



HELIX
AAC PANEL

PRODUCT CATALOGUE

Helix Autoclaved Aerated
Concrete (AAC) Building Panels



CODEMARK[®]
Australia

Certificate CM40443



JUNE 2026



Proudly Distributed By:

Dahlsens SINCE 1877
For the Builder.

CONTENTS

01	INTRODUCTION	03
02	PRODUCTS	04
	2.1 Helix Autoclaved Aerated Concrete (AAC) Building Panels	06
	2.2 Helix AAC Adhesive Powder	10
	2.3 Helix Waterproof Base Sealer	14
03	DESIGN & INSTALLATION GUIDE	18
	3.1 Helix 50/75mm AAC Low-Rise External Wall System	19
	3.2 Helix 50/75mm AAC Intertenancy & Party Wall Systems	55
	3.3 Helix Panel 75mm AAC Flooring Systems	88
04	APPROVED APPLICATORS	126
	4.1 Dulux	127
	4.2 STO	148
05	CERTIFICATIONS	156
	5.1 IGNIS LABS – Material Fire Test	157
	5.2 CODEMARK Australia – Certificate of Conformity	158

**Build Faster.
Build Smarter.**

INTRODUCTION

Build Faster.
Build Smarter.



At Helix Systems, we are committed to delivering innovative building solutions that combine strength, efficiency, and sustainability. Our Autoclaved Aerated Concrete (AAC) systems are designed to meet the evolving needs of modern construction, providing superior performance while simplifying the building process.

AAC is a lightweight, high-performance building material renowned for its excellent thermal insulation, fire resistance, acoustic properties, and structural reliability. As Australia's construction industry continues to seek smarter and more sustainable solutions, AAC has emerged as a trusted alternative to traditional building materials.

The Helix product range has been carefully developed to provide builders, architects, developers, and homeowners with a complete wall and flooring solution. Supported by rigorous testing, certification, and proven installation systems, Helix products deliver confidence at every stage of construction.

This catalogue provides an overview of our AAC panels, installation systems, approved applicators, and certifications to help you select the right solution for your next project.

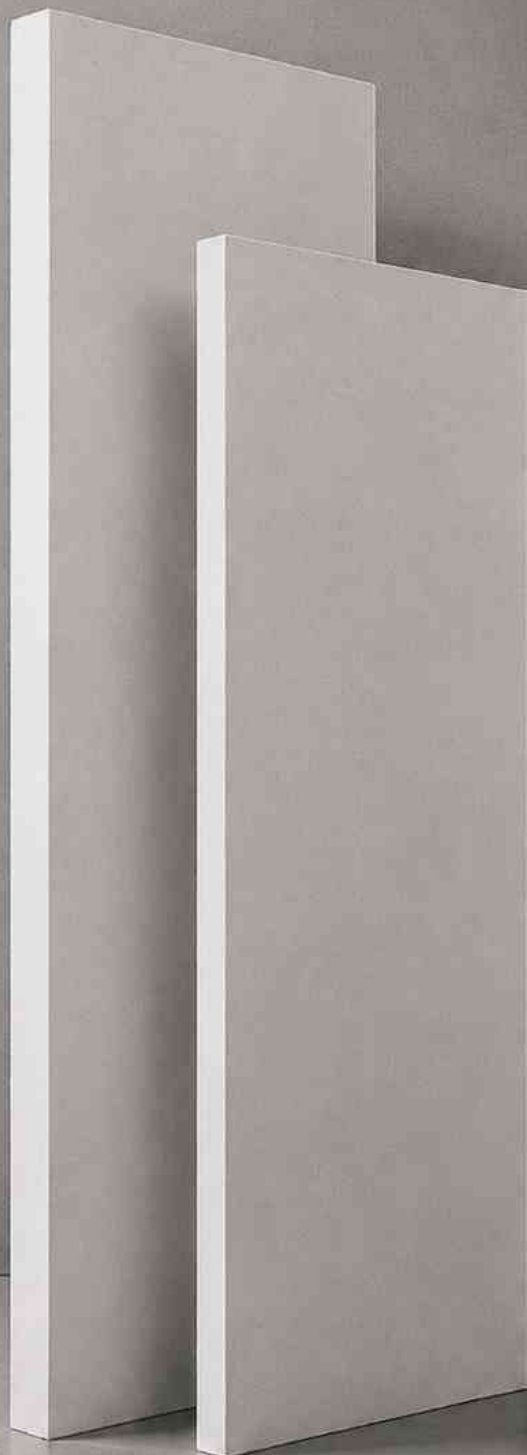
Proudly Distributed By:

Dahlsens
SINCE 1877
For the Builder.



SECTION 02

PRODUCTS



Proudly Distributed By:

SINCE 1877
Dahlsens
For the Builder.

Respirable Crystalline Silica

Workplace Exposure is Preventable

What is Respirable Crystalline Silica Dust? — Respirable crystalline silica is dust generated from materials and products containing silica. It is released when mechanically treated (e.g., cutting, sawing, abrading such as rasping, scaping, grinding down, chasing or crushing).

This dust is of concern due to its size — it can become trapped deep in the lungs and cause long-term damage.

Independent testing has determined the amount of Crystalline Silica that may become respirable size particles when conducting these activities. (Helix testing recorded under 4% RCS in dust generated.)



Section 1. Product Identification

PRODUCT NAME	Helix Autoclaved Aerated Concrete (AAC) Building Panels
PRODUCT USE	As load bearing and non-load bearing component for interior and exterior walls and floors.
SUPPLIER	Helix AAC Pty Ltd Unit 58 / 7 Dalton Road, Thomastown VIC 3074, Australia Ph 1300 435 492 www.helixsystems.com.au

Section 2. Hazard Identification

Hazardous Nature	Helix AAC as supplied is non-Hazardous. Dust from this product is classified as Hazardous according to the Approved Criteria for Classifying Hazardous Substances [NOHSC:1008] 3rd Edition. When concrete products are cut, sawn, abraded or crushed, dust is created which contains crystalline silica, some of which may be respirable (particles small enough to go into the deep parts of the lung when breathed in), and which is Hazardous.		
The following GHS classifications refer ONLY to the dust of these products:			
GHS Classification: • Skin Irritation Category 2 • Eye Irritation Category 2A • Specific Target Organ Toxicity (Single Exposure) Category 3 • Specific Target Organ Toxicity (Repeated Exposure) Category 2	GHS Pictograms: GHS Signal Word:	WARNING 	
The following GHS Hazard and Precautionary statements refer only to the dust produced by Helix AAC:			
GHS Hazard Statements: • H315 – Causes skin irritation • H319 – Causes serious eye irritation • H335 – May cause respiratory irritation • H373 – May cause damage to organs through prolonged or repeated exposure by inhalation	GHS Precautionary Statements: P260 – Do not breathe dust. P264 – Wash thoroughly after handling. P271 – Use only outdoors or in a well-ventilated area. P280 – Wear eye/face protection and protective gloves. P302 + P352 – If on skin, wash with plenty of soap and water. P304 + P340 – If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing. P305 + P351 + P338 – If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P312 – Call a Poison Centre or doctor if you feel unwell. P332 + P313 – If skin irritation occurs, get medical advice/attention. P337 + P313 – If eye irritation persists, get medical advice/attention. P362 – Take off contaminated clothing and wash before reuse. P403 + P233 – Store in a well-ventilated place and keep container tightly closed.		
AAC is classified as Non-Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.			

Section 3. Ingredients Composition & Information

Component	Synonyms	Proportion	CAS Number
Calcium Silicate Hydrate	Tobermorite	<60%-80%	1344-95-2
Crystalline Silica	Quartz	20%-40%	14808-60-7
Portland Cement	Concrete	10%-60%	65997-15-1
Additives	Glenium, Superplasticiser	<5%	
Note: Cement in concrete contains traces (2-20 ppm) of Chromium VI (hexavalent)			

Section 4. First Aid Measures

INHALATION	Provide fresh air. If persistent irritation, severe coughing, or breathing difficulty occurs, seek medical attention.
EYE CONTACT	Flush eyes, including under eyelids, with clean flowing water for 15 minutes. If irritation persists, seek medical attention.
SKIN CONTACT	Remove any contaminated clothing. Wash skin thoroughly with soap and water. Shower if necessary. Seek medical attention for persistent redness, irritation or burning of the skin.
INGESTION	Rinse mouth and lips with water. Do not induce vomiting. If symptoms persist, seek medical attention.

Section 5. Fire Fighting Measures

Suitable Extinguishing Media	Use carbon dioxide, foam, dry chemical or water spray as required for fire in surrounding materials.
Specific Hazards	None
Special protective Equipment & Precautions for Firefighters	As required for fire in surrounding materials.
HAZCHEM Code	None Allocated

Section 6. Accidental Release Measures

Personal Precautions, PPE & Emergency Procedures	Avoid generating dust. Recommendations on Exposure Controls / PPE (see Section 11 below) should be followed during spill clean-up if conditions are dusty.
Environmental Precautions	None Required
Methods & Materials for Containment & Clean up	Collect and reuse where possible. Dust is best cleaned up by vacuum device to avoid making dust airborne. Wetting down before sweeping up dust is recommended.

Section 7. Handling & Storage

Precautions for Safe Handling	AAC is a heavy material, and appropriate control of manual handling risk is required. Manual handling should be in accordance with Manual Handling Regulations and Codes.
Conditions for Safe Storage	No special requirements. Safety aspects of stockpiles and storage areas require risk assessment and control.
Incompatibilities	None

Section 8. Exposure Controls / Personal Protective Equipment

Respiratory Protection	The type of respiratory protection required depends on the concentration of the respirable crystalline silica dust in the air, and the frequency and length of exposure time. A suitable P1 or P2 particulate respirator used in accordance with AS 1715 and 1716 may be sufficient for many situations, but where high levels of dust are encountered, more efficient cartridge- type or powered respirators or supplied-air helmets or suits may be necessary. Use only respirators that bear the Australian Standards mark and are fitted and maintained correctly. None required if engineering and handling controls are adequate to minimize dust generation and dust exposure. Where engineering and handling controls are not enough to minimise exposure to dust, personal respiratory protection may be required.
Eye Protection	Use of protective safety glasses or goggles is recommended for dust generating operations.
Incompatibilities	It is recommended to wear loose comfortable clothing and gloves

Section 9. Physical & Chemical

Boiling Point	N/A	Specific gravity	0.4 - 0.7
Vapour Pressure	N/A	Evaporation rate	N/A
Vapour Density (Air=1)	N/A	Melting point	N/A
Solubility in Water (%weight)	N/A	Volatiles (by volume)	N/A
pH	8.0---10.0	VOC's (g/litre)	N/A
Appearance & Odour: Off white with no odour			
Flash Point	N/A		
Flammability (LEL, HEL)	N/A		
Hazardous Combustion Products	None		
Unusual Fire & Explosion Hazards	None		
Special Firefighting Procedures	Applicable for surrounding materials and substances		

Section 10. Stability & Reactivity

Stability	Stable
Conditions to Avoid	None
Incompatible Materials	None as this is an inert material
Hazardous Decomposition Products	None
Hazardous Polymerisation	Will not occur

Section 11. Toxicological Information

SWALLOWED	Unlikely under normal industrial use, but swallowing the dust from this product may result in abdominal discomfort.
EYES	Short-Term: Dust is irritating to the eyes causing watering and redness. Exposure to dust may aggravate pre-existing eye conditions. Long-Term: Dust may cause irritation and inflammation of the eyes and aggravate pre-existing eye conditions.
SKIN	Short-Term: The dust from this product, particularly in association with heat and sweat, may cause irritation. The dust is not absorbed through the skin but, may be mildly irritating and drying to the skin due to its physical characteristics. Long-Term: Repeated heavy contact with the dust may cause drying of the skin and can result in skin rash typically affecting the hands. Over time this may become chronic and can also become infected.
INHALED	Short-Term: Dust is mildly irritating to the nose, throat and respiratory tract and may cause coughing and sneezing. Pre-existing upper respiratory and lung diseases including asthma and bronchitis may be aggravated. Long-Term: Repeated exposure to the dust may result in increased nasal and respiratory secretions and coughing. Inflammation of lining tissue of the respiratory system may follow repeated exposure to high levels of dust with increased risk of bronchitis and pneumonia.

Section 12. Ecological Information

Eco-Toxicity	Products as delivered are not biodegradable, have low ecotoxicity and are not regarded as posing any ecological risk. Crushed product and dust may form a mildly alkaline or neutral slurry when mixed with water.
Persistence & Degradability	Product is persistent and would have a low degradability.
Bioaccumulative Potential	There is no evidence to suggest bioaccumulation will occur.
Mobility in Soil	A low mobility would be expected in a landfill situation.

Section 13. Disposal

Waste Disposal	AAC can be treated as a common waste for disposal or dumped into a landfill site in accordance with local, state or federal authority guidelines. Crushed product and dust should be kept out of storm water and sewer drains. Measures should be taken to prevent dust generation during disposal, and exposure and personal precautions should be observed.
----------------	---

Section 14. Transport Information

UN Number	None Allocated
UN Proper Shipping Name	None Allocated
Class & Subsidiary Risk	None Allocated
Packaging Group	None Allocated
Special Precautions for User	None
HAZCHEM Code	None Allocated

Section 15. Regulatory Information

Poisons	None Scheduled
Exposures by inhalation to high levels of dust may be regulated under the Hazardous Substances Regulations (State) as they are applicable to Respirable Crystalline Silica, requiring exposure assessment, controls and health surveillance.	

Section 16. Other Information

Further Information Contact	Helix AAC Pty Ltd Unit 58 / 7 Dalton Road, Thomastown VIC 3074, Australia Ph 1300 435 492 www.helixsystems.com.au
-----------------------------	---

DISCLAIMER

The information contained in this material Safety Data Sheet is believed to be reliable. No guarantee is implied or expressed regarding the accuracy of this information or the use of the product since the conditions of use are beyond manufacturer's control. Nothing contained herein should be construed as a recommendation to use this product in conflict with existing patents covering any material or its use.

This SDS was generated from information available of the components of this product. SDS date of preparation: 14th August 2025

Section 1. Product Identification

PRODUCT NAME	Helix AAC Adhesive Powder
PRODUCT USE	Bonding AAC panels and blocks in construction
SUPPLIER	Helix AAC Pty Ltd Unit 58 / 7 Dalton Road, Thomastown VIC 3074, Australia Ph 1300 435 492 www.helixsystems.com.au
EMERGENCY	Poisons Information Centre Australia: 13 11 26

Section 2. Hazard Identification

Hazardous Nature	Helix AAC Adhesive is a cement-based powder. It becomes caustic when mixed with water and can cause serious eye damage, skin irritation, and respiratory irritation from dust inhalation. Respirable dust is the principal hazard.		
The following GHS classifications refer ONLY to this product:			
GHS Classification: • Skin Irritation – Category 2 • Eye Damage – Category 1 • STOT SE – Category 3 (respiratory irritation)	GHS Pictograms: GHS Signal Word:	DANGER 	
The following GHS Hazard and Precautionary statements refer only to Helix AAC Adhesive:			
GHS Hazard Statements: • H315 – Causes skin irritation • H318 – Causes serious eye damage • H335 – May cause respiratory irritation	GHS Precautionary Statements: • P261 – Avoid breathing dust • P264 – Wash hands thoroughly after handling • P280 – Wear gloves, goggles, and protective clothing		
Helix AAC Adhesive is classified as Non-Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail .			

Section 3. Composition Information

Substance	Proportion
Portland Cement	20–50%
Mineral Fillers (limestone, quartz)	30–70%
Polymer Additives	<5%
Hydration Control Agents	<2%
Contains respirable crystalline silica in trace percentages.	

Section 4. First Aid Measures

INHALATION	Move to fresh air. Seek medical attention if coughing persists.
EYE CONTACT	Immediately flush with water for 15+ minutes. Urgent medical attention required.
SKIN CONTACT	Wash with soap & water. Remove contaminated clothing. Seek advice if irritation continues.
INGESTION	Rinse mouth. Do not induce vomiting. Seek medical attention.
Advice to Doctor: Treat as strong alkaline exposure.	

