Shingleside®
PANEL

NEW ZEALAND
DECEMBER 2008

TECHNICAL SPECIFICATION

AVAILABLE ONLINE ONLY

James Hardie®

CONTENTS

WE VALUE YOUR FEEDBACK

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James Hardie
Fax 0800 808 988
literaturefeedback@jameshardie.co.nz

1 APPLICATION & SCOPE

1.1 APPLICATION

Shingleside® Panel is suitable to form a unique cladding feature on external walls. Shingleside Panel cladding also makes a perfect combination when used in conjunction with other claddings such as James Hardie weatherboards or Monotek® Sheet cladding etc. Shingleside Panel is manufactured using James Hardie fibre cement technology. The Shingleside Panel cladding is categorized as lightweight wall cladding (not exceeding 30kg/m^2) as per NZS 3604. Shingleside Panel is manufactured in two different profiles, Staggered Edge and Straight Edge. See section 10 for sizes and profiles.

If you are a specifier

Or other responsible party for a project, ensure that the information in this document is appropriate for the application you are planning and that you undertake specific design and detailing for areas which fall outside the scope of these specifications.

If you are an installer

Ensure that you follow the design, moisture management and associated details and material selection provided by the designer. All the details provided in this manual must be read in conjunction with this manual and the project specifications.

Make sure your information is up to date

When specifying or installing James Hardie products, ensure you have the current manual. If you're not sure you do, or you need more information, visit www.jameshardie.co.nz or Ask James Hardie™ on 0800 808 868.

1.2 SCOPE

This specification covers the use of Shingleside Panel for buildings that fall within the scope limitations of the NZBC (New Zealand Building Code) Acceptable Solution E2/AS1 paragraph 1.1. This specification only covers Shingleside Panel cavity construction method.

1.3 DETAILS

Various Shingleside Panel details are provided in the Details section of this document. The figures in CAD format are also available to download from our web site at www.jameshardie.co.nz

1.4 SPECIFIC DESIGN

For use of Shingleside Panel outside the published scope, the architect, designer or engineer must undertake specific design. For advice on designs outside the scope of this specification, Ask James Hardie™ on 0800 808 868.

2 DESIGN

2.1 COMPLIANCE

Shingleside Panel cladding complies with E2 of NZBC as an alternate solution. Shingleside Panel has been tested as per E2/VM1 for weathertightness. Information contained in this document regarding Shingleside Panel is aligned with the requirements of the NZBC.

2.2 RESPONSIBILITY

The specifier or other party responsible for the project design must ensure that the information and details provided in this specification are appropriate for the intended application and that additional detailing is provided for specific design areas or any other areas that fall outside the scope of this technical specification. For application outside the scope of this literature and details which are not provided herein, the architect, designer or engineer must undertake specific design and it should be ensured that the intent of their design meets the requirements of the NZBC.

All dimensions shown are in millimetres unless noted otherwise.

The references made to Standards in this manual are current editions at the time of writing this specification and must be complied with. Please ensure that the standards and other reference documents referred herein are current at the time of construction.

James Hardie conduct stringent quality checks to ensure that any product manufactured falls within our quality spectrum. It is the responsibility of the builder to ensure that the product meets aesthetic requirements before installation. James Hardie will not be responsible for rectifying obvious aesthetic surface variations following installation.

2.3 SITE & FOUNDATION

The site on which the building is situated must comply with the NZBC Acceptable Solution E1/AS1 'Surface Water'. Foundations design must comply with the requirements of NZS 3604 'Timber Framed Buildings' or be as per specific engineering design. The grade of adjacent finished ground must slope away from the building to avoid any possibility of water accumulation in accordance with NZBC requirements.

2.4 CLEARANCES

The bottom edge of cladding must comply with the NZBC Acceptable Solution 'E2/AS1', Paragraph 9.1.3. The floor must have a minimum clearance to paved or unprotected ground as required by NZS 3604. Shingleside Panel must overhang the bottom plate on a concrete slab by a minimum of 50mm as required by NZS 3604. Shingleside panels must have a minimum clearance of 100mm from paved ground and 150mm from unpaved ground. On the roofs and decks the minimum clearance must be 50mm.

Do not install external cladding such that it may remain in contact with water or ground.

2.5 MOISTURE MANAGEMENT

It is the responsibility of specifier to identify moisture related risks associated with any particular building design.

Wall construction design must effectively manage moisture, considering both the interior and exterior environments of the building, particularly in buildings that have a higher risk of wind driven rain penetration or that are artificially heated or cooled.

Walls shall include those provisions as required by the NZBC Acceptable Solution E2/AS1 'External Moisture'. In addition all wall openings, penetrations, junctions, connections, window sills, heads and jambs must incorporate appropriate flashing for waterproofing. The other materials, components and installation methods used to manage moisture in the walls, must comply with the requirements of relevant standards and the NZBC.

For further information in relation to designing for weathertightness, refer to the Building Research Association of New Zealand (BRANZ) and the Department of Building and Housing (DBH) updates on the following websites, respectively www.branz.co.nz and www.dbh.govt.nz.

2.6 STRUCTURE

Timber-framed buildings must be designed in accordance with NZS 3604 'Timber Framed Buildings'. When the framing is provided as per the specific engineering design, the framing stiffness must be equivalent to or more than the stiffness requirements of NZS 3604.

2.7 WIND LOADING

Shingleside Panel cladding is suitable for use in all New Zealand wind zones up to and including VH as defined in NZS 3604. A specific design is required for all situations where the building falls in (SED) wind zone.

2.8 FIRE RATED WALLS

Shingleside Panel clad walls using cavity construction method can achieve fire ratings up to 60/60/60 when the walls are constructed in accordance with this literature and include the requirements of James Hardie fire rated systems as specified in 'Fire and Acoustic' technical specification manual. Refer to 'Fire and Acoustic' literature for further information about fire rated systems.

2.9 BRACING

Shingleside panels can not be used to achieve structural bracing. However the bracing ratings can be achieved by fixing RAB board instead of building wrap before fixing cavity battens or by using Villaboard internal lining. Refer to James Hardie Bracing information manual for details.

2.10 ENERGY EFFICIENCY

External walls constructed using Shingleside Panel, bulk insulation, where the area of glazing is 30% or less of the total wall area and constructed as per this technical specification complies with the requirements for walls in NZBC Acceptable Solution H1/AS1 (NZBC Clause H1 Energy Efficiency), Replacement Table 1. To meet thermal insulation requirements for the construction, the bulk insulation as specified in Table 1 must be used. This insulation may be substituted with insulations having higher R-values. The thermal insulation of a wall gets affected when the depth of the timber framing is increased or decreased. The calculation used in Table 1 is based on a timber framing size 90 x 45mm and using an internal lining material such as James Hardie Villaboard® Lining or a 10mm plasterboard.

TABLE 1

INSULATION CAPABILITY		
Climate Zone	Construction R-Value Requirement	Minimum R-Value of Insulation Required
1 & 2	1.9 m^2 ºC/W	#R2.0
3	2.0 m^2 ºC/W	#R2.2
Total construction R-Value depends on the insulation material used and the framing ratio. The insulation material R-Values specified in this table are for studs spaced at 600mm c/c and nogs spaced at 800mm c/c. # To achieve higher R-Values of construction the wall insulation material must be replaced with an insulation material having higher R-Values to suit the requirements. For further guidance on insulation requirement refer to current edition of 'House Insulation Guide' published by BRANZ.		

3 FRAMING

3.1 GENERAL

This Shingleside Panel technical specification is only suitable for timber-framed buildings. Other framing materials are outside the scope of this specification.

3.2 DIMENSIONS

A 45mm minimum stud width is required for Shingleside Panel installation.

3.3 TIMBER GRADE

Minimum timber grade requirements are No.1 framing grade in accordance with NZS 3631 'New Zealand Timber Grading Rules' or equivalent.

3.4 DURABILITY

To comply with NZBC requirements the external framing must be treated to a minimum H1.2 treatment. Refer to NZBC Acceptable Solution B2/AS1 'Durability' for further information about the durability requirements.

For timber treatment and allowable moisture contents information refer to NZS 3602 'Timber and Wood-Based Products for use in Buildings' and NZS 3640 'Chemical Preservation of Round and Sawn Timber' for minimum timber treatment selection and treatment requirements. Framing must be protected from getting wet at sites in accordance with the framing manufacturer's recommendations. Refer to framing manufacturer's literature for further guidance and timber selection.

3.5 FRAME CONSTRUCTION

All timber framing sizes and set-out must comply with NZS 3604 and stud, nogs / dwangs centres as required by this specification. The following framing must be provided for cavity construction method.

- When studs are spaced at 600mm centres maximum the nogs/ dwangs must be provided at 800mm centres maximum.
- When studs are spaced at 400mm centres maximum the nogs/ dwangs may be provided at 1200mm centres maximum.

Use of timber framing must be in accordance with framing manufacturer's requirements.

3.6 TOLERANCES

In order to achieve an acceptable wall finish, it is imperative that framing is straight and true. Framing tolerances must comply with the requirements of NZS 3604. All framing shall be made flush.

4 PREPARATION

4.1 BUILDING WRAP

Building wrap must be must be provided as per the requirements of NZBC Acceptable Solution E2/AS1 'External Moisture' and NZS 3604. The building wraps must comply with Table 23 of E2/AS1. The building wraps must be fixed in accordance with E2/AS1, NZS 3604 and the wrap manufacturer's recommendations. Walls which are not lined on the inside face e.g. garage walls or gable ends must include a rigid sheathing or an air barrier behind the cladding which complies with the requirements of 'E2/AS1' of the NZBC.

4.2 VENT STRIP

The James Hardie PVC cavity vent strip has opening area of 1000mm^2/m length and must be installed at the bottom of all walls constructed using the drained and ventilated cavity construction method. It is important that the openings in the vent strip are kept clear and unobstructed to allow free drainage and ventilation of cavities

4.3 CAVITY BATTENS

Shingleside Panel is to be installed over the cavity battens.

