated Soffits	GWUC 30	LB	30/30/30	<b>Exterior:</b> 1 x 13mm GIB Weatherline®	44
	GWUC 60	LB	60/60/60	<b>Exterior:</b> 2 x 13mm GIB Weatherline®	45
<b>Fire Rated Protection of Columns and Beams</b>					
Timber Strapping	GWCBT 15	LB	15/-/-	13mm GIB Weatherline®	46
	GWCBT 30	LB	30/-/-	2 x 10mm GIB Weatherline®	46
	GWCBT 60	LB	60/-/-	2 x 13mm GIB Weatherline®	46
Steel Clip and Channel	GWCBS 15	LB	15/-/-	13mm GIB Weatherline®	47
	GWCBS 30	LB	30/-/-	2 x 10mm GIB Weatherline®	47
	GWCBS 60	LB	60/-/-	2 x 13mm GIB Weatherline®	47

## Two-way FRR – timber frame external wall

Specification	Performance	Specifications
<b>GWTLE 30</b>	<b>FRR 30/30/30</b>	<p><b>Lining</b> 1 x 10mm GIB Weatherline® exterior side 1 x 10mm GIB Fyrelime® internal side</p> <p><b>LB/NLB</b> LB</p>

### FRAMING

Stud size: 90mm minimum. Framing to comply with:

- NZBC B1 – Structure: AS1 Clause 3 – Timber (NZS 3604) or VM1 Clause 6 – Timber (NZS 3603).
- NZBC B2 – Durability: AS1 Clause 3.2 – Timber (NZS 3602).
- Studs at 600mm centres maximum.
- Nogs at 1350mm centres maximum.

### INSULATION

Inclusion of insulation is optional and depends on the building's thermal performance requirements. Mineral wool, glass wool or polyester fibrous insulation materials are acceptable.

### WALL LINING / SHEATHING

**Exterior side** – 1 layer of 10mm GIB Weatherline® sheet fixed vertically. Use full height sheets where possible. All sheet joints and edges must be formed over solid timber framing. Sheet joints are touch fitted. A 10mm gap between sheet edges must be left at floor levels, formed over framing or solid construction materials.

**Internal side** – 1 layer of 10mm GIB Fyrelime® fixed vertically or horizontally. When fixing vertically, full height sheets must be used where possible. All sheet joints must be formed over solid timber framing. Sheet joints are touch fitted.

### FASTENING THE LINING / SHEATHING

#### Exterior side fasteners

41mm x 6g GIB® Grabber® Ceramic Coated High Thread Screws.

#### Internal side fasteners

41mm x 6g GIB® Grabber® High Thread Drywall Screws.

#### Maximum fastener centres

Place fasteners at 300mm centres around the sheet perimeter and intermediate studs.

Note that GIB Weatherline® perimeter and intermediate fasteners are commonly at closer centres depending on Wind Loading requirements.

Place fasteners at 12mm from bound sheet edges and 18mm from sheet ends and cut edges.

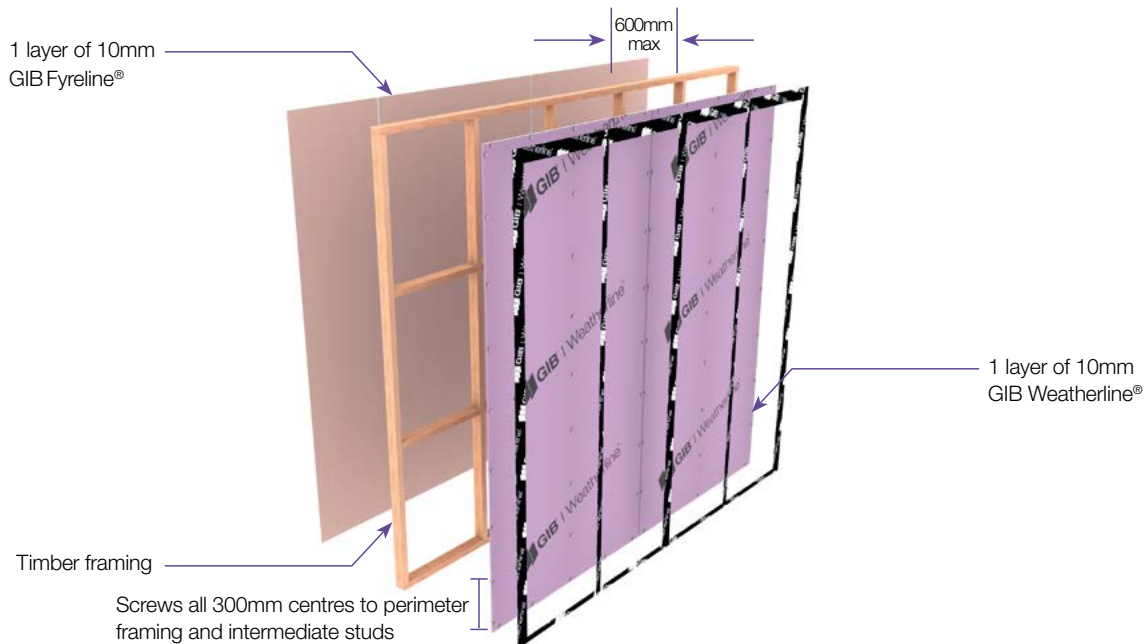
### JOINTING

#### Exterior side

No plaster stopping required. Unless the entire surface is protected with a self-adhesive WRB, all joints and screw fixings must be taped with GIB Weatherline® Flashing Tape. No tape is required over mid-sheet fasteners under a structural cavity batten.

#### Internal side

All fastener heads must be stopped and all sheet joints tape reinforced and stopped in accordance with the publication entitled GIB® Site Guide.



## Two-way FRR – timber frame external wall

Specification	Performance	Specifications
<b>GWTLE 60a</b>	<b>FRR 60/60/60</b>	<b>Lining</b> 1 x 13mm GIB Weatherline® exterior side 1 x 13mm GIB Fyreline® internal side  <b>LB/NLB</b> LB

### FRAMING

Stud size: 90mm minimum. Framing to comply with:

- NZBC B1 – Structure: AS1 Clause 3 – Timber (NZS 3604) or VM1 Clause 6 – Timber (NZS 3603).
- NZBC B2 – Durability: AS1 Clause 3.2 – Timber (NZS 3602).
- Studs at 600mm centres maximum.
- Nogs at 1350mm centres maximum.

### INSULATION

Inclusion of insulation is optional and depends on the building's thermal performance requirements. Mineral wool, glass wool or polyester fibrous insulation materials are acceptable.

### WALL LINING / SHEATHING

**Exterior side** – 1 layer of 13mm GIB Weatherline® sheet fixed vertically. Use full height sheets where possible. All sheet joints and edges must be formed over solid timber framing. Sheet joints are touch fitted. A 10mm gap between sheet edges must be left at floor levels, formed over framing or solid construction materials.

**Internal side** – 1 layer of 13mm GIB Fyreline® fixed vertically or horizontally. When fixing vertically, full height sheets must be used where possible. All sheet joints must be formed over solid timber framing. Sheet joints are touch fitted.

### FASTENING THE LINING / SHEATHING

#### Exterior side fasteners

41mm x 6g GIB® Grabber® Ceramic Coated High Thread Screws.

#### Internal side fasteners

41mm x 6g GIB® Grabber® High Thread Drywall Screws.

#### Maximum fastener centres

Place fasteners at 300mm centres around the sheet perimeter and intermediate studs.

Note that GIB Weatherline® perimeter and intermediate fasteners are commonly at closer centres depending on Wind Loading requirements.

Place fasteners at 12mm from bound sheet edges and 18mm from sheet ends and cut edges.

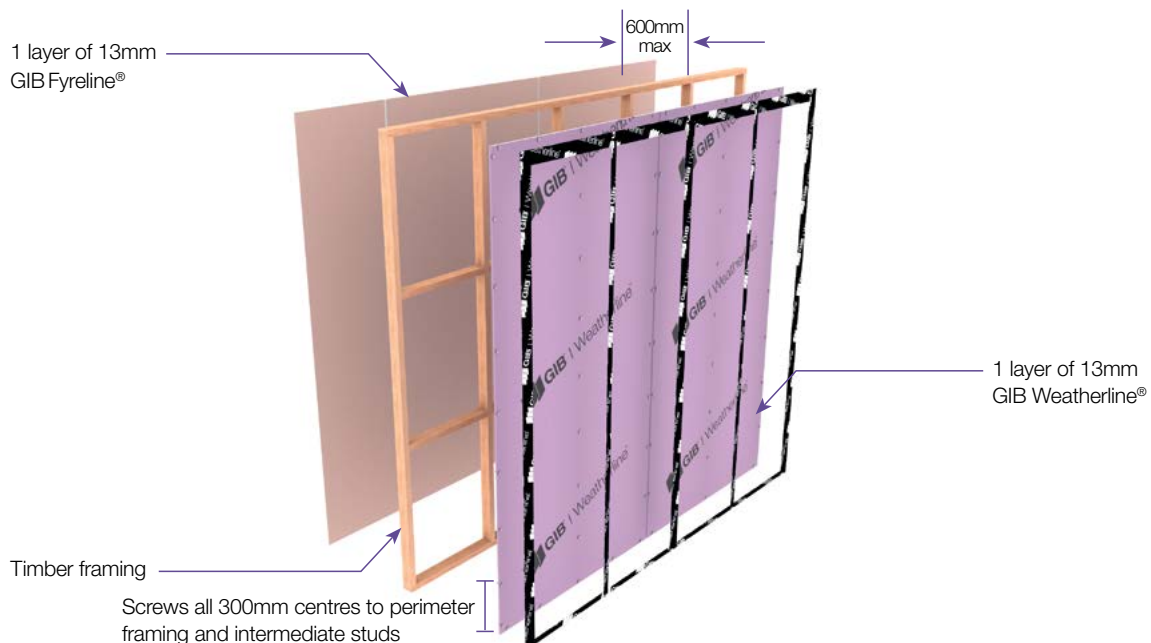
### JOINTING

#### Exterior side

No plaster stopping required. Unless the entire surface is protected with a self-adhesive WRB, all joints and screw fixings must be taped with GIB Weatherline® Flashing Tape. No tape is required over mid-sheet fasteners under a structural cavity batten.

#### Internal side

All fastener heads must be stopped and all sheet joints tape reinforced and stopped in accordance with the publication entitled GIB® Site Guide.