Section 5. Fire Fighting Measures

Suitable Extinguishing Media	Use carbon dioxide, foam, dry chemical, or water spray as required for fire in surrounding materials. The product itself is not flammable or combustible.
Specific Hazards	No hazardous decomposition expected.
Special protective Equipment & Precautions for Firefighters	As required for fire in surrounding materials.
HAZCHEM Code	None Applicable

Section 6. Accidental Release Measures

Personal Precautions, PPE & Emergency Procedures	Avoid generating dust. Use appropriate PPE as outlined in Section 8 (Exposure Controls / Personal Protection).
Environmental Precautions	Collect material to prevent release into drains or natural waterways. Dispose of according to local regulations.
Methods & Materials for Containment & Clean up	Use wet clean-up methods or an H-class vacuum to avoid making dust airborne. Collect material for reuse or disposal in accordance with local regulations.

Section 7. Handling & Storage

Handling	- Avoid breathing dust when mixing - Do not rinse waste slurry into drains
Storage	Store in dry conditions, sealed to avoid moisture activation
Standard references: AS/NZS 1715, WHS Silica Guidelines	

Section 8. Exposure Controls / Personal Protective Equipment

Exposure Limit (Australia)	Respirable Crystalline Silica (Quartz): 0.05 mg/m ³ TWA
PPE when mixing or sanding	- Respirator P2/P3 (AS/NZS 1716) - Chemical-resistant gloves - Safety goggles or face shield - Long sleeves, safety boots
Engineering Controls	- Mix outdoors or in ventilated areas - Dust extraction where possible

Section 9. Physical & Chemical

Appearance	Fine grey/off-white powder
Odour	Slight cement smell
pH (wet mix)	Strongly alkaline 11–13
VOC	Nil
Solubility	Limited in water (hardens on curing)

Section 10. Stability & Reactivity

Stability	Stable when dry
Conditions to Avoid	Avoid exposure to moisture. Water triggers an exothermic hydration reaction.
Incompatible Materials	Avoid contact with acids.
Hazardous Decomposition Products	None expected under normal conditions of use.
Hazardous Polymerisation	Will not occur

Section 11. Toxicological Information

SWALLOWED	Unlikely under normal industrial use. Ingestion may cause irritation to the mouth, throat, and digestive tract, leading to nausea or abdominal discomfort.
EYES	Short-Term: Causes severe irritation and watering. Contact with wet material may cause serious eye damage. Long-Term: Prolonged or repeated exposure may result in permanent eye injury if not promptly treated.
SKIN	Short-Term: Contact with dry powder or wet mixture may cause irritation, redness, or chemical burns due to alkalinity when mixed with water. Long-Term: Repeated or prolonged skin contact may lead to dermatitis or dry, cracked skin.
INHALED	Short-Term: Dust may cause irritation of the nose, throat, and respiratory tract, resulting in coughing or sneezing. Long-Term: Chronic inhalation of respirable crystalline silica may lead to silicosis or other lung diseases if exposure limits are exceeded.

Section 12. Ecological Information

Eco-Toxicity	Product hardens into an inert solid once mixed with water. No significant ecotoxicity expected. Avoid release of wet slurry into waterways, as it may increase pH.
Persistence & Degradability	Product is persistent and non-biodegradable but will remain as an inert solid once set.
Bioaccumulative Potential	No evidence to suggest bioaccumulation will occur.
Mobility in Soil	Low mobility expected. Product will solidify and bind with soil when hydrated.

Section 13. Disposal

Unused Powder	Dispose per local construction waste guidelines
Hardened Material	Landfill as inert waste

Section 14. Transport Information

UN Number	None Allocated
UN Proper Shipping Name	Not classified as Dangerous Goods by the ADG, IATA, or IMDG Codes.
Class & Subsidiary Risk	Not classified as Dangerous Goods.
Packaging Group	None Allocated
Special Precautions for User	Avoid generating dust during handling and transport. Ensure packaging is sealed to prevent moisture.
HAZCHEM Code	None Allocated

Section 15. Regulatory Information

Poisons	None Scheduled
This product complies with the following applicable standards and regulations: - Globally Harmonised System (GHS) Classification - Safe Work Australia – Workplace Exposure Standard for Respirable Crystalline Silica - Work Health and Safety (WHS) Hazardous Substances Regulations	

Section 16. Other Information

Further Information Contact	Helix AAC Pty Ltd Unit 58 / 7 Dalton Road, Thomastown VIC 3074, Australia Ph 1300 435 492 www.helixsystems.com.au
-----------------------------	--

DISCLAIMER

The information contained in this material Safety Data Sheet is believed to be reliable. No guarantee is implied or expressed regarding the accuracy of this information or the use of the product since the conditions of use are beyond manufacturer's control. Nothing contained herein should be construed as a recommendation to use this product in conflict with existing patents covering any material or its use.

This SDS was generated from information available of the components of this product. SDS date of preparation: 30th October 2025

Section 1. Product Identification

PRODUCT NAME	Helix Waterproof Base Sealer
PRODUCT USE	Waterproof base coating and sealing system for AAC panels and other approved substrates
SUPPLIER	Helix AAC Pty Ltd Unit 58 / 7 Dalton Road, Thomastown VIC 3074, Australia Ph 1300 435 492 www.helixsystems.com.au
EMERGENCY	Poisons Information Centre Australia: 13 11 26

Section 2. Hazard Identification

Hazardous Nature	Helix AAC Base Sealer is a water-based surface coating and sealer. It is not classified as hazardous under GHS. Wet product may be slippery. May cause mild skin and eye irritation with prolonged contact.
The following GHS classifications refer only to this product	
GHS Classification: - Not classified as hazardous under GHS - Non-Dangerous Goods under ADG Code	
The following GHS Hazard and Precautionary Statements refer only to Helix AAC Base Sealer:	
GHS Hazard Statements: - May cause mild skin and eye irritation - Wet product may be slippery	GHS Precautionary Statements: P280 – Wear gloves and eye protection during handling P261 – Avoid breathing vapour or spray mist
Helix AAC Base Sealer is classified as Non-Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.	

Section 3. Composition Information

Chemical	CAS No.	Proportion
Acrylic Polymer Emulsion	Proprietary	40–60%
Mineral Fillers (Calcium Carbonate)	471-34-1	20-40%
Water	7732-18-5	10-20%
Additives / Wetting Agents	Proprietary	<5%
Pigments (if tinted)	Various	<5%
All ingredients are determined to be non-hazardous according to Safe Work Australia criteria.		

Section 4. First Aid Measures

INHALATION	Move to fresh air. If breathing difficulty persists, call a doctor.
EYE CONTACT	Rinse gently with water for several minutes. Remove contact lenses if present and easy. Seek medical attention if irritation continues.
SKIN CONTACT	Wash with soap and water. Remove contaminated clothing. If irritation occurs, seek medical attention.
INGESTION	Rinse mouth with water. Do not induce vomiting. Seek medical advice if discomfort persists.
Advice to Doctor: Treat symptomatically based on individual reactions.	

Section 5. Fire Fighting Measures

Suitable Extinguishing Media	Use carbon dioxide, foam, dry chemical, or water spray as required for fires in surrounding materials. The product itself is water-based and not flammable.
Specific Hazards	May produce carbon oxides if exposed to extreme heat or combustion.
Special protective Equipment & Precautions for Firefighters	Standard firefighting gear should be worn as required for the surrounding fire.
HAZCHEM Code	None Applicable

Section 6. Accidental Release Measures

Personal Precautions	Wear appropriate personal protective equipment (PPE) to avoid skin and eye contact.
Environmental Precautions	Prevent product from entering drains, sewers, or natural waterways.
Methods for Containment and Clean Up	Contain spill using absorbent material (e.g. sand, earth, or inert material). Collect and place in suitable containers for disposal. Clean area with water, preventing run-off into drains.
Disposal	Dispose of in accordance with local, regional, and national regulations.

Section 7. Handling & Storage

Handling	• Use in well-ventilated areas • Keep sealed when not in use • Avoid eye and prolonged skin contact
Storage	• Store indoors in original container • Protect from frost and excessive heat • • Keep out of reach of children

Section 8. Exposure Controls / Personal Protective Equipment

Exposure Limit (Australia)	Not applicable for mixture
Personal Protective Equipment (PPE)	• Gloves: Nitrile or PVC recommended • Eye Protection: Safety glasses or goggles • Respiratory Protection: Not generally required; P2 mask if spraying
Engineering Controls	Use mechanical ventilation when spraying

Section 9. Physical & Chemical

Appearance	White or coloured viscous liquid
Odour	Mild / faint latex odour
pH	7–9
Boiling Point	~100°C
Flash Point	Not applicable (water-based)
Solubility	Miscible with water
Specific Gravity	~1.20–1.40

Section 10. Stability & Reactivity

Stability	Stable under normal use and storage conditions.
Conditions to Avoid	Avoid freezing and excessive heat.
Incompatible Materials	None known.
Hazardous Reactions	No dangerous reactions known under normal conditions of use.

Section 11. Toxicological Information

Health Effects	• Low toxicity • Prolonged or repeated exposure may cause minor irritation to skin, eyes or respiratory system
No evidence of sensitisation, mutagenicity, carcinogenicity or reproductive toxicity.	

Section 12. Ecological Information

Environmental Hazards	Water-based product with low environmental impact.
Precautions	Prevent uncured material from entering drains, sewers, or natural waterways.
Persistence & Degradability	Cured material is inert and not expected to bio-accumulate.

Section 13. Disposal

Waste Disposal	Do not pour liquid product into drains, sewers, or onto soil.
Disposal of Residues	Allow leftover or unused product to cure fully before disposal.
Regulatory Compliance	Dispose of all waste material and containers in accordance with local, regional, and national waste management regulations.

Section 14. Transport Information

UN Number	Not applicable
UN Proper Shipping Name	Not classified as hazardous for transport
Transport Hazard Class(es)	None
Packaging Group	None
Special Precautions for User	No special transport requirements. Product is not regulated under ADG, IMDG, or IATA codes.

Section 15. Regulatory Information

Poisons	No poison schedule classification required
Classified as Non-Hazardous under Workplace Health & Safety Regulations (SWA)	

Section 16. Other Information

Further Information Contact	Helix AAC Pty Ltd Unit 58 / 7 Dalton Road, Thomastown VIC 3074, Australia Ph 1300 435 492 www.helixsystems.com.au
-----------------------------	--

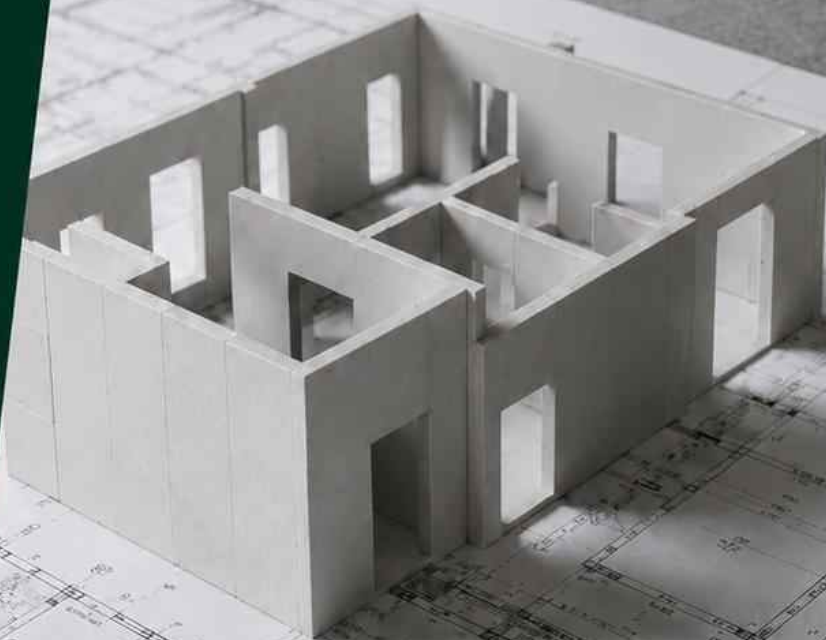
DISCLAIMER

The information contained in this material Safety Data Sheet is believed to be reliable. No guarantee is implied or expressed regarding the accuracy of this information or the use of the product since the conditions of use are beyond manufacturer's control. Nothing contained herein should be construed as a recommendation to use this product in conflict with existing patents covering any material or its use.

This SDS was generated from information available of the components of this product. SDS date of preparation: 30th October 2025

SECTION 03

DESIGN & INSTALLATION GUIDE



Proudly Distributed By:

SINCE 1977
Dahlsens
For the Builder.

Proudly Distributed By:

Dahlsens
For the Builder.

SECTION 3.1

HELIX 50/75MM AAC LOW-RISE EXTERNAL WALL SYSTEM

DESIGN & INSTALLATION GUIDE

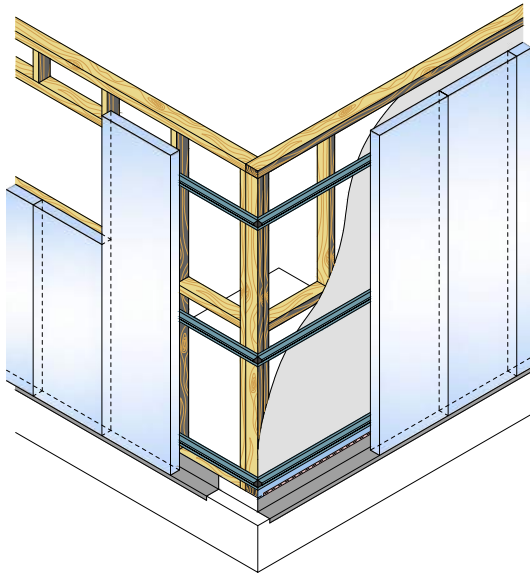


1 HELIX 50/75MM AAC LOW-RISE EXTERNAL WALL SYSTEM

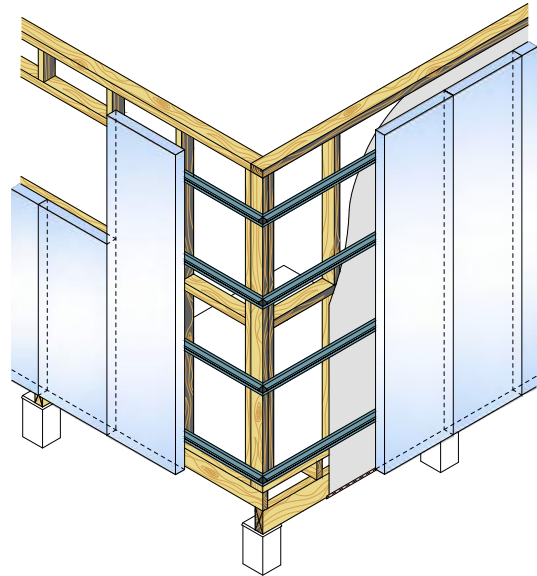
This guide describes the performance, installation, and typical detailing requirements for use of the Helix 50/75mm AAC Low-Rise External Wall System for use by designers and builders.

1.1 System Description

Helix 50/75mm AAC Low-Rise External Wall System consists of 50mm or 75mm thick AAC panels screwed to either steel or timber wall framing through horizontal light-gauge steel top-hat battens & breathable wall wrap.



SINGLE STOREY CONSTRUCTION
- PANELS SUPPORTED AT BASE



SINGLE STOREY CONSTRUCTION
- PANELS SUSPENDED

Figure 1: Helix 50/75mm AAC Low-Rise External Wall System

It is finished on-site with layers of polymer-modified render, alkaline-resistant fiberglass mesh, texture and finish coatings.

The system is lightweight making it easy to install.

It provides an energy efficient barrier to the elements through its high thermal insulation properties.

It is versatile and designed to be able to be installed on all types of wall elements such as parapets and bulkheads to allow the architect to include multiple types of finishes on the same façade.

Helix 50/75mm AAC Low-Rise External Wall System provides the appearance of a rendered brick wall without the limitations of high mass construction.