The battens provide airspace between the frame and cladding and are considered a "packer" only in this specification. The timber battens must be minimum H3.1 treated in accordance with NZS 3640 'Chemical preservation of Round and sawn timber' to comply with the durability requirements of NZBC.

Cavity battens must comply with 'E2 /AS1' and be

- Minimum 18mm thick.
- Minimum as wide as the width of studs.
- Fixed by the cladding fixings to the main framing through the building wrap.
- Tacked to framing until claddings are fixed. (Batten fixing is required temporarily to keep them straight on the wall during construction.)

The cavity battens are provided as described below:

- Provide at 300mm centres where studs are at 600mm centres OR
- Provide at studs only where studs are at 400mm centres. Battens must be fixed to the framing using a 40mm x 2.8mm galvanised nails at 800mm centres maximum.

5 FIXING SHINGLESIDE PANEL

4.4 RIGID SHEATHING

For the ease of installation, jointing and to achieve a more irregular pattern of panels on the wall, a 12mm minimum thick H3.1 treated ply can be fixed over the cavity battens. The Shingleside panels are then fixed to ply only. When using rigid sheathing, the vertical joints of panels are not required to be aligned with the studs. Fix ply to the framing using 75 x 3.15mm nails @ 400mm C/C.

4.5 FLASHING

All wall openings, penetrations, intersections, connections, window sills, heads and jambs must be flashed prior to Shingleside Panel installation. Please refer to moisture management requirements in Clause 2.5. The building wraps must be appropriately incorporated with penetration and junction flashings. Materials must be lapped in such a way that water tracks down to the exterior on the face of building wrap. James Hardie will assume no responsibility for water infiltration within the wall due to poor installation of flashings or building wraps.

The selected flashing materials must comply with the durability requirements of 'E2/AS1' of NZBC.

5.1 GENERAL

Shingleside straight edge panel must be fixed with a maximum effective cover of 180mm and Shingleside staggered edge panel must be fixed with a maximum effective cover of 170mm (when measured from the shortest staggered panel). Refer to figure.

Shingleside Panel must be kept dry and under cover whilst in storage prior to and during the installation. The framing moisture must not exceed 24% prior to panel installation.

A 6mm thick fibre cement or H3.1 timber cant strip is provided at the bottom plate to support the bottom board on the wall. A 240mm wide James Hardie Smooth weatherboard or a 6mm fibre cement sheet starter board must be fixed at the bottom before starting installation of Shingleside panels over the bottom plate or above window heads etc.

5.2 JOINTING

The Shingleside panels are butt jointed together at vertical joints and these joints are staggered in each layer. Each butt joint is covered under the lap of next panel layer on the top. The staggering of joints in every layer is essential to get an irregular pattern of panels on the wall. Where the ply is used to fix the panels, they can be butt jointed anywhere on the wall regardless of location of studs behind ply. Refer to details for further information.

The edges at external/internal corners, by the side of window & door jambs and meter boxes etc. are required to be primed before panel installation.

5.3 EXTERNAL CORNERS

Shingleside Panel are splayed at external corners. As an alternate the external corner can also be boxed using James Hardie CLD® Trim. A corner underflashing must be used. Refer to external corner detail.

5.4 INTERNAL CORNERS

Shingleside panels are scribed at internal corners. A corner underflashing is used behind the panels. Refer to internal corner detail.

5.5 FASTENER DURABILITY

Fasteners must meet the durability requirements of NZBC. NZS 3604 specifies requirements for fixing material to be used in relation to the exposure conditions and are summarized in Table 2.

TABLE 2: EXPOSURE CONDITIONS & NAIL SELECTION PRESCRIBED BY NZS 3604.

NAIL MATERIAL		
Sea Spray Zones *	Zone 1 outside sea spray zone and Zones 2 – 4 & Geothermal hot spots	Bracing — All zones
Grade 316 Stainless	Hot-dipped galvanised or 316 stainless	Grade 316 Stainless

**(Zone 1 areas where local knowledge dictates that increased durability is required, appropriate selection shall be made).*

Also refer to NZBC Acceptable Solution 'E2/AS1' Table 20 and 21 for information regarding the selection of suitable fixing materials and their compatibility with other materials.

5.6 FASTENERS AND FIXING METHOD

Shingleside Panel can be either fixed to studs through cavity battens or to H3.1 treated ply fixed over cavity battens to framing with the types of nails specified in Tables 3 and in accordance with the following requirements;

- All fasteners must be driven flush with the board surface.
- When fixing around the edges, fasteners must be driven at a minimum distance of 12mm from the vertical edge and 25mm from the top edge of lower panel.

TABLE 3: FASTENER REQUIREMENTS FOR SHINGLESIDE PANEL

FIXING TO FRAMING	
60 x 3.15 mm HardiFlex nail	Finish flush with the board surface to studs

FIXING TO PLY	
30 x 2.5 mm galvanised clouts or 40 x 2.8 mm HardiFlex® nail	Finish flush with the board surface @ 300mm C/C
30 x 2.8 mm flat head stainless steel nails	Finish flush with the board surface @ 300mm C/C
30mm x 6g Villadrive screw	Finish flush with the board surface @ 400mm C/C
30mm x 7g Hardidrive S.steel screw	Finish flush with the board surface @ 400mm C/C

5.7 GUN NAILING

Shingleside Panel can be installed using nail guns.

- Full round head nails must be used to achieve the required holding power. The size of these nails must be as per Table 3. Check with nail gun manufacturer for further information.

6 FINISHING

Note: Protective coating of Shingleside Panel is essential in order to meet the durability requirements of the New Zealand Building Code.

6.1 PREPARATION

Before painting, remove any surface dirt, grime or other contaminants and ensure the Shingleside panels are dry before painting.

6.2 SEALANTS

The sealants used with Shingleside Panel cladding must demonstrate the ability to meet the relevant requirements of the NZBC. Application and use of sealants must comply with manufacturer's instructions. Sealants, if coated, must be compatible with the paint system.

6.3 PAINTING

Shingleside Panel must be painted within 90 days of the installation. All exposed faces, including the top edges under the sills, the bottom edges and exposed vertical edges of Shingleside Panel must be primed and painted with two coats of quality exterior paint system complying with AS 3730.

Some environments require special coatings. Painting selection and specifications is dependant on the paint system chosen. Refer to the paint manufacturer.

7 MAINTENANCE

It is the responsibility of the specifier to determine normal maintenance requirements to comply with the NZBC Acceptable Solution B2/AS1.

The extent and nature of maintenance will depend on the geographical location and exposure of the building. As a guide, it is recommended that basic normal maintenance tasks shall include but not be limited to:

- Washing down exterior surfaces every 6-12 months*,
- Re-applying exterior protective finishes**,
- Maintaining the exterior envelope and connections including joints, penetrations, flashings and sealants.
- Cleaning out gutters, blocked pipes and overflows as required,
- Pruning back vegetation which is close to or touching the building.

*Do not use a water blaster to wash down the cladding.

**Refer to your paint manufacturer for washing down and recoating requirements related to paint performance.

8 PRODUCT INFORMATION

8.1 MANUFACTURING & CLASSIFICATION

Shingleside panels are a cellulose fibre reinforced cement building product made of Portland cement, sand, wood fibre and water. Shingleside Panel is manufactured to meet the requirements of AS/NZS 2908.2: 2000 'Cellulose-Cement Products', Shingleside Panel is classified as Type A, Category 3 in accordance with this standard. Shingleside panels are identified by the printing of the batch number and date of manufacture on the back face.

8.2 DURABILITY

Shingleside Panel when installed and maintained as per this technical specification will meet the durability requirements for claddings as required in NZBC Approved Document B2 'Durability'.

8.2.1 RESISTANCE TO MOISTURE/ROTTING

Shingleside Panel demonstrates resistance to permanent moisture induced deterioration (rotting) by passing the following tests in accordance with AS/NZS2908.2

- Water Permeability (Clause 8.2.2)
- Warm Water (Clause 8.2.4)
- Heat Rain (Clause 6.5)
- Soak Dry (Clause 8.2.5)

8.2.2 RESISTANCE TO FIRE

Shingleside Panel has the following Early Fire Hazard Indices when tested in accordance with AS 1530 Part 3.

TABLE 4:

EARLY FIRE HAZARD INDICES	
Flammability (FI)	0
Spread of Flame Index (SFD)	0
Heat evolved index	0
Smoke developed index (SDI)	0 – 1

8.2.3 ALPINE REGIONS

In regions subject to freeze/thaw conditions, Shingleside Panel must not be in direct contact with snow or ice build up for extended periods, e.g. external walls in alpine regions subject to snow drifts over winter.

The Shingleside Panel has been tested in accordance with AS/NZS 2908.2 Clause 8.2.3

9 SAFE WORKING PRACTICES

WARNING - DO NOT BREATHE DUST AND CUT ONLY IN WELL VENTILATED AREA

James Hardie products contain respirable crystalline silica which is considered by some international authorities to be a cause of cancer from some occupational sources. Breathing excessive amounts of respirable silica dust can also cause a disabling and potentially fatal lung disease called silicosis, and has been linked with other diseases. Some studies suggest smoking may increase these risks. During installation or handling: (1) work in outdoor areas with ample ventilation; (2) minimise dust when cutting by using either 'Score and Snap' knife, fibre cement shears or, where not feasible, use a HardiBlade® Saw Blade and dust-reducing circular saw attached to a HEPA vacuum; (3) warn others in the immediate area to avoid breathing dust; (4) wear a properly-fitted, approved dust mask or respirator (e.g. P1 or P2) in accordance with applicable government regulations and manufacturer instructions to further limit respirable silica exposures. During clean-up, use HEPA vacuums or wet cleanup methods - never dry sweep. For further information, refer to our installation instructions and Material Safety Data Sheets available at www.jameshardie.co.nz.

FAILURE TO ADHERE TO OUR WARNINGS, MATERIAL SAFETY DATA SHEETS, AND INSTALLATION INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

JAMES HARDIE RECOMMENDED SAFE WORKING PRACTICES

CUTTING OUTDOORS

Position cutting station so that wind will blow dust away from user or others in working area. Use one of the following methods based on the required cutting rate:

BEST

■ Score and snap ■ Hand guillotine ■ Fibreshear

BETTER

■ Dust reducing circular saw equipped with HardiBlade Saw Blade and HEPA vacuum extraction.