## Two-way FRR – timber frame external wall

Specification	Performance	Specifications
<b>GWTLE 60b</b>	<b>FRR 60/60/60</b>	<p><b>Lining</b> 2 x 10mm GIB Weatherline® exterior side 1 x 13mm GIB Fyreline® internal side</p> <p><b>LB/NLB</b> LB</p>

### FRAMING

Stud size: 90mm minimum. Framing to comply with:

- NZBC B1 – Structure: AS1 Clause 3 – Timber (NZS 3604) or VM1 Clause 6 – Timber (NZS 3603).
- NZBC B2 – Durability: AS1 Clause 3.2 – Timber (NZS 3602).
- Studs at 600mm centres maximum.
- Nogs at 1350mm centres maximum.

### INSULATION

Inclusion of insulation is optional and depends on the building's thermal performance requirements. Mineral wool, glass wool or polyester fibrous insulation materials are acceptable.

### WALL LINING / SHEATHING

**Exterior side** – 2 layers of 10mm GIB Weatherline® sheet fixed vertically. Use full height sheets where possible. All sheet joints and edges must be formed over solid timber framing and staggered between layers. Sheet joints are touch fitted. A 10mm gap between sheet edges must be left at floor levels, formed over framing or solid construction materials.

**Internal side** – 1 layer of 13mm GIB Fyreline® fixed vertically or horizontally. When fixing vertically, full height sheets must be used where possible. All sheet joints must be formed over solid timber framing. Sheet joints are touch fitted.

### FASTENING THE LINING / SHEATHING

#### Exterior side fasteners (both layers)

41mm x 6g GIB® Grabber® Ceramic Coated High Thread Screws.

#### Internal side fasteners

41mm x 6g GIB® Grabber® High Thread Drywall Screws.

#### Maximum fastener centres

Place fasteners at 300mm centres around the sheet perimeter and intermediate studs.

Note that GIB Weatherline® perimeter and intermediate fasteners are commonly at closer centres depending on Wind Loading requirements.

Place fasteners at 12mm from bound sheet edges and 18mm from sheet ends and cut edges.

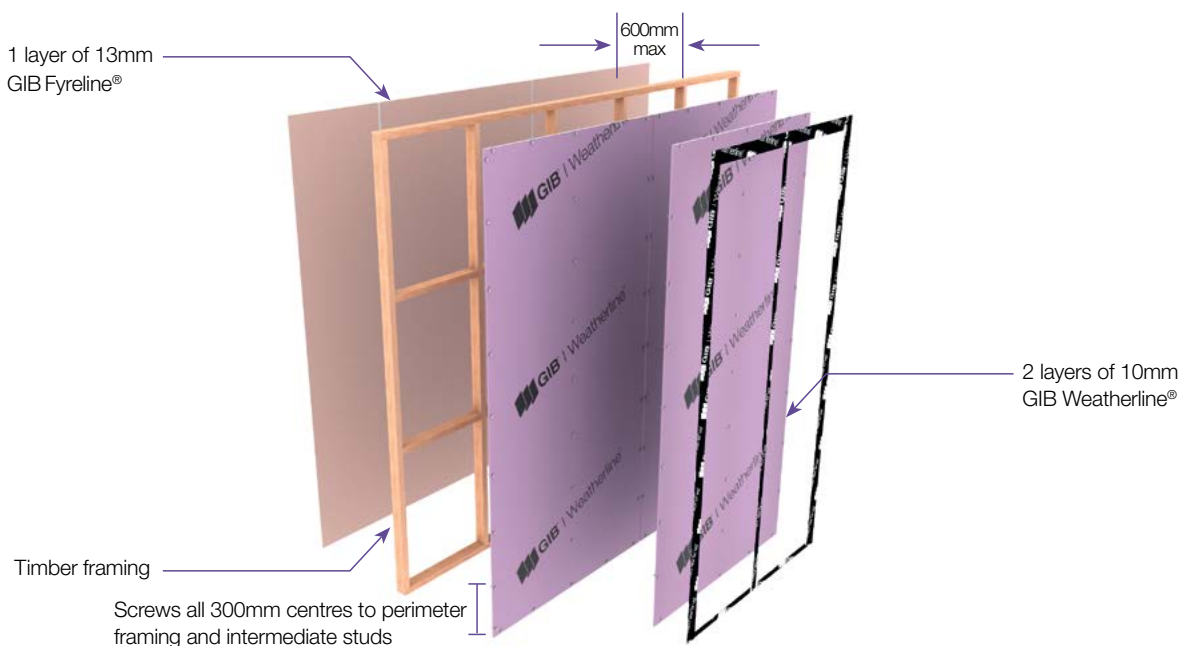
### JOINTING

#### Exterior side (outer layer)

No plaster stopping required. Unless the entire surface is protected with a self-adhesive WRB, all joints and screw fixings must be taped with GIB Weatherline® Flashing Tape. No tape is required over mid-sheet fasteners under a structural cavity batten.

#### Internal side

All fastener heads must be stopped and all sheet joints tape reinforced and stopped in accordance with the publication entitled GIB® Site Guide.



## Two-way FRR – timber frame parapet or wingwall

Specification	Performance	Specifications
<b>GWTLP 30</b>	<b>FRR 30/30/30</b>	<p><b>Lining</b> 1 x 10mm GIB Weatherline® both sides</p> <p><b>LB/NLB</b> LB</p>

### FRAMING

Stud size: 90mm minimum. Framing to comply with:

- NZBC B1 – Structure: AS1 Clause 3 – Timber (NZS 3604) or VM1 Clause 6 – Timber (NZS 3603).
- NZBC B2 – Durability: AS1 Clause 3.2 – Timber (NZS 3602).
- Studs at 600mm centres maximum.
- Nogs at 1350mm centres maximum.

### INSULATION

Inclusion of insulation is optional and depends on the building's thermal performance requirements. Mineral wool, glass wool or polyester fibrous insulation materials are acceptable.

### WALL LINING / SHEATHING

**Both sides** – 1 layer of 10mm GIB Weatherline® sheet fixed vertically. Use full height sheets where possible. All sheet joints and edges must be formed over solid timber framing. Sheet joints are touch fitted. A 10mm gap between sheet edges must be left at floor levels, formed over framing or solid construction materials.

### FASTENING THE LINING / SHEATHING

#### Fasteners

41mm x 6g GIB® Grabber® Ceramic Coated High Thread Screws.

#### Maximum fastener centres

Place fasteners at 300mm centres around the sheet perimeter and intermediate studs.

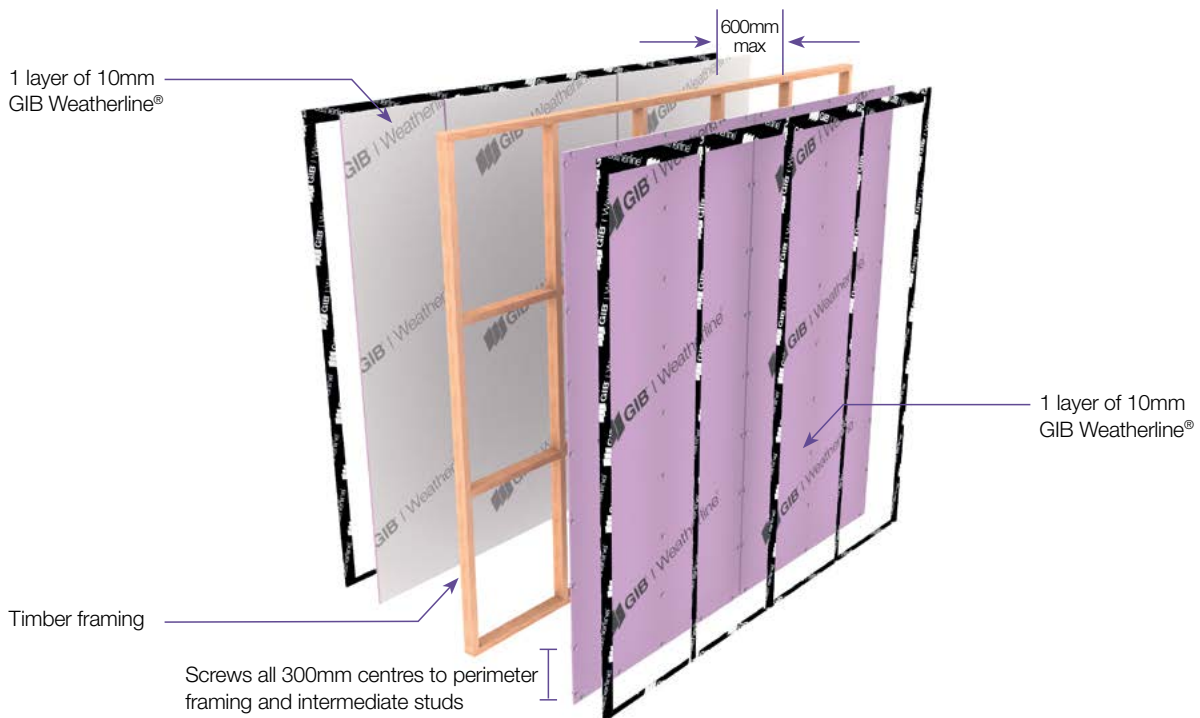
Note that GIB Weatherline® perimeter and intermediate fasteners are commonly at closer centres depending on Wind Loading requirements.

Place fasteners at 12mm from bound sheet edges and 18mm from sheet ends and cut edges.

### JOINTING

#### Exterior side

No plaster stopping required. Unless the entire surface is protected with a self-adhesive WRB, all joints and screw fixings must be taped with GIB Weatherline® Flashing Tape. No tape is required over mid-sheet fasteners under a structural cavity batten.





## Two-way FRR – timber frame parapet or wingwall

Specification	Performance	Specifications
<b>GWTLP 60</b>	<b>FRR 60/60/60</b>	<p><b>Lining</b> 1 x 13mm GIB Weatherline® both sides</p> <p><b>LB/NLB</b> LB</p>

### FRAMING

Stud size: 90mm minimum. Framing to comply with:

- NZBC B1 – Structure: AS1 Clause 3 – Timber (NZS 3604) or VM1 Clause 6 – Timber (NZS 3603).
- NZBC B2 – Durability: AS1 Clause 3.2 – Timber (NZS 3602).
- Studs at 600mm centres maximum.
- Nogs at 1350mm centres maximum.

### INSULATION

Inclusion of insulation is optional and depends on the building's thermal performance requirements. Mineral wool, glass wool or polyester fibrous insulation materials are acceptable.

### WALL LINING / SHEATHING

**Both sides** – 1 layer of 13mm GIB Weatherline® sheet fixed vertically. Use full height sheets where possible. All sheet joints and edges must be formed over solid timber framing. Sheet joints are touch fitted. A 10mm gap between sheet edges must be left at floor levels, formed over framing or solid construction materials.