Helix 50/75mm AAC other benefits include:

- High insulation performance for Energy Efficient construction,
- Adaptable to a wide-range of architectural designs,
- Lightweight for quick handling & construction,

- Durable to the elements & impact, and
- Detailed to proven Australian Standards for builders and renderers.

Helix 50/75mm AAC Low-Rise External Wall System is designed in Australia and is fully compliant to Australian requirements conditions. A proven successful high-performing construction system used successfully in Australia & Europe for many years. Lightweight and easy to install, adaptable to different designs, provides economy and confidence.

Product selection, and incorporation into the building design, must be made by a person who is conversant with the application and technical aspects of the product, and has ready access to the relevant technical information related to the product use.

Product installation must be carried out by a competent carpenter or other tradesman under the direction of a Builder, both of whom are conversant with the method of product installation and have access to all relevant technical information on product installation.

2 HELIX AAC PANELS

Helix panel material properties have been determined by testing and calculation in accordance with AS 5146 Parts 1 & 2 - Reinforced Autoclaved Aerated Concrete as:

Property	Symbol	Unit Metric (Imperial)	Panel	
			50 mm	75 mm
Panel Thickness	d	mm (in)	50 (1.97)	75 (2.95)
Panel Width	w	mm (in)	600 (23.62)	
Panel Length	L	mm (in) [ft-in]	2200 (86.61 in / 7 ft 2.6 in), 2400 (94.49 in / 7 ft 10.5 in), 2550 (100.39 in / 8 ft 4.4 in), 2700 (106.30 in / 8 ft 10.3 in), 2850 (112.20 in / 9 ft 4.2 in), 3000 (118.11 in / 9 ft 10.1 in)	1800 (70.87 in / 5 ft 10.9 in), 2200 (86.61 in / 7 ft 2.6 in), 2400 (94.49 in / 7 ft 10.5 in), 2550 (100.39 in / 8 ft 4.4 in), 2700 (106.30 in / 8 ft 10.3 in), 2850 (112.20 in / 9 ft 4.2 in), 3000 (118.11 in / 9 ft 10.1 in)
Panel Edge Profile	—	—	Square	
Declared Density Class	Class	kg/m ³ (lb/ft ³)	500 (31.2)	
Dry Density	ρ_{dry}	kg/m ³ (lb/ft ³)	450-500 (28.1-31.2)	
Ambient Density	$\rho_{ambient}$	kg/m ³ (lb/ft ³)	478-531 (29.8-33.1)	
Density for Transport (AS 5146.2, C13.2.7)	ρ_{trans}	kg/m ³ (lb/ft ³)	670-740 (41.8-46.2)	
Panel Weight	$m_{ambient}$	kg/m ² (lb/ft ²)	23.9-26.5 (4.89-5.43)	35.6-39.8 (7.30-8.15)
Declared Compressive Strength Class	Class	—	AAC 2.5	AAC 3
Characteristic AAC Compressive Strength	f_{ck}	MPa (psi)	2.7 (392)	3.0 (435)
Reinforcement Tensile Yield Stress	f_{yk}	MPa (ksi)	724 (105)	
Reinforcement Characteristic Weld Strength	V_{uk}	kN (lbf)	3.91 (879)	
Ultimate Strength Bending Capacity	ϕM_k	kNm/m (kip-ft/ft)	0.226 (0.051)	0.893 (0.201)
Coefficient of Thermal Expansion	—	$\times 10^{-6}/^{\circ}\text{C}$ ($\times 10^{-6}/^{\circ}\text{F}$)	8×10^{-6} (4.44×10^{-6})	
Thermal Resistance	R50dry	m ² K/W (R-value)	0.431 (R-2.45)	0.602 (R-3.42)
Longitudinal Steel Reinforcement	Number	mm (in)	5 x Ø4.5 (5 x Ø0.177)	
Transverse Steel Reinforcement (depending on panel length)	Number	mm (in)	6-8 x Ø4.5 (6-8 x Ø0.177)	

Note: Conversions are approximate. 1 in = 25.4 mm, 1 ft = 304.8 mm.

3 NATIONAL CONSTRUCTION CODE (NCC) 2022(AMDT.1)

Helix 50/75mm AAC Low-Rise External Wall System, provides an NCC 2022(Amdt.1) compliant Deemed-to-Satisfy Solution for houses, low-rise multi-residential, commercial and light industrial external wall cladding applications, typically not greater than 3 storeys high.

External Walls are required to comply with performance requirements, as applicable for; structure; fire; weatherproofing; dampness; bushfire; condensation and energy efficiency. Helix 50/75mm AAC Low-Rise External Wall System delivers a high performance solution that meet these requirements for external wall applications.

Helix 50/75mm AAC Low-Rise External Wall System has been tested, assessed and certified to the requirements of the Building Code of Australia for:

- Structure: B1D4(b)(ii) and H1D7(4)(a) in accordance with AS 5146.1 and AS 5146.3.
- Fire Safety: C2D2(2) and 9.2.3(2)(a) for Fire Resistance Level (FRL) up to 120/120/120.
- Non-Combustibility: C2D10(5)(e) may be used wherever a non-combustible material is required.
- Fire Hazard Properties: C2D11(3) not applicable to AAC.
- Damp-proofing: F1P4 and H2P3 in accordance with ground clearance requirements, materials and detailing.
- Weatherproofing: F3D5(1)(b) and H2D6(4) in accordance with H1D7(4)(a), AS 5146.1 & AS 5146.3;.
- Condensation Management: F8D3(1)(a) and 10.8.1(1)(a), with an AS 4200.1 & AS 4200.2 compliant pliable building membrane installation.
- Bushfire Attack Level: G5D3 and H7D4(2)(a), for BAL FZ in accordance with AS 3959, Clause 9.4.1(c) and AS 5146.3, Clause 2.7.2.
- Energy Efficiency: J4D6, H6D2(1) and 13.2.5 with high Total R-values to satisfy external wall insulation requirements, or house energy star ratings.

3.1 Structural Performance, B1D4(b)(ii) & H1D7(4)(a)

Helix 50/75mm AAC Low-Rise External Wall System has been tested in accordance with AS 5146.1 with design and construction in accordance with AS 5146.3.

In accordance with NCC 2022(Amdt.1) Volume One, B1D4(b)(ii), structural resistance of materials and forms of construction for autoclaved aerated concrete must be determined in accordance with AS 5146.1 & AS 5146.3.

In accordance with NCC 2022(Amdt.1) Volume Two, H1D7(4)(a), performance requirement H1P1 is satisfied for autoclaved aerated concrete if it is designed and constructed in accordance with AS 5146.1.

Helix 50/75mm AAC Low-Rise External Wall System is suitable for use on buildings with AS/NZS 1170.2 design wind pressures up to -4.27kPa.

This includes houses with AS 4055 Wind Classifications N1w - N5w & C1w - C3w (and excludes houses with AS 4055 Wind Classifications N6w and C4w).

The design wind pressures for external walls of buildings are site-specific, and are dependent on many factors. The Wind Classification of a building in accordance with AS/NZS 1170.2 or AS 4055 must be provided by the design professional responsible for the building.

A building may be designed in accordance with AS 4055 if;

- the distance from ground level to the underside of eaves does not exceed 6.0m, and
- the distance from ground level to the highest point of the roof (not including chimneys) does not exceed 8.5m, and
- the width including roofed verandas, excluding eaves, does not exceed 16.0m, and the length not to exceed five times the width, and
- roof pitch is not greater than 35 degrees.

Please note that Helix 50/75mm AAC Low-Rise External Wall System is not intended to act as wall bracing, all racking resistance shall be provided by the supporting structure so that in-plane racking loads are not transferred to the AAC panels. Helix panels themselves are non-load-bearing elements, control joints are required at regular intervals to accommodate any building movement.

3.2 Fire Safety Performance, C2D2(2) 9.2.3(2)(a)

The Helix 50/75mm AAC Low-Rise External Wall System as detailed, achieves:

- FRL of 90/90/90 with the 50 mm Helix Panel, and
- FRL of 120/120/120 with the 75 mm Helix Panel.

The Helix 50/75mm AAC Low-Rise External Wall System shall be attached to either timber or steel framing compliant to the relevant framing codes.

The maximum height of the wall system is 12 m. Where the total wall is to exceed 12 m in height, a control joint is to be applied with appropriate shelf angle and separation where the wall can be continued. The installation, fixing and control joint is to be reviewed and designed by an appropriately qualified structural engineer.

Control joints must be filled by a fire resisting material. The typical joint is to have a gap no greater than 10 mm wide and be filled with a fire rated mastic to at least a 10 mm depth.

As a non-combustible FRL-rated external wall system, Helix 50/75mm AAC Low-Rise External Wall System is suitable for applications including:

- Type A construction applications in Class 2, 3 or 4 parts of buildings requiring 90/90/90 or -/90/90 as specified in S5C11(3); and
- Class 1 buildings less than 900mm from an allotment boundary that require an FRL of not less than 60/60/60 as specified in 9.2.3(2)(a).

3.3 Non Combustibility, C2D10(5)(e)

Helix panels including mortar are classified non-combustible and may be used wherever a non-combustible material is required.

3.4 Fire Hazard Properties, C2D11(3)

Helix panels are classified as a concrete product, and requirements for Group Number, SMOGRA_{RC}, ASEA, Spread-of-Flame and Smoke-Developed Indices, "...do not apply...".

3.5 Damp-proofing Performance, F1P4 & H2P3

The damp-proofing performance of Helix 50/75mm AAC Low-Rise External Wall System to avoid unhealthy or dangerous conditions, or loss of amenity and undue dampness or deterioration of building elements is largely achieved on the basis of construction detailing with BCA ground clearance requirements of 50 mm to 150 mm in accordance with Part 7.5.7 of the ABCB Housing Provisions. Additionally, a damp proof course (not supplied by Helix) is detailed beneath the bottom plate, see Sections 4.4 & 6.5.1, per Part 5.7.4 of the ABCB Housing Provisions.

3.6 Weatherproofing Performance, F3D5(1)(b) & H2D6(4)

Helix 50/75mm AAC Low-Rise External Wall System has been tested in accordance with AS 5146.1 with design and construction in accordance with AS 5146.3.

As referenced in NCC 2022(Amdt.1) Volume One, F3D5(1)(b), weatherproofing performance for autoclaved aerated concrete external wall cladding must comply with AS 5146.3.

As required in NCC 2022(Amdt.1) Volume Two, H2D6(4), performance requirement H2P2 is satisfied for autoclaved aerated concrete if it is designed and constructed in accordance with AS 5146.1.

Helix 50/75mm AAC Low-Rise External Wall System achieves weatherproofing performance for:

- AS 4055 Wind Classifications N1w, N2w, N3w, N4w & N5w, and C1w, C2w & C3w, and
- AS/NZS 1170.2 Serviceability Limit State (SLS) Design Wind pressures up to +1.19 kPa & -1.79 kPa.

3.7 Condensation Performance, F8D3(1)(a) & 10.8.1(1)(a)

Helix 50/75mm AAC Low-Rise External Wall System features a vapour permeable wall wrap between the battens & framing, and thermal insulation batts between framing members. It satisfies these deemed-to-satisfy requirements for condensation management in external wall construction.

Please note that the likelihood of condensation within the building is the result of complex interactions between the building location, construction type and behaviour of the occupants (Ref: Condensation in Buildings, Handbook, Australian Building Codes Board, 2023). Please consult your design professional for information specific to your project.

3.8 Bushfire Performance, G5D3, H7D4(2)(a)

Helix 50/75mm AAC Low-Rise External Wall System has been assessed by an accredited testing laboratory to achieve FRL's that meet AS 3959:2018 BAL-FZ Clause 9.4.1(c) requirement for 30/30/30 when tested from the outside. This assessment is made with particular reference to requirements for joint sealing, and the detailing requirements of AS 3959:2018 Clause 3.6.1 for vents, weepholes, gaps and screening materials.

Helix 50/75mm AAC Low-Rise External Wall System achieves bushfire resistance from BAL 12.5 up to BAL FZ in accordance with AS 5146.3, Clause 2.7.1, where:

- (a) Support and fixing are in accordance with Section 6 of this guide.
- (b) All joints in the external surface material of walls shall be covered, sealed, overlapped, backed or butt-jointed to prevent gaps greater than 3 mm.
- (c) Vents and weepholes in external walls shall be screened with a mesh with a maximum aperture of 2 mm, made of corrosion-resistant steel or bronze. Note that Helix 50/75mm AAC Low-Rise External Wall System above the floor level should be a closed system with no vents or weepholes. AAC cladding below the floor level may incorporate vents and weepholes if required.

Bushfire Attack Level, and the compliance of a Class 1, 2, 3 or 10 Building with AS 3959:2018 bushfire requirements should only be determined by a suitably qualified building professional.

3.9 Thermal Performance, J4D6, H6D2(1) & 13.2.5

Helix 50/75mm AAC Low-Rise External Wall System with breathable non-reflective wall wrap, 70mm R2.0m2K/W glasswool batts and 10mm plasterboard lining has been assessed to achieve the following Total R-values in accordance with AS/NZS 4859.1:2018. These may be used to satisfy the Total R-value requirements of NCC 2022(Amdt.1), Volume Two H6D2(1)(b)(i) & Housing Provisions 13.2.5 external wall insulation requirements, where these values are higher, or as input to house energy rating software to achieve a star rating.

Helix 50/75mm AAC Exterior Wall Cladding System (with R2.0, 70mm batts)		Total R-value m ² ·K/W (R-value)	
		Winter (Heat flow outwards)	Summer (Heat flow inwards)
50 mm (1.97 in)	Timber Frame	2.59 m ² ·K/W (R-14.7) (U = 0.39 W/m ² ·K {0.069 BTU/hr·ft ² ·°F})	2.47 m ² ·K/W (R-14.0) (U = 0.41 W/m ² ·K {0.072 BTU/hr·ft ² ·°F})
	Steel Frame	2.24 m ² ·K/W (R-12.7) (U = 0.45 W/m ² ·K {0.079 BTU/hr·ft ² ·°F})	2.15 m ² ·K/W (R-12.2) (U = 0.46 W/m ² ·K {0.081 BTU/hr·ft ² ·°F})
75 mm (2.95 in)	Timber Frame	2.77 m ² ·K/W (R-15.7) (U = 0.36 W/m ² ·K {0.063 BTU/hr·ft ² ·°F})	2.66 m ² ·K/W (R-15.1) (U = 0.38 W/m ² ·K {0.067 BTU/hr·ft ² ·°F})
	Steel Frame	2.47 m ² ·K/W (R-14.0) (U = 0.41 W/m ² ·K {0.072 BTU/hr·ft ² ·°F})	2.38 m ² ·K/W (R-13.5) (U = 0.42 W/m ² ·K {0.074 BTU/hr·ft ² ·°F})

4 SYSTEM COMPONENTS

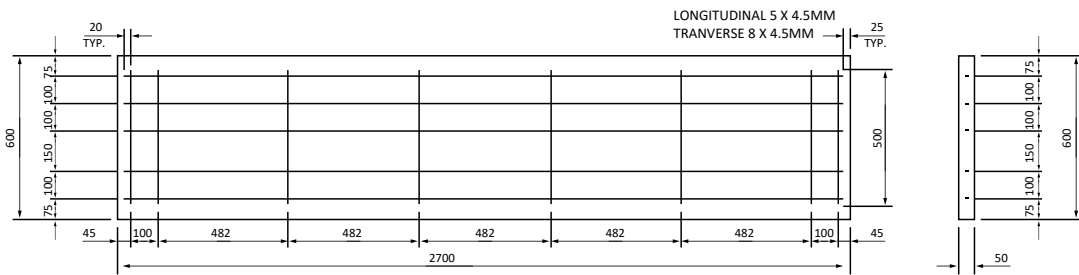
The performance of Helix 50/75mm AAC Low-Rise External Wall System relies on the use of the components as listed below. The use of other components will alter the performance of the system and is not approved by Helix.

