

# Vertical Party Wall System

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DESIGN AND  
INSTALLATION  
GUIDE

SUPER<sup>50</sup> & SUPER<sup>75LD</sup>

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EDITION: NOVEMBER 2024



**NASAHI**<sup>®</sup>  
building smarter



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# About Nasahi®

FOR THE PAST 20 YEARS NASAHI® HAVE BEEN ONE OF THE WORLD'S LARGEST PRODUCERS OF INNOVATIVE, HIGH QUALITY AAC MATERIALS.

We have become a world leader in the production of revolutionary building materials by investing over AU\$60 million in the most technologically advanced processes in the industry. Our production facility has the capacity of 700,000 m<sup>3</sup> of AAC products per year, selling within China and exporting to Japan, Singapore, Malaysia, Vietnam, Philippines, UAE, Maldives, Russia, Angola, Australia, New Zealand etc. Our reputation for consistently producing high quality products is exceptional.

The Nasahi® range of building systems are regularly tested in Australia by NATA accredited laboratories. They are carefully engineered to comply with the requirements of the Building Code of Australia, and to remain at the cutting edge of product innovation.

Nasahi's in-house engineers provide project specific guidance, assisting with custom projects and bringing your ideas to life.

With warehouses located in every state of Australia, Nasahi® can easily meet demands and quickly deliver to site.

Our ISO 9001 and JIS A 5416 manufacturing processes are audited annually by independent authorities. This ensures that we meet the needs of our customers and other stakeholders while complying with statutory and regulatory requirements.

By *Building Smarter* we provide a guarantee you can trust.

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# Autoclaved Aerated Concrete (AAC)

AUTOCLAVED AERATED CONCRETE IS A LIGHTWEIGHT PRE-CAST CONCRETE BUILDING MATERIAL THAT PROVIDES EXCELLENT STRUCTURAL, THERMAL, FIRE, TERMITE AND MOULD-RESISTANCE.

AAC is manufactured from cement, sand, lime and water; it is aerated by adding an expanding agent to the mix. The mix is poured into a large mould and allowed to rise. These large soft blocks are sliced into the required panel sizes and are then cured in a steam pressure autoclave for up to 12 hours.

The result is a concrete panel filled with small, finely dispersed air bubbles, which is both strong and lightweight.

Embedded corrosion protected steel mesh inside the panels provide excellent strength when installed as internal walls or over a load bearing timber or steel frame.

Panels are supplied in standard widths of 600mm and various lengths from 2400mm to 3000mm and 3300mm. Panels can be easily cut to size allowing for fast and precise installation.

Nasahi® Panels are designed to provide a superior party wall solution with the feel of concrete at a significantly reduced cost.

Partition wall with excellent airborne noise transmission properties result in a quieter, more comfortable home for your family.

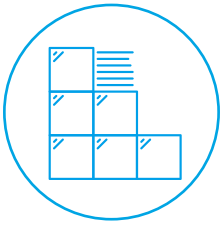
Nasahi® 50mm Super<sup>50</sup> Panels and the 75mm Super<sup>75LD</sup> low density panels (LD) have been tested in accordance with the requirements of AS5146.2 and comply with the AS5146 series of Australian Standards. Manufactured from lightweight, reinforced autoclaved aerated concrete makes them easier to install and highly resistant to chipping and damage.

*Nasahi® AAC Panels can also be used for Flooring, External Walls and Fences  
(see other Nasahi® Design Manuals for these applications.)*



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# Advantages of Nasahi®



## QUICK INSTALLATION

3 qualified tradespeople can easily install 50m<sup>2</sup> of Nasahi® Panel per day, making it significantly faster and less labour intensive than traditional masonry



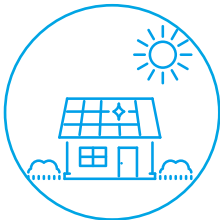
## TRANSPORTABLE

Panels are edge packed in packs of up to 15 for Super<sup>50</sup> and 10 for Super<sup>75LD</sup> improving transportability to and around site.



## FIRE RESISTANT

Nasahi® Panels are non combustible and are compliant as party walls in all Australian regions. Nasahi® Panels have been rigorously tested and will provide an FRL of up to 90/90/90 using standard 10mm plasterboard internal lining. Variations and limitations as referenced in this manual apply.



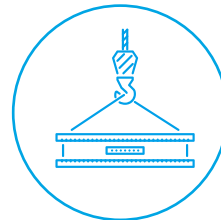
## THERMAL COMFORT

Nasahi® Systems achieve high thermal ratings and meet the NCC Energy Efficiency requirements for Australian Climate Zones.



## QUIET

The Nasahi® Panel's unique aerated construction provides the thermal performance of a lightweight system while delivering excellent acoustic performance similar to a dense masonry product.



## LIGHTWEIGHT AND STRONG

Nasahi® Panels weigh less than standard concrete masonry, making it convenient, lightweight, and easy to work with. Strength is provided by corrosion protected internal steel reinforcing mesh.

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# Design Process

THIS INSTALLATION GUIDE SPECIFIES DESIGN PRINCIPLES FOR THE NASAHI® PARTY WALL SYSTEM THAT COMPLY WITH THE PERFORMANCE REQUIREMENTS OF THE NCC AT THE TIME OF WRITING. THE DESIGNER MUST CHECK THE ADEQUACY OF THE BUILDING SOLUTION FOR COMPLIANCE WITH THE APPROPRIATE AUTHORITY.

Internal wind loads experienced by the panels, fasteners and supporting frame must be designed in accordance with the relevant Australian Standards for the site specific loads.

## STAGE 1

Determine the site wind load requirements including wind category, terrain category, topography and other factors that are required to calculate the wind pressures acting on the internal walls.

## STAGE 2

Identify whether other NCC performance requirements apply to your project. These typically include fire resistance levels and acoustic performance.

## STAGE 3

Select the appropriate configuration in this guide to meet the requirements outlined in Stages 1 and 2.

## STAGE 4

Complete the detailed design, and determine the number of panels and accessories required for the project.

## FRAMING DESIGN

The load-bearing stud frame must be designed in accordance with the specific framing codes for timber or steel frames.

### Timber Frames

Timber framing must be designed in accordance with the relevant parts of AS1720.1 and/or AS1684. Stud spacing and height should be sized to suit wind loads in accordance with local codes. Noggins must be flush fitted at a maximum of 1350mm centre spacing.

### Steel Frames

Steel framing must comply with AS/NZS4600. For steel framing the minimum framing specification is 'C' section studs and noggins of overall section size 51mm web. Minimum Steel thickness must be 0.75mm in accordance with AS/NZ4600.



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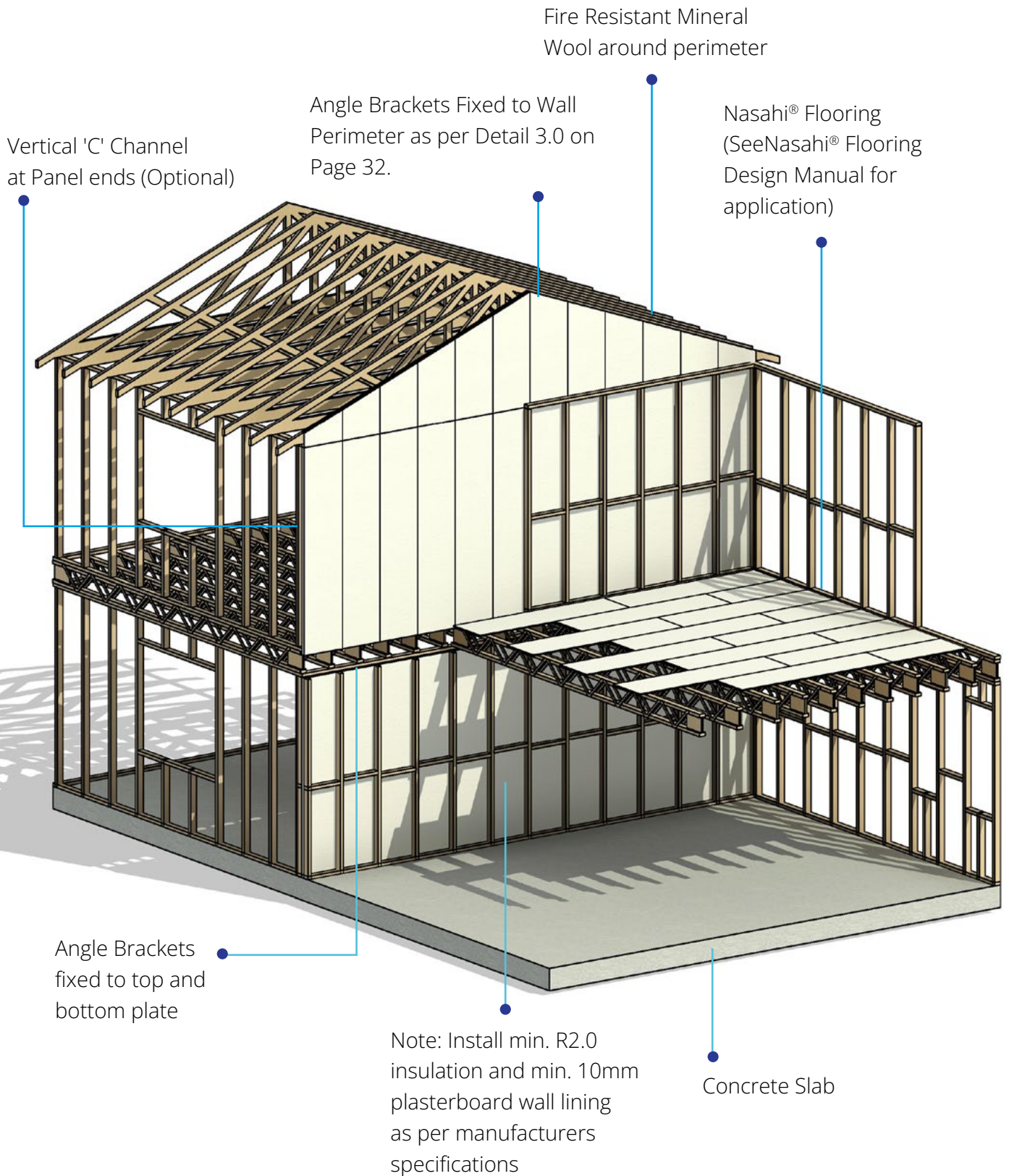
# Design Detail Considerations

## PENETRATIONS

Service supply pipes and electrical cabling must only be installed within the stud frame of the sole occupancy unit it is servicing and must not be attached to or penetrate the Nasahi® panel which acts as the fire barrier between these sole occupancy units.

Electrical outlets and taps may penetrate through plasterboard internal linings but must be sealed accordingly to ensure acoustic performance is maintained. Penetrations through the fire rated Nasahi® panel are outside the scope of this guide. A fire engineer must be consulted to approve any changes.

# Nasahi® Party Wall System Overview





The Nasahi® Multi-res Party Wall System includes a central core of Super<sup>50</sup> or Super<sup>75LD</sup> Nasahi® reinforced AAC panels. To maintain fire and acoustic performance, the panel joints are adhered using the tested Nasahi® adhesive. The panels are installed vertically as per the details included in this manual. Each side of the Nasahi® AAC central core further incorporates load bearing stud wall frames to which the panels are fixed at designated locations using brackets as detailed in this manual to ensure

both fire and acoustics requirements as per the NCC are achieved. These frames are installed with a minimum 10mm separation from the Nasahi® panels. The frames are filled with bulk insulation and then lined with plasterboard. There are numerous bracket variations, fixing methods, insulation and plasterboard lining options detailed in this manual. The performance will vary based on the choice of the system variations selected.

Figure 2 - Vertically Aligned System Overview

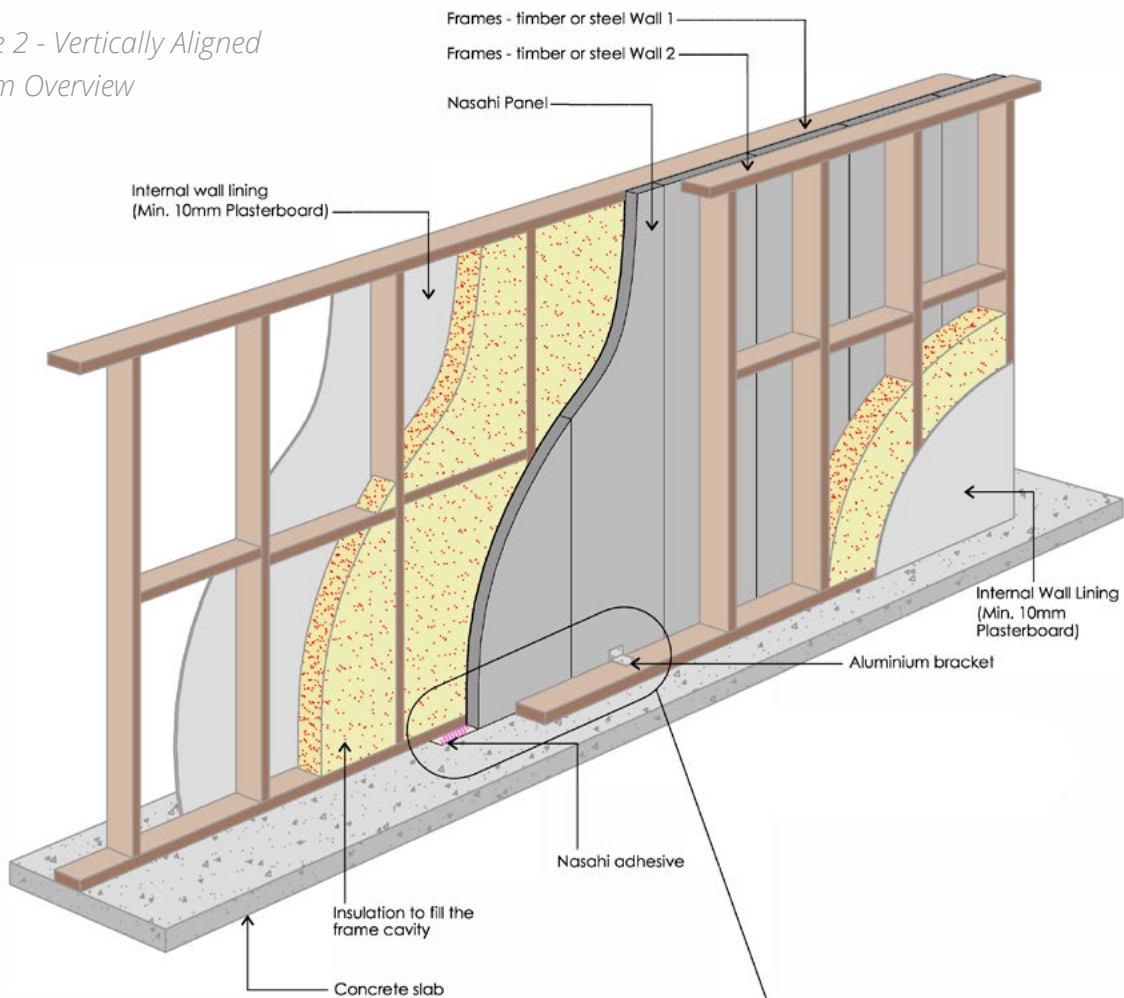
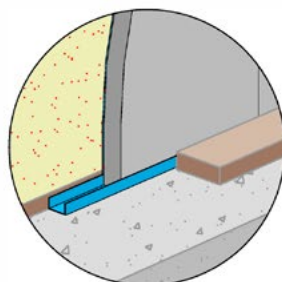
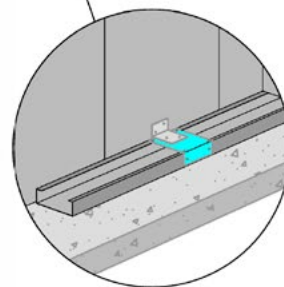