### FASTENING THE LINING / SHEATHING

#### Fasteners

41mm x 6g GIB® Grabber® Ceramic Coated High Thread Screws.

#### Maximum fastener centres

Place fasteners at 300mm centres around the sheet perimeter and intermediate studs.

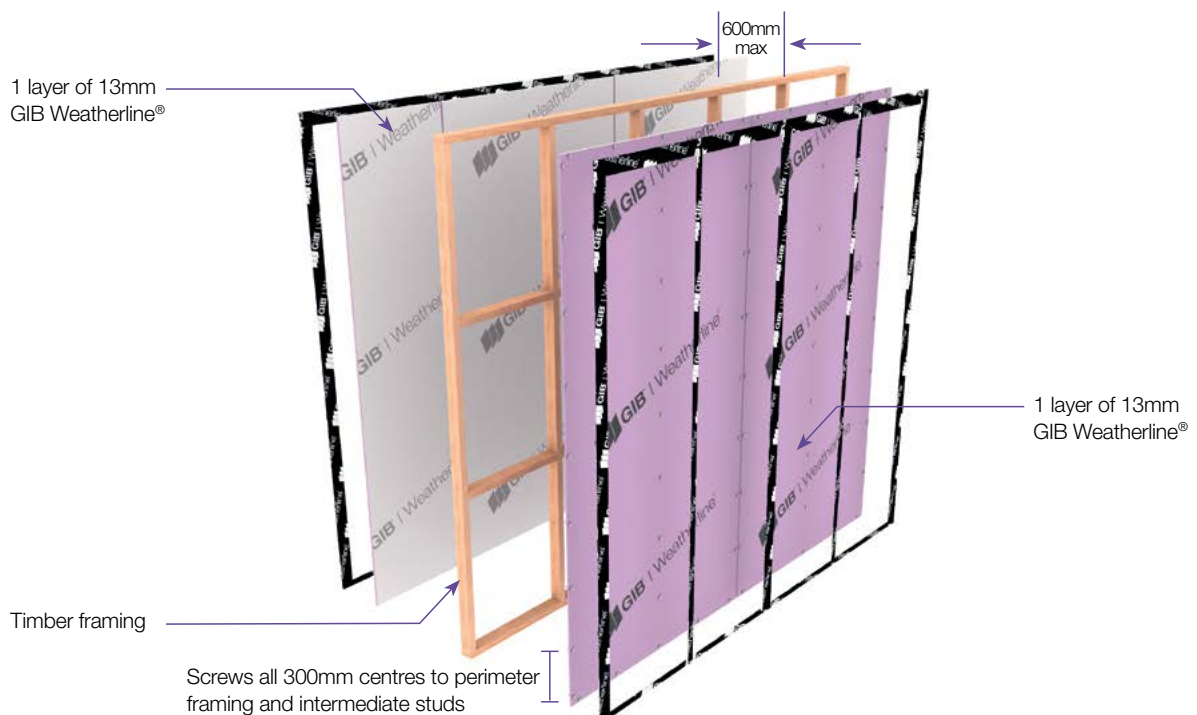
Note that GIB Weatherline® perimeter and intermediate fasteners are commonly at closer centres depending on Wind Loading requirements.

Place fasteners at 12mm from bound sheet edges and 18mm from sheet ends and cut edges.

### JOINTING

#### Exterior side

No plaster stopping required. Unless the entire surface is protected with a self adhesive WRB, all joints and screw fixings must be taped with GIB Weatherline® Flashing Tape. No tape is required over mid-sheet fasteners under a structural cavity batten.



## Two-way FRR – steel frame external wall

Specification	Performance	Specifications
GWSE 60	FRR -/60/60	<p><b>Lining</b> 1 x 13mm GIB Weatherline® exterior side 1 x 13mm GIB Fyreline® internal side</p> <p><b>LB/NLB</b> NLB</p>

### FRAMING AND WALL HEIGHT

Minimum steel stud dimensions to be 92 x 34mm x 0.55 BMT with a 6mm return.

Minimum steel channel dimensions to be 92 x 30mm x 0.50 BMT.

Steel stud and channel must be a minimum BMT of 0.75mm if the wall is to be subjected to wind loads.

Top and bottom channels are fixed to the floor and ceiling in true alignment.

Stud spacing at 600mm centres maximum.

Place studs to allow the nominated expansion gap at the top of the frame.

The studs are held in place by the “grip” of the channels.

Otherwise detailing of steel wall framing to support wind loads and the external cladding is by specific engineering design, allowing for an expansion tolerance equal to 0.5% of wall height.

### INSULATION

Inclusion of insulation is optional and depends on the building’s thermal performance requirements. Mineral wool, glass wool or polyester fibrous insulation materials are acceptable.

### WALL LINING/SHEATHING

**Exterior side** - 1 layer of 13mm GIB Weatherline® sheet fixed vertically. Use full height sheets where possible. All sheet joints and edges must be formed over framing. Sheet joints are touch fitted.

**Internal side** - 1 layer 13mm GIB Fyreline® fixed vertically. Use full height sheets where possible. All sheet joints and edges must be formed over framing. Sheet joints are touch fitted. Linings are installed hard to floor.

### FASTENING THE LINING / SHEATHING

#### Exterior side fasteners

32mm x 8g GIB® Grabber® Ceramic Coated Drill Point Screws.

#### Internal side fasteners

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

#### Maximum fastener centres

Place fasteners at 300mm centres to all studs.

Note that GIB Weatherline® fasteners are commonly at closer centres depending on Wind Loading requirements.

Place fasteners at 12mm from bound sheet edges and 50mm from sheet ends and cut edges.

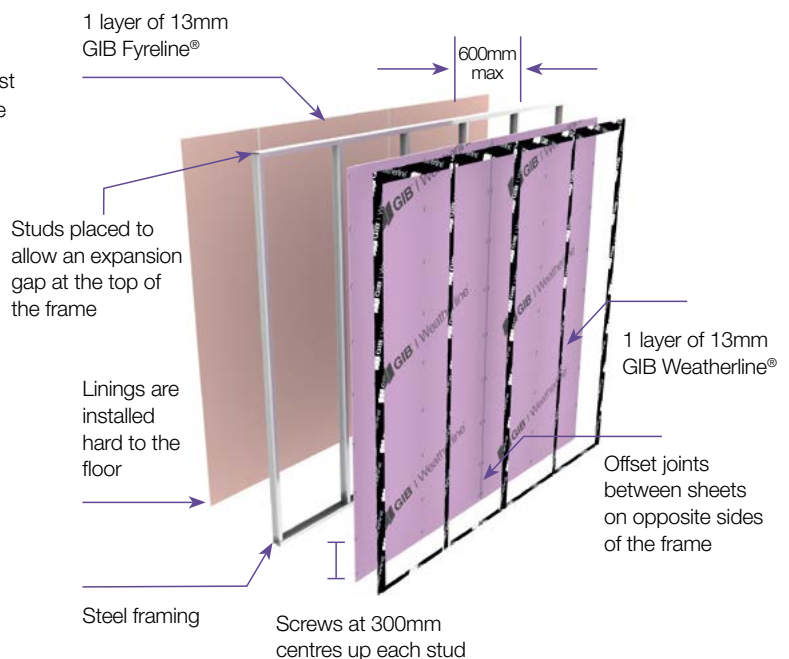
### JOINTING

#### Exterior side

No plaster stopping required. Unless the entire surface is protected with a self-adhesive WRB, all joints and screw fixings must be taped with GIB Weatherline® Flashing Tape. No tape is required over mid-sheet fasteners under a structural cavity batten.

#### Internal side

All fastener heads must be stopped and all sheet joints tape reinforced and stopped in accordance with the publication entitled GIB® Site Guide.



## Two-way FRR – steel frame wing wall

Specification	Performance	Specifications
GWSP 60	FRR -/60/60	<p><b>Lining</b> 1 x 13mm GIB Weatherline® both sides</p> <p><b>LB/NLB</b> NLB</p>

### FRAMING AND WALL HEIGHT

Minimum steel stud dimensions to be 92 x 34mm x 0.55 BMT with a 6mm return.

Minimum steel channel dimensions to be 92 x 30mm x 0.50 BMT.

Steel stud and channel must be a minimum BMT of 0.75mm if the wall is to be subjected to wind loads.

Top and bottom channels are fixed to the floor and ceiling in true alignment.

Stud spacing at 600mm centres maximum.

Place studs to allow the nominated expansion gap at the top of the frame.

The studs are held in place by the “grip” of the channels.

Otherwise detailing of steel wall framing to support wind loads and the external cladding is by specific engineering design, allowing for an expansion tolerance equal to 0.5% of wall height.

### INSULATION

Inclusion of insulation is optional and depends on the building’s thermal performance requirements. Mineral wool, glass wool or polyester fibrous insulation materials are acceptable.

### SHEATHING

**Both sides** - 1 layer of 13mm GIB Weatherline® sheet fixed vertically. Use full height sheets where possible. All sheet joints and edges must be formed over framing. Sheet joints are touch fitted.

### FASTENING THE LINING / SHEATHING

#### Fasteners

32mm x 8g GIB® Grabber® Ceramic Coated Drill Point Screws.

#### Maximum fastener centres

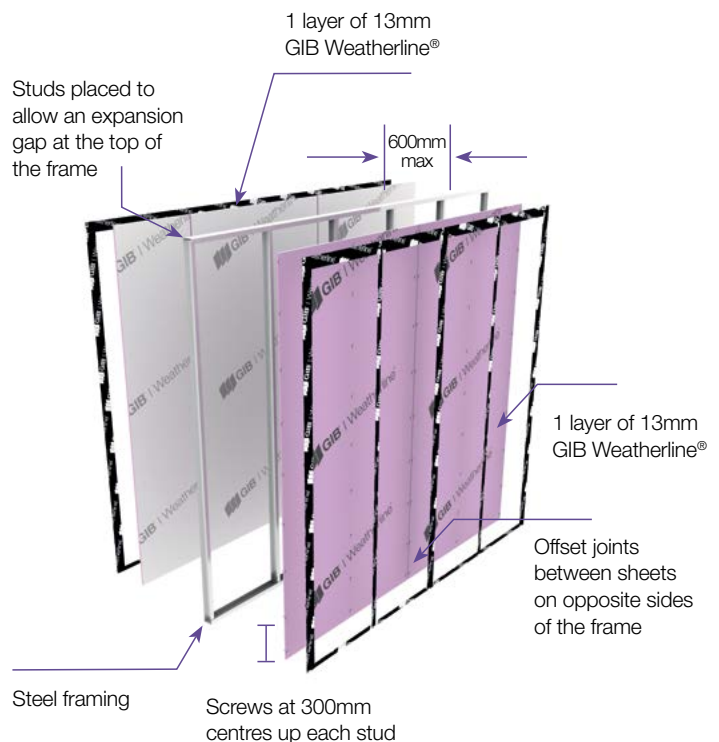
Place fasteners at 300mm centres to all studs.