GOOD

■ Dust reducing circular saw equipped with HardiBlade Saw Blade.

CUTTING INDOORS

■ Cut only using score and snap, hand guillotine or fibreshears (manual, electric or pneumatic).
■ Position cutting station in well-ventilated area

DRILLING/OTHER MACHINING

When drilling or machining you should always wear a P1 or P2 dust mask and warn others in the immediate area.

IMPORTANT NOTES:

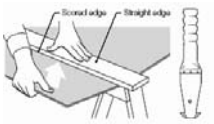
1. For maximum protection (lowest respirable dust production), James Hardie recommends always using "Best"- level cutting methods where feasible
2. NEVER use a power saw indoors
3. NEVER use a circular saw blade that does not carry the HardiBlade logo
4. NEVER dry sweep – Use wet suppression or HEPA Vacuum
5. NEVER use grinders
6. ALWAYS follow tool manufacturer's safety recommendations

P1 or P2 respirators can be used in conjunction with above cutting practices to further reduce dust exposures. Additional exposure information is available at www.jameshardie.co.nz to help you determine the most appropriate cutting method for your job requirements. If concern still exists about exposure levels or you do not comply with the above practices, you should always consult a qualified industrial hygienist or contact James Hardie for further information.

WORKING INSTRUCTIONS

Refer to Recommended Safe Working Practices before starting any cutting or machining of product.

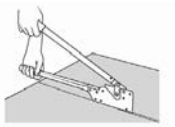
SCORE AND SNAP



Score and Snap is a fast and efficient method of cutting the product using James Hardie's special tungsten tipped Score and Snap knife.

Preferably score on the face side of the product. Score against a straight edge and repeat the action to obtain adequate depth for clean break – normally 1/3 of sheet thickness. Snap upwards to achieve break. Smooth any rough edges with a rasp.

HAND GUILLOTINE



Make guillotine cut on the off-cut side of line to allow for the thickness of the blade.

FIBRESHEAR HEAVY DUTY

An electrically powered, fast, clean and effortless way of cutting James Hardie building products, especially around curves such as archways. Make Fibreshear cut on the "off-cut" side of the line to allow for the thickness of the shear.

HARDIBLADE SAW BLADE

The HardiBlade Saw Blade used with a dust-reducing saw connected to a HEPA vacuum is ideal for fast, clean cutting of James Hardie fibre cement products. A dust-reducing saw uses a dust deflector or a dust collector connected to a vacuum system. When sawing, clamp a straight-edge to the sheet as a guide and run the saw base plate along the straight edge when making the cut.

HOLE-FORMING

For smooth clean cut circular holes:
Mark the centre of the hole on the sheet.
Pre-drill a 'pilot' hole.
Using the pilot hole as a guide, cut the hole to the appropriate diameter with a hole saw fitted to a heavy duty electric drill.
For irregular holes:
Small rectangular or circular holes can be cut by drilling a series of small holes around the perimeter of the hole then tapping out the waste piece from the sheet face. Tap carefully to avoid damage to sheets, ensuring that the sheet edges are properly supported.

STORAGE AND HANDLING

All James Hardie building products should be stored to avoid damage, with edges and corners of the sheets protected from chipping. James Hardie building products must be installed in a dry state and be protected from rain during transport and storage. The product must be laid flat under cover on a smooth level surface clear of the ground to avoid exposure to water or moisture, etc.

QUALITY

James Hardie conducts stringent quality checks to ensure that any product manufactured falls within our quality spectrum. It is the responsibility of the builder to ensure that the product meets aesthetic requirements before installation. James Hardie will not be responsible for rectifying obvious aesthetic surface variations following installation.

10 PRODUCT INFORMATION & ACCESSORIES

TABLE 5: SHINGLESIDE PANEL INFORMATION

PRODUCT INFORMATION

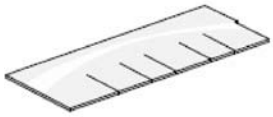
PRODUCT	DESCRIPTION	SIZE		
		LENGTH	WIDTH	THICKNESS
 Shingleside Straight Edge Panel	**SHINGLESIDE PANEL — STRAIGHT EDGE PANEL** Shingleside panels are a low maintenance panel that has the character and charm of cedar shingles but has the durability of fibre cement. **403681**	1200mm	406mm	6.5mm
 Shingleside Staggered Edge Panel	**SHINGLESIDE PANEL — STAGGERED EDGE PANEL** Shingleside panels are a low maintenance panel that has the character and charm of cedar shingles but has the durability of fibre cement. **403680**	1200mm	406mm	6.5mm

TABLE 6:

ACCESSORIES/TOOLS SUPPLIED BY JAMES HARDIE

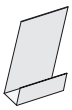
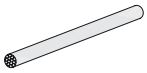
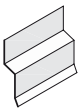
	ACCESSORY AND MATERIAL NUMBER	SIZE (MM)	MATERIAL / APPEARANCE
	**uPVC Corner Flashing** A 50 x 50mm Corner Underflashing for internal and external joints Pack of 20 **303745**	3000 long	PVC / White
	**Score Knife** For cutting FC panels **300914**		
	**HardiFlex Nail** Jar - **302781** 5kg - **302782**	60 x 3.15mm and 75 x 3.15mm	Stainless Steel
	**HardiFlex Nail** Jar - **302783** 5kg - **302784**	60 x 3.15mm and 75 x 3.15mm	Galvanised
	**Hardidrive Screw** **300928**	30mm x 7g	Stainless Steel
	**Villadrive Screw** 100/Jar - **300992** 5kg - **300993** Collated/1000 - **300994**	30mm x 6g	Galvanised
	**uPVC Vent Strip** Used as vermin proofing the bottom of cavities **302490**	3000 long	PVC / White
TOOLS			
	**HardiBlade Saw Blade** Diamond tip fibre cement circular saw blade Spacers not included **300660**	185mm ø	

TABLE 7:

ACCESSORIES/TOOLS NOT SUPPLIED BY JAMES HARDIE

James Hardie recommends the following products for use in conjunction with its Shingleside Panels. James Hardie does not supply these products and does not provide a warranty for their use. Please contact component manufacturer for information on their warranties and further information on their products.

	ACCESSORY AND MATERIAL NUMBER
	**Building wrap** Must comply with E2/AS1 requirements
	**HardiFlex nail** 40 x 2.8mm galvanised or stainless steel
	**Galvanised clout** 30 x 2.5mm
	**Flat head nail** 30 x 2.8mm stainless steel
	**Flexible tape** A flexible self-adhesive tape used in preparation of a window. Refer to the Window installation section in this manual for more information. e.g. Protecto, Thermakraft , Tyvek® , Flexwrap™, etc.
	**Nail Gun** Gas or pneumatic nail gun for fixing Shingleside panels, Use full round head nails. Check table 3 for nail sizes.
	**PEF Rod** Used to from an air seal between the window liner and window opening frame.
	**INSEAL Strip 3109** Used for sealing around window jambs.
	**Head Flashing compliant with E2** Material must comply with E2/AS1 requirements.
	**Polyurethane Sealant** Required to seal the corners. Refer to sealant manufacture's recommendations before applying.

11 DETAILS

DETAILS		
DESCRIPTION	**FIGURE**	**PAGE**
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Shingleside Straight Edge Panel Fixing	Figure 2	13
Shingleside Staggered Edge Panel Fixing	Figure 3	13
Soffit Detail	Figure 4	14
Foundation Detail	Figure 5	14
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Cavity Boxed Corner	Figure 7	15
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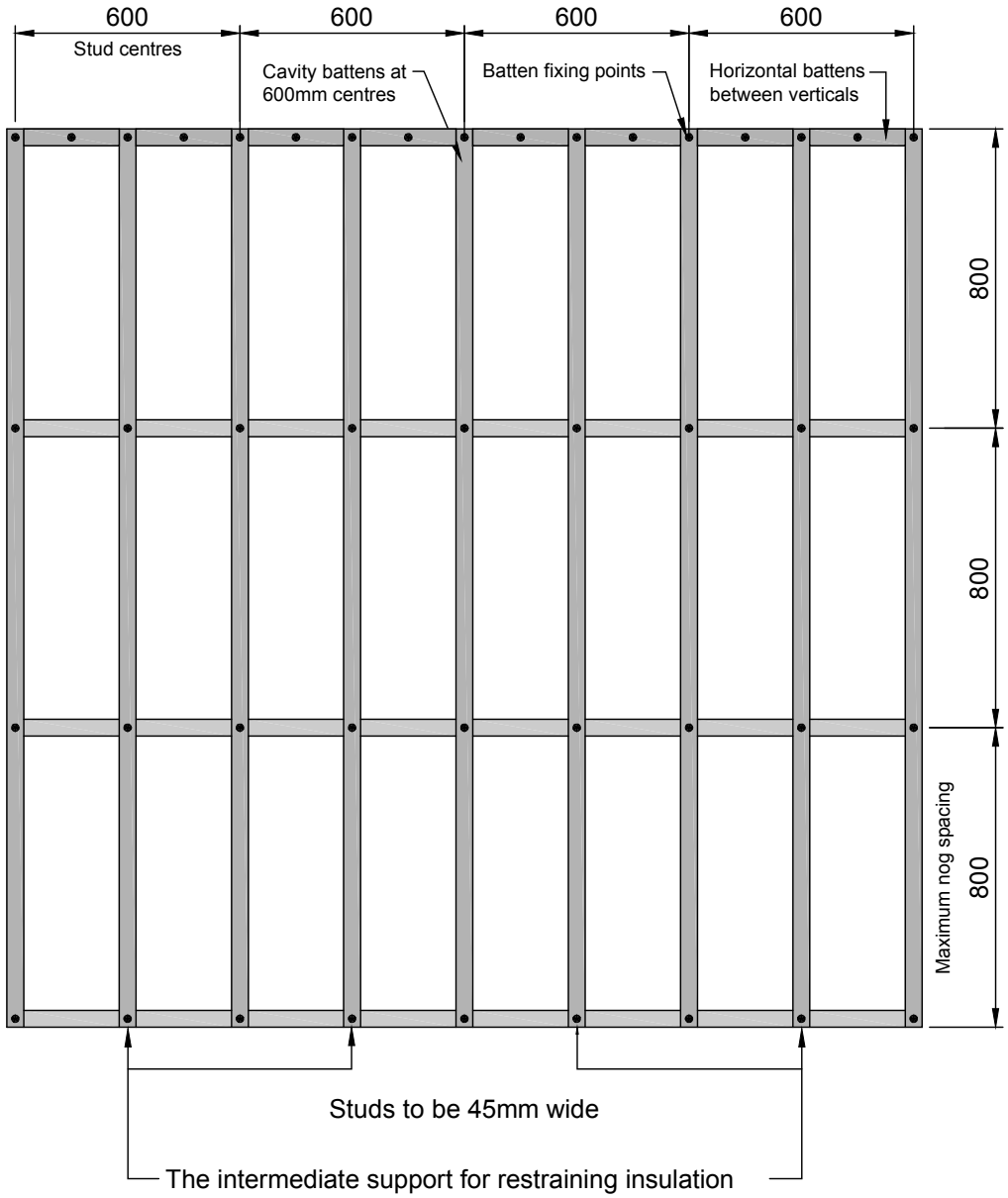