Fig 1.0 Partywall System Overview



Refer to Page 33 for 'C' section track option connection details (to slab)



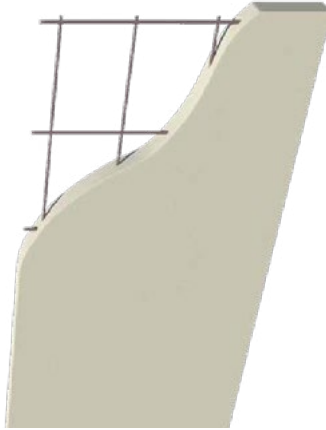
Refer to Page 34 for steel frame connect details using aluminium angle brackets (to top and bottom plate)

# Party Wall System Components

Table 1 - System Components for Timber and Steel Frame

## NASAHİ® PANELS

Nasahi® Panels are manufactured from Autoclaved Aerated Concrete (AAC), embedded with coated steel reinforcing mesh, in a standard width of 600mm.



THICKNESS TRANSPORT DENSITY (kg/m <sup>3</sup> )	SUPER <sup>50</sup>	SUPER <sup>75LD</sup>
		775
LENGTH (MM)	PANEL WEIGHT (Kg)	
2400	56	70
2550	59	75
2700	63	79
2850	66	83
3000	70	88
3300	-	97

## ADHESIVE



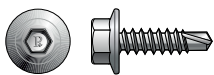
Nasahi® Adhesive comes in 20kg bags and is used to glue and seal panel joints, and to fill screw heads.

## TOUCH-UP PAINT



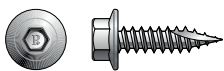
If Nasahi® Panels are cut to size, all exposed reinforcing steel must be treated with Nasahi® Corrosion Protection Touch-up Paint in accordance with the instructions on the container.

## FASTENERS



### Tek Fastener for Fixing Brackets to Steel Frame

10-16 x 20mm Hex Head Self-Drilling Class 3 Screws



### Timber Fastener for Fixing Brackets to Timber Frame

12-11 x 25mm Hex Head Type 17 Class 3 Screws



### Fastener to Fixing Brackets into 50mm Nasahi® Panels

12G x 45mm Hex Head Type 17, Class 3 Screws



### Fastener to Fixing Brackets into 75mm Nasahi® Panels

14-10 x 65mm Hex Head Type 17, Class 3 Screws



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## NASAHI® ALUMINIUM ANGLE BRACKET



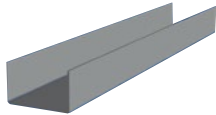
The Nasahi® aluminium angle bracket is used to attach Nasahi® Panels to the periphery of the timber or steel frame.

**75mm x 45mm x 50mm BMT = 1.5 mm**

Each angle bracket requires 2 fixings in panel and 2 fixings into frame.

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## NASAHI® C-CHANNEL



Optional galvanised steel 'C'-section Base Channel

For Super50 Panel adopt 'C' - 51mm x 35mm BMT = 0.55mm

For Super75LD Panel adopt 'C' - 76mm x 50mm BMT = 0.55mm

Used as Party Wall base as shown in Detail 3.1 on Page 33 and/or to align Nasahi® Panels at wall ends.

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## INSULATION



Provide wall insulation between each stud to achieve the required Acoustic and Energy rating performance- refer to the Acoustic section of this manual for acoustic performance and NCC 2022 compliance table for Energy rating compliance. Insulation must be non-combustible and conform with the requirements of AS/NZS 4859.1:2018

*Note:* Minimum R2.0 Glass wool or mineral wool insulation that fills the cavity must be used to fulfill Acoustic requirements.

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## FIRE RESISTANT MINERAL WOOL



A non-combustible, moisture-resistant, non-corrosive, non-deteriorating, mildew-proof and vermin-proof mineral wool must be used to provide fire protection in party wall constructions as shown in the drawings.

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## ROCKWOOL MINERAL WOOL



50mm wide x 13mm thick material fibre (density > 110 kg/m<sup>3</sup>)

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## FIRE & ACOUSTIC SEALANT



To achieve the system FRL and Acoustic requirements, all perimeter gaps, penetrations and control joints must be adequately sealed with a polyurethane fire and acoustic rated sealant to manufacturer's specifications.

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# System Performance

## STRUCTURAL

The Nasahi® Party Wall System is a non load bearing system that is designed to act as a fire rated acoustic intertenancy wall installed onto a load-bearing timber or steel frame.

### Panel Weight

Panels must be base supported and installed onto a thin bed of adhesive or into a C-track. Under no circumstances are panels to be suspended from the frame.

## INTERNAL WIND PRESSURE

Internal pressure is a function of the relative permeability of the external building surfaces including windows and doors, and should be calculated in accordance with AS/NZS 1170.2. The Nasahi® Party Wall System has been designed to withstand typical internal pressures of up to 0.39kPa. For greater pressures please contact Nasahi® engineering support.

## THERMAL PERFORMANCE

The R-Value of the bare Nasahi® Super<sup>50</sup> AAC panel is 0.39 (m<sup>2</sup>.K/W) and Super<sup>75LD</sup> panel is 0.72(m<sup>2</sup>.K/W)

## ACOUSTIC PERFORMANCE

The Nasahi® Party Wall System has been designed and verified by qualified acoustic engineers to provide excellent acoustic performance in low-rise multi-residential installations.

Walls in a Class 2 or 3 building separating sole occupancy units must have airborne sound insulation of  $R_w + C_{tr}$  greater than 50db, or a  $D_{nT,w} + C_{tr}$  of greater than 45dB. The Nasahi® Party Wall System exceeds this requirement, and by incorporating a 20mm discontinuity it complies with all relevant NCC requirements.

## FIRE RESISTANCE

When tested to AS1530.4 the systems outlined in this guide meet the performance requirements of the NCC and provide a Fire Resistance Level (FRL) of:

### 90/90/90

Up to 15.0m wall height.

Nasahi® Panels have been tested to AS/NZS1530.1 to show non-combustibility, and when exposed to fire Nasahi® Panels do not emit any toxic gases or vapours.

If higher levels of fire resistance are required please contact Nasahi® for project specific engineering support.

*Reference: Fire Assessment Report FRT240077, Warringtonfire, dated 4th June 2024 Revision: R1.1*

*Reference: Fire Assessment Report IGNL-8363-02 Ignis Labs dated 04 September 2024.*

# Acoustic Performance

Table 2.0 - Acoustic Performance Super<sup>50</sup> Panels Discontinuous Construction

NASAHI® SYSTEM	SYSTEM DETAILS NASAHI SUPER <sup>50</sup> PANEL	**VARIATIONS**	Rw (Ctr)	FRL
P50-T70-O9 P50-M76-O2 P50-M90-O1 P50-M90-O3	10mm Standard Plasterboard **Wall Frame** R2.0 Insulation 10-70mm Cavity* Nasahi Panel R2.0 Insulation 10-70mm Cavity* **Wall Frame** 10mm Standard Plasterboard	70mm Timber Stud Frame 76mm Metal Stud Frame 90mm Timber Stud Frame 92mm Metal Stud Frame	68 (-15) 53 65 (-15) 50 65 (-15) 50 66 (-13) 53	90/90/90
P50-M90-O4 P50-T90-O5 P50-T90-O6 P50-T90-O7 P50-T90-O8	**Wall Linings** 90mm Timber Frame R2.0 Insulation 10-70mm Cavity* Nasahi Panel 10-70mm Cavity* R2.0 Insulation **Wall Linings**	13mm Standard Plaster Board 13mm Sound Rated Plaster Board 13mm Fire Rated Plaster Board 10mm Water Resistant Plaster Board 6mm Fibre Cement	69 (-14) 55 72 (-15) 57 70 (-14) 56 66 (-14) 52 69 (-15) 54	

Table 2.1 - Acoustic Performance Super<sup>75</sup> Panels Discontinuous Construction

NASAHI® SYSTEM	SYSTEM DETAILS NASAHI SUPER <sup>75</sup> PANEL	**VARIATIONS**	Rw (Ctr)	FRL
P75-T70-O9 P75-M76-O2 P75-M90-O1 P75-M90-O3	10mm Standard Plasterboard **Wall Frame** R2.0 Insulation 10-70mm Cavity* Nasahi Panel R2.0 Insulation 10-70mm Cavity* **Wall Frame** 10mm Standard Plasterboard	70mm Timber Stud Frame 76mm Metal Stud Frame 90mm Timber Stud Frame 92mm Metal Stud Frame	71 (-15) 56 67 (-14) 53 66 (-14) 52 70 (-14) 56	90/90/90
P75-M90-O4 P75-T90-O5 P75-T90-O6 P75-T90-O7 P75-T90-O8	**Wall Linings** 90mm Timber Frame R2.0 Insulation 10-70mm Cavity* Nasahi Panel 10-70mm Cavity* R2.0 Insulation **Wall Linings**	13mm Standard Plaster Board 13mm Sound Rated Plaster Board 13mm Fire Rated Plaster Board 10mm Water Resistant Plaster Board 6mm Fibre Cement	72 (-14) 58 76 (-15) 61 73 (-15) 58 68 (-14) 54 75 (-14) 61	

\* A minimum 20mm cavity is required to achieve the discontinuous requirements of the NCC clause F7D4

Note: Plasterboard may be installed in any order

□ Reference: Renzo Tonin & Associates Report No: TH736-01F02 Acoustic Opinions (r17) dated 16 September 2024

# Fire Resistance Level (FRL)

WHEN TESTED TO AS1530.4 THE SYSTEMS OUTLINED IN THIS GUIDE MEETS THE PERFORMANCE REQUIREMENTS OF THE NCC AND PROVIDES A FIRE RESISTANCE LEVEL (FRL) OF: 90/90/90 UP TO 15.0M WALL HEIGHT.

Table 3 - Party Wall Fire Rated Level

NASAHİ® PARTY WALL SYSTEM	MAX WALL HEIGHT	FRL	IMPOSED LOAD (ON PANEL)
<ul style="list-style-type: none"> <li>Nasahi® Panel (Super<sup>50</sup> OR Super<sup>75LD</sup>)</li> <li>Min 70mm deep timber or min 76mm deep steel stud wall framing</li> <li>10mm Standard Plasterboard*</li> <li>Aluminium Angle brackets 75mm x 45mm x 50mm</li> </ul> BMT = 1.5 mm. Fixed to Top & Bottom Plate.	15.0m	90/90/90	Total axial load 3.7kN/m (equating to a total load of 11.1 kN)

☐ Reference Document: Warringtonfire Australia, Report No: FRT240077- R1.1 Dated: 4h June 2024

☐ Reference Document: Assurance Fire Assessment Report ACTC-8363-99-02R I01R01 Issued: 1st October 2024



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# Vertical Party Wall System Installation Process

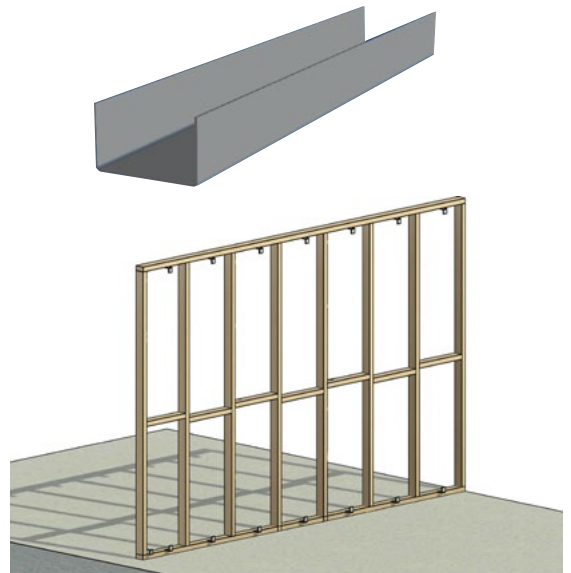
ONE WALL FRAME MUST BE COMPLETED PRIOR TO INSTALLATION OF THE NASAHI® PARTY WALL SYSTEM. CHECK THAT THE WALL FRAME IS COMPLETE AND THE STUD SPACING MEETS THE FRL AND ACOUSTIC REQUIREMENTS WITH THE RELEVANT SECTIONS IN THIS MANUAL. A PRE-INSTALLATION CHECK LIST IS AVAILABLE ON OUR WEBSITE.

## STAGE 1: PREPARATION

- Check that the framing will meet the Nasahi® Party Wall System specification and that it is plumb and straight before starting.