Note that GIB Weatherline® fasteners are commonly at closer centres depending on Wind Loading requirements.

Place fasteners at 12mm from bound sheet edges and 18mm from sheet ends and cut edges.

### JOINTING

No plaster stopping required. Unless the entire surface is protected with a self-adhesive WRB, all joints and screw fixings must be taped with GIB Weatherline® Flashing Tape. No tape is required over mid-sheet fasteners under a structural cavity batten.



## Fire rated soffit systems

Specification	Performance	Specifications
<b>GWUC 30</b>	<b>FRR 30/30/30</b>	<p><b>Lining</b> 1 layer 13mm GIB Weatherline®</p> <p><b>LB/NLB</b> Load bearing</p>

### FRAMING

- Timber or steel roof or floor/ceiling framing designed to meet structural criteria for strength and serviceability under dead and live loads.
- Separation distance between the soffit linings and any flooring or roofing material shall be 90mm minimum.
- Linings shall be supported by framing members with a minimum width of 35mm spaced at 600mm centres maximum.
- Solid nogs shall be provided at 1200mm centres maximum and to the perimeter of the fire rated soffit.
- If timber-framed construction applies, the nogs shall be 70mm x 35mm minimum.

### FLOORING / INSULATION

The FRR is achieved with a minimum 90mm separation distance between the soffit lining and sheet flooring, or with fibrous insulation installed above the soffit lining.

If sheet flooring is used it must be a minimum of nominal 20mm strand board or particle board, minimum 19mm fibre cement, or minimum 17mm structural plywood fixed to the framing in accordance with the manufacturer’s specifications.

If fibrous insulation is used it must be minimum R1.8 75mm glass wool, polyester or natural wool product installed in accordance with the manufacturer’s specifications.

### SOFFIT LINING

- 1 layer of 13mm GIB Weatherline® shall be fixed at right angles to the underside of the framing members.
- All sheet joints must occur over solid framing.
- Sheets shall be touch fitted.
- When used externally, GIB Weatherline® must be covered with a cladding material over a nominal 20mm ventilated cavity.

### FASTENING THE LINING / SHEATHING

#### Fasteners

Timber Frame	Steel Frame
41mm x 6g GIB® Grabber® Ceramic Coated High Thread Screws	32mm x 8g GIB® Grabber® Ceramic Coated Drill Point Screws

#### Fastener centres

Place fasteners 12mm from longitudinal sheet edges and 18mm from sheet ends. This distance may be reduced to 12mm from sheet ends at butt joints on furring channels.

Place fasteners at 200mm centres around sheet perimeters, along each intermediate framing member and where sheet end butt joints occur.

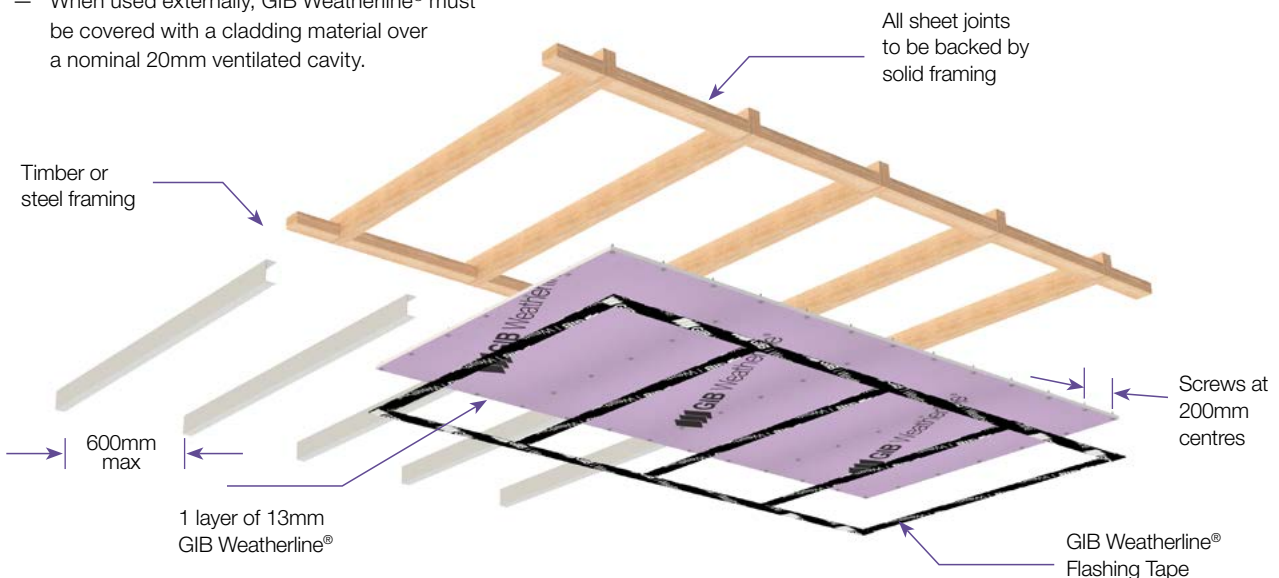
These fastener centres represent the maximum permitted to achieve the stated FRR. Closer centres may be required to satisfy wind loading requirements.

### SOFFIT / WALL JUNCTIONS

The internal angle between the soffit lining and wall cladding or rigid air barrier must be touch fitted. Any gaps shall be filled to the full thickness of the soffit lining with GIB Fire Soundseal®.

### JOINTING

No plaster stopping required. Unless the entire surface is protected with a self adhesive Water Resistant Barrier, all joints and screw fixings must be taped with GIB Weatherline® Flashing Tape.



## Fire rated soffit systems

Specification	Performance	Specifications
<b>GWUC 60</b>	<b>FRR 60/60/60</b>	<b>Lining</b> 2 layers 13mm GIB Weatherline®  <b>LB/NLB</b> Load bearing

### FRAMING

- Timber or steel roof or floor/ceiling framing designed to meet structural criteria for strength and serviceability under dead and live loads.
- Separation distance between the soffit linings and any flooring or roofing material shall be 90mm minimum.
- Linings shall be supported by framing members with a minimum width of 35mm spaced at 600mm centres maximum.
- In respect of the FRR for this particular system, nogs are required only at the perimeter of the fire rated soffit.
- If timber-framed construction applies, the nogs shall be 70mm x 35mm minimum.

### FLOORING / INSULATION

The FRR is achieved with a minimum 90mm separation distance between the soffit lining and sheet flooring, or with fibrous insulation installed above the soffit lining.

If sheet flooring is used it must be a minimum of nominal 20mm strand board or particle board, minimum 19mm fibre cement, or minimum 17mm structural plywood fixed to the framing in accordance with the manufacturer's specifications.

If fibrous insulation is used it must be minimum R1.8 75mm glass wool, polyester or natural wool product installed in accordance with the manufacturer's specifications.

### SOFFIT LINING

- 2 layers of 13mm GIB Weatherline® shall be fixed at right angles to the underside of the framing members.
- The joints of the outer layer are offset 600mm from the those in the inner layer.
- All inner layer sheet end butt joints must occur over solid framing.
- All outer layer longitudinal and sheet end butt joints must occur over framing.
- When used externally, GIB Weatherline® must be covered with a cladding material installed over a nominal 20mm ventilated cavity.

### FASTENING THE LINING / SHEATHING

#### Fasteners

Layer	Timber Frame	Steel Frame
<b>Inner layer</b>	41mm x 6g GIB® Grabber® Ceramic Coated High Thread Screws	32mm x 8g GIB® Grabber® Ceramic Coated Drill Point Screws
<b>Outer layer</b>	63mm x 8g GIB® Grabber® Ceramic Coated High Thread Screws	47mm x 8g GIB® Grabber® Ceramic Coated Drill Point Screws

#### Fastener centres inner layer

Place fasteners 12mm from longitudinal sheet edges and 18mm from sheet ends. This distance may be reduced to 12mm from sheet ends at butt joints on furring channels.

Place fasteners at 200mm centres around ceiling perimeter, along each intermediate framing member and where sheet end butt joints occur.

#### Fastener centres outer layer

Place fasteners 12mm from longitudinal sheet edges and 18mm from sheet ends. This distance may be reduced to 12mm from sheet ends at butt joints on furring channels.

Place fasteners at 200mm centres around sheet perimeters, along each intermediate framing member and where sheet end butt joints occur.

These fastener centres represent the maximum permitted to achieve the stated FRR. Closer centres may be required to satisfy wind loading requirements.

### SOFFIT / WALL JUNCTIONS

The internal angle between the soffit lining and wall cladding or rigid air barrier must be touch fitted. Any gaps shall be filled to the full thickness of the soffit lining with GIB Fire Soundseal®.

### JOINTING

#### Inner layer

No plaster stopping or taping required.

#### Outer layer

No plaster stopping required. Unless the entire surface is protected with a self adhesive Water Resistive Barrier, all joints and screw fixings must be taped with GIB Weatherline® Flashing Tape.



## Fire rated protection of columns and beams – timber strapping

### SCOPE OF USE

The options offered in this section provide quick reference solutions for the fire protection of structural steel, timber and concrete columns and beams. The illustrations below show steel members.

For engineered solutions, tailored to meet specific column and beam types, sizes and loading conditions, specific fire engineering is required.