FIGURE 1: CAVITY BATTEN FIXING

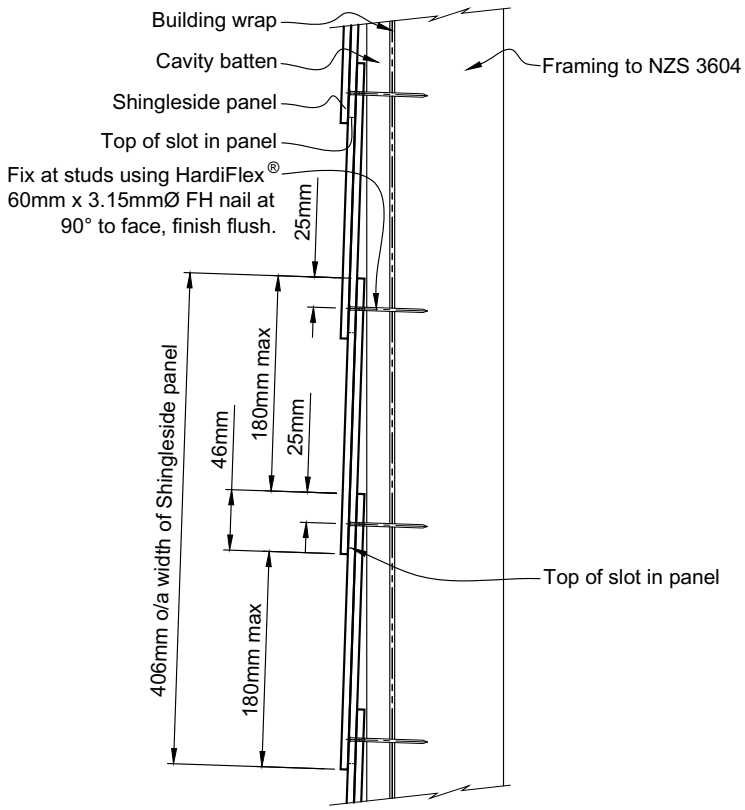


FIGURE 2: SHINGLESIDE STRAIGHT EDGE PANEL FIXING

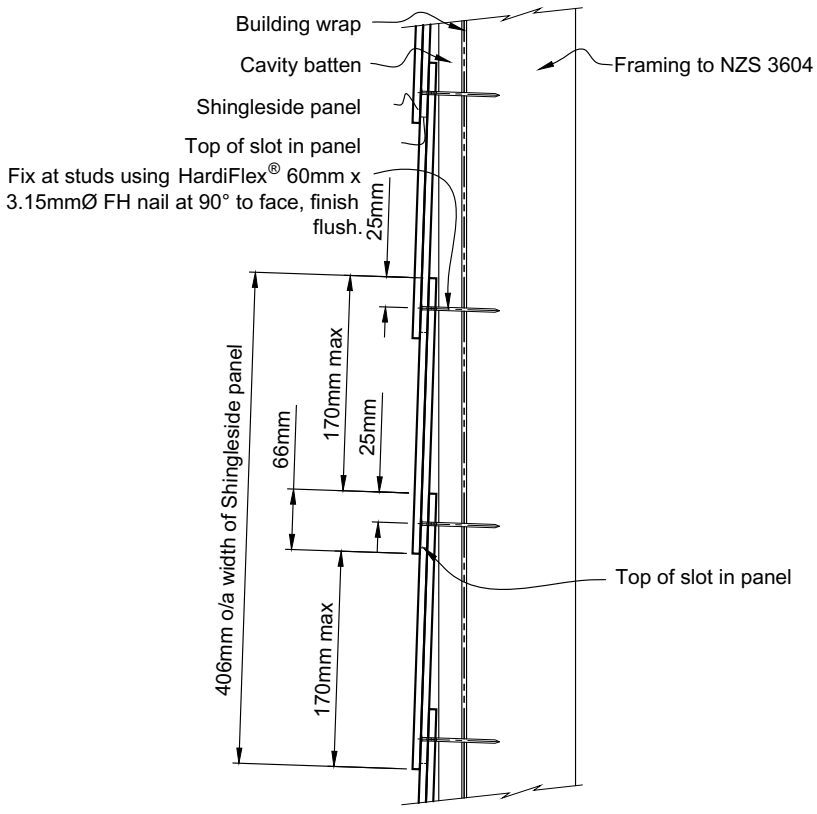


FIGURE 3: SHINGLESIDE STAGGERED EDGE PANEL FIXING

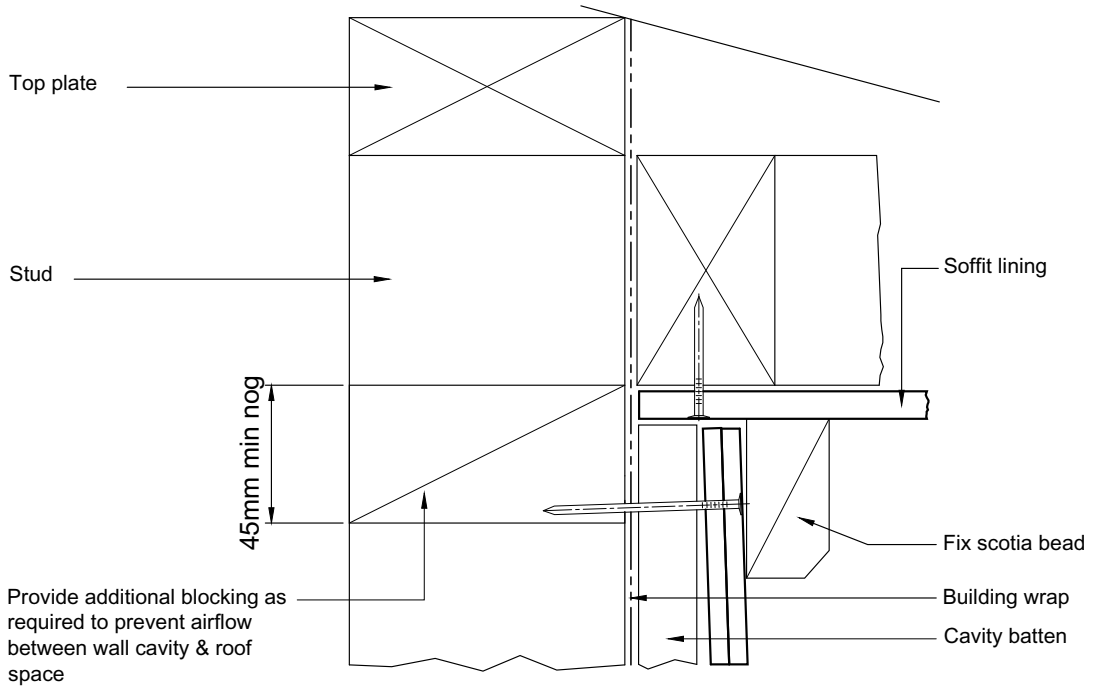


FIGURE 4: SOFFIT DETAIL

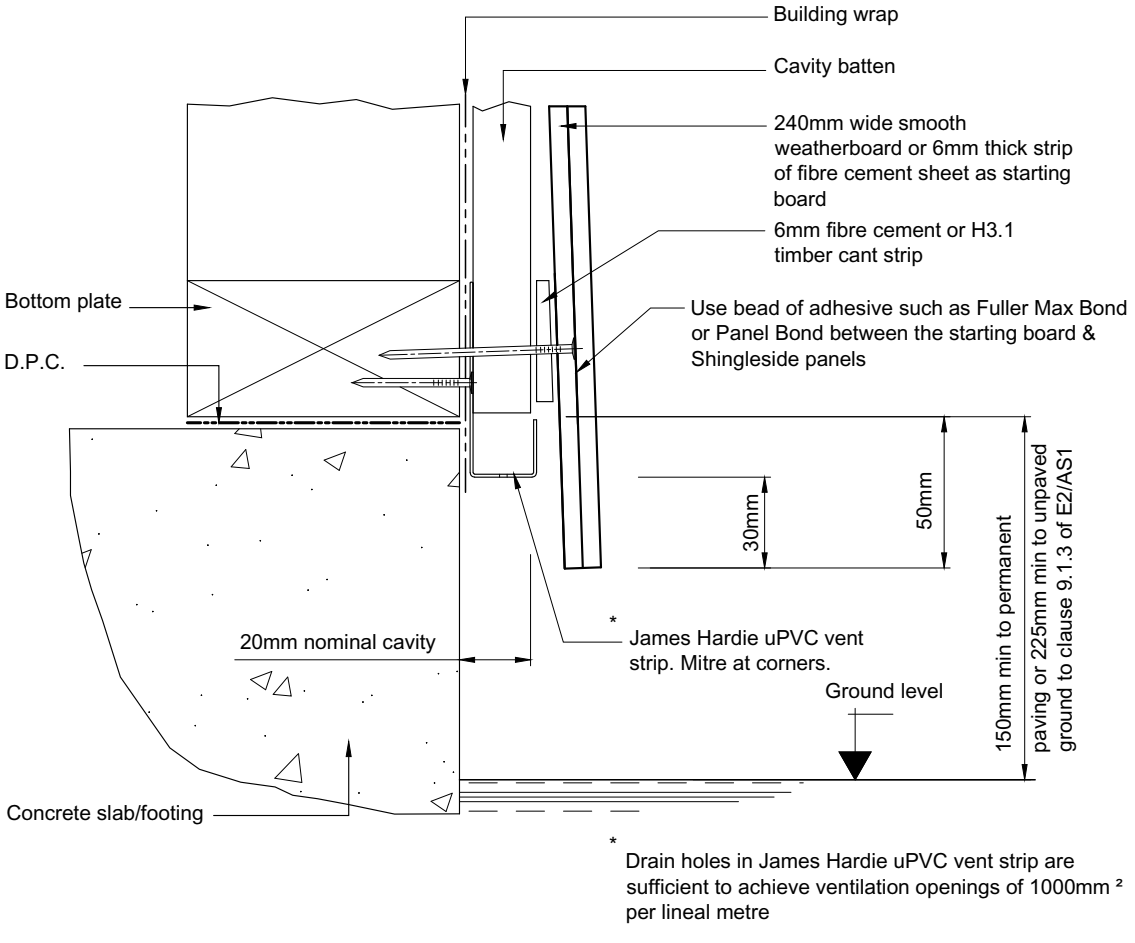