## STAGE 2: INSTALLING BASE TRACK

- Set out the Party Wall location onto the concrete slab, then proceed to apply a thin bed of Nasahi® adhesive, or fix a 'C' section track or 'GI' Angle base track by using suitable fixing anchors into the concrete slab at maximum of 600mm centers and 200mm from the ends.
- Ensure a minimum 20mm gap cavity is maintained between the frame and the Nasahi® panel.
- Mark out the location of all Control Joints (CJs) before proceeding with panel installation. Avoid positioning CJ in line with a stud for walls requiring 90 min FRL as you will need access from the stud side to apply the fire acoustic sealant.
- Ensure a 10-12mm gap for your control joints have been allowed in your set out and that track is mitered at corners or change in direction and all gaps are sealed including corners, butt joints and at changes in direction.



## STAGE 3: INSTALLING ALUMINIUM ANGLE BRACKETS

- If you are using Aluminium Angle brackets in lieu of base track then fix these to the bottom plate and ensure that they are accurately aligned and spaced to fix within 50mm of the vertical centerline of each panel.
- If the panels are not installed using a base track you will also need to fill under any panel gaps at base with Nasahi® Adhesive or suitable mortar can be used prior to installing a panel to account for any undulation in the slab.

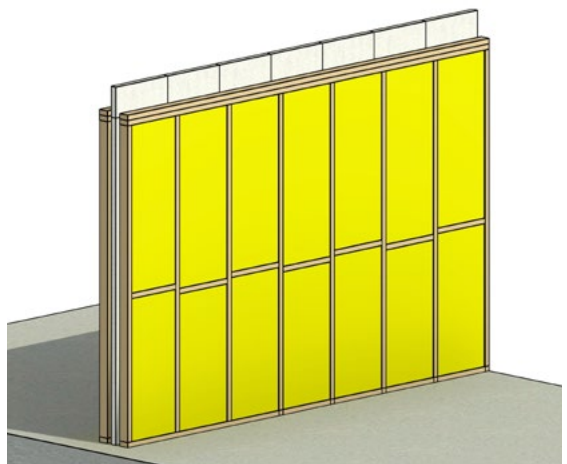
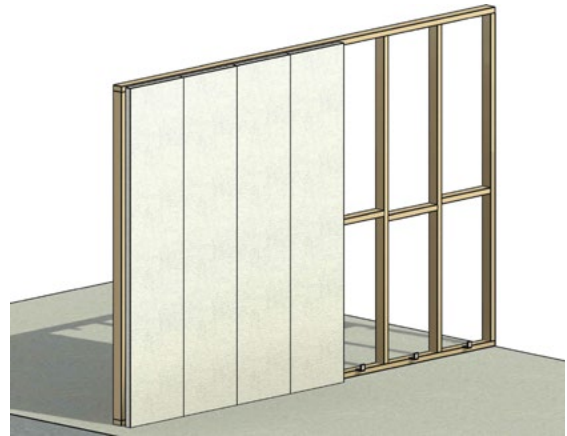
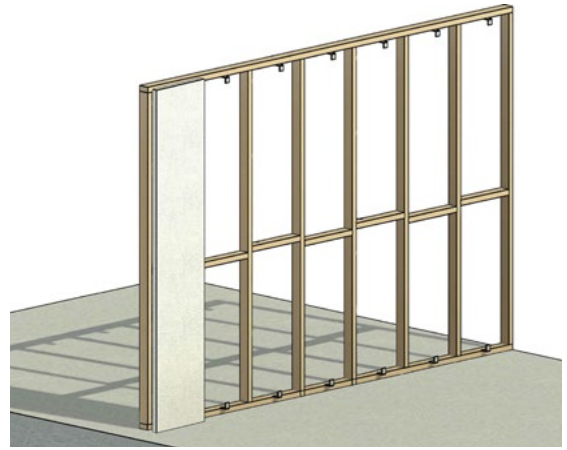


#### STAGE 4: INSTALLING GROUND FLOOR PANELS

- Check panel overall height as it may need to be cut to align correctly within the floor zone. If panels require cutting apply the anti-corrosion protection to all exposed steel before installing the panel.
- Determine your starting point (typically at one end of the wall) and stand the first Nasahi® vertical panel as close as you can to its final position.
- Align the top Aluminium bracket with the topside or underside of the frame top plate and screw the bracket off to the Nasahi® Panel, always ensuring to position the bracket within 50mm of the panel vertical centerline.
- Next position your panel in its final location, check it is aligned correctly, is plumb, level and the minimum 20mm cavity is maintained between the frame and the panel (this can be achieved with the use of a temporary batten (that must be removed at the completion of the wall) before screwing off the bracket to top plate. (Note brackets can be screwed off to top plate where these are located in the screw off zone however any brackets fixed to a stud must be positioned no greater than 150mm below the top plate and or 150mm above the bottom plate.)

At all times ensure that the nominated gap between the wall frame and the Nasahi® Panel is maintained.

- Continue to install consecutive panels in the same manner. Ensure that you have applied the Nasahi® Adhesive to all panel joints other than control joints. (Adhesive should be mixed in accordance with the specification guidelines and applied to achieve approximately a 2-3mm thick joint.) Panels should be gently rubbed up and down during installation to ensure the panel joint is tight and excess adhesive has come out from the joint. This excess can be troweled back into the panel joint to ensure the panel joint is fully filled.
- Do not apply adhesive at control joint locations. At these locations ensure that you leave a 10mm gap for the installation of backing rod and fire acoustic sealant.



Ensure that Panels are temporarily propped until the frame is installed on the opposite face.

## STAGE 5: FINISHING OFF GROUND FLOOR PANELS

Once all panels are in place proceed to check and repair the wall for any damage which may have occurred or locations where adhesive has not fully filled the joint. This includes sealing off any gaps (other than CJ's) that are remaining in the wall.

- Firstly check wall for AAC panel damage. identify these and make good using the appropriate patch and repair method.
- Check all panel joints and ensure these are filled with adhesive so there are no gaps between the panels.
- Check the base of the wall has no gaps (ie. the panels are fully sealed at slab function.) This is more likely if you have used the brackets rather than the base track.
- Next proceed to apply backing rod and sealant to all vertical control joints as referenced in the guide to achieve your fire and acoustic performance rating.

When all repairs and patching have been completed the second stud frame can be installed as per the project specification details.

## STAGE 6: FIXING OFF ALTERNATE SIDE OF GROUND FLOOR PANELS

Once the second frame is in place the brackets on the opposite side of the Nasahi® Panels can be installed.

- Brackets should be installed as close as possible to align with the brackets already installed on the opposite face. This is achieved by following the same rules for positioning of brackets to individual panels as noted in steps 3 and 4 above.

## STAGE 7: INSTALLING THE UPPER FLOOR AND ROOF SPACE PANELS

- Prior to installing the upper panels you will need to check the top surface of the lower Nasahi® wall to ensure all panels are aligned creating a relatively level surface on which the upper panels will rest.

- Next you will need to determine which systems you will adopt for your horizontal control joint. (ie. continuous packer and sealant or high density fire rated Rockwool insulation strip). Apply preferred horizontal control joint details and then commence to install the upper panels. Follow the same installation process and instruction as outlined in Steps 3, 4, 5 and 6 for the ground floor panels.

- Repeat this for roof space ensuring that panels are cut sufficiently long so as the remaining gap at the top can be filled with insulation (as specified in the design guide) and can be sufficiently compressed by the roof sheeting to meet fire compliance.

## STAGE 8: HAND OVER TO LINING AND ROOFING CONTRACTORS

The project manager should confirm the wall is ready for handover to the linings and roofing contractors.

- Clear instructions on the insulation and plasterboard required and the installation details to complete the party wall to meet specification should also be confirmed with the contractor installing these components.

- A similar process should be adopted for the roofing contractor.

**Note:** Do not make any penetrations through the Nasahi® wall panels. Services must not be fixed to or chased in Nasahi® Party Wall Panels. Pipes serving only one sole occupancy unit must not be fixed to the Nasahi® wall leaf. These should be fixed to the frame of the sole occupancy unit which they service and must maintain a minimum of 10mm clearance to the Nasahi® wall panels.



# Working with Nasahi® Panels

## CUTTING PANELS

NASAHI® PANELS CAN EASILY BE CUT TO THE REQUIRED LENGTH, USING POWER OR HAND TOOLS.

Nasahi® Panels are delivered to site flat packed. The flat packs can be used as a cutting bench for other panels as required. Any reinforcement exposed during cutting must be coated with Nasahi® Corrosion Protection Touch up Paint.

Table 4 - Basic Tools required to Cut and Install NASAHI® Panels

TOOL	USE	
SAW (WITH DIAMOND BLADE)	for cutting panels	
IMPACT DRIVER	for installation of panel fasteners	
DRILL	for drilling penetration holes	
VACUUM	for dust extraction purposes while cutting Nasahi® panels (Class M or H industrial vacuum)	
MIXING DRILL /MIXING BUCKETS	mixing Adhesive and render.	
HAWK AND STEEL TROWEL	for Spreading Adhesive and Rendering	
RASP (SANDING FLOAT)	for Panel sanding where required	



# Delivery & Handling

## DELIVERY

- Nasahi® Panels are delivered to site in packs of up to 15 on edge.
- Each pack has a wet mass as shown, including packaging.
- Panel packs must only be stacked one pack high and must be properly supported on level ground.
- If packs are to be placed on any type of structure, always consult the project engineer to verify the structural adequacy of the structure.
- Nasahi® Panels should be stored on a level surface and never more than one pack high.

## MANUAL HANDLING

To reduce the likelihood of damage, handling of Nasahi® Panels around site should be kept to a minimum. When lifting a panel, turn onto its long edge and support the weight by lifting with two people as shown below. Before lifting panels, a manual handling risk assessment must be performed to ensure personal injury risk is minimised. Packs should be unloaded as close as possible to the installation area; however, where this is not possible Nasahi® recommends the use of trolleys and/or other mechanical devices.



**DO NOT Carry Nasahi® Panels FLAT**



**ALWAYS Carry Nasahi® Panels ON EDGE**

Table 5.0 - Panel Packs and Weights

<b>SUPER<sup>50</sup> ALL PANELS ARE EDGE PACKED</b>		
LENGTH	NO. OF PANELS PER PACK	APPROX. WEIGHT PER PACK (kg)
2200	15	870
2550		925
2700		980
2850		1030
3000		1080

Table 5.1 - Panel Packs and Weights

<b>SUPER<sup>75LD</sup> ALL PANELS ARE EDGE PACKED</b>		
LENGTH	NO. OF PANELS PER PACK	APPROX. WEIGHT PER PACK (kg)
2200	10	725
2550		770
2700		810
2850		853
3000		869
3300		981



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# Health & Safety

## HEALTH AND SAFETY

All quarry products, including bricks, concrete and Nasahi® Panels contain Crystalline Silica, or Silica Dust. Prolonged exposure to Silica Dust without the correct PPE can be harmful and potentially cause skin irritation and life-threatening health hazards such as bronchitis, silicosis and lung cancer.

Silica dust is generated when cutting, drilling or moving the panels.

The site should be cleaned of dust regularly and when using power tools these should be fitted with an efficient, well-maintained dust extraction system.

Nasahi® recommends the use of Class M or H industrial vacuum systems for dust extraction. These vacuums suitably capture the dust and also allow for disposal of the waste in a manner to minimise dust exposure.

Nasahi® Panels do not contain any additives that are known to cause health problems; however, because of the risk of exposure to Silica Dust it is recommended that the correct PPE is worn.

The Nasahi® External Wall System Installer is responsible for informing all employees of these Health and Safety requirements under the Occupational Health and Safety Act.

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

When working with Nasahi® Panels, it is recommended that the following Australian compliant PPE is worn as a minimum:

- P1 or P2 Dust masks
- Protective glasses / goggles
- Ear Plugs / Ear Muffs – Class 5
- Gloves, long sleeve shirt and long pants
- Protective footwear



## HAZARDOUS MATERIALS

For MSDS of all components sold by Nasahi®, please visit our website [www.nasahi.net.au](http://www.nasahi.net.au).





# NCC Compliance



## NCC VOLUME ONE

Covers commercial, residential and public buildings defined as Class 2 to 9. Typical examples include multi-family dwellings, commercial offices and health buildings.

## NCC VOLUME TWO

Covers domestic constructions defined as Class 1 and 10. Typical examples include single-family dwellings, townhouses, houses and garages.

It is the responsibility of the builder to ensure the system is designed in accordance with this installation manual and that all site-specific performance provisions outlined in the relevant sections of the NCC are met.

The Nasahi® Party Wall System has been certified to meet the following provisions of the National Construction Code for Volume One, Volume Two and ABCB Housing Provisions as listed below:

Table 6.0 - NCC 2022 Compliance

NCC COMPLIANCE SUPER <sup>50</sup> & SUPER <sup>75LD</sup>	VOLUME ONE	VOLUME TWO	ABCB HOUSING PROVISION
	Performance Provision Deemed to Satisfy	Performance Provision Deemed to Satisfy	Refer to Deemed to Satisfy
Structural	B1D4 (b)(ii)	H1D7 (4)(a)	-
Fire	C2D2 (Spec 5), C2D10, C2D11 (Spec7)	H3D4	-
Acoustic	F7D4 (2), F7D6	H4D8 (refer to Housing Prov)	10.7.1

The Nasahi® CodeMark Certificate can be downloaded from our website.