4.1 Helix Panel

4.1.1 50mm AAC Panel

Product:	Autoclaved aerated concrete panels
Thickness:	50 mm (1.97 in)
Width:	600 mm (23.62 in)
Lengths:	2200 mm (7 ft 2.6 in), 2400 mm (7 ft 10.5 in), 2550 mm (8 ft 4.4 in), 2700 mm (8 ft 10.3 in), 2850 mm (9 ft 4.2 in), 3000 mm (9 ft 10.1 in)
Reinforcement:	Single layer steel mesh, centrally located.
Steel bars:	5 × Ø4.5 mm (5 × Ø0.177 in) longitudinal steel bars and 6–8 × Ø4.5 mm (6–8 × Ø0.177 in) transverse bars depending on panel length.

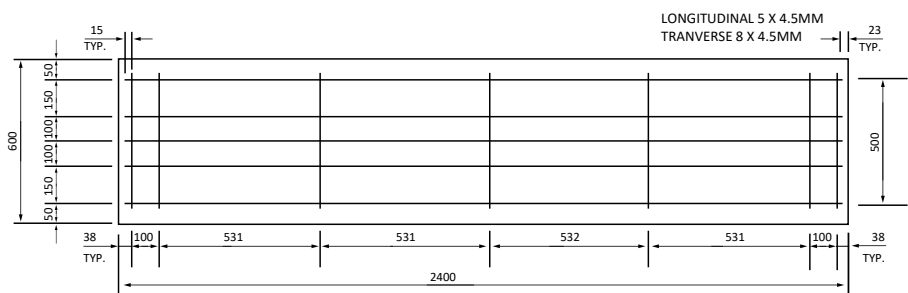
Typical steel reinforcement layout:



4.1.2 75mm AAC Panel

Product:	Autoclaved aerated concrete panels
Thickness:	75 mm (2.95 in)
Width:	600 mm (23.62 in)
Lengths:	1800 mm (5 ft 10.9 in), 2200 mm (7 ft 2.6 in), 2400 mm (7 ft 10.5 in), 2550 mm (8 ft 4.4 in), 2700 mm (8 ft 10.3 in), 2850 mm (9 ft 4.2 in), 3000 mm (9 ft 10.1 in)
Reinforcement:	Single layer steel mesh, centrally located.
Steel bars:	5 × Ø4.5 mm (5 × Ø0.177 in) longitudinal steel bars and 6–8 × Ø4.5 mm (6–8 × Ø0.177 in) transverse bars depending on panel length.

Typical steel reinforcement layout:



4.2 Steel Top-Hat Battens

Steel top-hat battens shall be not less than 24 mm deep x 30 mm wide x 0.42 mm BMT, Grade G550 or equivalent, conforming with AS/NZS 4600. Steel top-hat battens shall be manufactured from AM150, Z275 or AZ150 galvanized steel conforming with AS 1397 including marking with base metal thickness, steel grade and coating.

4.3 Vapour Permeable Wall Wrap

Wall Wrap must meet AS 4200.1 requirements for:

- minimum Light Wall Duty Classification, and
- Water Barrier Classification, and
- be a Class 3 or 4 vapour control membrane in NCC Climate Zones 4 or 5; or a Class 4 vapour control membrane in NCC Climate Zones 6, 7 or 8.
- “Low” Flammability Index (FI) in accordance with AS 1530.2.

Wall wrap must be installed in accordance with AS 4200.2, including taping of all joins, penetrations and around the wall perimeter, see typical construction details.

4.4 Damp Proof Course

Damp proof course (DPC) must satisfy AS/NZS 2904 Section 6 and Table 2 performance criteria.

4.5 Wall Wrap Tape

Wall wrap tape must be minimum 48mm wide, wrap-compatible, pressure sensitive, installed in accordance with the Helix 50/75mm AAC Low-Rise External Wall System Typical Construction Details. It is essential that wall wrap tape effectively seals all perimeter, joins, and openings in the wall wrap.

4.6 Flashings

Flashings supplied by others must be designed and installed in general accordance with SA HB 39:2015 – Installation Code for Metal Roofing and Wall Cladding.

4.7 Panel Screws

4–10 Bugle Head or Hex Head Type 17 screw (Class 3 or 4) shall be used to fix Helix panel 50mm or 75mm AAC panel to light gauge steel top-hat battens from the outside of the building. Screw length shall be 65mm for 50mm thickness panels and 90mm for 75mm thickness panels.

14–10 Hex Head Type 17 screw (Class 3 or 4) shall be used to fix Helix panel 75mm AAC panel to light gauge steel top-hat battens from inside the building. Screw length shall be 65mm for 75mm thickness panels.

Screws shall be:

- a) at least Class 3 for moderate and mild exposure environments;
- b) at least Class 4 for severe marine further than 100 m from breaking surf, marine and industrial exposure environments; and
- c) Class 4 stainless steel for severe marine exposure environments within 100 m of breaking surf.

4.8 Batten Screws

Screws to fix steel top-hat battens to:

- Timber Frame: 12–11 x 35 mm Hex Head Type 17 screw (Class 3 or 4), 2 per stud.
- Steel Frame: 10–16 x 16 mm Hex Head Self-drilling screw (Class 3 or 4), 2 per stud. Screws

shall be:

- a) at least Class 3 for moderate and mild exposure environments;
- b) at least Class 4 for severe marine further than 100 m from breaking surf, marine and industrial exposure environments; and
- c) Class 4 stainless steel for severe marine exposure environments within 100 m of breaking surf.

4.9 Thin Bed Adhesive

The thin-bed adhesive shall:

- have a characteristic tensile strength equal to or greater than the characteristic tensile strength of the AAC, and
- be C1E classification in accordance with AS ISO 13007.1.

4.10 Backing Rod

The 'backing rod' shall be a minimum of 10 mm wide expanded polyethylene tube or bead.

4.11 External Coatings & Membranes

External coating systems providing weatherproofing in accordance with NCC requirements or durability in accordance with AS 5146.3 Table 2.5, shall be water-resistant; vapour-permeable; capable of bridging up to a 1 mm crack in the substrate; and, consist of a base levelling coat, and texture and finish coats.

For panels less than 75mm thickness AS 5146.3 Cl.2.8.4 requires that the coating system includes embedded fibreglass mesh reinforcing with a maximum aperture of 10 mm by 10 mm and a minimum weight of 145 g/m².

When used to provide weatherproofing in accordance with the NCC requirements, external coating systems shall be water-proof, and be capable of bridging up to a 1 mm crack in the substrate, and consist of a base levelling coat, and texture coat, and finish coat.

5 SPECIFICATIONS

The following specification requirements are outside the scope of this guide:

- a) Building design.
- b) Site supervision and control.
- c) Quality assurance.
- d) Workplace health and safety.
- e) The construction of all other building elements.

The design of the timber or steel structural frame (including all bracing), concrete slabs and footings and other building components are excluded from the scope of the Helix 50/75mm AAC Low-Rise External Wall System.

The wall framing supporting AAC wall panels shall be in accordance with AS 1684 for timber; or, NASH or AS/NZS 4600 for steel, where the steel shall have a minimum thickness of 0.55 mm BMT. Reinforced concrete slab-on-ground or reinforced concrete footings shall confirm to AS 2870 or AS 3600 requirements.

The Building Designer shall be responsible for the design and correct installation of control joints and articulation joints.

The design, supply and correct installation of windows, doors and all other penetrations are outside the scope of the Helix 50/75mm AAC Low-Rise External Wall System.

The designer and builder must ensure that the building including all drainage holes and integral flashings in all penetrations will prevent the ingress of rain water behind the Helix panel and will drain to the outside of the building.

Helix 50/75mm AAC Low-Rise External Wall System can only be installed after all exterior windows, doors and joinery have been installed.

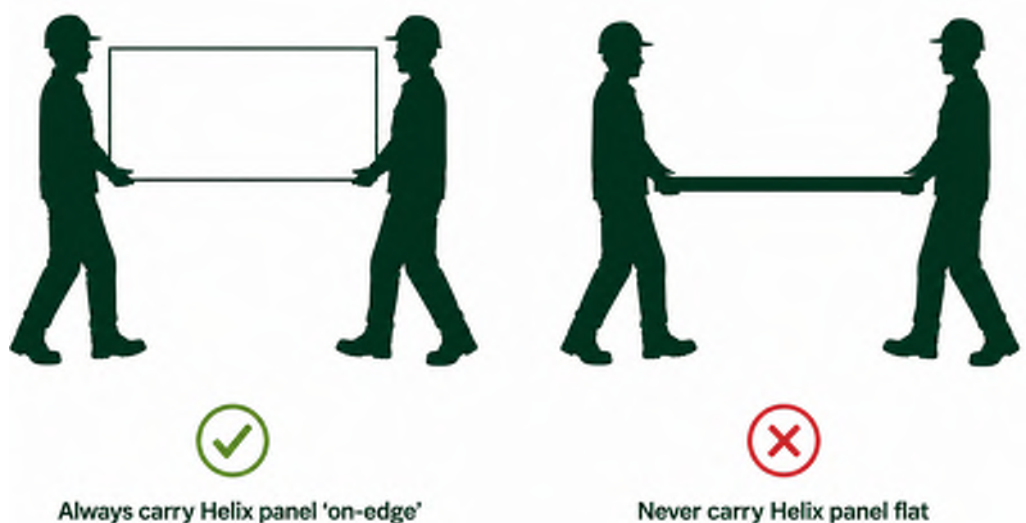
5.1 Storage and Handling

Physical damage – Ensure Helix panel remains protected from damage and surface contamination prior to installation. Weather protection –

Ensure the top surface of Helix panel is always covered to prevent the absorption of rainwater.

Do not stack packs of panels on top of each other. Packs must be properly supported on a level surface. Only place packs in areas that have been verified as being able to support their weight.

Manual handling of Helix panel should be kept to a minimum, ensure the panel is only handled “on-edge”.

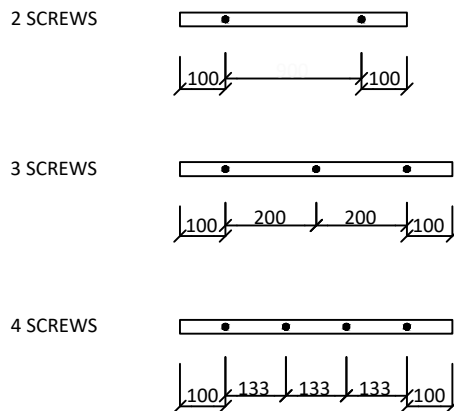


Cutting of cement based products may cause dust, which contains respirable crystalline silica. Always wear a P1 or P2 respirator and eye & ear protection, and use dust extraction equipment that complies with AS/NZS 60335.2.69 class M or H requirements when cutting AAC products. Wet cutting may be mandatory in certain States and/or Territories, confirm with local work safe authority on cutting requirement for AAC products. Always refer to the Safety Data Sheet for information.

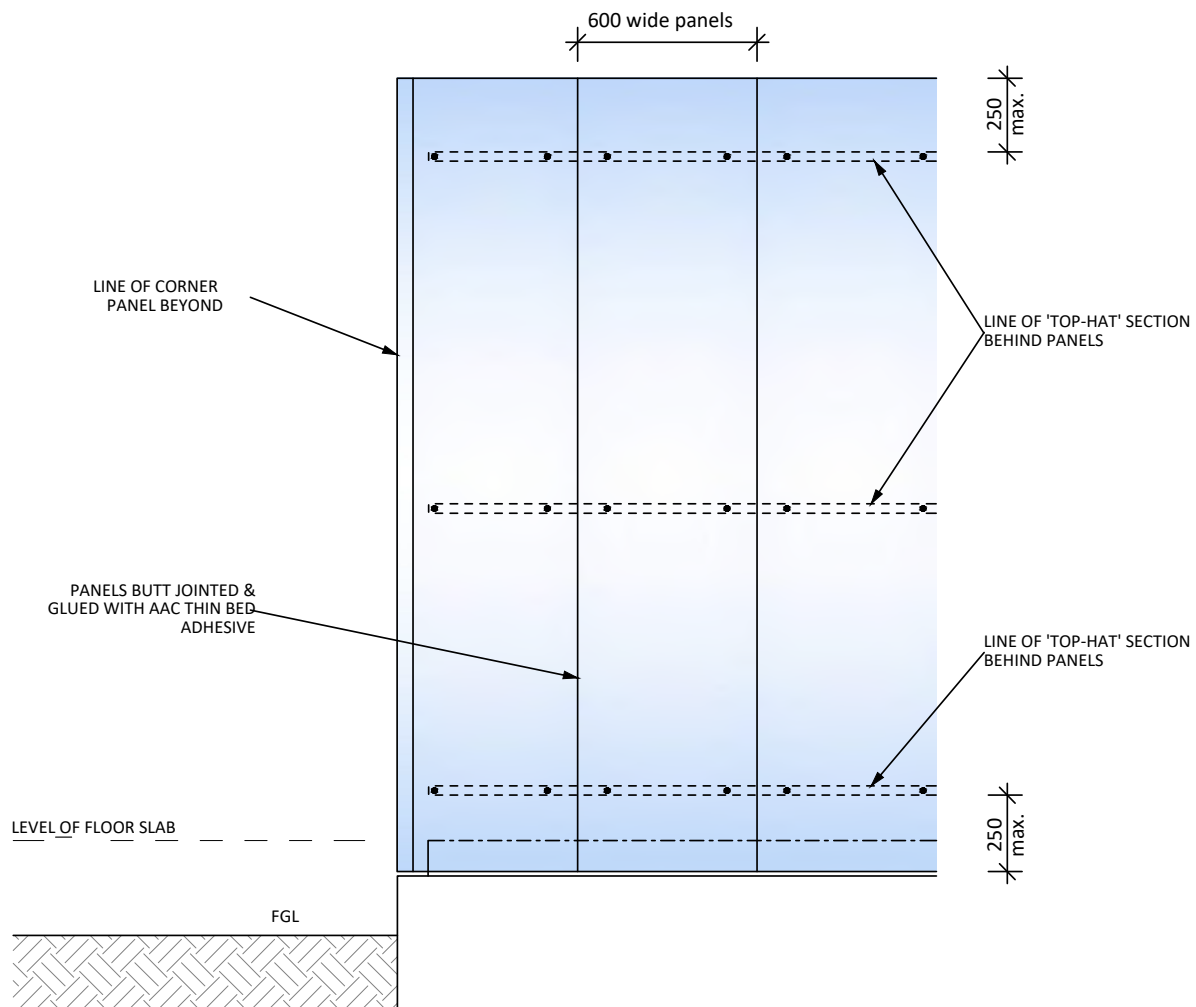
All steel reinforcement exposed during cutting the panel must be painted with anti-corrosion protection paint.

6 INSTALLATION

Helix 50/75mm AAC Low-Rise External Wall System shall only be installed by qualified and experienced tradesmen under the direction of a builder who understand the installation techniques described in this guide, the Australian Standard AS 5146.3, and the NCC 2022(Amdt.1).



FIXING SCREW LAYOUT



NOTES:

For number of top hats and screws, see fixing tables.

Additional top hats may be required. For suspended panels, see fixing tables.

6.1 50mm Panels

6.1.1 Panels - Supported at Base

The following tables are applicable when panels are supported at their base such as a slab edge or shelf angle.