FIGURE 5: FOUNDATION DETAIL

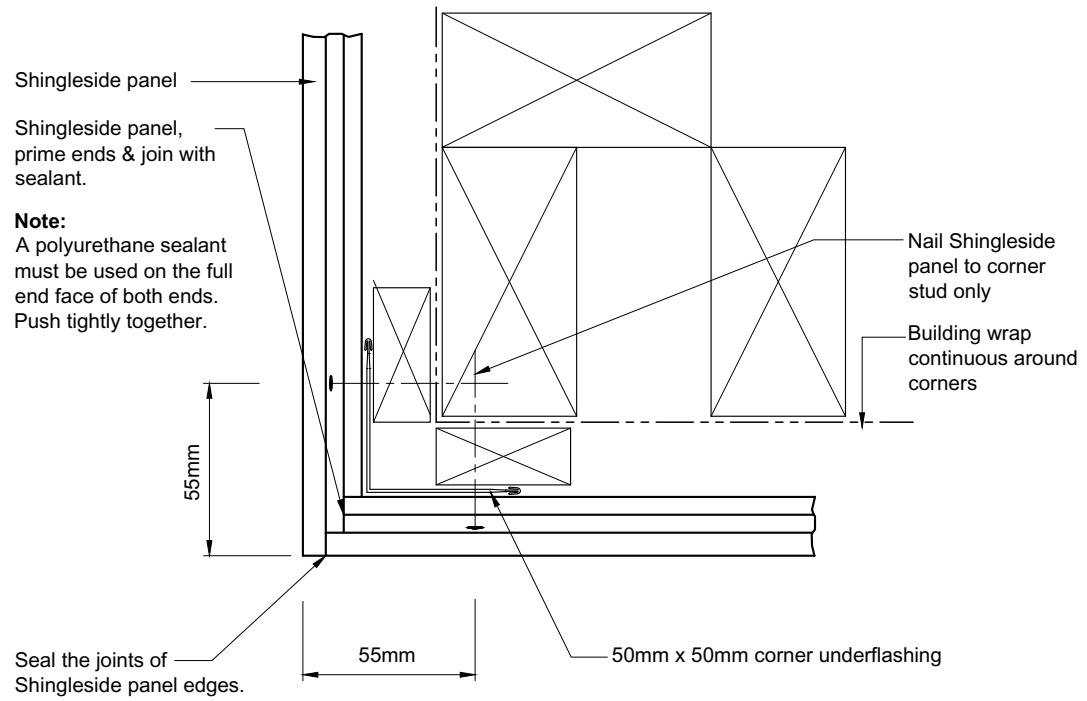


FIGURE 6: EXTERNAL SPLAYED CORNER

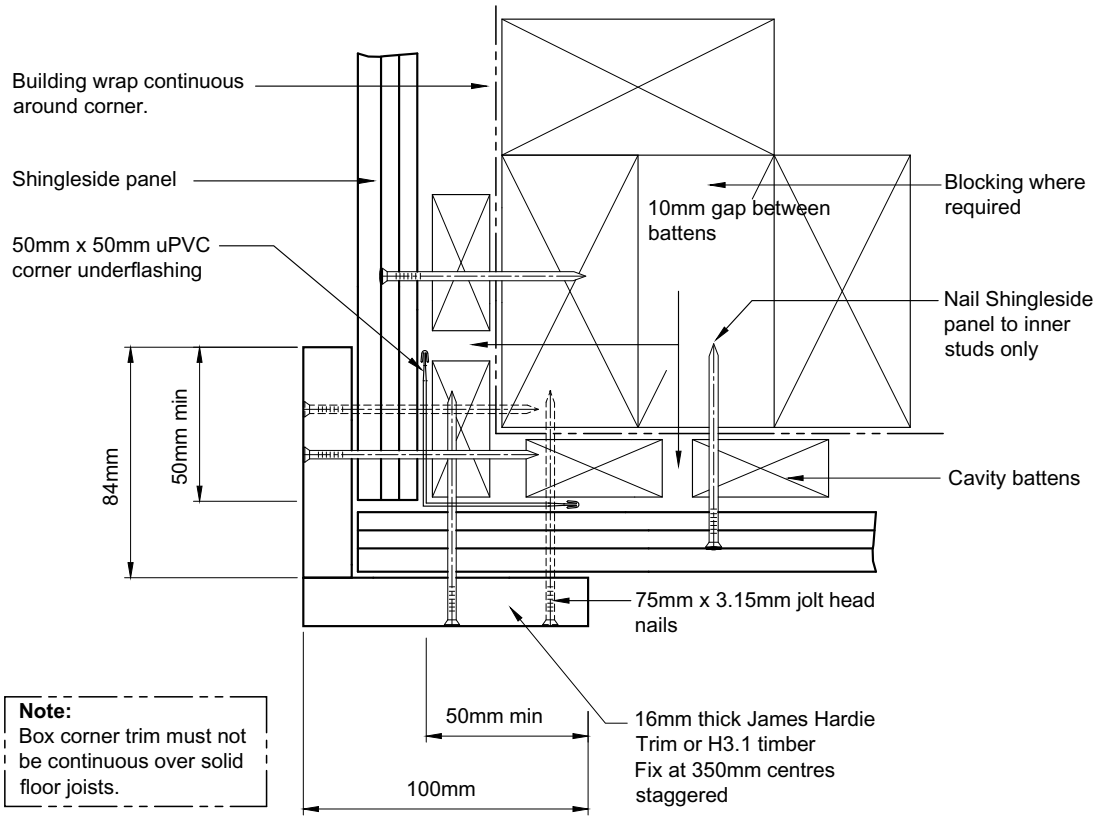


FIGURE 7: CAVITY BOXED CORNER

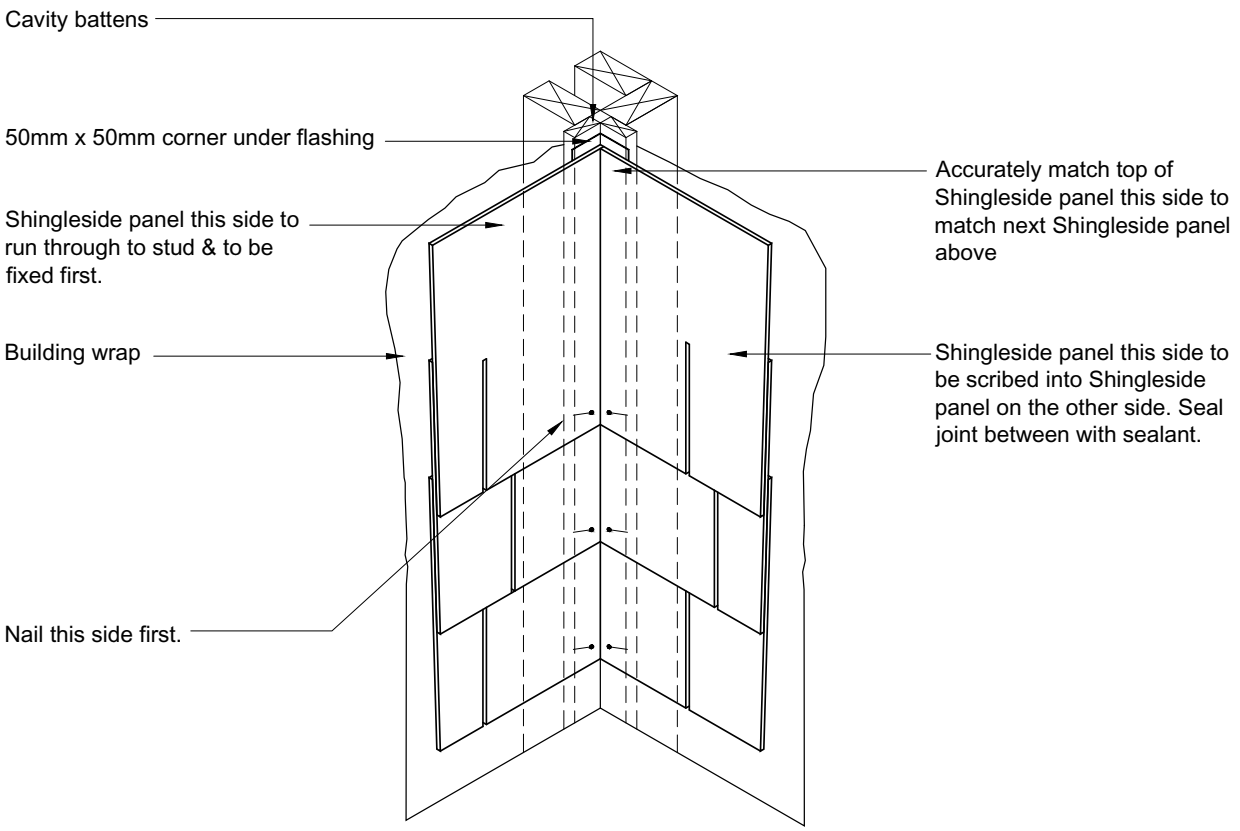


FIGURE 8: INTERNAL SCRIBED CORNER

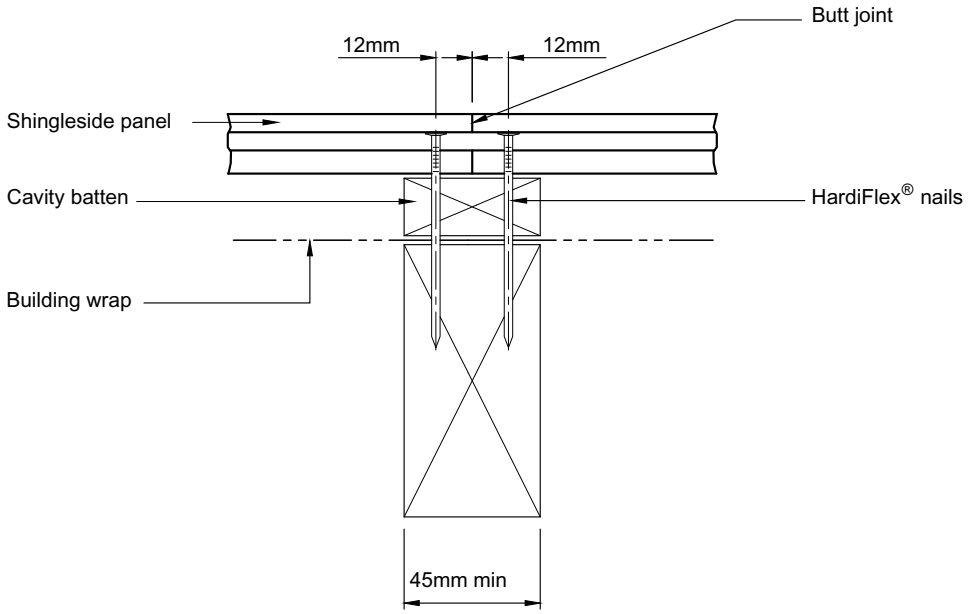