Specification number	FRR (structural adequacy rating*)	Lining requirement steel, timber and concrete columns and beams
GWCBT 15	15/-/-	1 x 13mm GIB Weatherline®
GWCBT 30	30/-/-	2 x 10mm GIB Weatherline®
GWCBT 60	60/-/-	2 x 13mm GIB Weatherline®

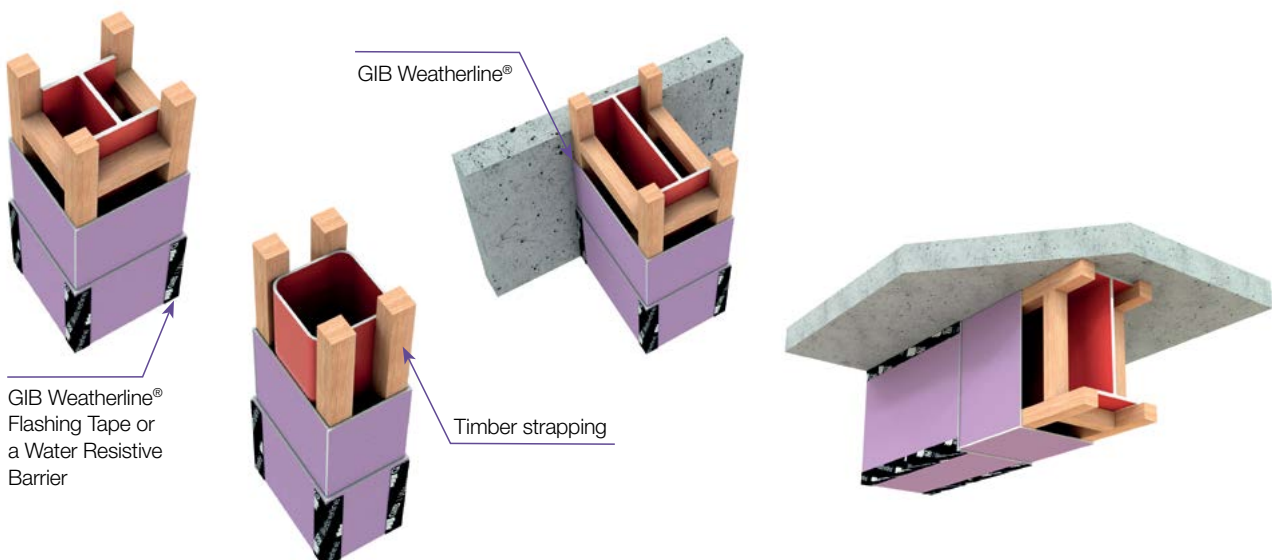
\* The FRR comprises values for structural adequacy/integrity/insulation. For loadbearing structural steel members (primary elements), the structural adequacy rating is usually the only requirement and prevents failure under vertical gravity loads during a fire.

### STRAPPING

Strap columns or beams with a timber cradle with a minimum nominal thickness of 35mm ensuring that the linings are supported by framing members spaced at 600mm centres maximum.

No air gap is required as long as support is provided to the protective linings at no more than 600mm centres each side of the structural member.

The protective linings can be direct fixed to timber columns and beams.



### LINING

Install the linings in accordance with the required FRR as specified on this page. First and second layer joints must be formed over framing. In double-layer systems, the joints between the first and second layer must be offset by 300mm minimum.

Provide temporary weather protection or drainage paths to prevent water accumulation within the lined enclosure. Failure to prevent water accumulation may result in damage to the linings or other elements within the construction.

### FASTENING THE LINING

#### Fasteners

41mm x 6g or 63mm x 8g GIB® Grabber® Ceramic Coated High Thread Screws.

The fastener length must ensure a 20mm minimum penetration into the timber framing.

#### Fastener centres

Inner layer: 300mm centres maximum to framing spaced at 600mm centres maximum.

Single and Outer layers: 300mm centres maximum to frame spaced at 600mm centres maximum. Fastener centres may need to be reduced to comply with design wind pressure Tables 4 or 5.

### JOINTING

#### Inner layer

Untaped.

#### Outer layer

No plaster stopping required. Unless the entire surface is protected with a self-adhesive WRB, all joints and screw fixings must be taped with GIB Weatherline® Flashing Tape.

## Fire rated protection of columns and beams – steel clip and channel

### SCOPE OF USE

The options offered in this section provide quick reference solutions for the fire protection of structural steel, timber and concrete columns and beams. The illustrations below show steel members.

For engineered solutions, tailored to meet specific column and beam types, sizes and loading conditions, specific fire engineering is required.

Specification number	FRR (structural adequacy rating*)	Lining requirement steel columns and beams
<b>GWCBS 15</b>	<b>15/-/-</b>	1 x 13mm GIB Weatherline®
<b>GWCBS 30</b>	<b>30/-/-</b>	2 x 10mm GIB Weatherline®
<b>GWCBS 60</b>	<b>60/-/-</b>	2 x 13mm GIB Weatherline®

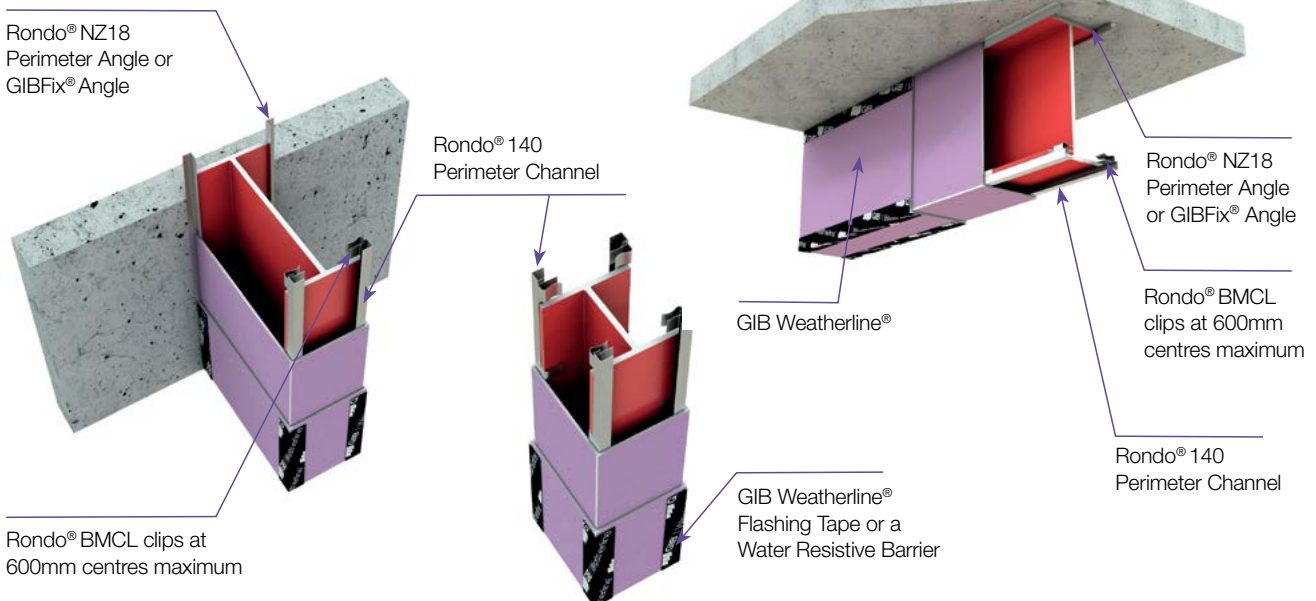
\* The FRR comprises values for structural adequacy/integrity/insulation. For loadbearing structural steel members (primary elements), the structural adequacy rating is usually the only requirement and prevents failure under vertical gravity loads during a fire.

### CLIP AND CHANNEL

Attach Rondo® Clip (part no. BMCL) to columns or beams at 600mm centres maximum. Insert Rondo® 140 Perimeter Channel (part no. 140) into clips. Ensure that the linings are supported by framing members at 600mm centres maximum.

For beams exposed on three sides, Rondo® Perimeter Angle (part no. NZ18) is to be secured to provide fixing for the linings.

The Rondo® angle must be fixed to the underside of the floor at 600mm centres maximum. The Rondo® angles are to be fixed at a maximum of 100mm in from each end.



### LINING

Install the linings in accordance with the required FRR as specified on this page. First and second layer joints must be formed over framing. In double-layer systems, the joints between the first and second layer must be offset by 300mm minimum.

Provide temporary weather protection or drainage paths to prevent water accumulation within the lined enclosure. Failure to prevent water accumulation may result in damage to the linings or other elements within the construction.

### FASTENING THE LINING

#### Fasteners

Use 32mm x 8g or 47mm x 8g GIB® Grabber® Ceramic Coated Drill Point Screws.

The fastener length must ensure a 12mm minimum penetration into the steel framing.

#### Fastener centres

Inner layer: 300mm centres maximum to framing spaced at 600mm centres maximum.

Single and Outer layers: 300mm centres maximum to frame spaced at 600mm centres maximum. Fastener centres may need to be reduced to comply with design wind pressure Tables 4 or 5.

### JOINTING

#### Inner layer

Untaped.

#### Outer layer

No plaster stopping required. Unless the entire surface is protected with a self-adhesive WRB, all joints and screw fixings must be taped with GIB Weatherline® Flashing Tape.





## Environmental noise

Combined with our range of internal linings, GIB Weatherline® Rigid Air Barrier Systems contribute to quieter indoor spaces by reducing the transmission of environmental noise effectively.

The design information in this section is general in nature and only applicable to locations with normal levels of environmental noise. Specific acoustic design advice should be sought for locations with more extreme levels of environmental noise. These locations include the inner city in close proximity to bars and clubs, or next to roads, railway lines or industrial installations.

The ability of building materials to resist the transmission of sound is dependent on their density, thickness and stiffness. Generally speaking, materials that are light and stiff are poor sound insulators because they allow sound at certain frequencies to transmit efficiently. Heavyweight external cladding materials are more effective sound insulators than lightweight external cladding materials.

The ability of an external wall to reduce the transmission of environmental noise is often controlled by the number and size of the window openings in the wall. The smaller the window the better as it is often the weakest path for the transmission of noise. Laminated glazing using a PMMA interlayer provides about a 3dB improvement over float glass of a similar thickness.

**Table 10: External walls incorporating GIB Weatherline® Rigid Air Barrier Systems**

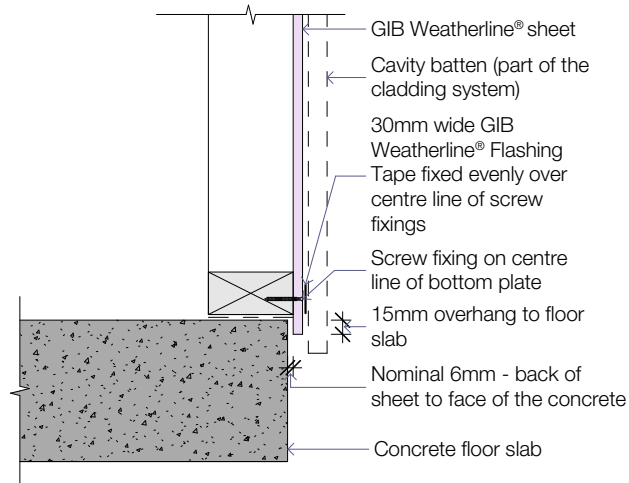
System Type	Components		Acoustic performance of wall only (STC)		Acoustic performance* of wall with allowance for window and roof flanking losses (D2m,nT,w) 10 & 13 mm	
	Internal lining	External cladding	10mm GIB Weatherline®	13mm GIB Weatherline®		
Standard	1	1 x 10mm GIB® Standard plasterboard	Timber weatherboard	43	44	29 dB
			Fibre cement weatherboard	49	49	30 dB
			Brick veneer	58	58	31 dB
			Profiled metal	42	43	28 dB
	2	1 x 13mm GIB Fyreline®	Timber weatherboard	44	45	30 dB
			Fibre cement weatherboard	50	50	31 dB
			Brick veneer	56	56	31 dB
			Profiled metal	46	46	29 dB
Superior	3	2 x 10mm GIB Braceline® GIB Noiseline®	Timber weatherboard	47	48	31 dB
			Fibre cement weatherboard	53	53	31 dB
			Brick veneer	60	60	31 dB
			Profiled metal	50	50	31 dB
	4	2 x 13mm GIB Braceline® GIB Noiseline®	Timber weatherboard	48	49	31 dB
			Fibre cement weatherboard	53	53	31 dB
			Brick veneer	59	59	31 dB
			Profiled metal	53	53	31 dB

\* Assumes 20% window openings, 13mm plasterboard ceiling lining with insulated ceiling void and a pitched concrete tile roof with no openings.