TABLE 1: 50 mm (1.97 in) Panel Spans – When Supported at Base (e.g. slab edge or shelf angle)

AS 4055 Wind Category	Maximum ultimate wind pressure / suction (kPa (psf))		Maximum Stud Spacing mm (in)	Maximum Panel Span mm (in)			
				Panel Location			
	Over 1200 mm from corners	Within 1200 mm of corners		Typical		Corner	
				Span mm (in)	Cant. mm (in)	Span mm (in)	Cant. mm (in)
N1, N2	+0.67 (-14.0), -0.62 (-13.0)	-1.25 (-26.1)	600 (23.62)	1200 (47.24 / 3 ft 11.2 in)	250 (9.84)	1200 (47.24 / 3 ft 11.2 in)	250 (9.84)
N3	+1.05 (+21.9), -0.98 (-20.5)	-1.95 (-40.7)	600 (23.62)	1200 (47.24 / 3 ft 11.2 in)	250 (9.84)	1000 (39.37 / 3 ft 3.4 in)	250 (9.84)
N3, C1	+1.05 (+21.9), -0.98 (-20.5)	-1.95 (-40.7)	450 (17.72)	1200 (47.24 / 3 ft 11.2 in)	250 (9.84)	1000 (39.37 / 3 ft 3.4 in)	250 (9.84)
N4, C2	+1.56 (+32.6), -1.45 (-30.3)	-2.90 (-60.6)	450 (17.72)	1050 (41.34 / 3 ft 5.3 in)	250 (9.84)	750 (29.53 / 2 ft 5.5 in)	150 (5.91)
N5, C3	+2.30 (+48.0), -2.14 (-44.7)	-4.27 (-89.2)	450 (17.72)	850 (33.46 / 2 ft 9.5 in)	250 (9.84)	600 (23.62 / 1 ft 11.6 in)	150 (5.91)

Dimensions shown as mm (in). Pressures shown as kPa (psf).

NOTES:

1. All battens shall be spaced evenly, with end battens installed the lesser of 150 mm (5.91 in) (typical) and the panel cantilever span from the ends of the Reinforced AAC panels.
2. If a Reinforced AAC panel or sill block is to be installed above or below window openings, additional top hat battens shall be used in these locations.
3. Local suctions within 1200 mm (47.24 in) of the corners of a building necessitate additional battens.
4. The wind resistance of external walls is applicable only to buildings that incorporate a lining capable of resisting wind pressure exerted from inside the building, where the cavity between the lining and the cladding is sealed and where windows and doors in the external walls incorporated seals.

TABLE 2: Number of Screws per 50 mm (1.97 in) Panel at Each Batten Location – When Supported at Base (e.g. slab edge or shelf angle)

AS 4055 Wind Category	Maximum ultimate wind pressure / suction kPa (psf)		Maximum Stud Spacing mm (in)	Number of screws per panel per batten fixed from outside the building	
	Over 1200 mm (47.24 in) from corners	Within 1200 mm (47.24 in) of corners		Panel Location	
				Typical	Corner
N1, N2	+0.67 (+14.0), -0.62 (-13.0)	-1.25 (-26.1)	600 (23.62)	2	2
N3	+1.05 (+21.9), -0.98 (-20.5)	-1.95 (-40.7)	600 (23.62)	3	3
N3, C1	+1.05 (+21.9), -0.98 (-20.5)	-1.95 (-40.7)	450 (17.72)	3	3
N4, C2	+1.56 (+32.6), -1.45 (-30.3)	-2.90 (-60.6)	450 (17.72)	3	4
N5, C3	+2.30 (+48.0), -2.14 (-44.7)	-4.27 (-89.2)	450 (17.72)	3	4

AS 4055 Wind Category	Maximum ultimate wind pressure / suction kPa (psf)		Maximum Stud Spacing mm (in)	Number of screws per panel per batten fixed from outside the building	
	Over 1200 mm (47.24 in) from corners	Within 1200 mm (47.24 in) of corners		Panel Location	
				Typical	Corner
N1, N2	+0.67 (+14.0), -0.62 (-13.0)	-1.25 (-26.1)	600 (23.62)	3	6
N3	+1.05 (+21.9), -0.98 (-20.5)	-1.95 (-40.7)	600 (23.62)	5	7
N3, C1	+1.05 (+21.9), -0.98 (-20.5)	-1.95 (-40.7)	450 (17.72)	5	7
N4, C2	+1.56 (+32.6), -1.45 (-30.3)	-2.90 (-60.6)	450 (17.72)	Not suitable	Not suitable
N5, C3	+2.30 (+48.0), -2.14 (-44.7)	-4.27 (-89.2)	450 (17.72)	Not suitable	Not suitable

NOTES:

- For fire-rated construction, a minimum of 3 screws per batten is required.
- Type of screw used is the 14-10 Hex head Type 17 screw, fixed from inside the building (10 mm (0.39 in) shorter than panel thickness), or 14-10 MP Bugle Head Batten screw, fixed from outside the building (15 mm (0.59 in) longer than panel thickness).
- Local suction within 1200 mm (47.24 in) of the corners of a building necessitate additional battens.
- The wind resistance of external walls is applicable only to buildings that incorporate a lining capable of resisting wind pressure exerted from inside the building, where the cavity between the lining and the cladding is sealed and where windows and doors in the external walls incorporated seals.

6.1.2 Panels – Suspended at Gable Ends

The following tables are applicable when panels are suspended such as a gable end.

TABLE 3: 50 mm (1.97 in) Panel Spans – When Suspended at Gable Ends

AS 4055 Wind Category	Maximum ultimate wind pressure / suction (kPa (psf))		Maximum Stud Spacing mm (in)	Maximum Panel Span mm (in)			
				Panel Location			
	Over 1200 mm (47.24 in) from corners	Within 1200 mm (47.24 in) of corners		Typical		Corner	
				Span mm (in)	Cant. mm (in)	Span mm (in)	Cant. mm (in)
N1, N2	+0.67 (+14.0), -0.62 (-13.0)	-1.25 (-26.1)	600 (23.62)	800 (31.50)	150 (5.91)	750 (29.53)	150 (5.91)
N3	+1.05 (+21.9), -0.98 (-20.5)	-1.95 (-40.7)	600 (23.62)	800 (31.50)	150 (5.91)	600 (23.62)	150 (5.91)
N3, C1	+1.05 (+21.9), -0.98 (-20.5)	-1.95 (-40.7)	450 (17.72)	800 (31.50)	150 (5.91)	650 (25.59)	150 (5.91)
N4, C2	+1.56 (+32.6), -1.45 (-30.3)	-2.90 (-60.6)	450 (17.72)	800 (31.50)	150 (5.91)	450 (17.72)	100 (3.94)
N5, C3	+2.30 (+48.0), -2.14 (-44.7)	-4.27 (-89.2)	450 (17.72)	600 (23.62)	150 (5.91)	350 (13.78)	100 (3.94)

NOTES:

- All battens shall be spaced evenly, with end battens installed the lesser of 150 mm (5.91 in) (typical) and the panel cantilever span from the ends of the Reinforced AAC panels.
- If a Reinforced AAC panel or sill block is to be installed above or below window openings, additional top hat battens shall be used in these locations.
- Local suctions within 1200 mm (47.24 in) of the corners of a building necessitate additional battens.
- The wind resistance of external walls is applicable only to buildings that incorporate a lining capable of resisting wind pressure exerted from inside the building, where the cavity between the lining and the cladding is sealed and where windows and doors in the external walls incorporated seals.

TABLE 4: Number of Screws per 50 mm (1.97 in) Panel at Each Batten Location – When Suspended at Gable Ends

AS 4055 Wind Category	Maximum ultimate wind pressure / suction kPa (psf)		Maximum Stud Spacing mm (in)	Number of screws per panel per batten fixed from outside the building	
	Over 1200 mm (47.24 in) from corners	Within 1200 mm (47.24 in) of corners		Batten Location	
				Typical	Corner
N1, N2	+0.67 (+14.0), -0.62 (-13.0)	-1.25 (-26.1)	600 (23.62)	2	3
N3	+1.05 (+21.9), -0.98 (-20.5)	-1.95 (-40.7)	600 (23.62)	3	4
N3, C1	+1.05 (+21.9), -0.98 (-20.5)	-1.95 (-40.7)	450 (17.72)	3	4
N4, C2	+1.56 (+32.6), -1.45 (-30.3)	-2.90 (-60.6)	450 (17.72)	4	4
N5, C3	+2.30 (+48.0), -2.14 (-44.7)	-4.27 (-89.2)	450 (17.72)	4	4

NOTES:

- Battens shall be installed horizontally with panels to span vertically. Number of screw per panel per batten information is not suitable for soffits or any other areas where the panel is not vertical.
- Type of screw used is the 14-10 MP Bugle Head Batten screw, fixed from outside the building (15 mm (0.59 in) longer than panel thickness).
- Local suctions within 1200 mm (47.24 in) of the corners of a building necessitate additional battens.
- The wind resistance of external walls is applicable only to buildings that incorporate a lining capable of resisting wind pressure exerted from inside the building, where the cavity between the lining and the cladding is sealed and where windows and doors in the external walls incorporated seals.

6.1.3 Panels – Suspended from Framing (2nd & 3rd storey construction)

The following tables are applicable when panels are suspended such as second and third storey constructions.

TABLE 5: 50 mm (1.97 in) Panel Spans – When Suspended from Framing (e.g. 2nd & 3rd Storey Construction)

AS 4055 Wind Category	Maximum ultimate wind pressure / suction kPa (psf)		Maximum Stud Spacing mm (in)	Maximum Panel Span mm (in)			
				Panel Location			
	Over 1200 mm (47.24 in) from corners	Within 1200 mm (47.24 in) of corners		Typical		Corner	
				Span mm (in)	Cant. mm (in)	Span mm (in)	Cant. mm (in)
N1, N2	+0.67 (+14.0), -0.62 (-13.0)	-1.25 (-26.1)	600 (23.62)	1000 (39.37)	250 (9.84)	1000 (39.37)	250 (9.84)
N3	+1.05 (+21.9), -0.98 (-20.5)	-1.95 (-40.7)	600 (23.62)	1000 (39.37)	250 (9.84)	950 (37.40) (3 ft 1.4 in)	150 (5.91)
N3, C1	+1.05 (+21.9), -0.98 (-20.5)	-1.95 (-40.7)	450 (17.72)	1000 (39.37)	250 (9.84)	950 (37.40) (3 ft 1.4 in)	150 (5.91)
N4, C2	+1.56 (+32.6), -1.45 (-30.3)	-2.90 (-60.6)	450 (17.72)	1000 (39.37)	250 (9.84)	750 (29.53)	150 (5.91)
N5, C3	+2.30 (+48.0), -2.14 (-44.7)	-4.27 (-89.2)	450 (17.72)	750 (29.53)	150 (5.91)	600 (23.62)	150 (5.91)

NOTES:

1. All battens shall be spaced evenly, with end battens installed the lesser of 150 mm (5.91 in) (typical) and the panel cantilever span from the ends of the Reinforced AAC panels.
2. If a Reinforced AAC panel or sill block is to be installed above or below window openings, additional top hat battens shall be used in these locations.
3. Local suctions within 1200 mm (47.24 in) of the corners of a building necessitate additional battens.
4. The wind resistance of external walls is applicable only to buildings that incorporate a lining capable of resisting wind pressure exerted from inside the building, where the cavity between the lining and the cladding is sealed and where windows and doors in the external walls incorporated seals.

TABLE 6: Number of Screws per 50 mm (1.97 in) Panel at Each Batten Location – When Suspended from Framing (e.g. 2nd and 3rd Storey Construction)

AS 4055 Wind Category	Maximum ultimate wind pressure / suction kPa (psf)		Maximum Stud Spacing mm (in)	Number of screws per panel per batten fixed from outside the building	
	Over 1200 mm (47.24 in) from corners	Within 1200 mm (47.24 in) of corners		Batten Location	
				Typical	Corner
N1, N2	+0.67 (+14.0), -0.62 (-13.0)	-1.25 (-26.1)	600 (23.62)	2	3
N3	+1.05 (+21.9), -0.98 (-20.5)	-1.95 (-40.7)	600 (23.62)	3	4
N3, C1	+1.05 (+21.9), -0.98 (-20.5)	-1.95 (-40.7)	450 (17.72)	3	4
N4, C2	+1.56 (+32.6), -1.45 (-30.3)	-2.90 (-60.6)	450 (17.72)	4	4
N5, C3	+2.30 (+48.0), -2.14 (-44.7)	-4.27 (-89.2)	450 (17.72)	4	4

AS 4055 Wind Category	Maximum ultimate wind pressure / suction kPa (psf)		Maximum Stud Spacing mm (in)	Number of screws per panel per batten fixed from inside the building	
	Over 1200 mm (47.24 in) from corners	Within 1200 mm (47.24 in) of corners		Batten Location	
				Typical	Corner
N1, N2	+0.67 (+14.0), -0.62 (-13.0)	-1.25 (-26.1)	600 (23.62)	Not suitable	Not suitable
N3	+1.05 (+21.9), -0.98 (-20.5)	-1.95 (-40.7)	600 (23.62)	Not suitable	Not suitable
N3, C1	+1.05 (+21.9), -0.98 (-20.5)	-1.95 (-40.7)	450 (17.72)	Not suitable	Not suitable
N4, C2	+1.56 (+32.6), -1.45 (-30.3)	-2.90 (-60.6)	450 (17.72)	Not suitable	Not suitable
N5, C3	+2.30 (+48.0), -2.14 (-44.7)	-4.27 (-89.2)	450 (17.72)	Not suitable	Not suitable

NOTES:

1. For fire-rated construction, a minimum of 3 screws per batten is required.
2. Type of screw used is the 14-10 Hex head Type 17 screw, fixed from inside the building (10 mm (0.39 in) shorter than panel thickness), or 14-10 MP Bugle Head Batten screw, fixed from outside the building (15 mm (0.59 in) longer than panel thickness).
3. Local suctions within 1200 mm (47.24 in) of the corners of a building necessitate additional battens.
4. The wind resistance of external walls is applicable only to buildings that incorporate a lining capable of resisting wind pressure exerted from inside the building, where the cavity between the lining and the cladding is sealed and where windows and doors in the external walls incorporated seals.

6.2 75mm Panels

6.2.1 Panels - Supported at Base

The following tables are applicable when panels are supported at their base such as a slab edge or shelf angle.

TABLE 7: 75 mm (2.95 in) Panel Spans – When Supported at Base (e.g. slab edge or shelf angle)

AS 4055 Wind Category	Maximum ultimate wind pressure / suction kPa (psf)		Maximum Stud Spacing mm (in)	Maximum Panel Span mm (in)			
	Over 1200 mm (47.24 in) from corners	Within 1200 mm (47.24 in) of corners		Panel Location			
				Typical		Corner	
				Span mm (in)	Cant. mm (in)	Span mm (in)	Cant. mm (in)
N1, N2	+0.67 (+14.0), -0.62 (-13.0)	-1.25 (-26.1)	600 (23.62)	1200 (47.24)	250 (9.84)	1200 (47.24)	250 (9.84)
N3	+1.05 (+21.9), -0.98 (-20.5)	-1.95 (-40.7)	600 (23.62)	1200 (47.24)	250 (9.84)	1000 (39.37)	250 (9.84)
N3, C1	+1.05 (+21.9), -0.98 (-20.5)	-1.95 (-40.7)	450 (17.72)	1200 (47.24)	250 (9.84)	1000 (39.37)	250 (9.84)
N4, C2	+1.56 (+32.6), -1.45 (-30.3)	-2.90 (-60.6)	450 (17.72)	1200 (47.24)	250 (9.84)	900 (35.43)	150 (5.91)
N5, C3	+2.30 (+48.0), -2.14 (-44.7)	-4.27 (-89.2)	450 (17.72)	1200 (47.24)	250 (9.84)	600 (23.62)	150 (5.91)

NOTES:

- All battens shall be spaced evenly, with end battens installed the lesser of 150 mm (5.91 in) (typical) and the panel cantilever span from the ends of the Reinforced AAC panels.
- If a Reinforced AAC panel or sill block is to be installed above or below window openings, additional top hat battens shall be used in these locations.
- Local suctions within 1200 mm (47.24 in) of the corners of a building necessitate additional battens.
- The wind resistance of external walls is applicable only to buildings that incorporate a lining capable of resisting wind pressure exerted from inside the building, where the cavity between the lining and the cladding is sealed and where windows and doors in the external walls incorporated seals.