# Appendix



# Appendix

## MATERIAL PROPERTIES

Appendix Table 7.0 - Material Properties for Super<sup>50</sup> and Super<sup>75LD</sup> Panels

PROPERTY		STANDARD DENSITY	LOW DENSITY <sup>LD</sup>	UNITS
Panel Thickness $d$		50 & 75	75 only	mm
Panel Width $w$		600		mm
Panel Length $L$		1800 up to 3000 for 50mm 1800 up to 3300 for 75mm	1800 up to 3300	mm
Panel edge profile		Square Edge		
AAC Dry Density, $\rho$	AS 5146.2 Appendix C	525	435	kg/m <sup>3</sup>
AAC Density for design, $\rho_d$	AS 5146.2	590	490	kg/m <sup>3</sup>
AAC Density for transport and lifting, $\rho_{tran}$	AS 5146.2	775	650	kg/m <sup>3</sup>
AAC Characteristic Compressive Strength, $f_{ck}$	AS 5146.2 Appendix D	3.1	2.0	MPa
Characteristic Ultimate Limit State Bending Moment Capacity ( $M_k$ )	AS 5146.2 Appendix E	0.34	0.78	kNm/m
Reinforcing yield stress	AS 4671	>500	>500	MPa
Reinforcing tensile strength	AS 4671	>600	>600	MPa
Reinforcing weld strength	AS 4671	>0.5 of force at yield of a longitudinal bar		
Design Serviceability Limit State Deflection Limit, max	AS 5146.1	SPAN/250		
Youngs Modulus (E)	AS5146.2:2018	1800		MPa

Notes:

1. Dry density is achieved by oven drying specimens so that the moisture content is close to 0%.
2. A design density of 590kg/m<sup>3</sup> has been calculated using a 12.4% moisture content.
3. A design density of 490kg/m<sup>3</sup> has been calculated for 75mm panels using a 12.4% moisture content.

# PARTY WALL OVERVIEW

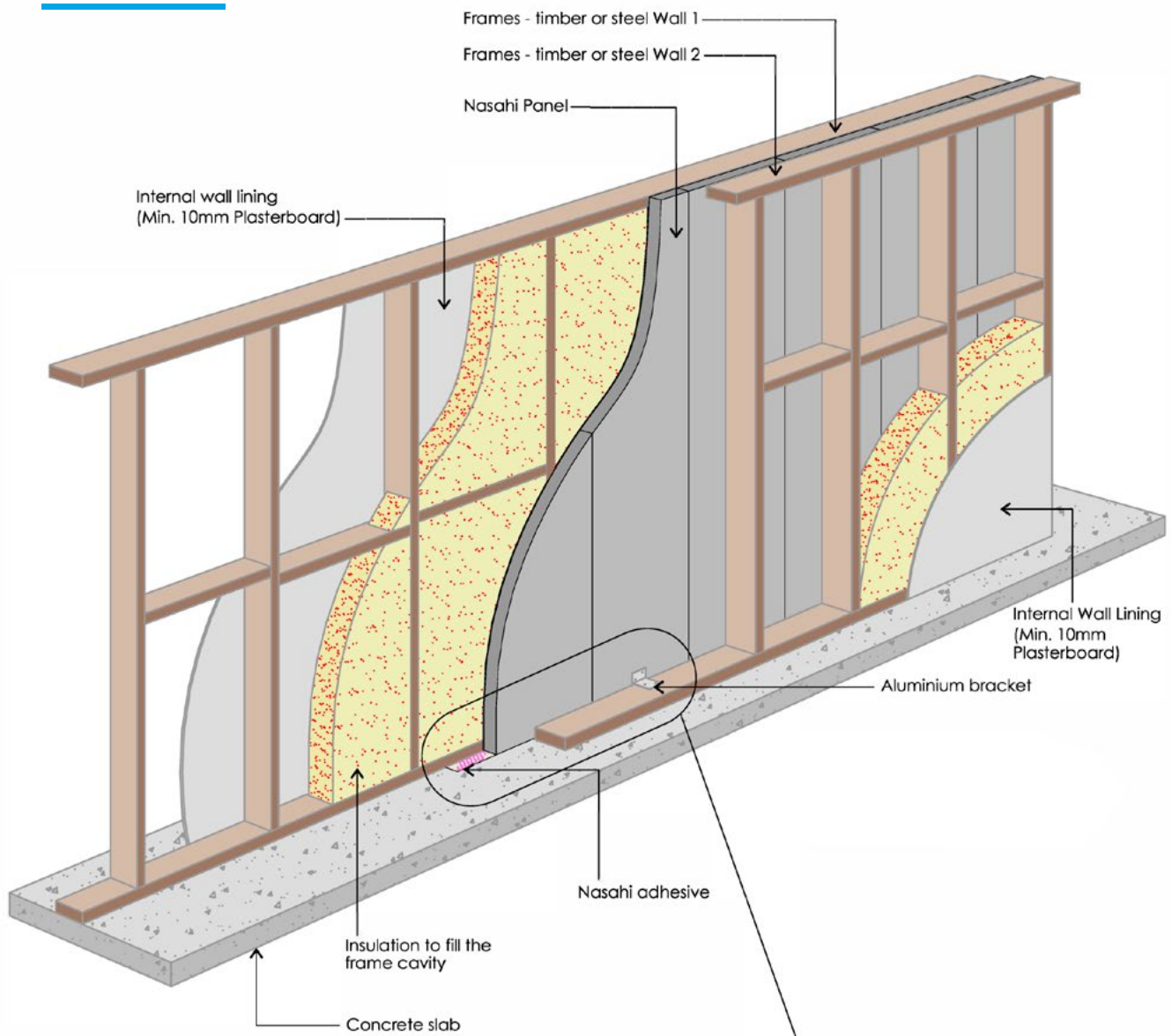
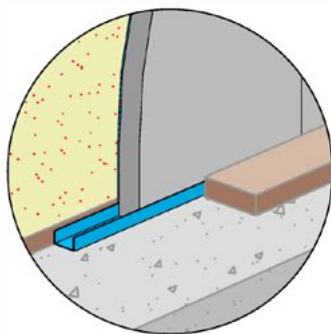
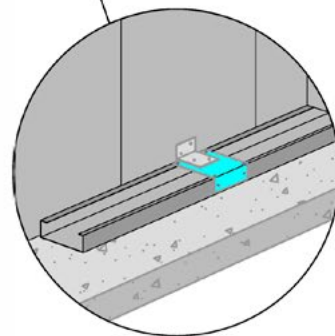


Fig 1.0 Partywall System Overview



Refer to Page 33 for 'C' section track option connection details (to slab)



Refer to Page 34 for steel frame connect details using aluminium angle brackets (to top and bottom plate)



# MANUFACTURING TOLERANCES REINFORCEMENT LAYOUT

## Manufacturing tolerances

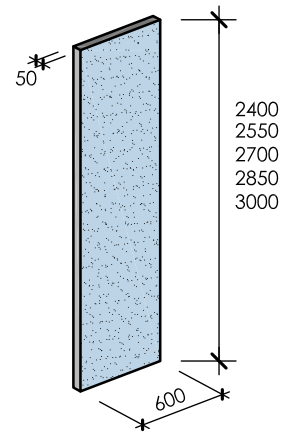
Length	± 5mm
Width	± 1.5mm
Thickness	± 1.5mm
Diagonals (max.)	5mm
Edge Straightness Deviation (max.)	1.5mm

## Panel weight (For Standard and Lightweight Density.)

Density Description	SD	LD	SD
Thickness (mm)	50	75	75
Transport Density (kg/m <sup>3</sup> )	775	650	775
Length (mm)	Panel weight (kg)		
2400	56	70	84
2550	59	75	89
2700	63	79	94
2850	66	83	99
3000	70	88	105
3300	-	97	115
SD = Standard Density		LD = Low Density	

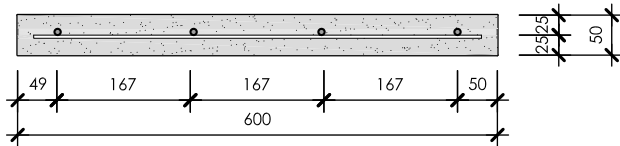
## 50mm Panel reinforcing bars

Length (mm)	Longitudinal bars (No.)	Dia. (mm)	Transverse bars (No.)	Dia. (mm)
2400	4	4.0	8	3.0
2550	4	4.0	8	3.0
2700	4	4.0	9	3.0
2850	4	4.0	10	3.0
3000	4	4.0	10	3.0



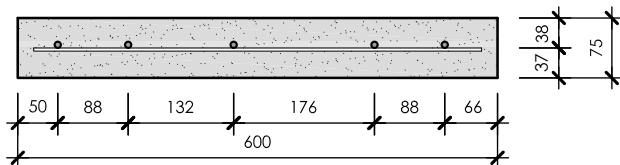
## Panel Re-bar Section

### 50mm Square Edge Panels



Typical 50mm Nasahi® Square Edge Panel section for 1800 - 3000mm panel length.

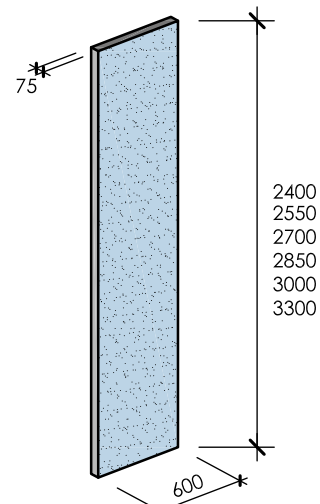
### 75mm Square Edge Panels



Typical 75mm Nasahi Square Edge Panel section for 2400 - 3300mm panel length.

## 75mm Panel reinforcing bars

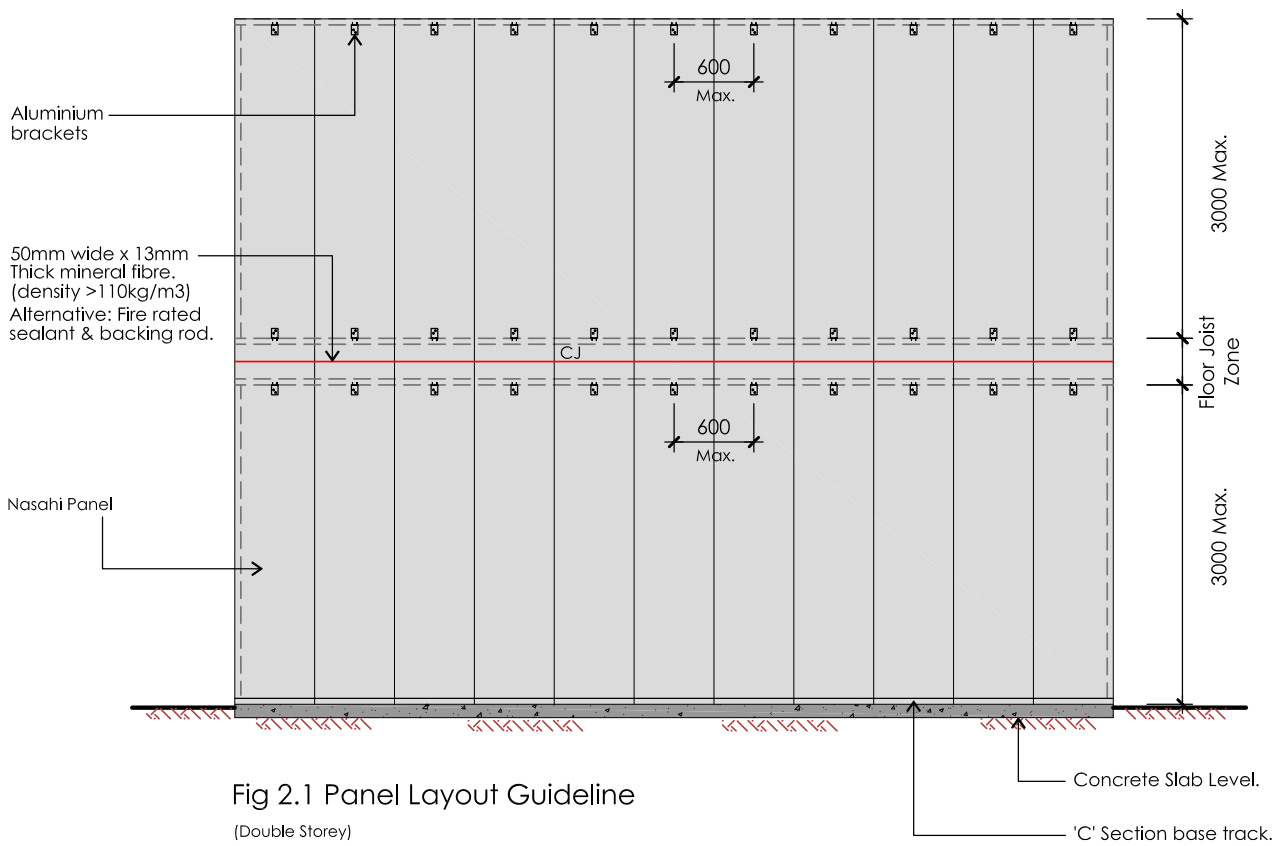
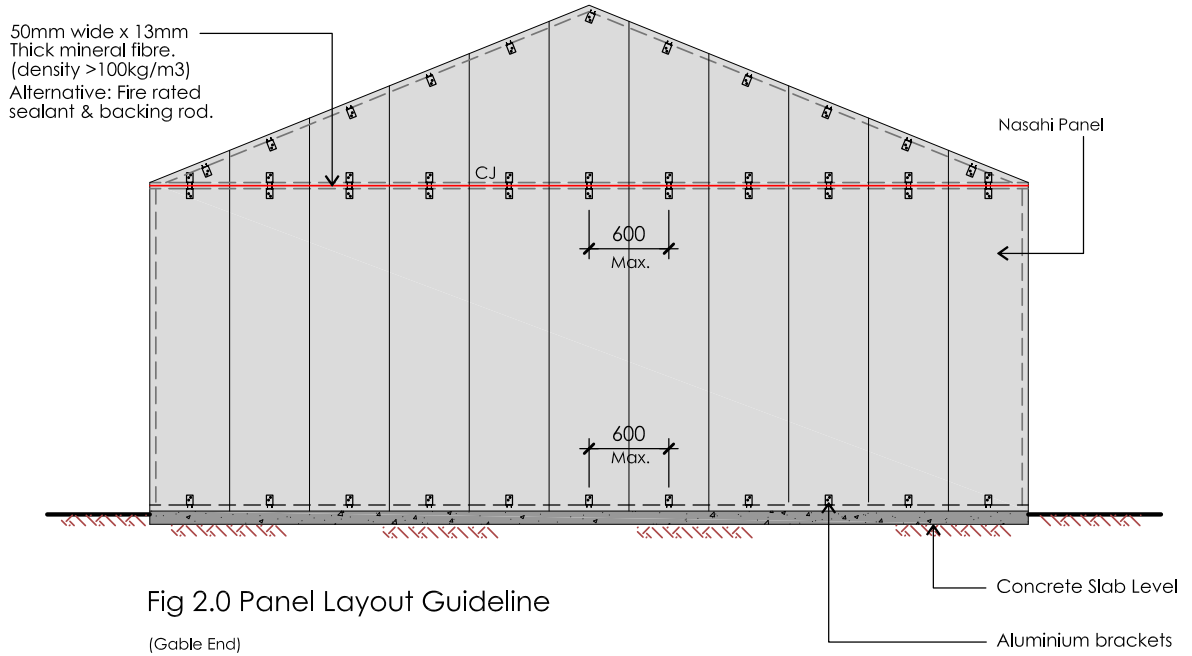
Length (mm)	Longitudinal bars (No.)	Dia. (mm)	Transverse bars (No.)	Dia. (mm)
2400	4	4.0	6	4.0
2550	4	4.0	6	4.0
2700	5	4.0	7	4.0
2850	5	4.0	7	4.0
3000	5	4.0	8	4.0
3300	5	4.0	8	4.0