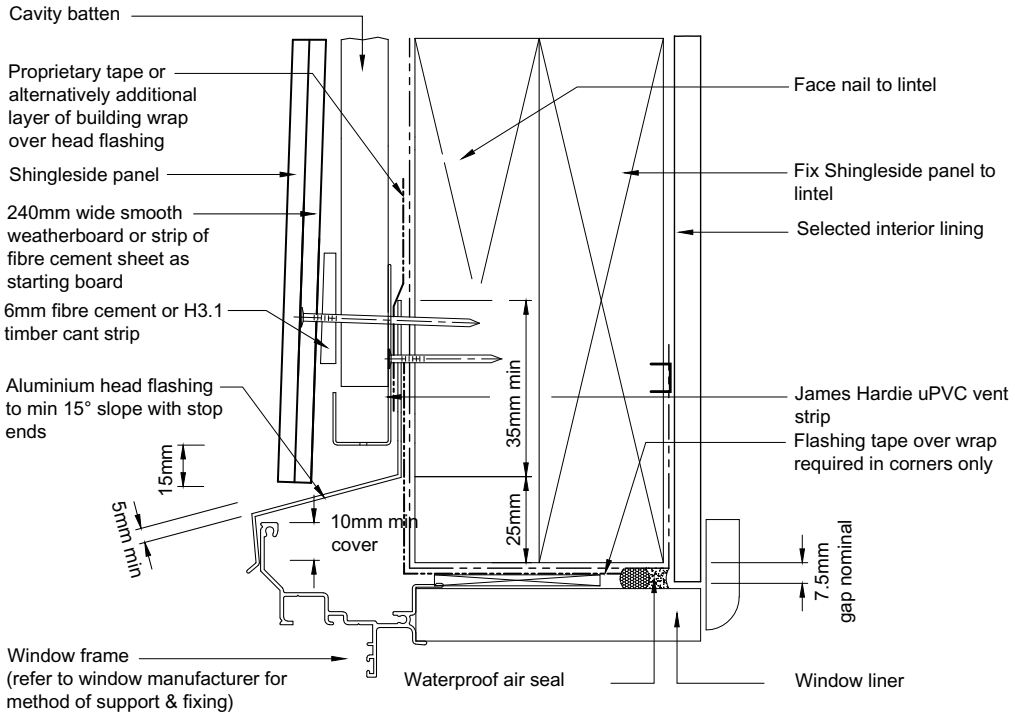


FIGURE 9: BUTT JOINT



Note: Where plywood is used behind Shingleside panels for fixing, the window liner width must be calculated considering the thickness of ply used.

FIGURE 10: ONE PIECE HEAD FLASHING

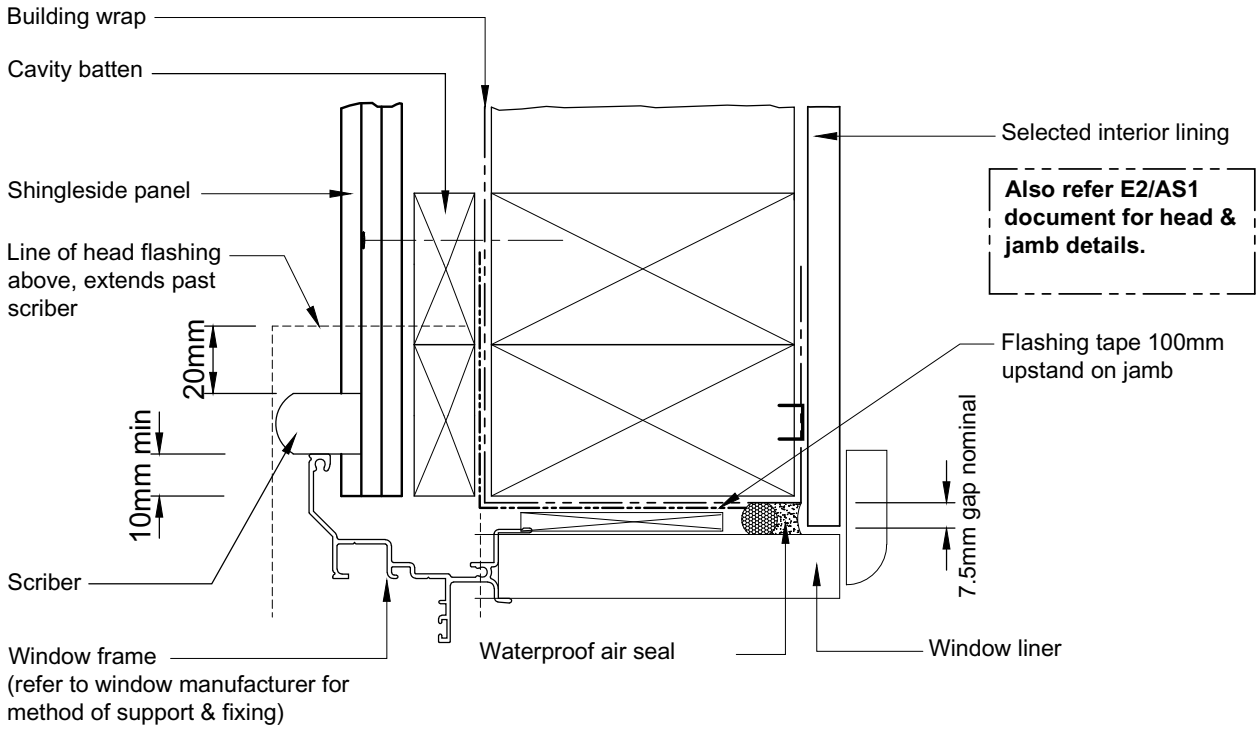
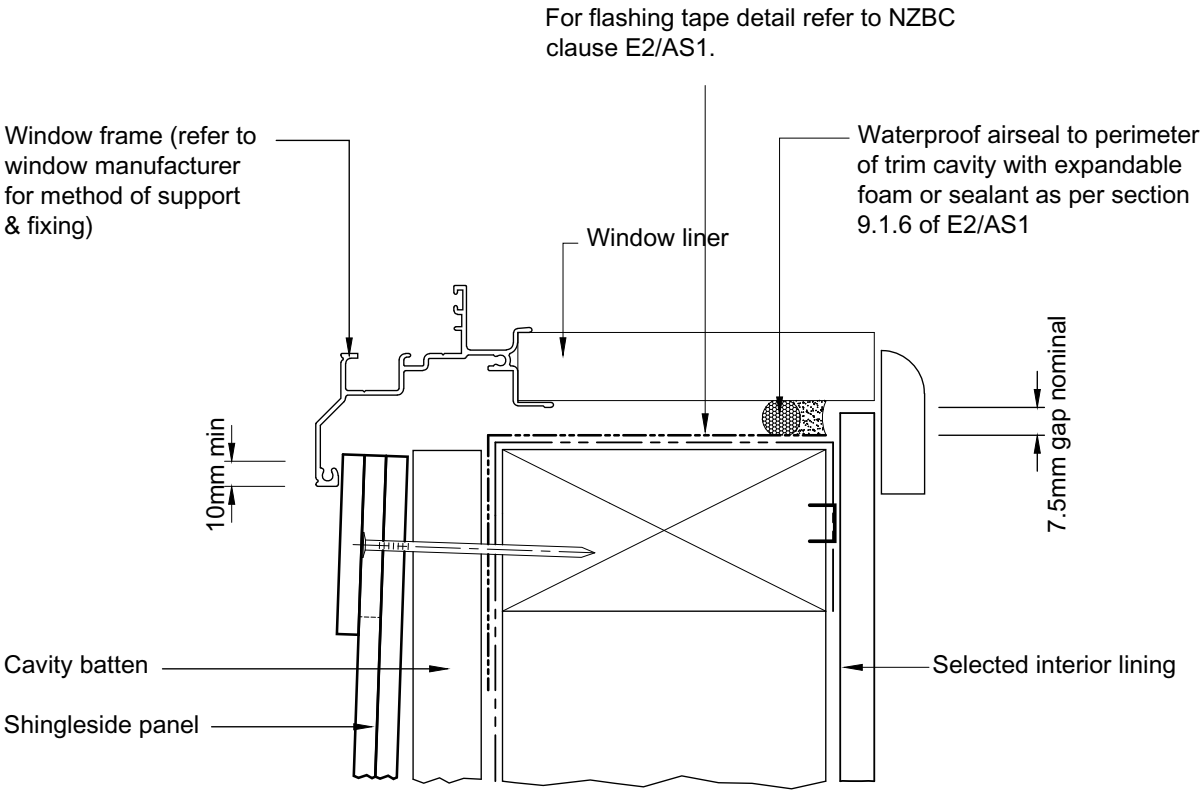