**BOTTOM PLATE OVERHANG LIGHTWEIGHT CLADDING**

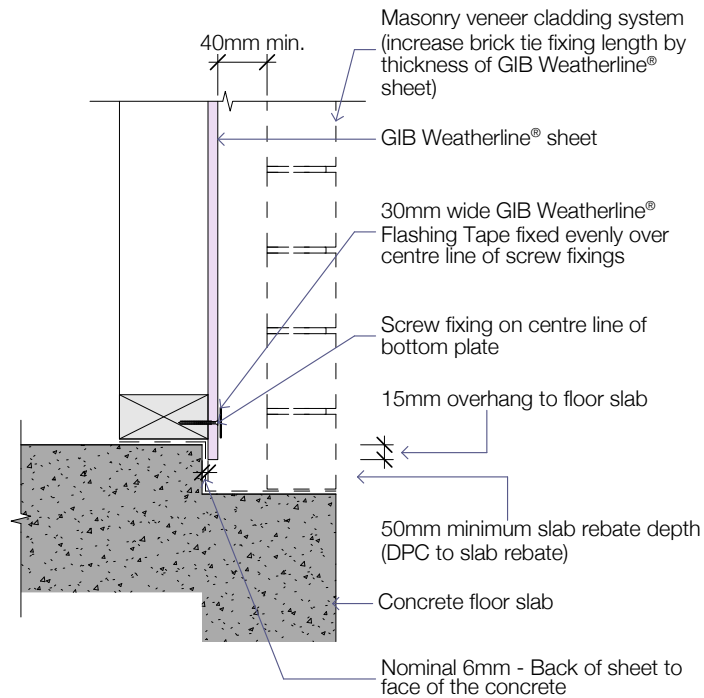
Ensure that sheet set out allows for the bottom edge of the sheet to overhang the ground floor bottom plate to floor junction by 15mm minimum. Install cavity closers as required, as part of the cladding system.



GWL001

**BOTTOM PLATE OVERHANG BRICK VENEER CLADDING**

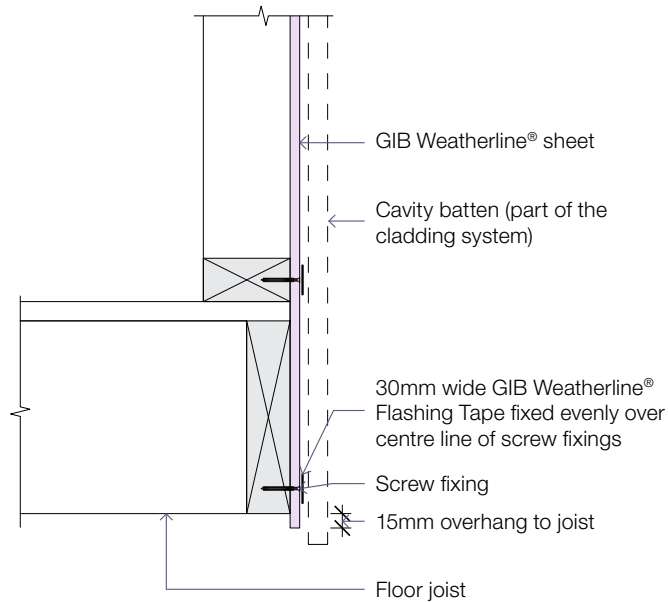
Ensure the sheet set out allows for the bottom edge of the sheet to overhang the ground floor bottom plate to floor junction by 15mm minimum.



GWL002

**BOTTOM PLATE OVERHANG TIMBER SUB-FLOOR**

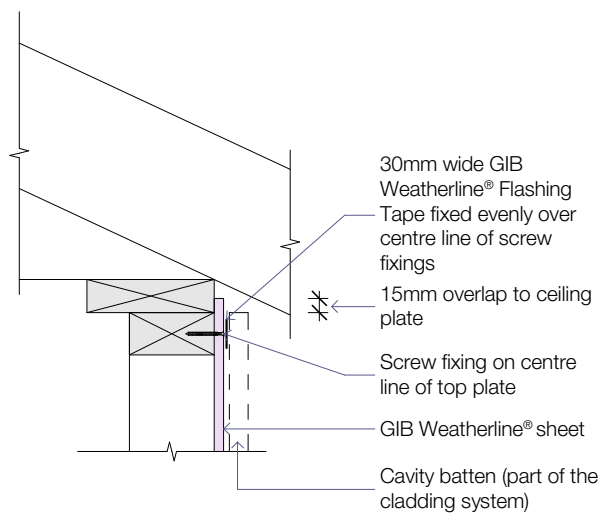
Ensure the sheet set out allows for the bottom edge of the sheet to overhang the bottom of the boundary joist by 15mm minimum.



GWL035

**TOP PLATE OVERHANG**

Where applicable, ensure that sheet set out allows for the top edge of the sheet to overhang the top plate to ceiling plate junction by 15mm minimum.



GWL003

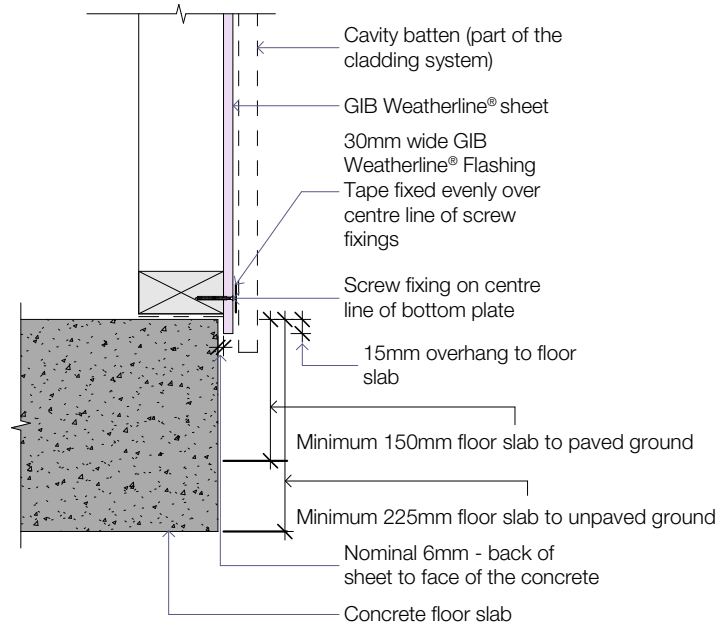
**CLADDING GROUND CLEARANCE**

Minimum ground clearances must be maintained for the cladding system being installed. Install cavity closers as required, as part of the cladding system.

Cladding ground clearances must comply with E2/AS1 Clause 9.1.3, Table 18 and Figure 65 together with the cladding clearances for timber floors in NZS 3604.

The ground adjacent to the cladding must slope away from the cladding.

GIB Weatherline® Rigid Air Barrier Systems sheets must not be installed where they will remain in contact with non-draining water, damp ground, or soil.

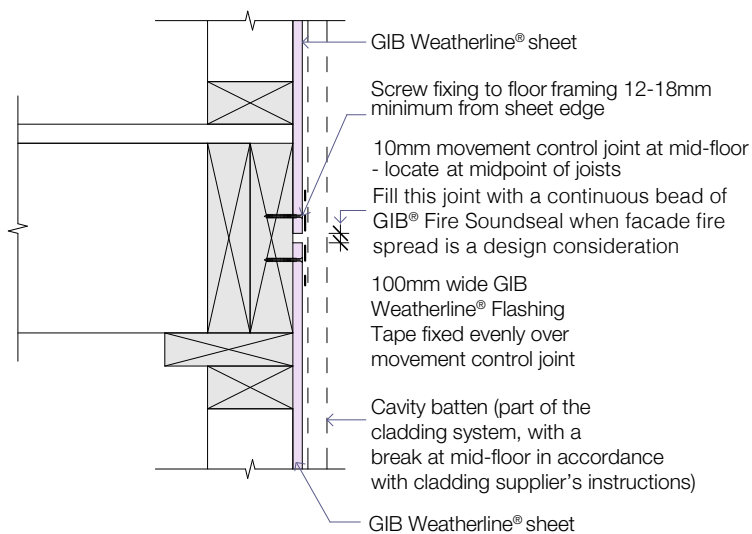


GWL004

**HORIZONTAL SHEET JOINT AT MID FLOOR**

For buildings of two or more storeys, a horizontal sheet junction is required at the building's mid or intermediate floors, to allow for any potential floor structure movement. The sheets can be screw fixed to the mid-floor framing.

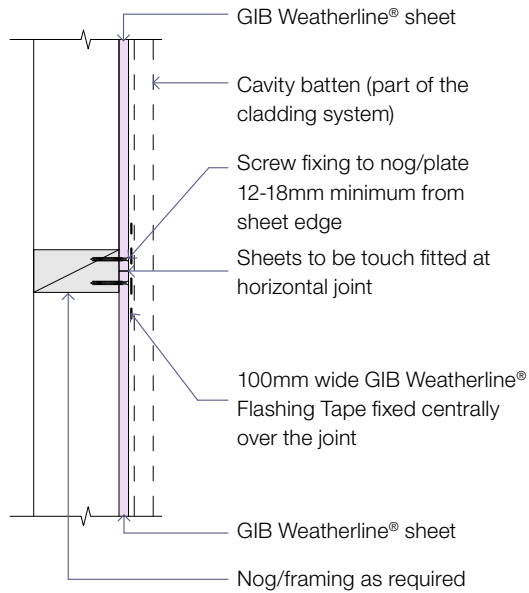
Ensure the sheets are positioned to allow a 10mm gap between the upper and lower sheet edges, at mid-floor horizontal junctions. It is recommended to form a break in the cavity batten at mid-floor.