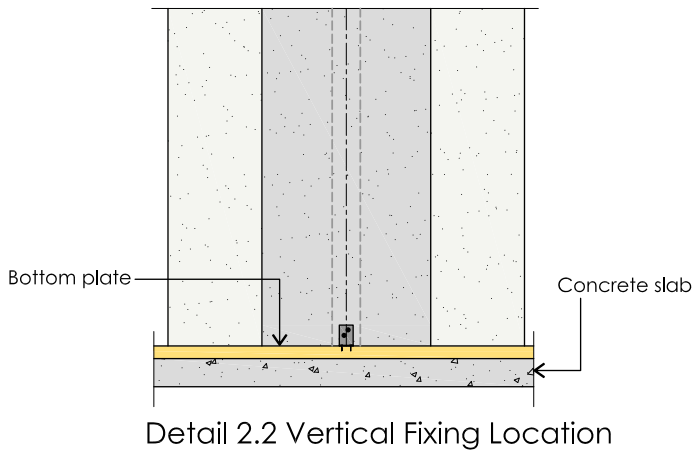
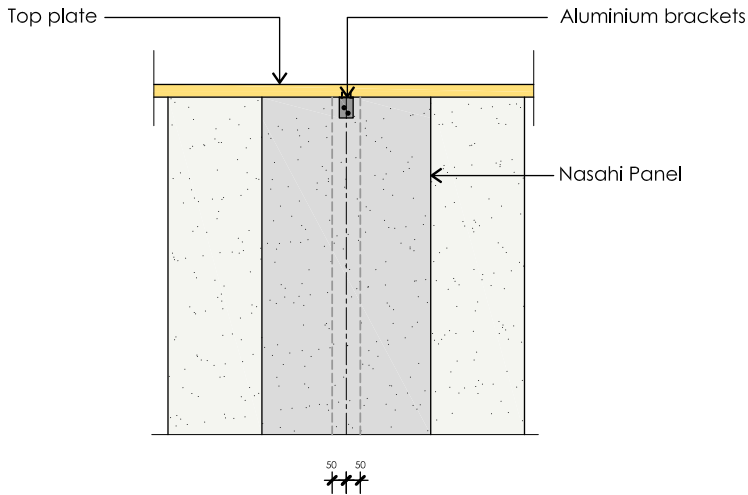
### Note:

Cutting: Panels typically to be no less than 270mm wide.

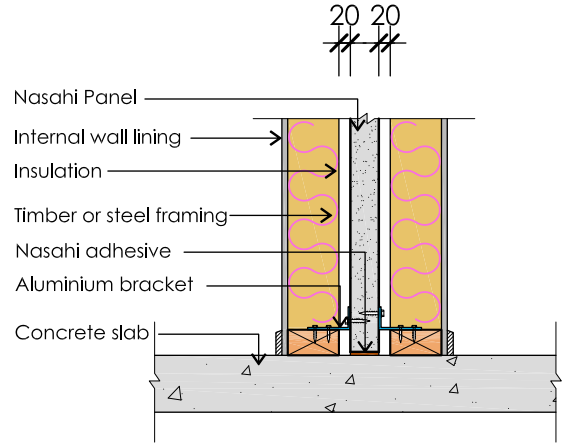
# DETAILED DRAWINGS



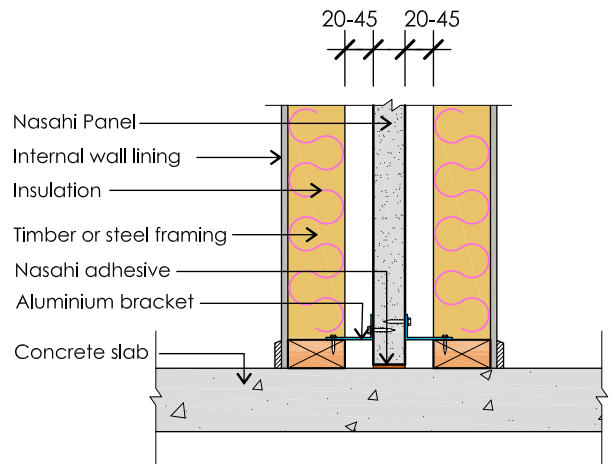
# DETAILED DRAWINGS



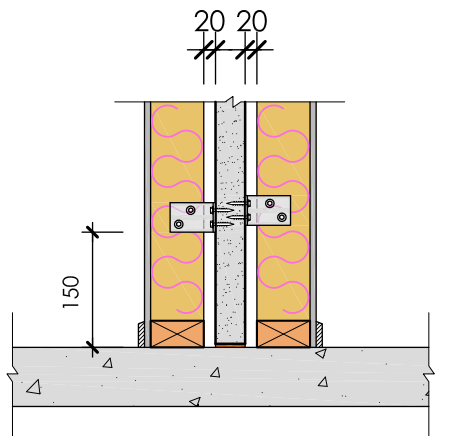
Detail 2.2 Vertical Fixing Location



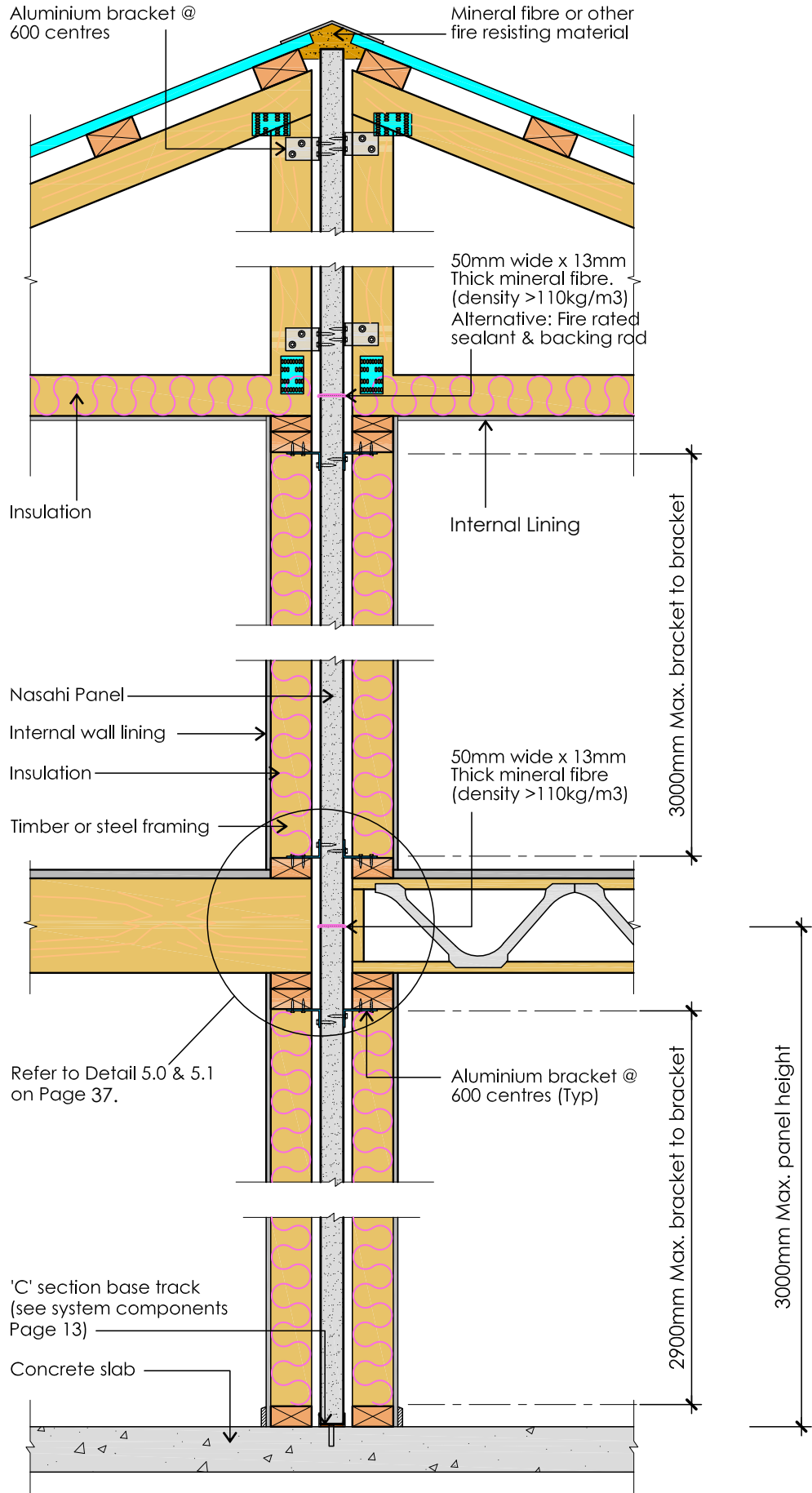
Detail 2.3 Base Slab Connection (Aluminium Wall Bracket)



Detail 2.4 Base Slab Connection (Cavity Between Panel & Frame)



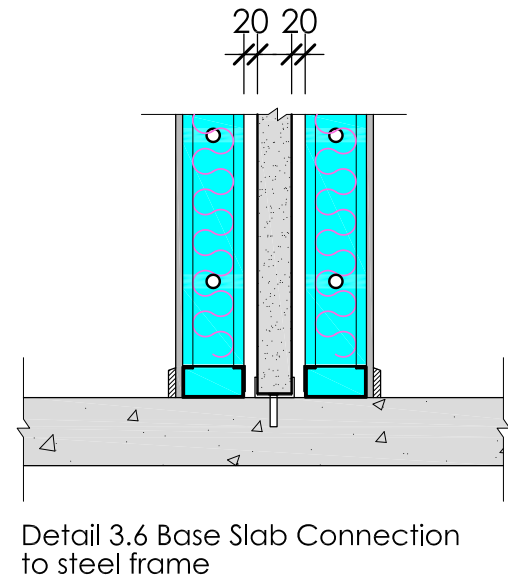
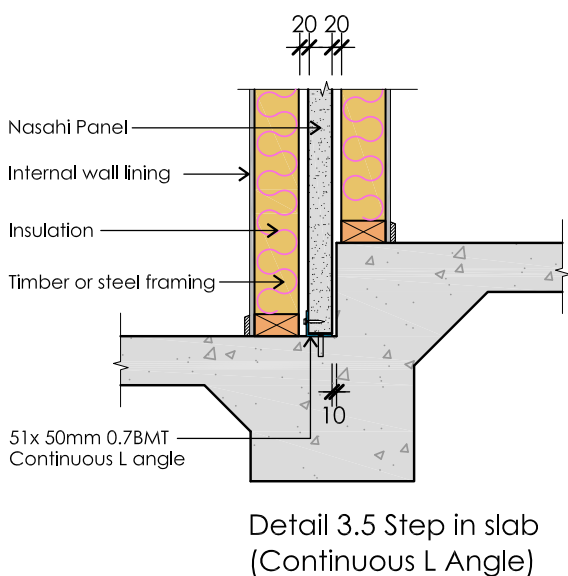
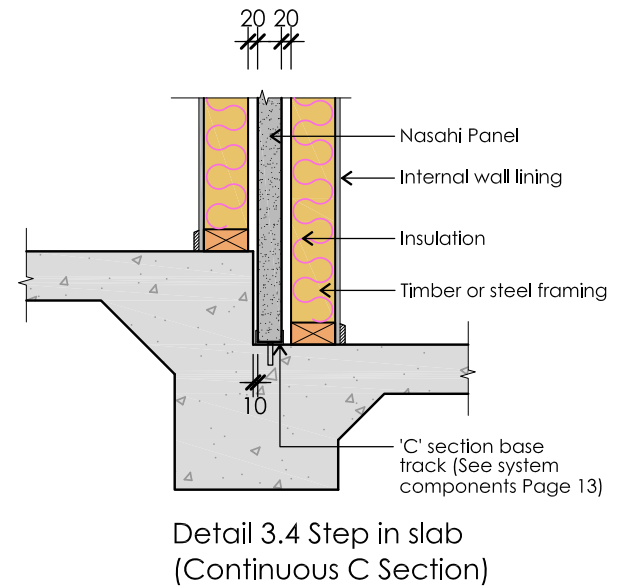
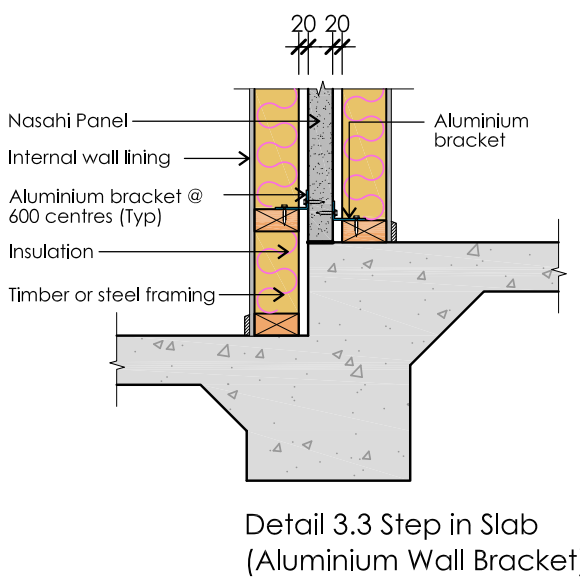
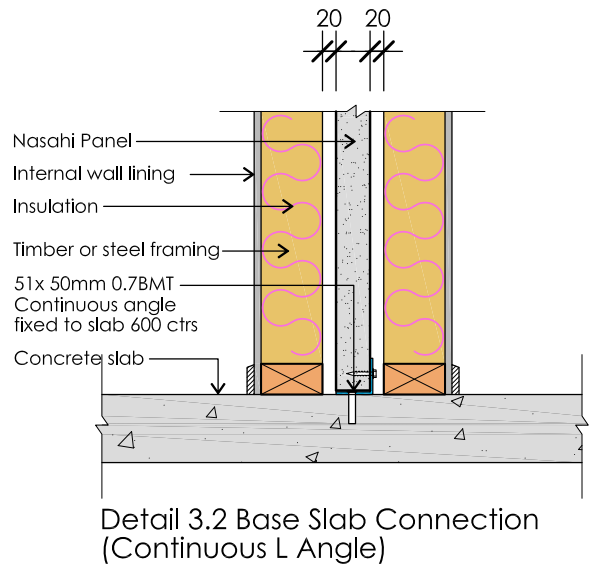
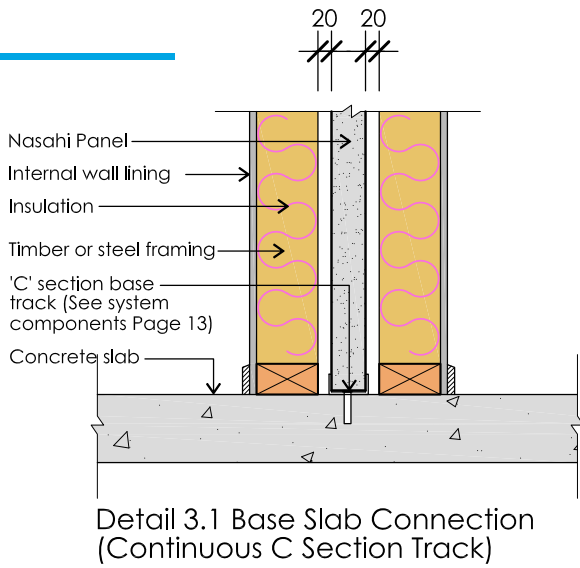
Detail 2.5 Base Slab Connection (Aluminium Wall Bracket)