FIGURE 11: JAMB FLASHING



General Notes For Materials Selection

1. Flashing materials must be selected based on environmental exposure, refer to NZS 3604 & table 20 of NZBC E2/AS1.
2. Building wrap must comply with acceptable solution E2/AS1 & NZS 3604.
3. Flashing tape must have proven compatibility with the selected building wrap & other materials with which it comes into contact as per table 21 of E2/AS1.
4. Width of window liner must be changed accordingly where a ply is used under the Shingleside panels.

Refer to the manufacturer or supplier for technical information for these these materials .

FIGURE 12: SILL FLASHING

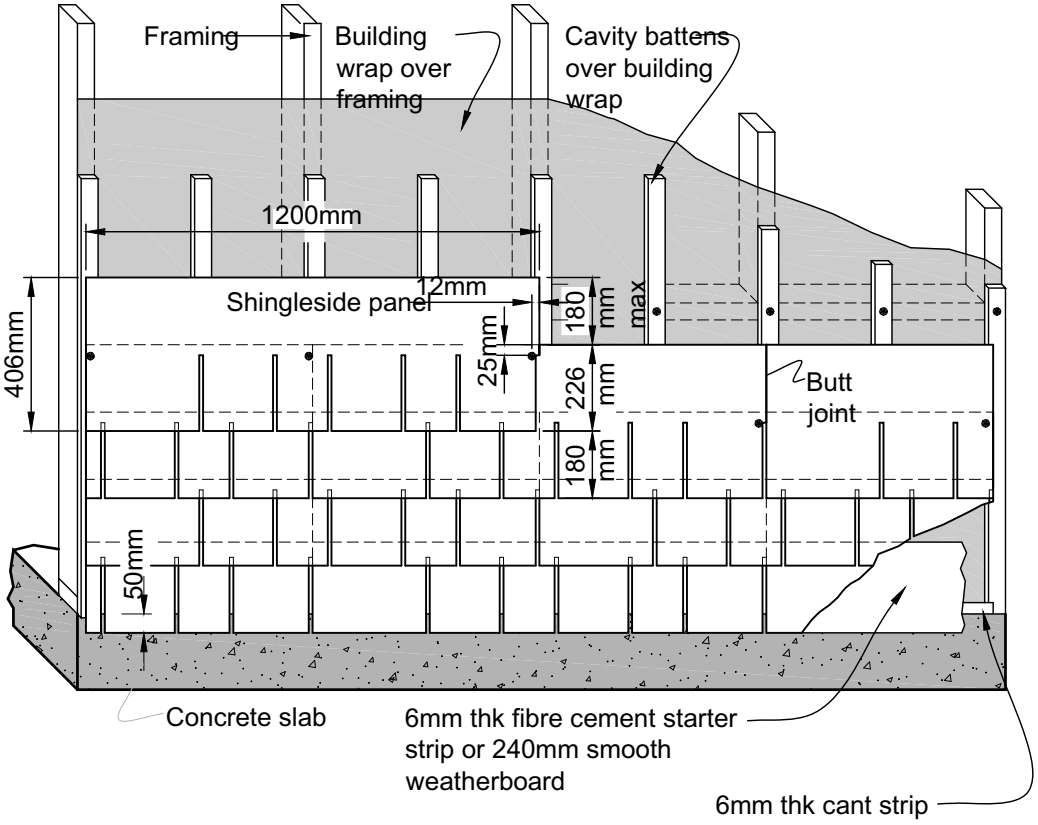
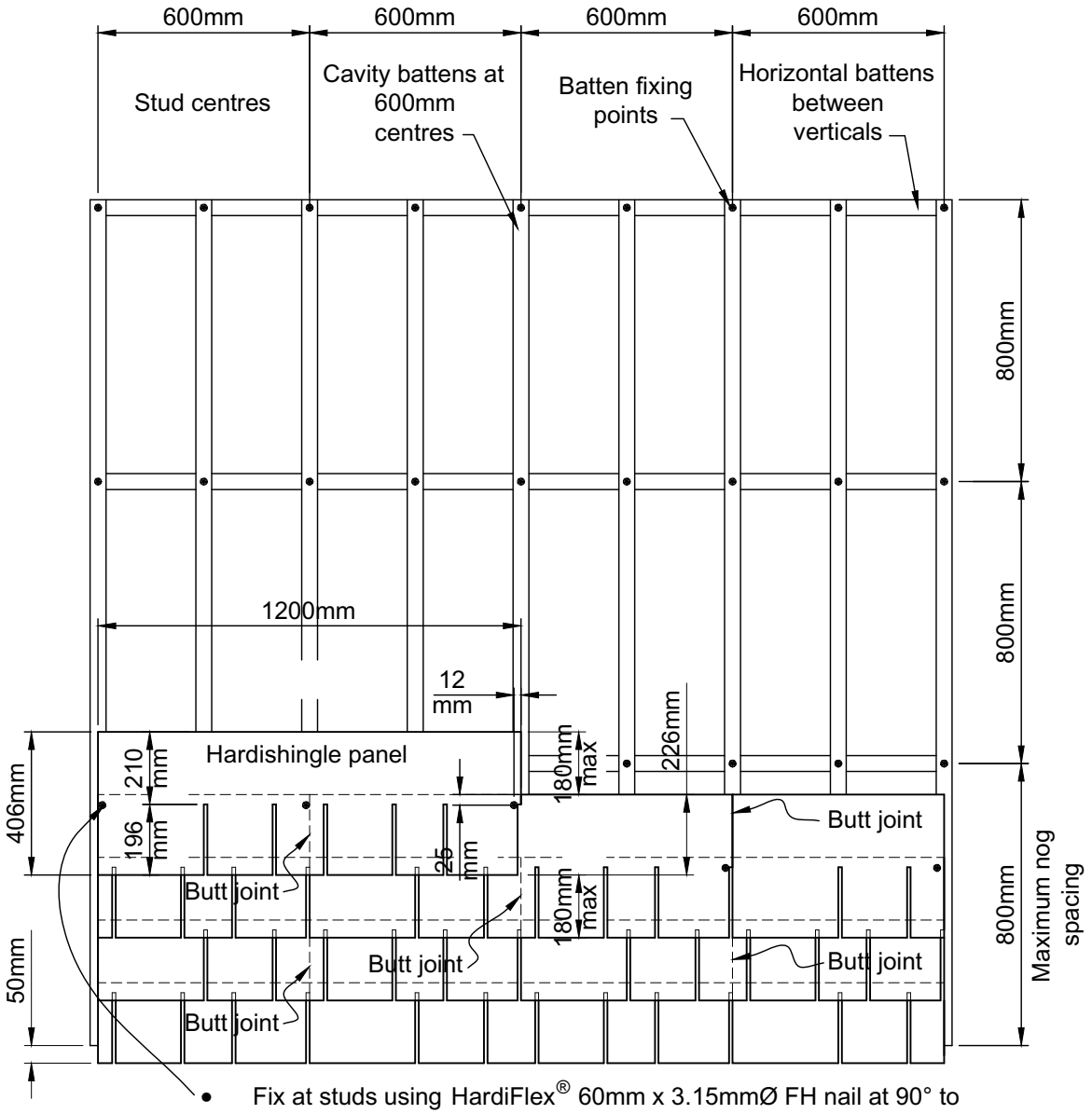


FIGURE 13: SHINGLESIDE STRAIGHT EDGE PANEL LAYOUT



- Fix at studs using HardiFlex® 60mm x 3.15mmØ FH nail at 90° to face, finish flush.
- Nail through 2 Shingleside panels before fitting next panel above.
- Nails must maintain a min cover of 25mm from top edge of lower panel & 12mm from the side edge of upper panel.