TABLE 8: Number of Screws per 75 mm (2.95 in) Panel at Each Batten Location – When Supported at Base (e.g. slab edge or shelf angle)

AS 4055 Wind Category	Maximum ultimate wind pressure / suction kPa (psf)		Maximum Stud Spacing mm (in)	Number of screws per panel per batten fixed from outside the building		Number of screws per panel per batten fixed from inside the building	
	Over 1200mm (47.24 in) from corners	Within 1200mm (47.24 in) of corners		Batten Location		Batten Location	
				Typical	Corner	Typical	Corner
N1, N2	+0.67, -0.62 (+14.0, -13.0)	-1.25 (-26.1)	600 (23.62)	2	2	2	2
N3	+1.05, -0.98 (+21.9, -20.5)	-1.95 (-40.7)	600 (23.62)	3	3	3	3
N3, C1	+1.05, -0.98 (+21.9, -20.5)	-1.95 (-40.7)	450 (17.72)	3	3	3	3
N4, C2	+1.56, -1.45 (+32.6, -30.3)	-2.90 (-60.6)	450 (17.72)	3	4	3	4
N5, C3	+2.30, -2.14 (+48.0, -44.7)	-4.27 (-89.2)	450 (17.72)	3	4	4	5

NOTES:

- For fire-rated construction, a minimum of 3 screws per batten is required.
- Type of screw used is the 14-10 Hex head Type 17 screw, fixed from inside the building (10mm (0.39 in) shorter than panel thickness), or 14-10 MP Bugle Head Batten screw, fixed from outside the building (15mm (0.59 in) longer than panel thickness).
- Local suctions within 1200 mm (47.24 in) of the corners of a building necessitate additional battens.
- The wind resistance of external walls is applicable only to buildings that incorporate a lining capable of resisting wind pressure exerted from inside the building, where the cavity between the lining and the cladding is sealed and where windows and doors in the external walls incorporated seals.

6.2.2 Panels – Suspended at Gable Ends

The following tables are applicable when panels are suspended such as a gable end.

TABLE 9: 75 mm (2.95 in) Panel Spans – When Suspended at Gable Ends

AS 4055 Wind Category	Maximum ultimate wind pressure / suction kPa (psf)		Maximum Stud Spacing mm (in)	Maximum Panel Span (mm (in))			
	Over 1200 mm (47.24 in) from corners	Within 1200 mm (47.24 in) of corners		Panel Location			
				Typical		Corner	
				Span	Cant.	Span	Cant.
N1, N2	+0.67, -0.62 (+14.0, -13.0)	-1.25 (-26.1)	600 (23.62)	800 (31.50)	150 (5.91)	750 (29.53)	150 (5.91)
N3	+1.05, -0.98 (+21.9, -20.5)	-1.95 (-40.7)	600 (23.62)	800 (31.50)	150 (5.91)	600 (23.62)	150 (5.91)
N3, C1	+1.05, -0.98 (+21.9, -20.5)	-1.95 (-40.7)	450 (17.72)	800 (31.50)	150 (5.91)	650 (25.59)	150 (5.91)
N4, C2	+1.56, -1.45 (+32.6, -30.3)	-2.90 (-60.6)	450 (17.72)	800 (31.50)	150 (5.91)	450 (17.72)	100 (3.94)
N5, C3	+2.30, -2.14 (+48.0, -44.7)	-4.27 (-89.2)	450 (17.72)	600 (23.62)	150 (5.91)	350 (13.78)	100 (3.94)

NOTES:

1. All battens shall be spaced evenly, with end battens installed the lesser of 150 mm (5.91 in) (typical) and the panel cantilever span from the ends of the Reinforced AAC panels.
2. If a Reinforced AAC panel or sill block is to be installed above or below window openings, additional top hat battens shall be used in these locations.
3. Local suctions within 1200 mm (47.24 in) of the corners of a building necessitate additional battens.
4. The wind resistance of external walls is applicable only to buildings that incorporate a lining capable of resisting wind pressure exerted from inside the building, where the cavity between the lining and the cladding is sealed and where windows and doors in the external walls incorporated seals.

TABLE 10: Number of Screws per 75mm (2.95 in) Panel at Each Batten Location – when Suspended at Gable Ends

AS 4055 Wind Category	Maximum ultimate wind pressure / suction kPa (psf)		Maximum Stud Spacing mm (in)	Number of screws per panel per batten fixed from outside the building	
	Over 1200mm (47.24 in) from corners	Within 1200mm (47.24 in) of corners		Batten Location	
				Typical	Corner
N1, N2	+0.67, -0.62 (+14.0, -13.0)	-1.25 (-26.1)	600 (23.62)	2	3
N3	+1.05, -0.98 (+21.9, -20.5)	-1.95 (-40.7)	600 (23.62)	3	4
N3, C1	+1.05, -0.98 (+21.9, -20.5)	-1.95 (-40.7)	450 (17.72)	3	4
N4, C2	+1.56, -1.45 (+32.6, -30.3)	-2.90 (-60.6)	450 (17.72)	4	4
N5, C3	+2.30, -2.14 (+48.0, -44.7)	-4.27 (-89.2)	450 (17.72)	4	4

NOTES:

1. Battens shall be installed horizontally with panels to span vertically. Number of screw per panel per batten information is not suitable for soffits or any other areas where the panel is not vertical.
2. Type of screw used is the 14-10 MP Bugle Head Batten screw, fixed from outside the building. Screw length 15mm (0.59 in) longer than panel thickness.
3. Local suctions within 1200 mm (47.24 in) of the corners of a building necessitate additional battens.
4. The wind resistance of external walls is applicable only to buildings that incorporate a lining capable of resisting wind pressure exerted from inside the building, where the cavity between the lining and the cladding is sealed and where windows and doors in the external walls incorporated seals.

6.2.3 Panels – Suspended from Framing (2nd & 3rd storey construction)

The following tables are applicable when panels are suspended such as second and third storey constructions.

TABLE 11: 75mm (2.95 in) Panel Spans - when Suspended from Framing (e.g. 2nd & 3rd Storey Construction)

AS 4055 Wind Category	Maximum ultimate wind pressure / suction kPa (psf)		Maximum Stud Spacing mm (in)	Maximum Panel Span mm (in)			
				Panel Location			
	Over 1200mm (47.24 in) from corners	Within 1200mm (47.24 in) of corners		Typical		Corner	
				Span	Cant.	Span	Cant.
N1, N2	+0.67, -0.62 (+14.0, -13.0)	-1.25 (-26.1)	600 (23.62)	1000 (39.37)	250 (9.84)	1000 (39.37)	250 (9.84)
N3	+1.05, -0.98 (+21.9, -20.5)	-1.95 (-40.7)	600 (23.62)	1000 (39.37)	250 (9.84)	1000 (39.37)	250 (9.84)
N3, C1	+1.05, -0.98 (+21.9, -20.5)	-1.95 (-40.7)	450 (17.72)	1000 (39.37)	250 (9.84)	1000 (39.37)	250 (9.84)
N4, C2	+1.56, -1.45 (+32.6, -30.3)	-2.90 (-60.6)	450 (17.72)	1000 (39.37)	250 (9.84)	750 (29.53)	150 (5.91)
N5, C3	+2.30, -2.14 (+48.0, -44.7)	-4.27 (-89.2)	450 (17.72)	750 (29.53)	150 (5.91)	600 (23.62)	150 (5.91)

NOTES:

1. All battens shall be spaced evenly, with end battens installed the lesser of 150 mm (5.91 in) (typical) and the panel cantilever span from the ends of the Reinforced AAC panels.
2. If a Reinforced AAC panel or sill block is to be installed above or below window openings, additional top hat battens shall be used in these locations.
3. Local suctions within 1200 mm (47.24 in) of the corners of a building necessitate additional battens.
4. The wind resistance of external walls is applicable only to buildings that incorporate a lining capable of resisting wind pressure exerted from inside the building, where the cavity between the lining and the cladding is sealed and where windows and doors in the external walls incorporated seals.

TABLE 12: Number of Screws per 75 mm (2.95 in) Panel at Each Batten Location - when Suspended from Framing (e.g. 2nd and 3rd storey construction)

AS 4055 Wind Category	Maximum ultimate wind pressure / suction kPa (psf)		Maximum Stud Spacing mm (in)	Number of screws per panel per batten			
	Over 1200mm (47.24 in) from corners	Within 1200mm (47.24 in) of corners		Fixed from outside the building		Fixed from inside the building	
				Batten Location		Batten Location	
				Typical	Corner	Typical	Corner
N1, N2	+0.67, -0.62 (+14.0, -13.0)	-1.25 (-26.1)	600 (23.62)	2	3	2	3
N3	+1.05, -0.98 (+21.9, -20.5)	-1.95 (-40.7)	600 (23.62)	3	4	3	4
N3, C1	+1.05, -0.98 (+21.9, -20.5)	-1.95 (-40.7)	450 (17.72)	3	4	3	4
N4, C2	+1.56, -1.45 (+32.6, -30.3)	-2.90 (-60.6)	450 (17.72)	4	4	4	4
N5, C3	+2.30, -2.14 (+48.0, -44.7)	-4.27 (-89.2)	450 (17.72)	4	4	Not suitable	Not suitable

NOTES:

1. For fire-rated construction, a minimum of 3 screws per batten is required.
2. Type of screw used is the 14-10 Hex head Type 17 screw, fixed from inside the building (10mm (0.39 in) shorter than panel thickness), or 14-10 MP Bugle Head Batten screw, fixed from outside the building (15mm (0.59 in) longer than panel thickness).
3. Local suctions within 1200 mm (47.24 in) of the corners of a building necessitate additional battens.
4. The wind resistance of external walls is applicable only to buildings that incorporate a lining capable of resisting wind pressure exerted from inside the building, where the cavity between the lining and the cladding is sealed and where windows and doors in the external walls incorporated seals.

6.3 Control Joints and Articulation Joints

Requirements for control and articulation joints vary from building to building.

The designer and builder are responsible for ensuring Helix 50/75mm AAC Low-Rise External Wall System is suitable for their application.

AS 5146.3 provides general guidance for control and articulation joints as follows.

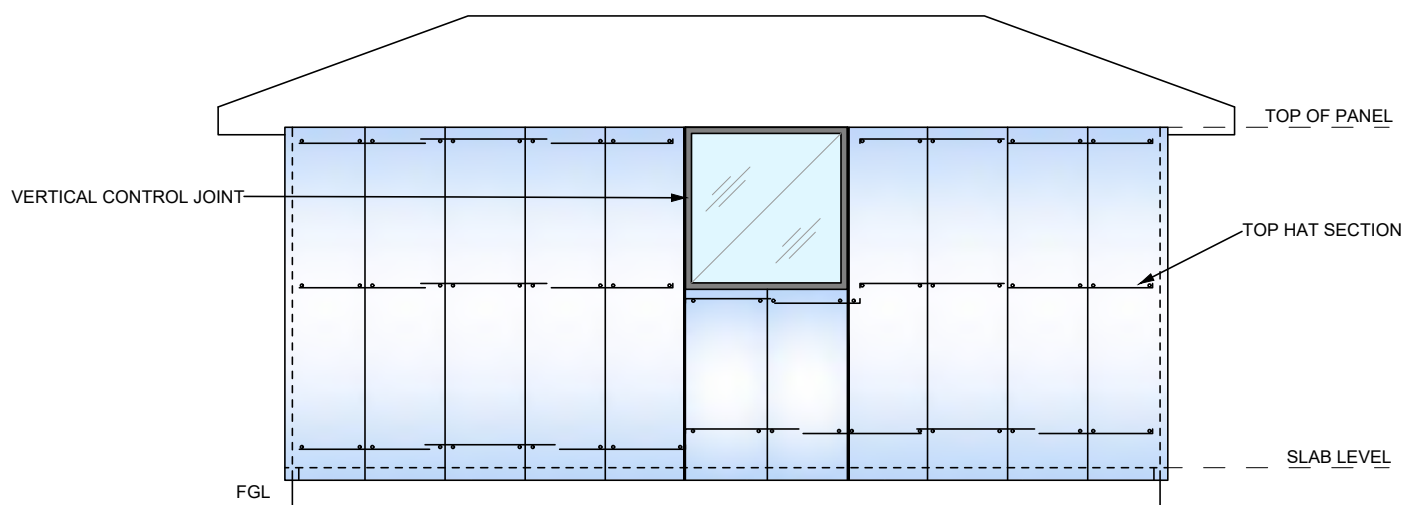
At minimum, vertical control or articulation joints shall be built into a wall at:

- a) Spacings not exceeding 6.0 m.
- b) For external walls of houses and low-rise multi-residential buildings, at spacings not more than the values given in AS 5146.3 Table 2.9.1.
- c) Any position where a wall height changes by more than 20%.
- d) A change in thickness of a wall.
- e) Control joints or construction joints in supporting concrete slabs.
- f) Wall junctions between different materials.
- g) Corners, as measured from the inside edge, as follows:
 - a. At the corner of itself.
 - b. At a maximum of 1.2 m one side of a corner, or
 - c. At a maximum of 2.4 m on each side of a corner.

At minimum, horizontal control joints shall be built into a wall at the position where the:

- a) Reinforced AAC members continue vertically past a suspended floor.
- b) Ends of two or more adjacent panels are aligned.

6.4 Typical Panel Layout for Max. 600mm Stud Wall Detail

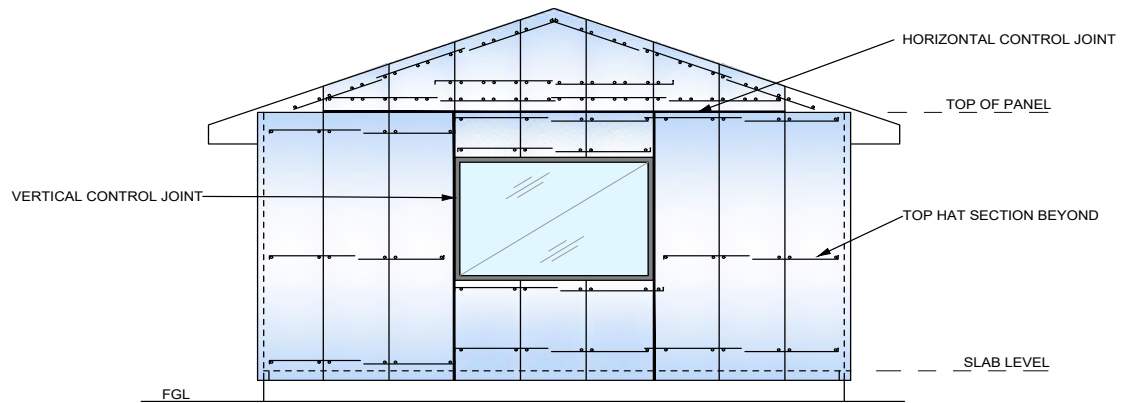


NOTES:

For number of top hats and screws, see fixing tables.

These details have not shown the set-out of the top hats to accommodate control joint locations.

SINGLE STOREY CONSTRUCTION - HIP ROOF ELEVATION

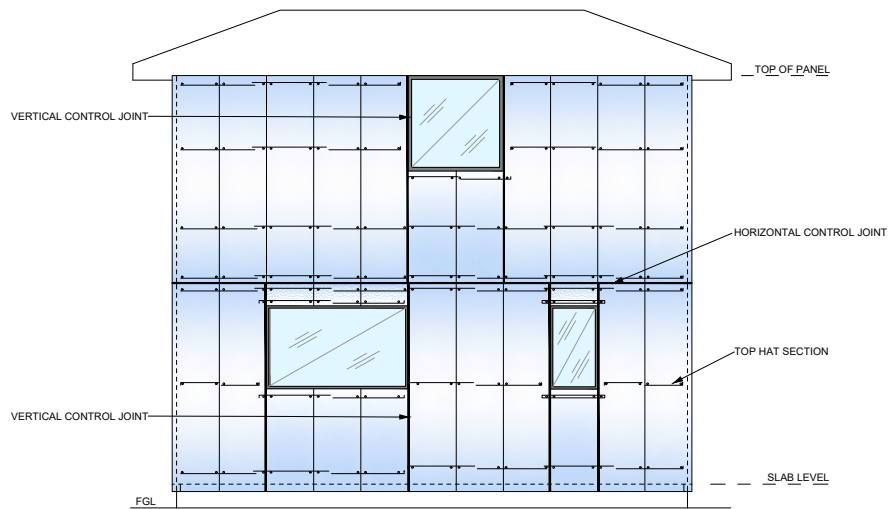


NOTES:

For number of top hats and screws, see fixing tables.