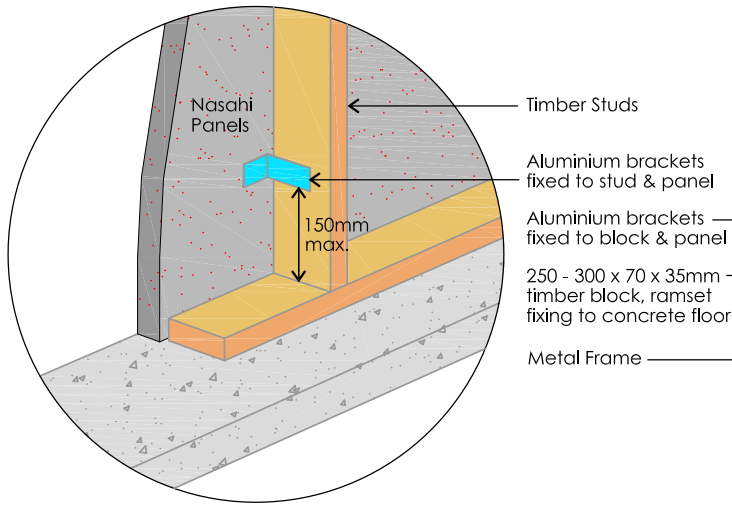
Detail 3.0 Sectional Detail



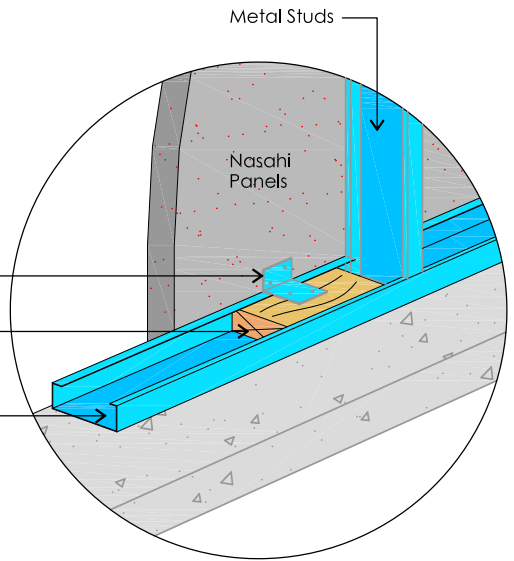
# DETAILED DRAWINGS



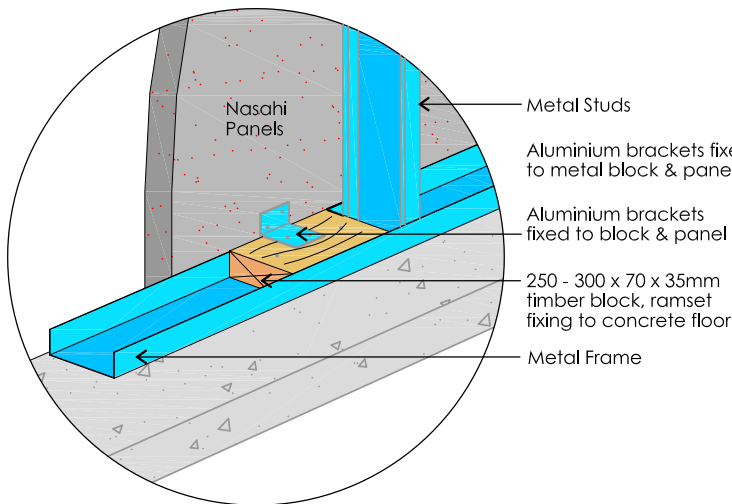
# DETAILED DRAWINGS



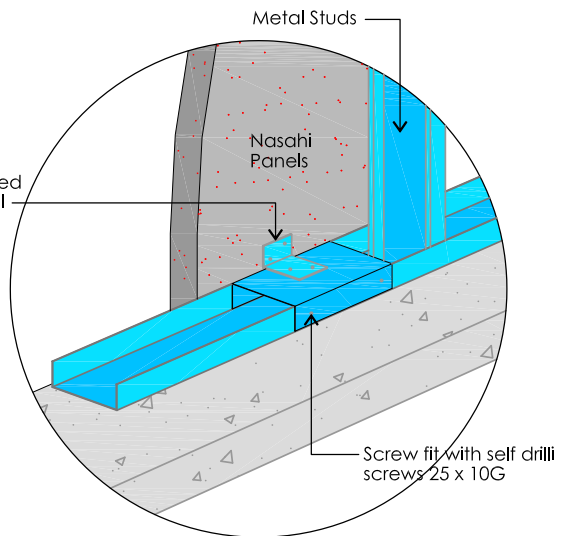
Option 1  
Wall Bracket to Stud Detail



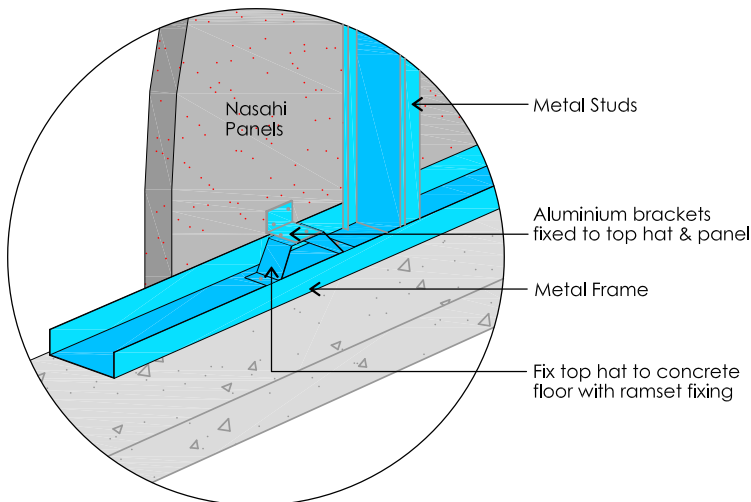
Option 2  
Flanged Steel Frame Using Timber Block



Option 3  
Steel Frame Using Timber Block



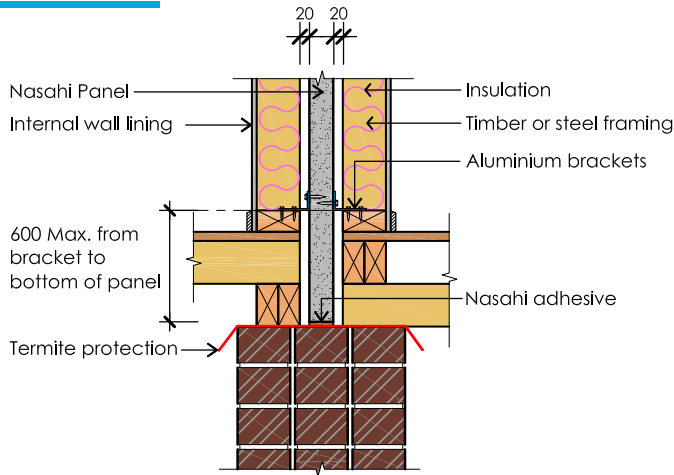
Option 4  
Steel Frame to Steel Frame



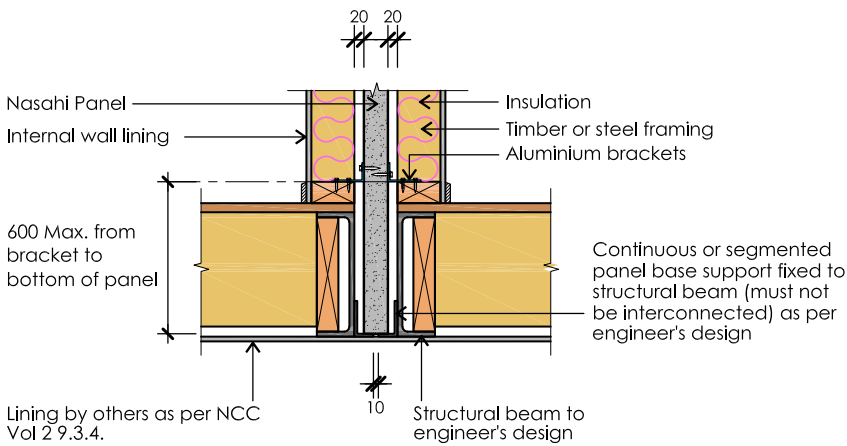
Option 5  
Steel Frame Using Top Hat

**Note:**  
Minimum 20mm gap between the frame and the panel on options 1 to 5.

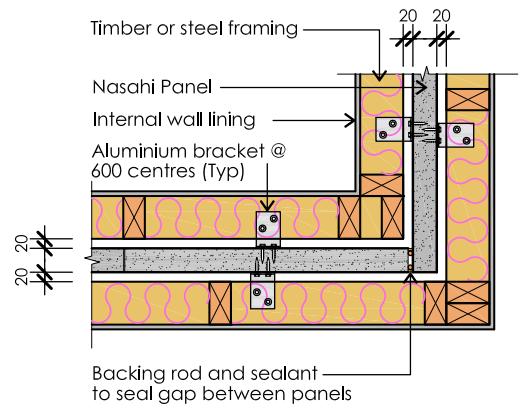
# DETAILED DRAWINGS



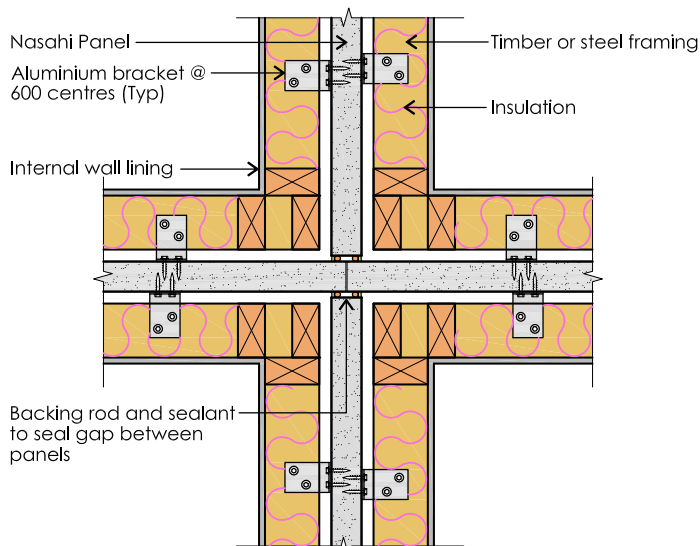
Detail 3.7 Masonry/Strip footing base



Detail 4.0 Cantilever beam panel support



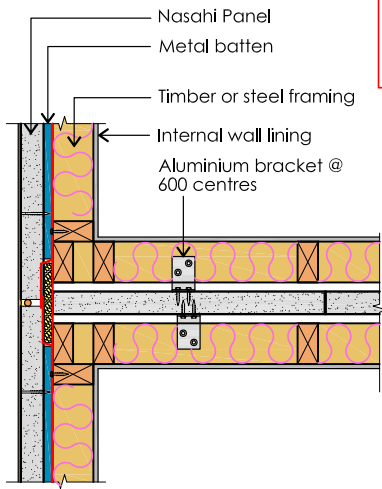
Detail 4.1 Typical party wall corner



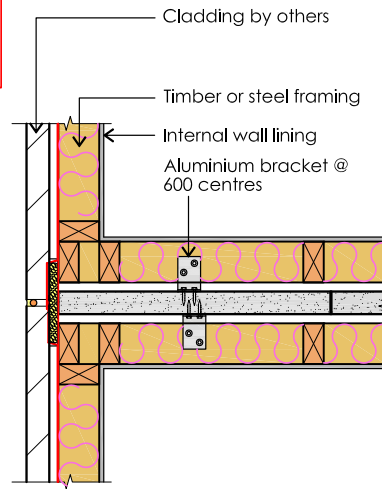
Detail 4.2 Party wall 4-way intersection

# DETAILED DRAWINGS

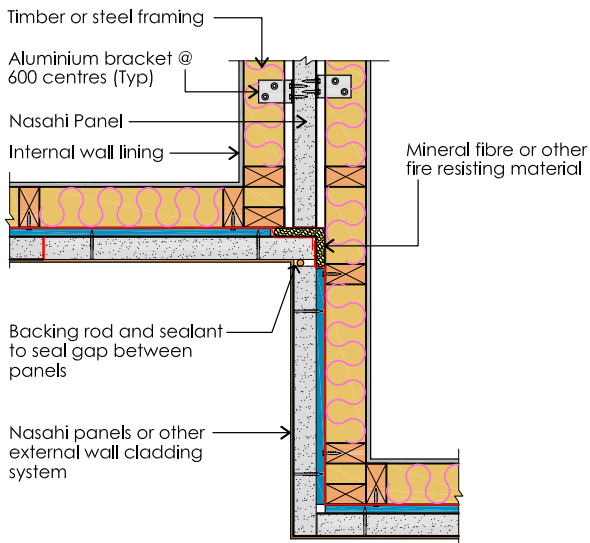
**Note:**  
Mineral fibre to be tacked to the Nasahi panel and the sisalation to be on the outside of the mineral fibre.