GWL005

**HORIZONTAL SHEET JOINT**

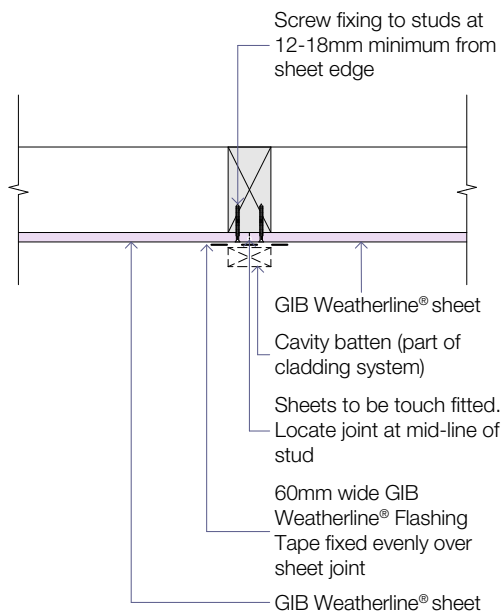
For buildings with stud heights requiring more than one sheet length (i.e. where horizontal joints are located other than mid or intermediate floor locations), provide framing to support the horizontal joint.



GWL006a

**VERTICAL SHEET JOINT**

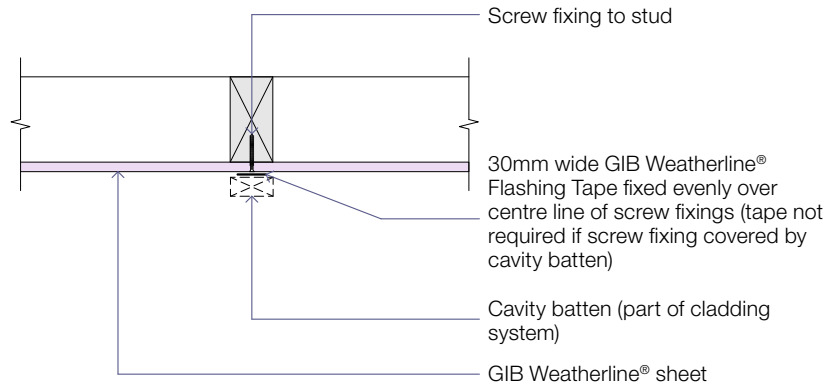
Set out should allow for vertical sheet edges to be touch fitted at vertical joints, on the centre line of the wall framing.



GWL007

**VERTICAL MID-SHEET FIXING**

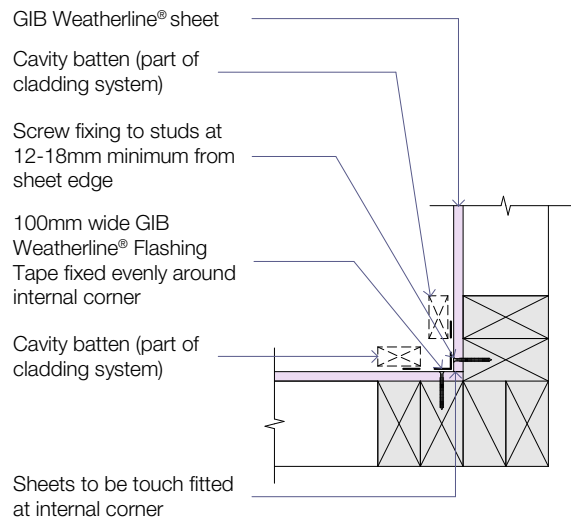
Vertical mid-sheet fixings to be covered by GIB Weatherline® Rigid Air Barrier Systems flashing tape.



GWL026

**INTERNAL CORNER**

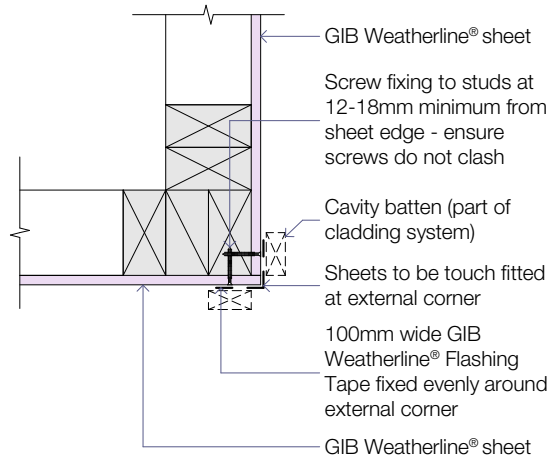
At internal corners install the sheets so that they are touch fitted to each other (or to the face of the wall framing), into the corner.



GWL008

**EXTERNAL CORNER**

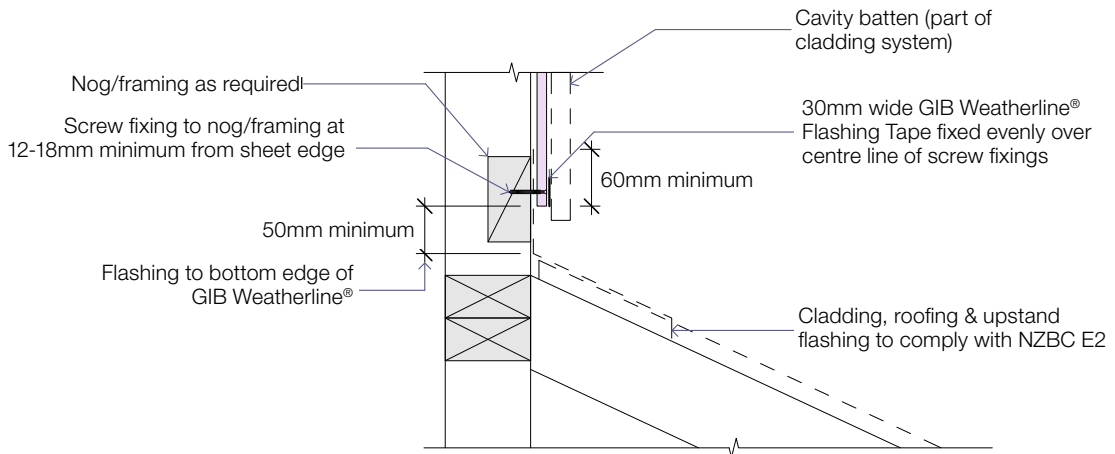
At external corners install the first sheet vertically overlapping the corner framing by the thickness of the sheet. Touch fit the adjacent sheet vertically to the back face of the previously installed overlapping sheet.



GWL009

**SKIRT ROOF JUNCTION**

For GIB Weatherline® Rigid Air Barrier Systems terminating at a roof flashing upstand, install cavity closers as required, as part of the cladding system.

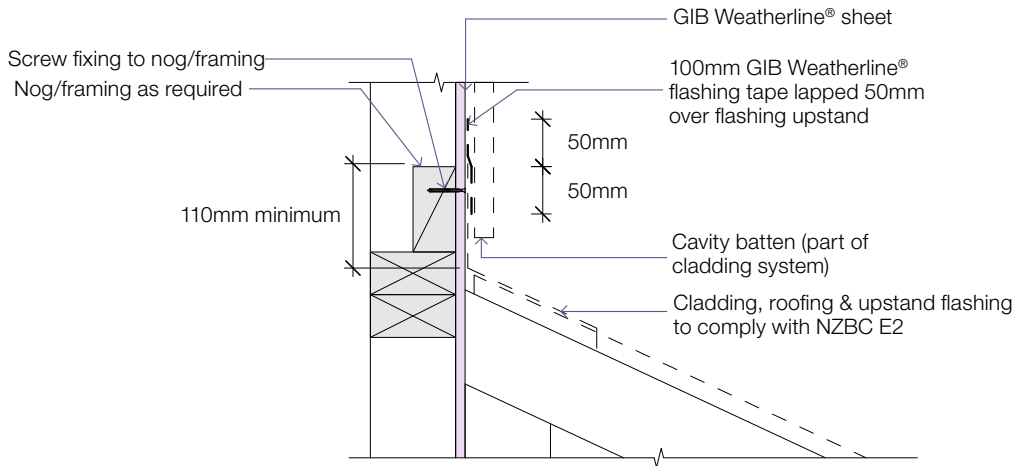


GWL024



**SKIRT ROOF JUNCTION**

For GIB Weatherline® Rigid Air Barrier Systems continuing past roof flashing upstand, install cavity closers as required, as part of the cladding system.

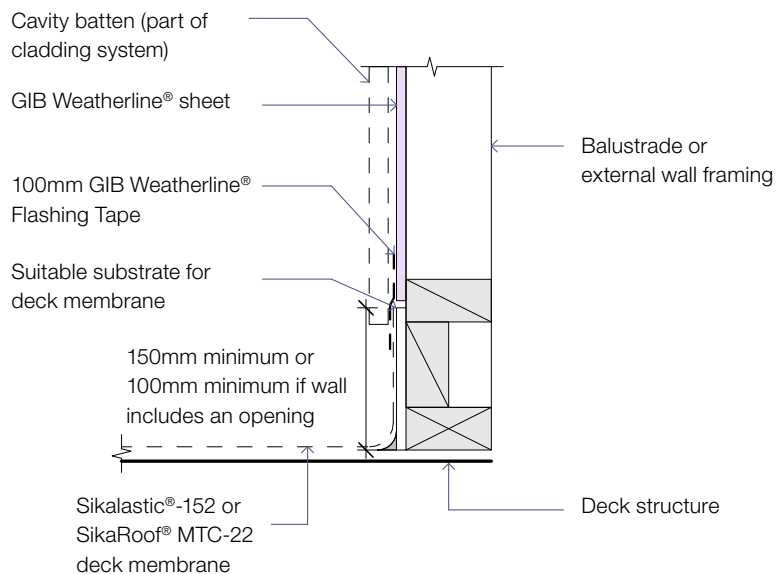


GWL022

**ENCLOSED DECK JUNCTION**

For buildings with enclosed decks use 100mm GIB Weatherline® Flashing Tape to seal the gap where the Sikalastic®-152 or SikaRoof® MTC-22 deck membrane meets the GIB Weatherline® sheet. If an alternative deck membrane

product is used it is the responsibility of the designer to ensure that any gap between the deck membrane and the GIB Weatherline® sheet is sealed.