FIGURE 14: SHINGLESIDE STRAIGHT EDGE PANEL FIXED THROUGH CAVITY BATTENS

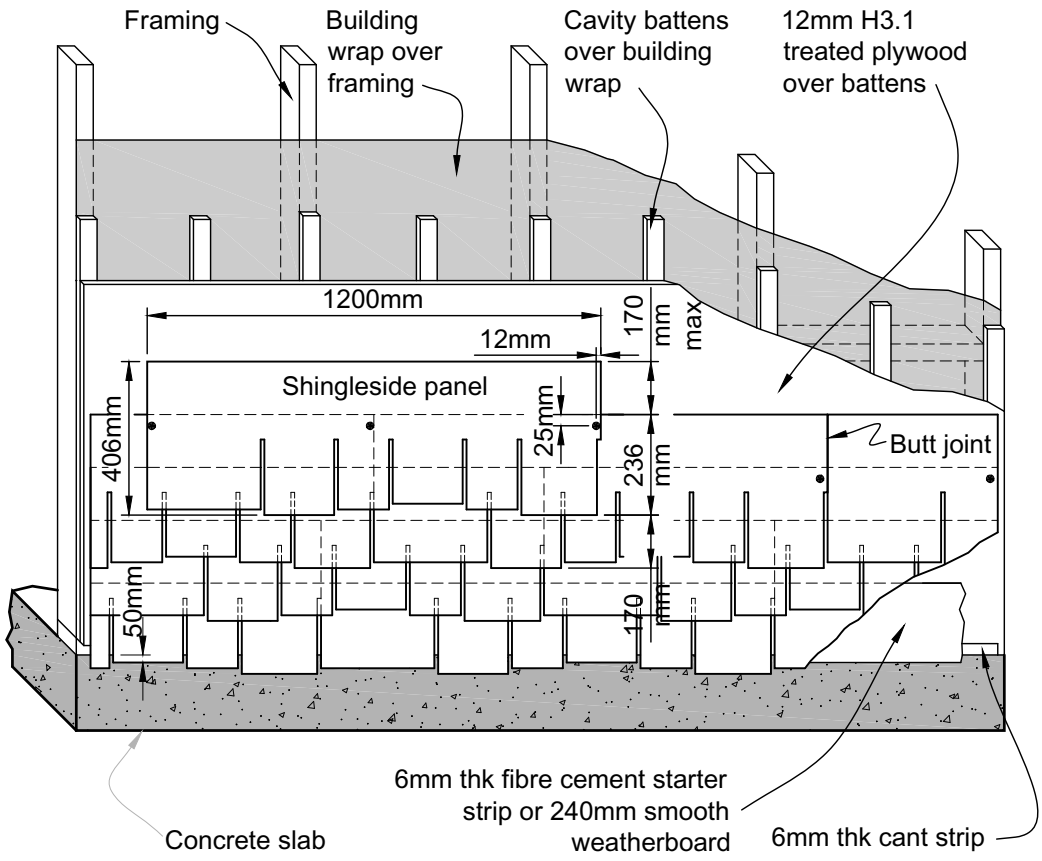
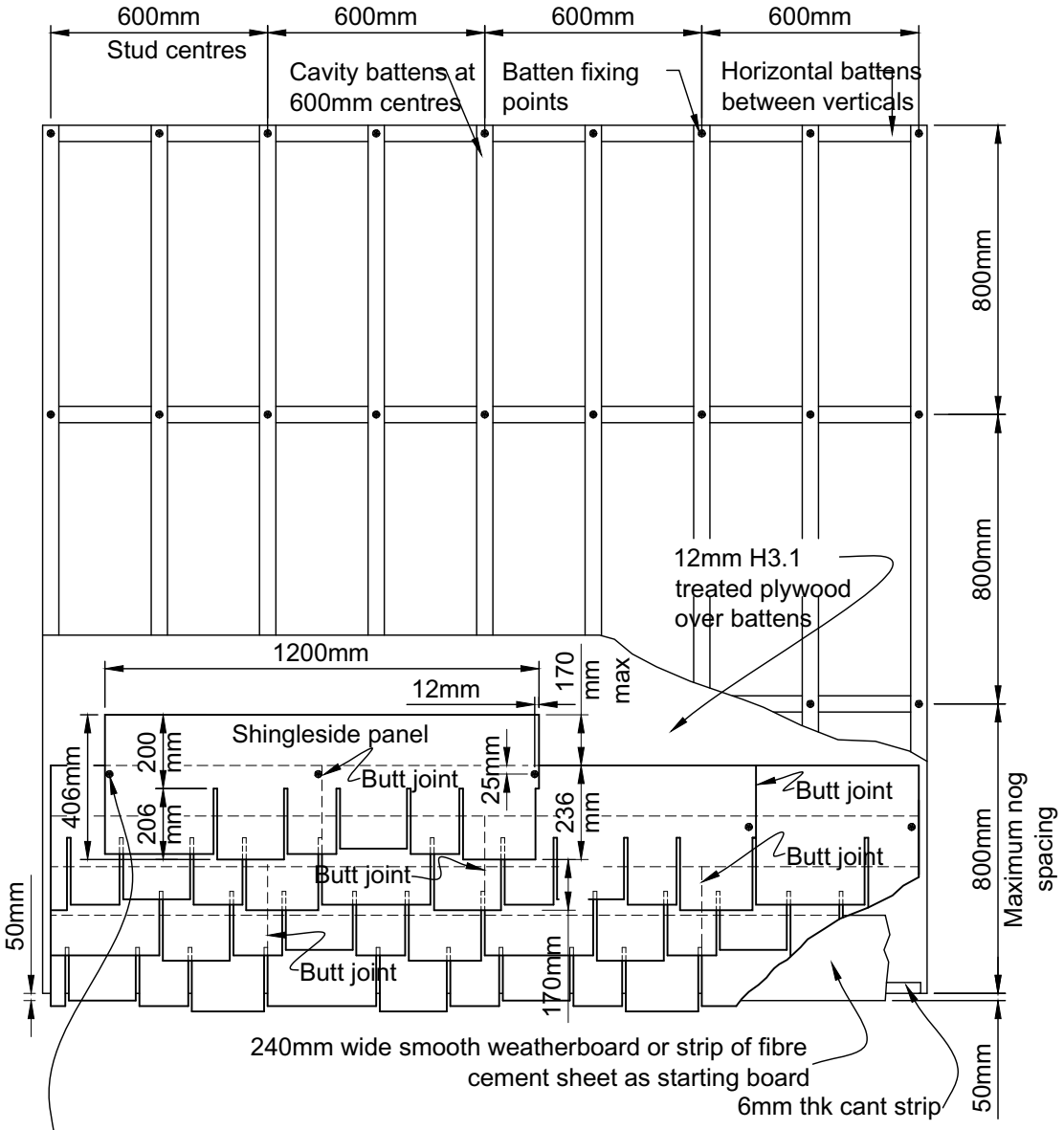


FIGURE 15: SHINGLESIDE STAGGERED EDGE PANEL LAYOUT



- Fix on 12mm thick H3.1 treated ply over the cavity battens using 70mm x 3.15mm Ø flat head nails at 400mm c/crs to all framing.
- Shingleside panels should be fixed to ply using either 30mm x 2.8mm Ø annular threaded nails or 30mm x 7g self embedding wood screws.

FIGURE 16: SHINGLESIDE STAGGERED EDGE PANEL FIXING OVER PLY

12 WARRANTY

Shingleside®
PANEL

PRODUCT WARRANTY

December 2008

WARRANTY: James Hardie New Zealand Limited ("James Hardie") warrants for a period of 15 years from the date of purchase that the "Shingleside Panel" (the "Product"), will be free from defects due to defective factory workmanship or materials and, subject to compliance with the conditions below, will be resistant to cracking, rotting, fire and damage from termite attacks to the extent set out in James Hardie's relevant published literature current at the time of installation. James Hardie also warrants for a period of 15 years from the date of purchase that the accessories supplied by James Hardie will be free from defects due to defective factory workmanship or materials.
Nothing in this document shall exclude or modify any legal rights a customer may have under the Consumer Guarantees Act or otherwise which cannot be excluded or modified at law.

CONDITIONS OF WARRANTY: The warranty is strictly subject to the following conditions:

(a) James Hardie will not be liable for breach of warranty unless the claimant provides proof of purchase and makes a written claim either within 30 days after the defect would have become reasonably apparent or, if the defect was reasonably apparent prior to installation, then the claim must be made prior to installation.

(b) This warranty is not transferable.

(c) The Product must be installed and maintained strictly in accordance with the relevant James Hardie literature current at the time of installation and must be installed in conjunction with the components or products specified in the literature. Further, all other products, including coating and jointing systems, applied to or used in conjunction with the Product must be applied or installed and maintained strictly in accordance with the relevant manufacturer's instructions and good trade practice.

(d) The project must be designed and constructed in strict compliance with all relevant provisions of the current New Zealand Building Code ("NZBC"), regulations and standards.

(e) The claimant's sole remedy for breach of warranty is (at James Hardie's option) that James Hardie will either supply replacement product, rectify the affected product or pay for the cost of the replacement or rectification of the affected product.

(f) James Hardie will not be liable for any losses or damages (whether direct or indirect) including property damage or personal injury, consequential loss, economic loss or loss of profits, arising in contract or negligence or howsoever arising. Without limiting the foregoing James Hardie will not be liable for any claims, damages or defects arising from or in any way attributable to poor workmanship, poor design or detailing, settlement or structural movement and/or movement of materials to which the Product is attached, incorrect design of the structure, acts of God including but not limited to earthquakes, cyclones, floods or other severe weather conditions or unusual climatic conditions, efflorescence or performance of paint/coatings applied to the Product, normal wear and tear, growth of mould, mildew, fungi, bacteria, or any organism on any Product surface or Product (whether on the exposed or unexposed surfaces).

(g) All warranties, conditions, liabilities and obligations other than those specified in this warranty are excluded to the fullest extent allowed by law.

(h) If meeting a claim under this warranty involves re-coating of Products, there may be slight colour differences between the original and replacement Products due to the effects of weathering and variations in materials over time.

DISCLAIMER: The recommendations in James Hardie's literature are based on good building practice, but are not an exhaustive statement of all relevant information and are subject to conditions (c), (d), (f) and (g) above. James Hardie has tested the performance of the Shingleside panel cladding, when installed in accordance with the Shingleside Panel technical specification, in accordance with the standards and verification methods required by the NZBC and those test results demonstrate compliance with the performance criteria established by the NZBC. However, as the successful performance of the relevant system depends on numerous factors outside the control of James Hardie (eg quality of workmanship and design) James Hardie shall not be liable for the recommendations made in its literature and the performance of the relevant system, including its suitability for any purpose or ability to satisfy the relevant provisions of the NZBC, regulations and standards as it is the responsibility of the building designer to ensure that the details and recommendations provided in the relevant James Hardie technical specification are suitable for the intended project and that specific design is conducted where appropriate.

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