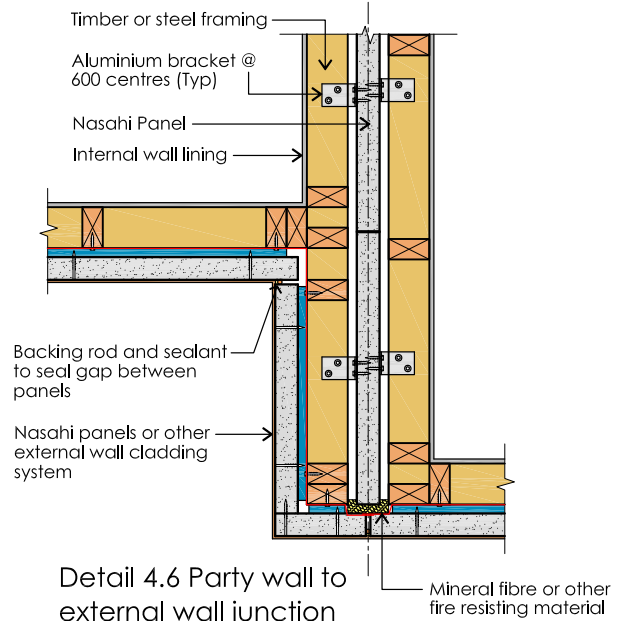
Detail 4.3 Party wall to external wall junction



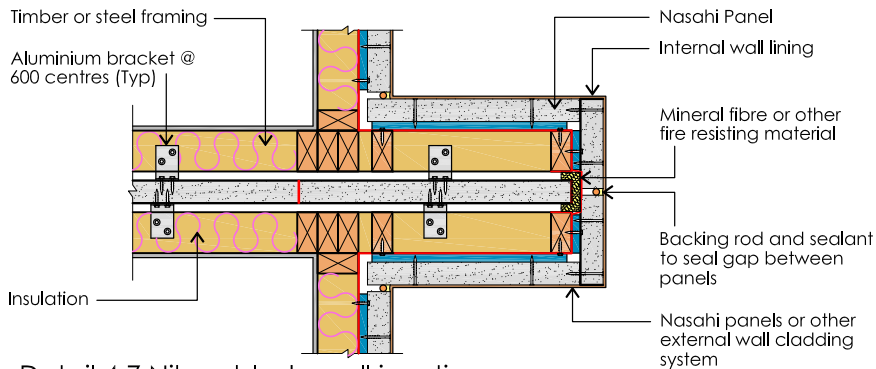
Detail 4.4 Party wall to other external wall junction



Detail 4.5 Party wall to external wall junction



Detail 4.6 Party wall to external wall junction

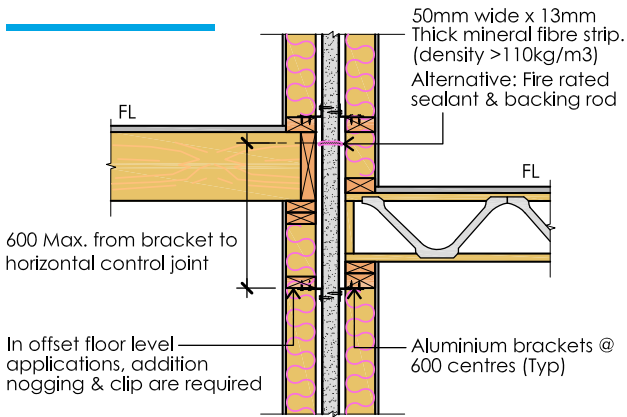


Detail 4.7 Nib or blade wall junction of party wall and external wall system

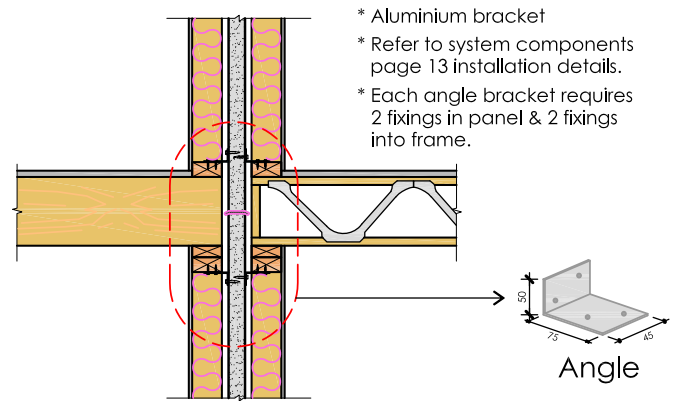
**Note:**  
Continue sarking around outside of mineral fibre. It may be overlapped on the centre line provided it is taped together.



## DETAILED DRAWINGS

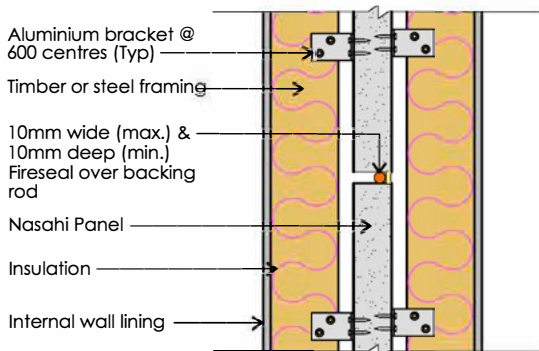


Detail 5.0 Inter-Storey Junction Detail

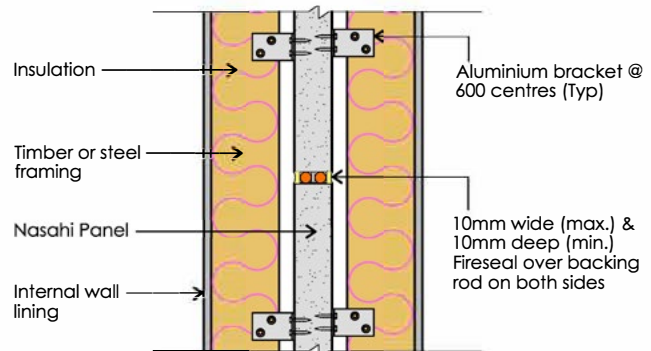


Detail 5.1 Angle bracket connection

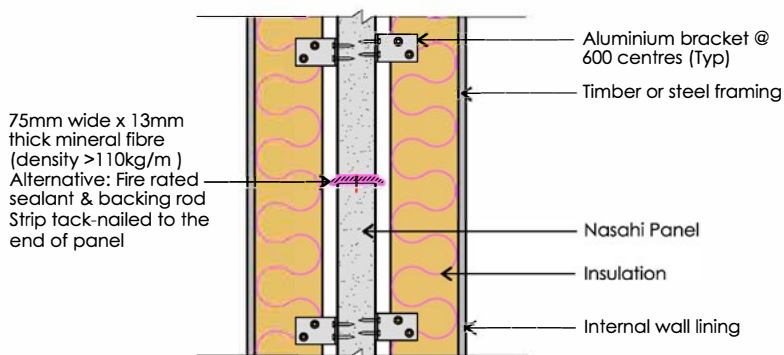
## CONTROL JOINTS



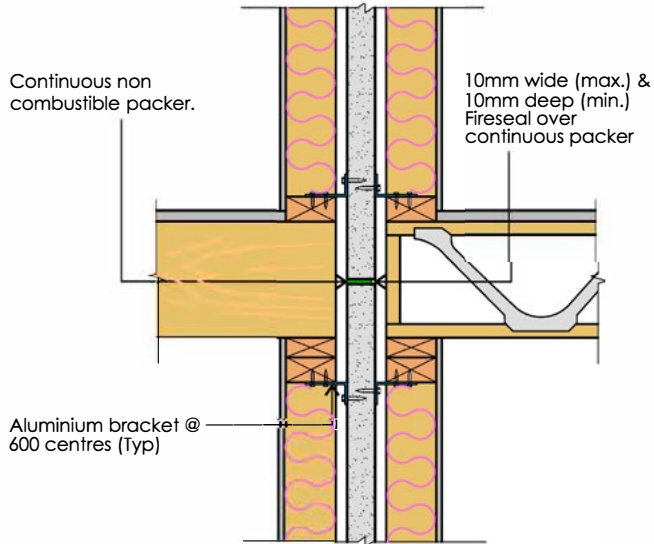
Detail 5.2  
(60min Vertical control joint)



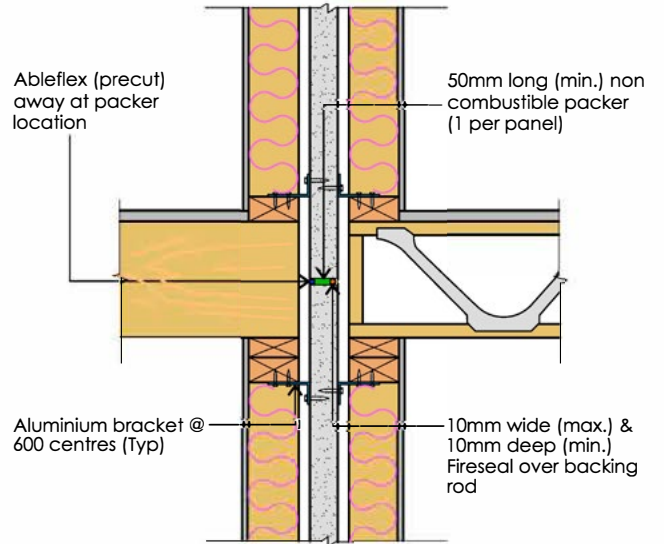
Detail 5.3  
(90min Vertical control joint)



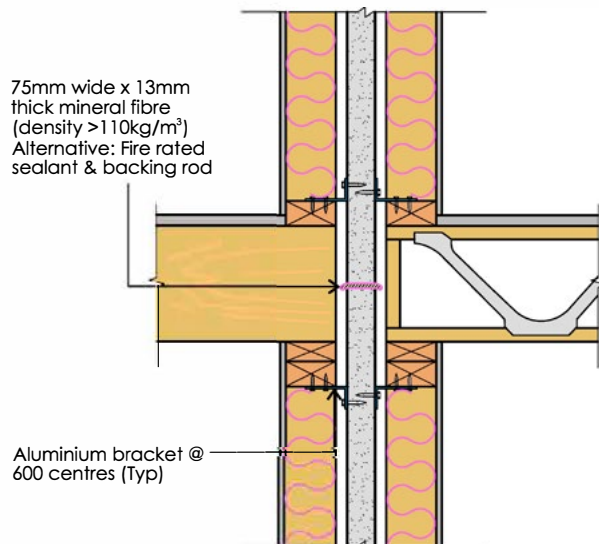
Detail 5.4  
(90min Vertical control joint)



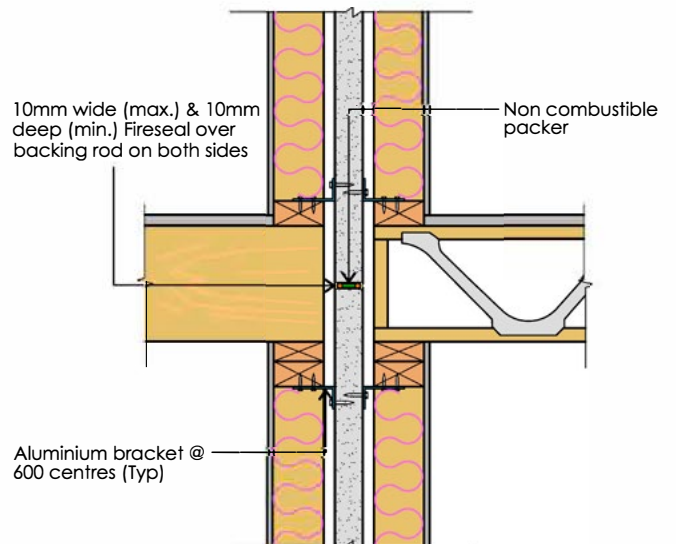
**Detail 5.5**  
**(Horizontal control joint FRL: 60 min.)**