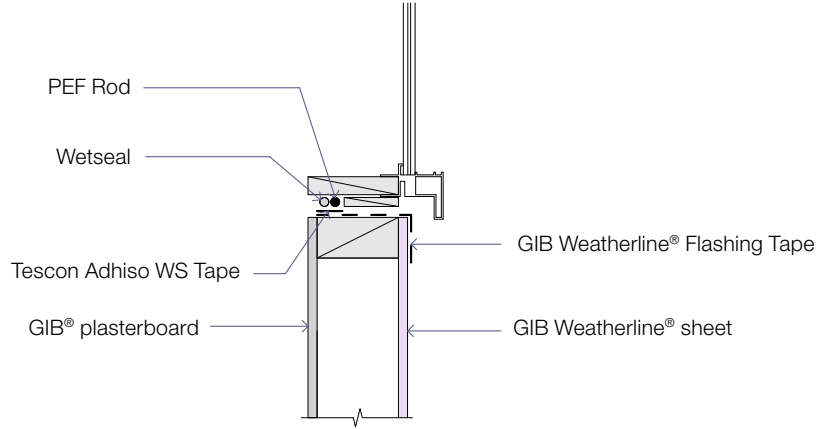


GWL034

**AIR SEAL FORMED WITH SEALANT**

Sealants may not adhere well to GIB Weatherline® Flashing and Sill Tapes. Additional taping of the window and door openings with Tescon Adhiso WS is required before the joinery is installed.

Position the Tescon Adhiso WS Tape in the opening so that the centreline of the tape aligns with the centreline of the sealant that will be used to form the air seal.



GWL036

**Table 11: GIB Weatherline® technical data**

Product	Type	Description	Performance values	Units
10mm GIB Weatherline®	General	Density	860	kg/m <sup>3</sup>
	Mechanical properties	Average bending stress in longitudinal direction according to ASTM C473 - 12	5.95	MPa
		Characteristic bending stress in longitudinal direction according to ASTM C473 - 12	4.94	MPa
		Average bending stress in transverse direction according to ASTM C473 - 12	3.36	MPa
		Characteristic bending stress in transverse direction according to ASTM C473 - 12	2.24	MPa
		Average modulus of elasticity according to ASTM C473 - 12	3198	MPa
	Shear strength	Average maximum load for GIB® Grabber® Ceramic Coated Screw	660	N
		Characteristic load for GIB® Grabber® Ceramic Coated Screw	394	N
	Fire	Bare product surface finish properties according to ISO 5660 Reaction to Fire Tests. NZBC Acceptable Solutions C/AS2-C/AS6 paragraphs 5.8.1a) and 5.8.1b).	Satisfied	
		Reaction to fire classification according to EN 13501-1:2018	A1	
	Moisture resistance	2 hour water absorption (full immersion) according to AS/NZS 2588	<3	%
		Surface water absorption (2 hours Cobb test) according to AS/NZS 2588	<100	g/m <sup>2</sup>
		Water vapour resistance according to ASTM E96	<0.8	MNs/g
	Dimensional stability	Thermal coefficient of linear expansion in longitudinal and transverse directions (21°C – 60°C)	1.3 x 10 <sup>-5</sup>	m/m/°C
		Hygrometric coefficient of linear expansion in longitudinal and transverse directions at 22°C (54%RH – 85%RH)	1.1 x 10 <sup>-5</sup>	m/m/%RH
Thermal	Thermal resistance	0.04	m <sup>2</sup> K/W	
Humidified sag	Mid-span sag according to AS/NZS 2588	<5	mm	
Mould resistance	Resistance to mould growth	0/0	No mould growth	
13mm GIB Weatherline®	General	Density	860	kg/m <sup>3</sup>
	Mechanical properties	Average bending stress in longitudinal direction according to ASTM C473 - 12	4.77	MPa
		Characteristic bending stress in longitudinal direction according to ASTM C473 - 12	4.09	MPa
		Average bending stress in transverse direction according to ASTM C473 - 12	2.37	MPa
		Characteristic bending stress in transverse direction according to ASTM C473 - 12	1.50	MPa
		Average modulus of elasticity according to ASTM C473 - 12	2755	MPa
	Shear strength	Average maximum load for GIB® Grabber® Ceramic Coated Screw	750	N
		Characteristic load for GIB® Grabber® Ceramic Coated Screw	555	N
	Fire	Bare product surface finish properties according to ISO 5660 Reaction to Fire Tests. NZBC Acceptable Solutions C/AS2-C/AS6 paragraphs 5.8.1a) and 5.8.1b).	Satisfied	
		Reaction to fire classification according to EN 13501-1:2018	A1	
	Moisture resistance	2 hour water absorption (full immersion) according to AS/NZS 2588	<3	%
		Surface water absorption (2 hours Cobb test) according to AS/NZS 2588	<100	g/m <sup>2</sup>
		Water vapour resistance according to ASTM E96	<1.0	MNs/g
	Dimensional stability	Thermal coefficient of linear expansion in longitudinal and transverse directions (21°C – 60°C)	1.3 x 10 <sup>-5</sup>	m/m/°C
		Hygrometric coefficient of linear expansion in longitudinal and transverse directions at 22°C (54%RH – 85%RH)	1.1 x 10 <sup>-5</sup>	m/m/%RH
Thermal	Thermal resistance	0.05	m <sup>2</sup> K/W	
Humidified sag	Mid-span sag according to AS/NZS 2588	<4	mm	
Mould resistance	Resistance to mould growth	0/0	No mould growth	

**Acoustic**

Concerned with sound or the sense of hearing, including how sound behaves within a room, between rooms or between rooms and the outside environment.

**Air barrier**

A layer fitted to the external envelope that is designed to prevent the uncontrolled flow of air into and out of the interior of a building.

**BMT**

Bare Metal Thickness.

**Cavity cladding system**

The exterior weather resistant surface of a building wall that incorporates a drained and vented cavity.

**D2m,nT,w**

Metric used to express the difference between the outdoor noise level at 2 metres from a façade and the indoor noise level, by considering the transmission loss through all sound transmission paths (e.g. glazing, roof, eaves, etc). It is a single number value which expresses the performance of the whole façade. In theory, subtracting the D2m,nT,w of a façade from any given noise level at 2 metres from that façade will give you the internal noise level. "D" stands for noise level difference; "2m" means the external level this metric is applied to is at 2 metres from the façade; "nT" means the internal space is normalised to a reference reverberation time of 0.5 seconds; "w" means the D2m,nT,w spectrum is weighted against a reference curve to give a single value.

**dB**

An abbreviation for decibel. A decibel is the unit of measure for sound pressure level. A decibel is a tenth of a Bel.

**Environmental noise**

Sound from the outside environment that is unwanted by the listener.

**External wall**

Any vertical exterior face of a building consisting of primary and/or secondary elements intended to provide protection against the outdoor environment.

**Flexible wall underlay**

A building paper or synthetic material used as part of a wall cladding system to assist the control of moisture by ensuring moisture which occasionally penetrates the wall cladding is directed back to the exterior of the building.

**FRR**

Fire Resistance Rating.

**LB**

Load bearing. Indicates the building element being referred to can resist a structural load.

**NLB**

Non-load bearing. Indicates the building element being referred to cannot resist a structural load.

**NZBC**

New Zealand Building Code.

**Parapet wall**

A wall that extends above the level of the roof cladding.

**PMMA**

Polymethyl Methacrylate. Used as an interlayer in laminated glass panels.

**Primary drainage plane**

The outside weather resistant surface of roof or cavity wall cladding and the back of such cladding.

**Rigid air barrier**

A layer of rigid sheathing fitted to the external side of the exterior wall framing, which is designed to prevent the flow of air into and out of the interior of a building. When used in conjunction with a drained cavity it can also provide a tertiary drainage plane behind the wall cladding.

**Roof underlay**

A building paper, synthetic material or rigid sheathing used on the underside of a roof cladding system to assist the control of moisture by ensuring moisture which occasionally penetrates the roof cladding is directed back to the exterior of the building.

**Secondary drainage plane**

An additional surface, that sits behind the drained and vented cavity cladding, capable of resisting external moisture penetration.

**SED**

Specific Engineering Design.

**Skirt roof**

A roof between storeys of a building.

**Sound**

A travelling vibration through an elastic medium that may be detected by a hearing system.

**STC**

Sound Transmission Class.

**Structural cavity batten**

A vertical packing member used to create a drained cavity as part of a cladding system and that also provides sufficient strength to act as a substrate for the wall cladding to be fixed to.

**Temporary weathertight exterior**

An external building surface able to be exposed to the elements for up to 180 days.

**Wall cladding**

The weather resistant exterior surface of a building.

**Wall underlay**

A building paper, synthetic material or rigid sheathing used as part of a wall cladding system to assist the control of moisture by ensuring moisture which occasionally penetrates the wall cladding is directed back to the exterior of the building.

**WRB**

Water Resistive Barrier. A self adhesive flexible wall underlay that allows water vapour to pass but is impervious to liquid water.

**Weathertight**

A state where water is prevented from entering and accumulating behind cladding in amounts that can cause undue dampness or damage to the building elements.

**Wind zone**

Categorisation of wind force experienced on a particular site as determined in NZS 3604, Section 5.

**Wind wall**

A wall that projects beyond the plane of the external wall.





# GIB Weatherline® Rigid Air Barrier Systems, May 2022

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## LIMITATIONS

Winstone Wallboards Ltd accepts no liability if the GIB Weatherline® Rigid Air Barrier Systems and junction details are not installed in strict accordance with instructions contained within this publication.

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## USE ONLY THE CURRENT SPECIFICATION

This publication may be superseded by a new publication. Winstone Wallboards accepts no liability for reliance upon publications that have been superseded. You should check the GIB® website to ensure you are using the current publication. If you are unsure whether this is the current publication, simply call the GIB® Helpline on 0800 100 442.

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## SUBSTITUTION

GIB Weatherline® Rigid Air Barrier Systems have been specifically designed and tested to achieve the stated performance levels. To maintain the GIB® Product and System Warranty, all system components detailed in this publication must be used when specifying and installing GIB Weatherline® Rigid Air Barrier Systems.

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## TRADEMARKS

The names GIB®, GIB Fyreline®, GIB Ultraline®, GIB Toughline®, GIB Braceline®, GIB Noiseline®, GIB Aqualine®, GIB Weatherline®, GIB Tradeset®, GIB Plus 4®, GIB-Cove®, GIB X-Block®, GIB Lite Blue®, GIBFix®, GIB® Quiet Stud®, GIB Rail®, GIB Barrierline®, GIB Fire Soundseal®, GIB Clip®, the colour mauve for GIB Toughline®, the colour blue for GIB Braceline®, GIB Noiseline®, the colour pink for GIB Fyreline®, the colour green for GIB Aqualine®, the colour purple for GIB Weatherline® and the shield device are registered trademarks of Fletcher Building Holdings Limited.

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