These details have not shown the set-out of the top hats to accommodate control joint locations.

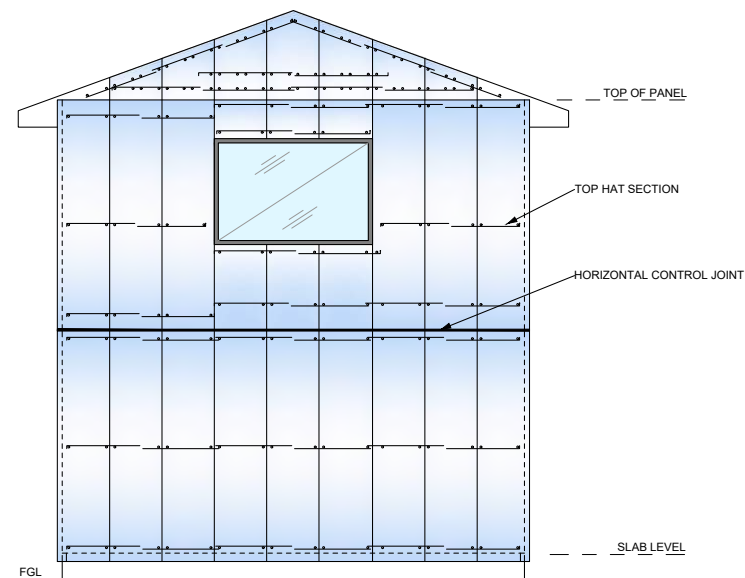
SINGLE STOREY CONSTRUCTION - GABLE ROOF ELEVATION



NOTES:

For number of top hats and screws see fixing tables.

TWO STOREY CONSTRUCTION - HIP ROOF ELEVATION



NOTES:

For number of top hats and screws, see fixing tables.

TWO STOREY CONSTRUCTION - GABLE ROOF ELEVATION

6.5 Installation Steps

6.5.1 Accessories:

1. Damp-proof Course (DPC) and Flashings – are to be installed in accordance with Helix 50/75mm AAC Low-Rise External Wall System Typical Construction Details, NCC requirements (e.g. NCC 2022(Amdt.1) Volume Two, 5.7.4), and as follows. The surface on which a damp-proof barrier or flashing is to be laid shall be as smooth as necessary to prevent puncturing and to prevent keying of supported Reinforced AAC members if they are required to be able of moving on the surface.

Where joints in damp-proof barriers or flashings cannot be avoided, they shall be lapped not less than 150mm, or sealed against moisture penetration.

Damp-proof barriers and flashings shall not be breached or punctured during construction.

Damp-proof barriers shall be installed to project from both faces of the wall. After panel installation, DPC projections shall be either cut off flush with the external face of the finished wall or turned down.

Flashings, including over-flashings, shall be built-in with projections that are of a size and orientation to direct the moisture from the reinforced AAC in the required manner and fixed to the wall frames at not less than 600 mm spacing.

Over-flashings shall overlap under-flashings by at least 50 mm.

Any render finish subsequently applied to the surface shall not be allowed to bridge a damp-proof barrier or make ineffective any other moisture protection measures.

2. Breathable Wall Wrap - Fix over the studs, and cut around penetrations and openings (e.g. doors, windows) in accordance with AS 4200.2:2017.
3. Install Flashing Tape to seal the breathable wall wrap at all joints, openings and around the perimeter of the wall frame. Flashing Tape must always be applied in accordance with the manufacturers' instructions ensuring:
 - all surfaces are clean and dry, and
 - pressure is applied to the tape so the adhesive is firm contact with the substrate.Flashing Tape is not a mechanical joining device, ensure that the materials being are joined mechanically secured.
4. Battens must be fixed to every stud, with maximum spacings as described in the Sections 6.1, 6.2 or 6.3 as applicable.

6.5.2 Panels:

1. Holes and chases shall not be made in Reinforced AAC, except at positions specified in the design documents.
2. Reinforced AAC members shall not be cut during construction, except at positions specified in the design documents. Panels typically should not be less than 270mm wide, and in all cases must achieve the specified minimum support and fixing requirements.
3. Allow gaps between Helix panel and any openings for beading and sealing. Guidance on gap sizes is provided in AS 5146.3, Table 2.10.7.
4. Thin bed adhesive shall be applied to the entire edge surface of all joints between Reinforced AAC panels, other than control or articulation joints. The joint shall be 2–3 mm wide.
5. The Backing Rod is a closed-cell polyethylene foam. This used as back-blocking for sealant placed in joints.
6. Horizontal Control Joints - Provide horizontal control joints at all locations as specified in the design documents. Horizontal control joints consist of a 10 mm gap with backing rod for the sealant to be placed in the joint. Note that as a minimum, horizontal control joints must be made at vertical spacing not greater than 3.0 m, typically corresponding to a storey height. In all cases horizontal control joints must be made at all construction joints and at the junctions of dissimilar substrates where the potential for differential movement exists.

7. Vertical Control Joints – Provide vertical control joints, at all locations as specified in the design documents. Vertical control joints consist of a 10 mm gap with backing rod for the sealant to be placed in the joint. Note that as a minimum, vertical control joints must be made at horizontal spacing not greater than 9m, and should typically coincide with penetrations such as doors, windows etc. In all cases vertical control joints must be made at all construction joints and at the junctions of dissimilar substrates where the potential for differential movement exists.

6.5.3 External Coating or Membrane Installation

OPTION 1: External Coating System:

The following external coating system conforms with the durability requirements of AS 5146.3 Table 2.5, except in exposure environments where 'special protection' is required:

- (i) Surface preparation - Clean, patch and remove any dags. Remove all surface contaminants such as oil, grease, dust (including salt residue in coastal areas) by hosing down with fresh potable water before application of the coating system. AAC substrate shall be allowed to reach equilibrium moisture content prior to application of the coating.
- (ii) Base levelling coat - Temper dry the AAC substrate with a light spray to reduce excessive suction. Apply the base-levelling coat with a hawk and stainless steel trowel evenly over the surface to a thickness not less than 2 mm and up to 6 mm to level irregularities. Render shall not cover control joints. Follow up with a poly float to level out the product. Dry for at least 6 h to 8 h before the application of the first coat.
NOTE: The base levelling coat may be omitted in circumstances when aesthetic considerations do not demand a smooth surface.
- (iii) First (texture) coat Apply with either a roller or trowel over the surface ensuring a wet edge is maintained over the application area. Protect from rain in first 24 h.
- (iv) Second (finish) coat Apply with a 12 mm nap roller over the surface ensuring a wet edge is maintained over the application area. Protect from rain in first 24 h. Ensure adequate batch tint lots to achieve coverage over single elevations to ensure colour consistency.

OPTION 2: External Membrane System:

The following external membrane system conforms with the durability requirements of AS 5146.3 Table 2.5, except in exposure environments where 'special protection' is required:

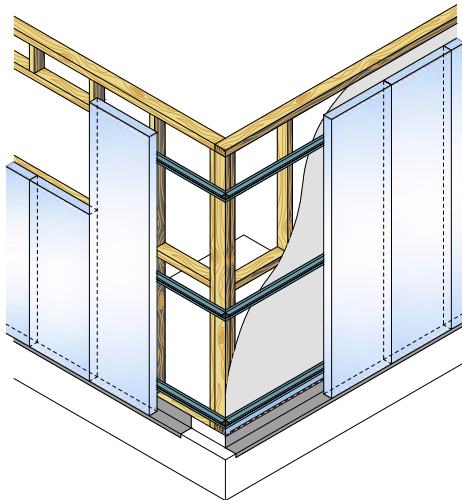
- (i) Surface preparation Clean, patch and remove any dags. Remove all surface contaminants such as oil, grease, dust (including salt residue in coastal areas) by hosing down with fresh potable water before application of the membrane system. AAC substrate shall be allowed to reach equilibrium moisture content prior to application of the membrane.
- (ii) Base levelling coat Temper dry the AAC substrate with a light spray to reduce excessive suction. Apply the base-levelling coat with a hawk and stainless steel trowel evenly over the surface to a thickness not less than 2 mm and up to 6 mm to level irregularities. Render shall not cover control joints. Follow up with a poly float to level out the product. Dry for at least 6 h to 8 h before the application of the first coat.
- (iii) External membranes shall conform with AS 4654.1 and be installed in accordance with AS 4654.2.

7 CONSTRUCTION DETAILS

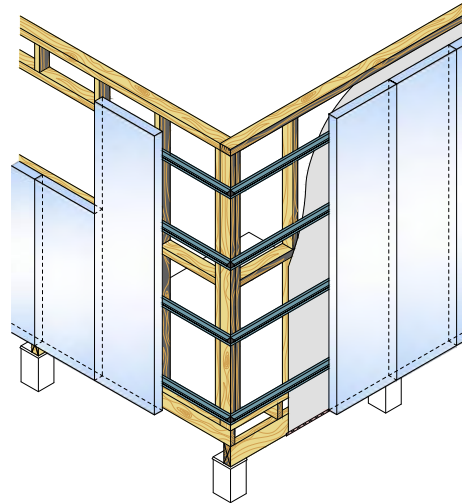
Helix 50/75mm AAC Low-Rise External Wall System must be installed in accordance with this Design and Installation Guide and comply with all relevant building codes and local government regulations.

These typical construction details are provided as a guide for construction industry professionals, they do not constitute a project specification, and should only be used within the context of a project specification.

7.1 Typical Details

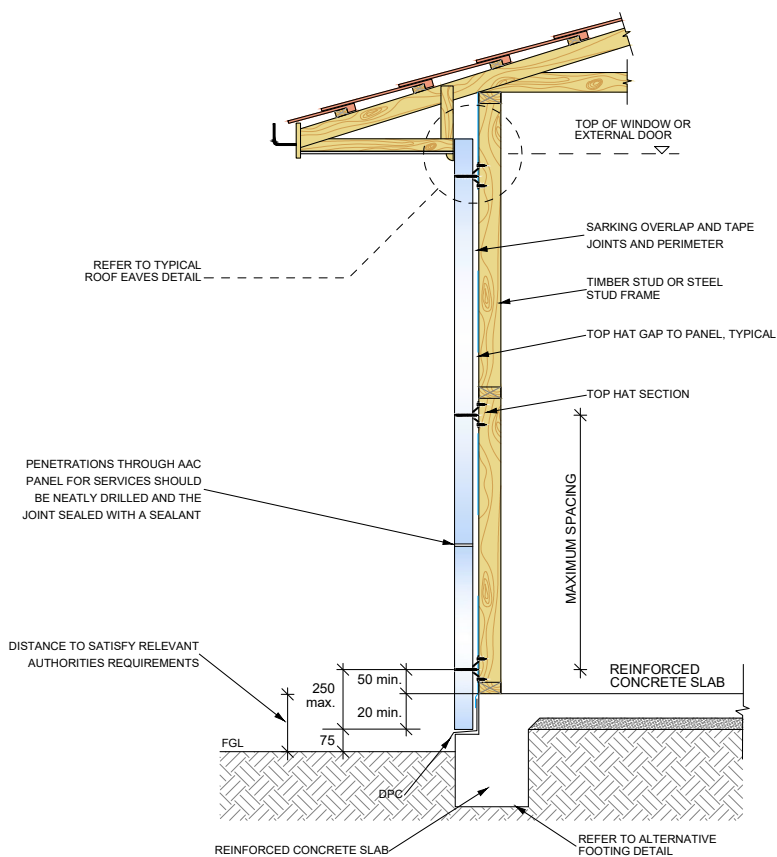


SINGLE STOREY CONSTRUCTION
- PANELS SUPPORTED AT BASE



SINGLE STOREY CONSTRUCTION
- PANELS SUSPENDED

7.1.1 SECTION THROUGH SINGLE STOREY CONSTRUCTION

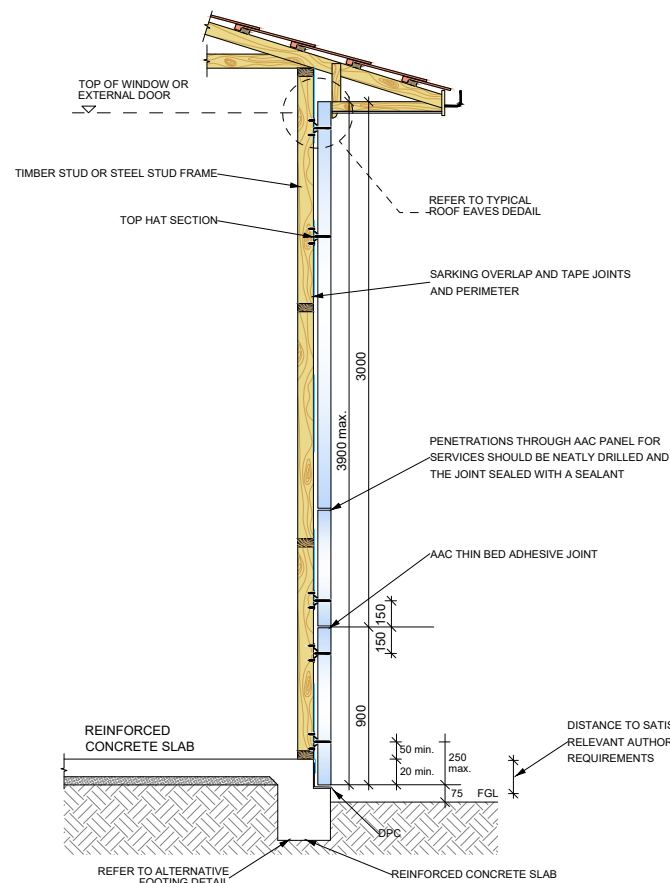


NOTES:

For number of top hats and screws, see fixing tables.

The maximum that the panel shall overhang the slab edge is $\frac{1}{3}$ of the panel thickness.

7.1.2 SECTION THROUGH SINGLE STOREY CONSTRUCTION - WALL UP TO 3900mm HIGH

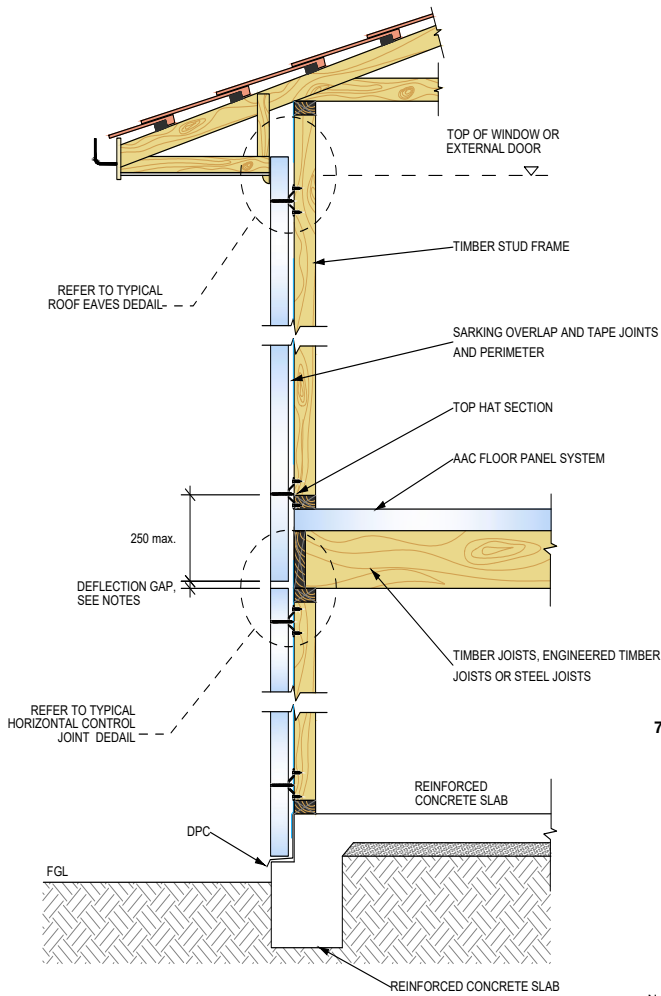


NOTES:

For number of top hats and screws, see fixing tables.