**Detail 5.6**  
**(Horizontal control joint FRL: 60 min.)**

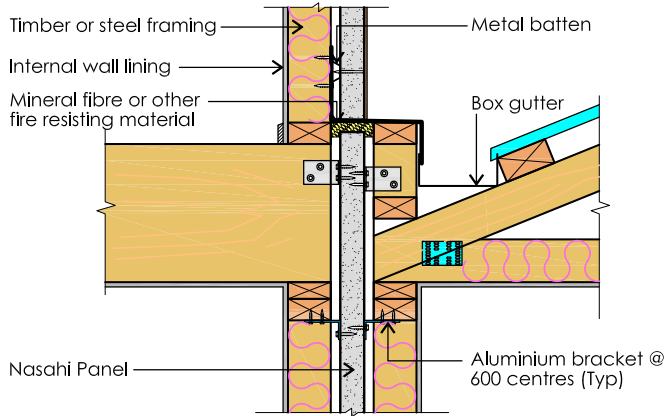


**Detail 5.7**  
**(Horizontal control joint Option 1 FRL: 90 min.)**

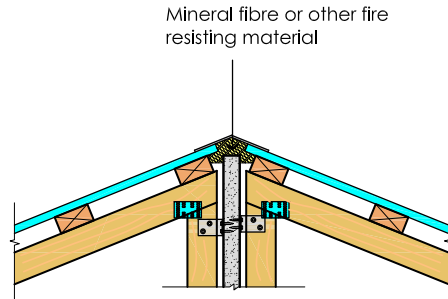


**Detail 5.8**  
**(Horizontal control joint Option 2 FRL: 90 min.)**

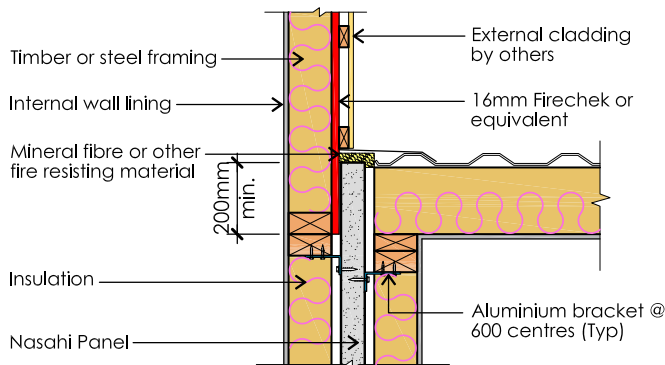
# DETAILED DRAWINGS



Detail 6.0 Party wall to external wall transition

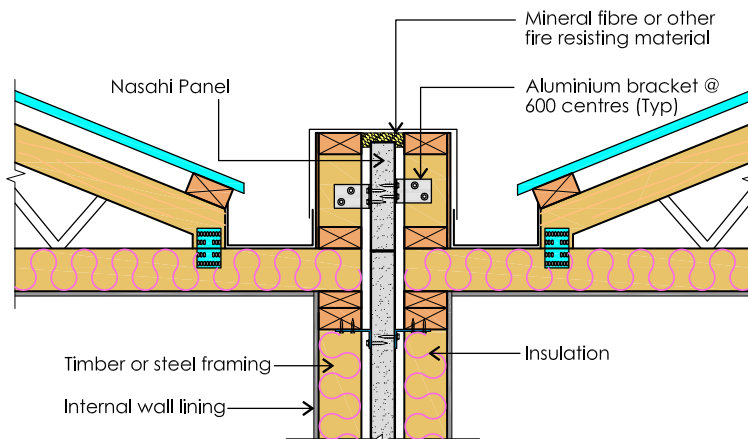


Detail 6.1 (Fire resisting mineral fibre)

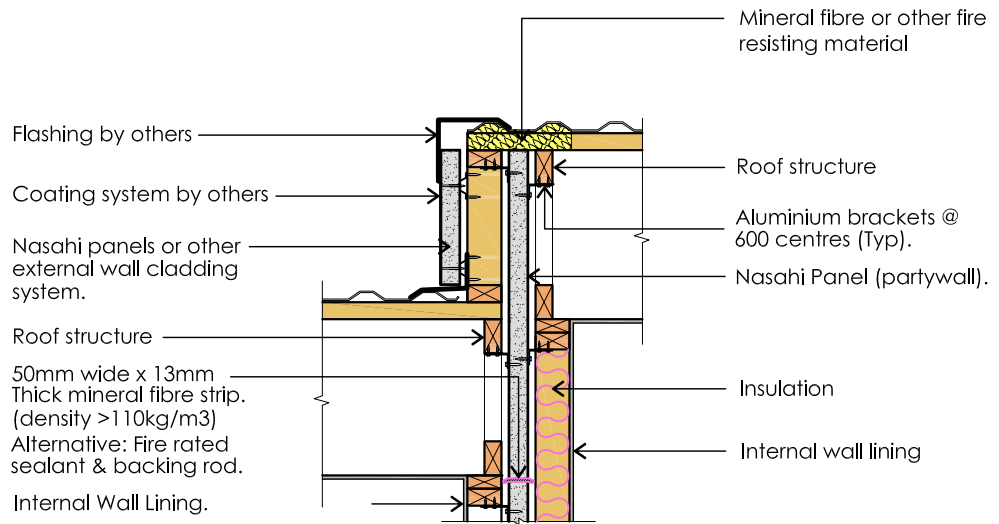


Detail 6.2 Party wall to other lightweight external cladding

**Note:**  
Mineral fibre with 10% minimum compression as per manufacture's requirements.

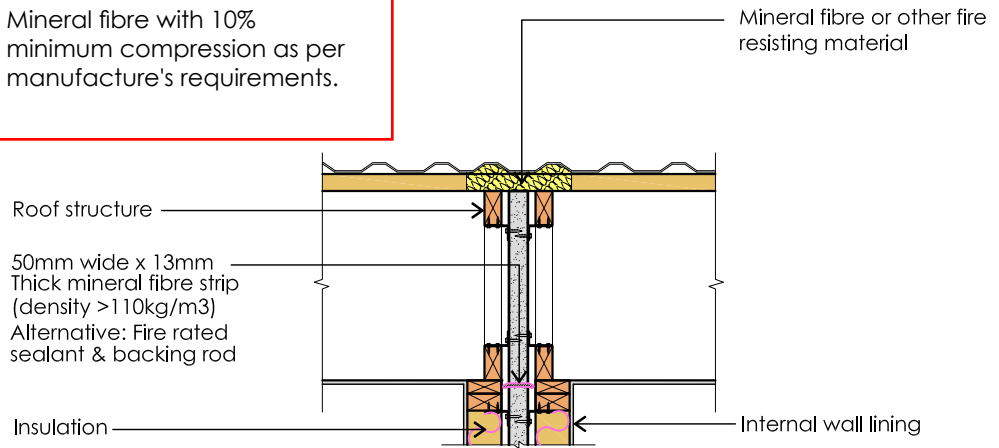


Detail 6.3 Party wall roof parapet junction detail

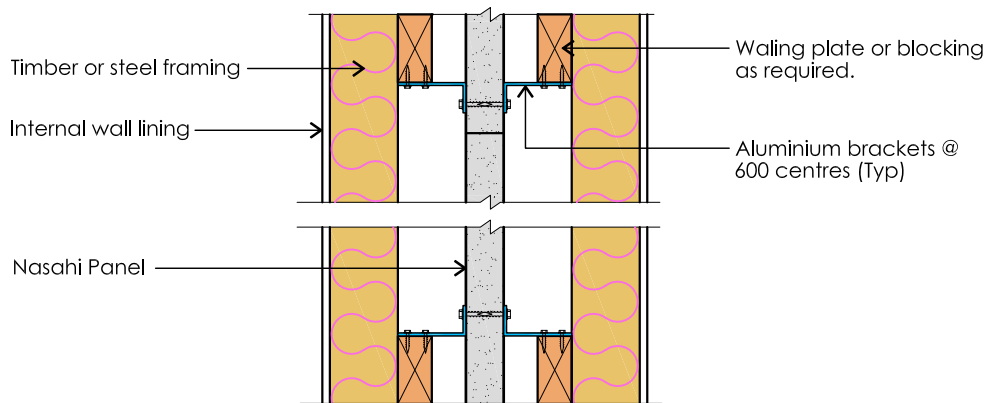


Detail 6.4 Party wall to stepped roof/ceiling

**Note:**  
Mineral fibre with 10% minimum compression as per manufacture's requirements.

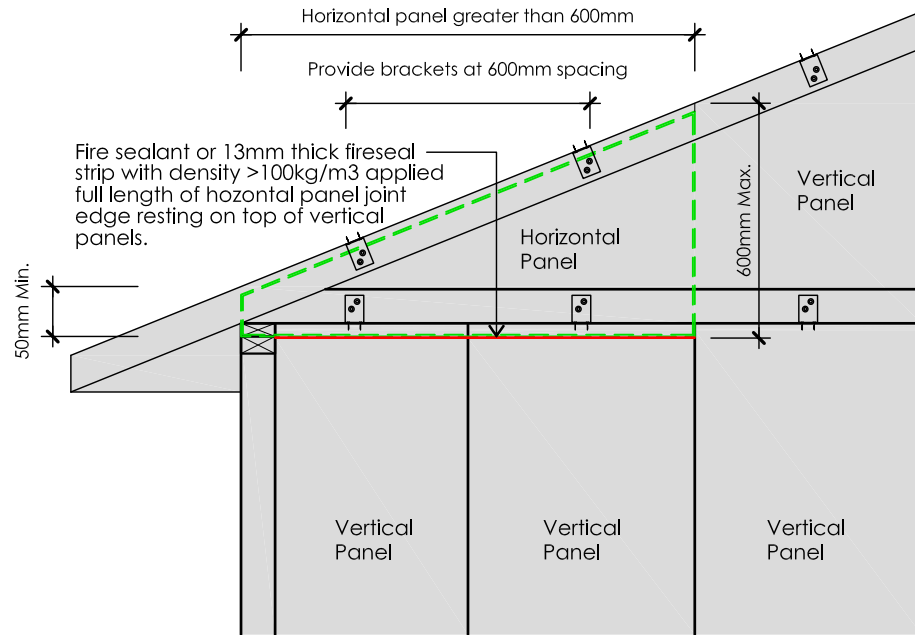


Detail 6.5 Party wall ceiling & roof



Detail 6.4 Party wall (Increased cavity width)

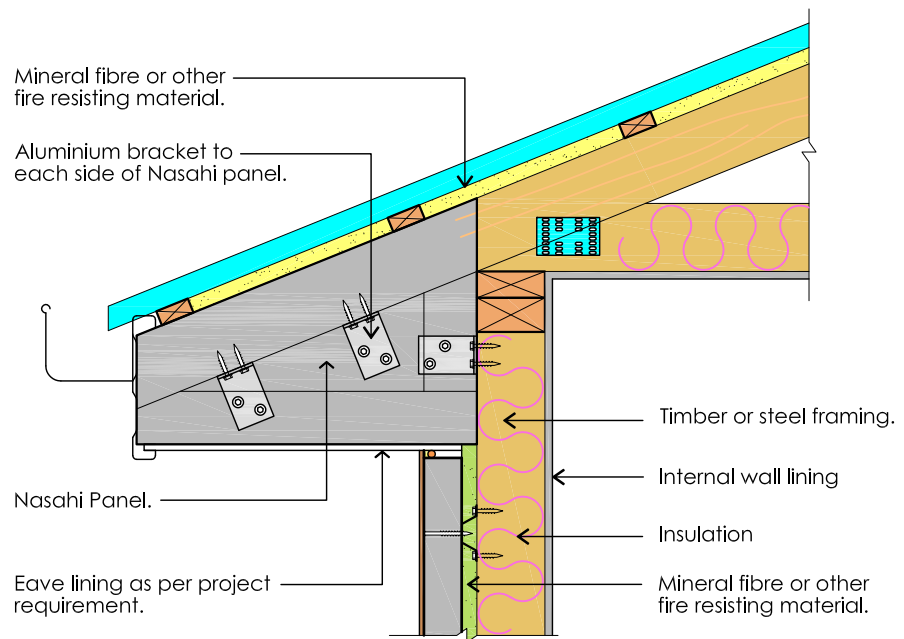




NOTE:

1. Allow short edge distance of horizontal panel to be minimum 50mm.
2. Fire sealant applied to one side of the joint achieves wall system FRL of 60/60/60
3. Fire sealant applied to both sides of the joint achieves wall system FRL of 90/90/90
4. The horizontal Nasahi panel installed in the roof void could be taper to zero.  
If panels are cracked or damaged the panels will need to be replaced.

Fig 7.0 Intertency wall & roof space



Detail 7.1 Eave detail

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# Guarantee

NASAHI® GUARANTEE THE PRODUCTS MANUFACTURED BY US AND THE SYSTEMS DESCRIBED IN NASAHI® LITERATURE FOR 7 YEARS, SUBJECT TO THE TERMS AND CONDITIONS OF THE NASAHI® GUARANTEE WHICH CAN BE FOUND ON OUR WEBSITE. NASAHI® DOES NOT GUARANTEE COMPONENTS, PRODUCTS OR SERVICES, SUCH AS INSTALLATION, SUPPLIED BY OTHERS. NASAHI® RECOMMENDS THAT ONLY PRODUCTS, COMPONENTS AND SYSTEMS RECOMMENDED BY IT BE USED.

Nasahi® Approved Coating Systems used with the Nasahi® External Wall System must be guaranteed by the coating manufacturer and meet the minimum performance requirements specified by Nasahi®. It must have been prepared and installed in accordance with the manufacturers written instructions and technical specifications.

Only projects for which a completed Nasahi® Installation Compliance Certificate has been received will be eligible for the Nasahi® guarantee. Blank certificates are available from our website.

This guarantee applies to the performance of the system for the uses outlined in this Installation guide and excludes liability for consequential damage or losses in connection with defective cladding, other than those imposed by legislation.

## WARRANTY

The Nasahi® Panel, when installed in accordance with this guide, are warranted for a minimum of 15 years (from date of purchase) to be free from any defects subject to the conditions and exclusions set out in the Nasahi® Warranty Document available on our website.

Nasahi® Panels are warranted to not materially degrade, corrode or break down during the Term of this warranty (Nasahi® Warranty Document).

This exceeds the 7-year requirement outlined in the NCC and the relevant Australian Standards.

## DISCLAIMER

The information presented within this Installation guide is provided in good faith and to the best of our knowledge and is accurate at the time of preparation. The provision of this information should not be interpreted as a recommendation to use any of our products in violation of patent rights or in breach of statutes or regulations. Users are advised to make their own determination as to the suitability of this information in relation to their particular project and circumstances. As the information contained within this Installation guide may be applied under conditions beyond our control, no responsibility can be accepted by Nasahi®, or its staff for any losses or damage caused by any person acting or refraining from action as a result of misuse of this information.

AAC Building Products Pty Ltd T/A NASAHI® reserves the right to alter or update inclusive information from time to time without notice.

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 **NASAHI**<sup>®</sup>  
*building smarter*