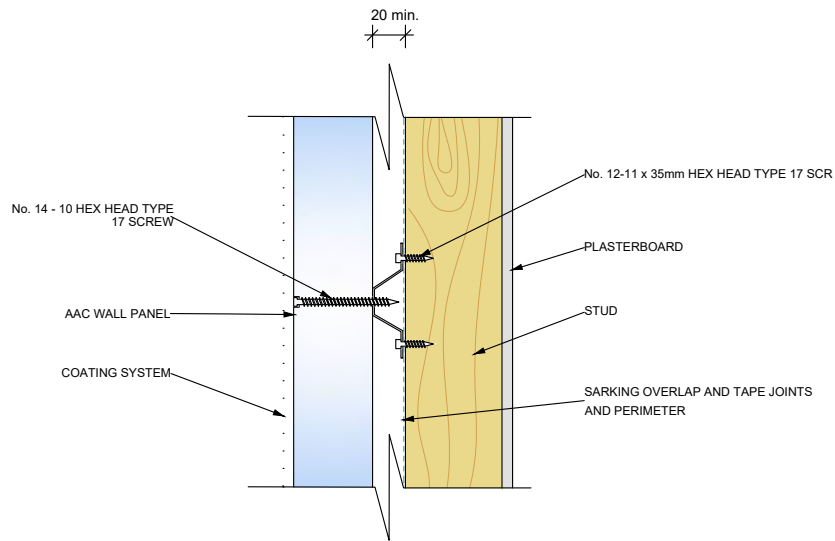
The maximum that the panel shall overhang the slab edge is $\frac{1}{3}$ of the panel thickness.

7.1.3 TWO STOREY CONSTRUCTION - HORIZONTAL CONTROL JOINT

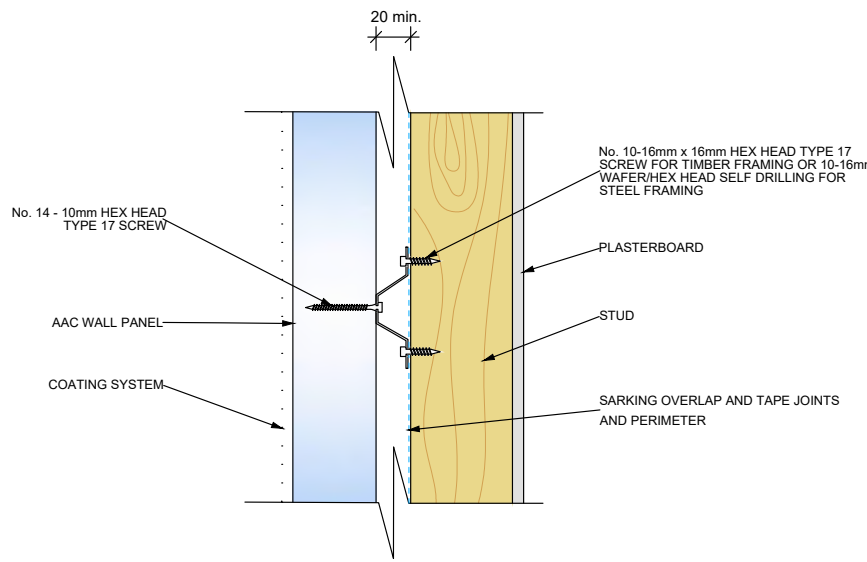


NOTES:
The gap widths may be reduced for low-shrinkage floor systems. For guidance on acceptable gap width, see joint manufacturers specifications.
The maximum that the panel shall overhang the slab edge is $\frac{1}{3}$ of the panel thickness.

7.1.4 EXTERNAL FIXING DETAIL

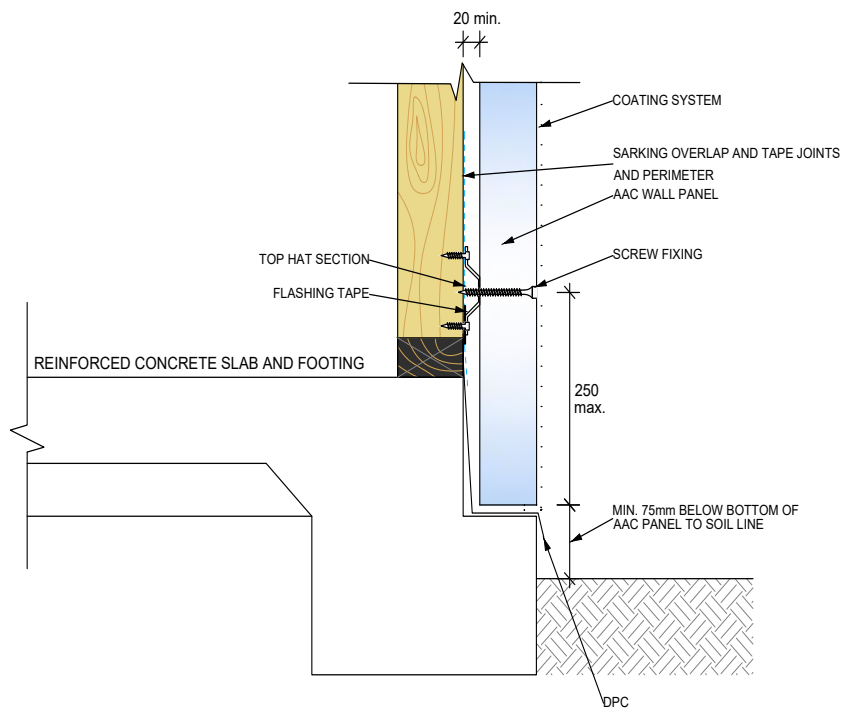


7.1.5 INTERNAL FIXING DETAIL FOR BOUNDARY WALLS



NOTES:
When limited access dictates that the panels shall be fixed from the inside of the building, an additional 14-10 Hex Head Type 17 screw per panel per top-hat batten shall be installed.
When the sarking is penetrated by screw fixing, tape to seal wall wrap.

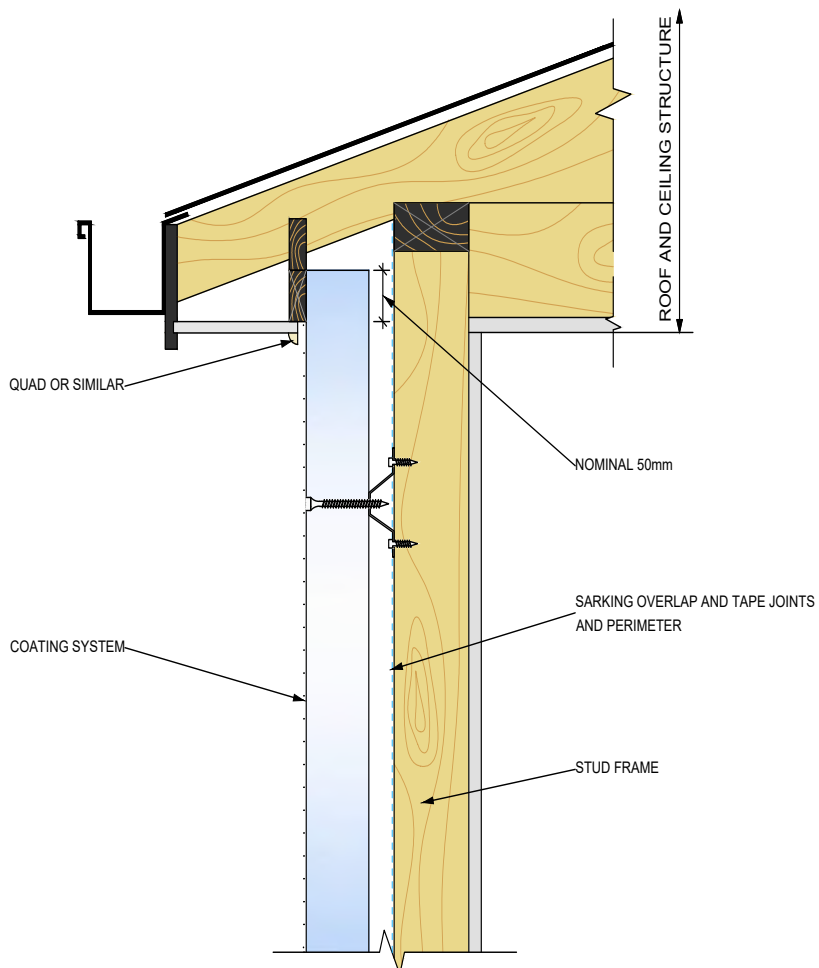
7.1.6 TYPICAL BOTTOM EDGE DETAIL



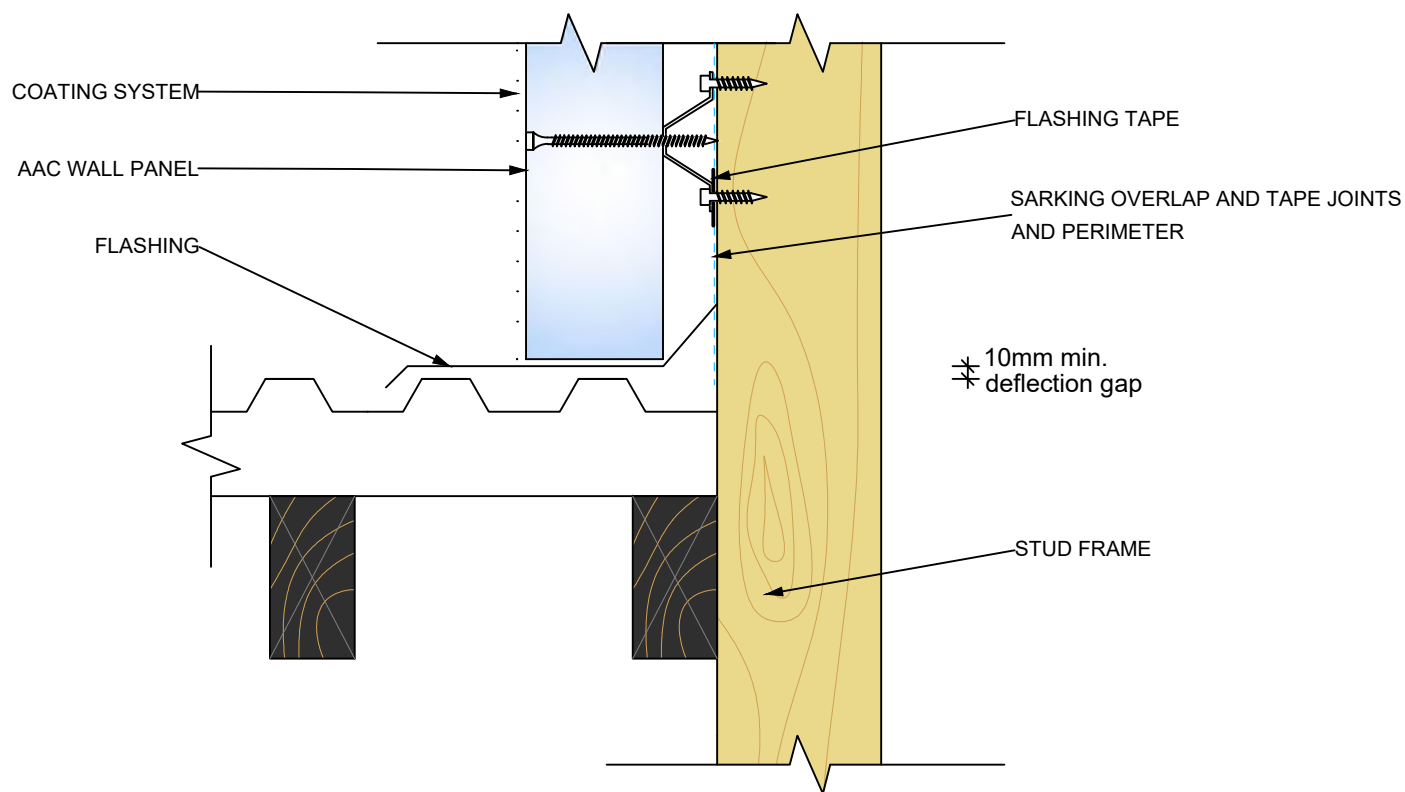
NOTES:

The maximum that the panel shall overhang the slab edge is $\frac{1}{3}$ of the panel thickness.

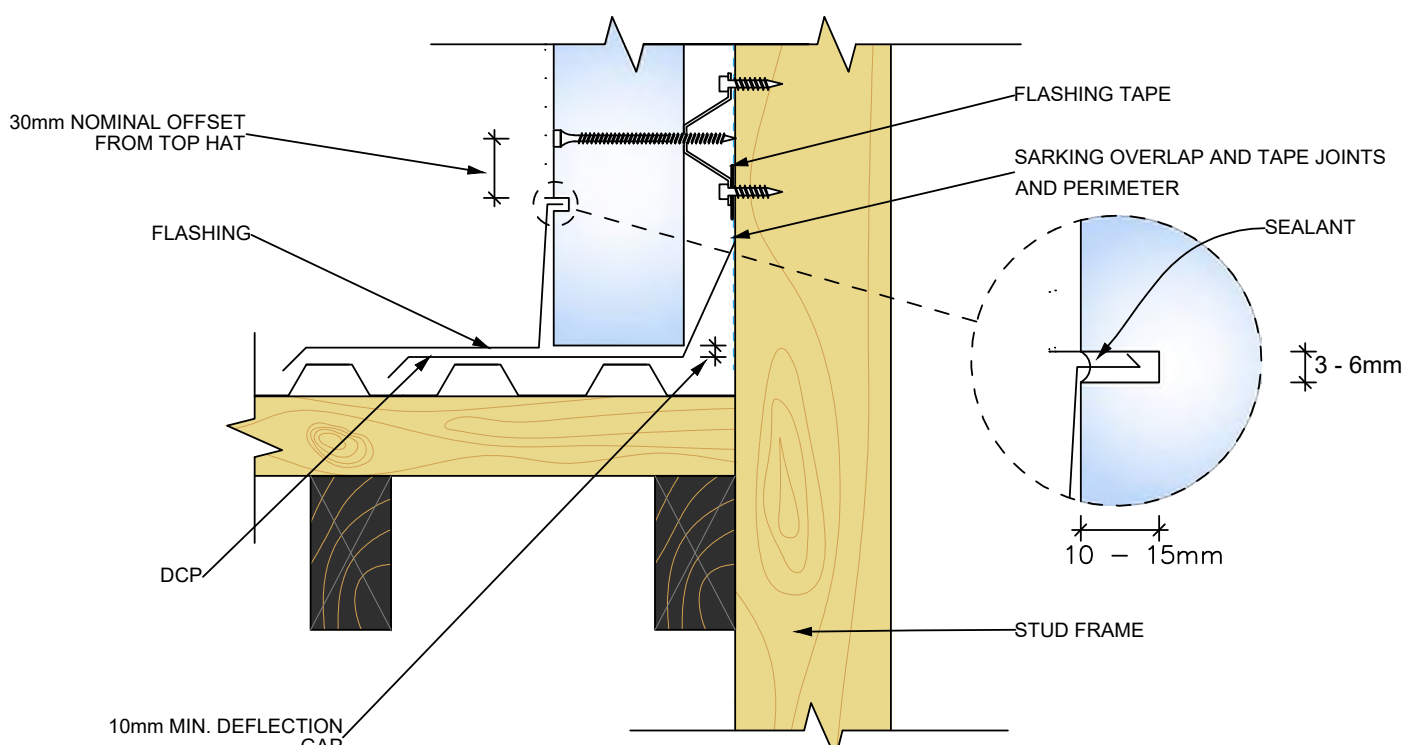
7.1.7 TYPICAL EAVES DETAIL WITH AAC PANEL FINISHING ABOVE SOFFIT



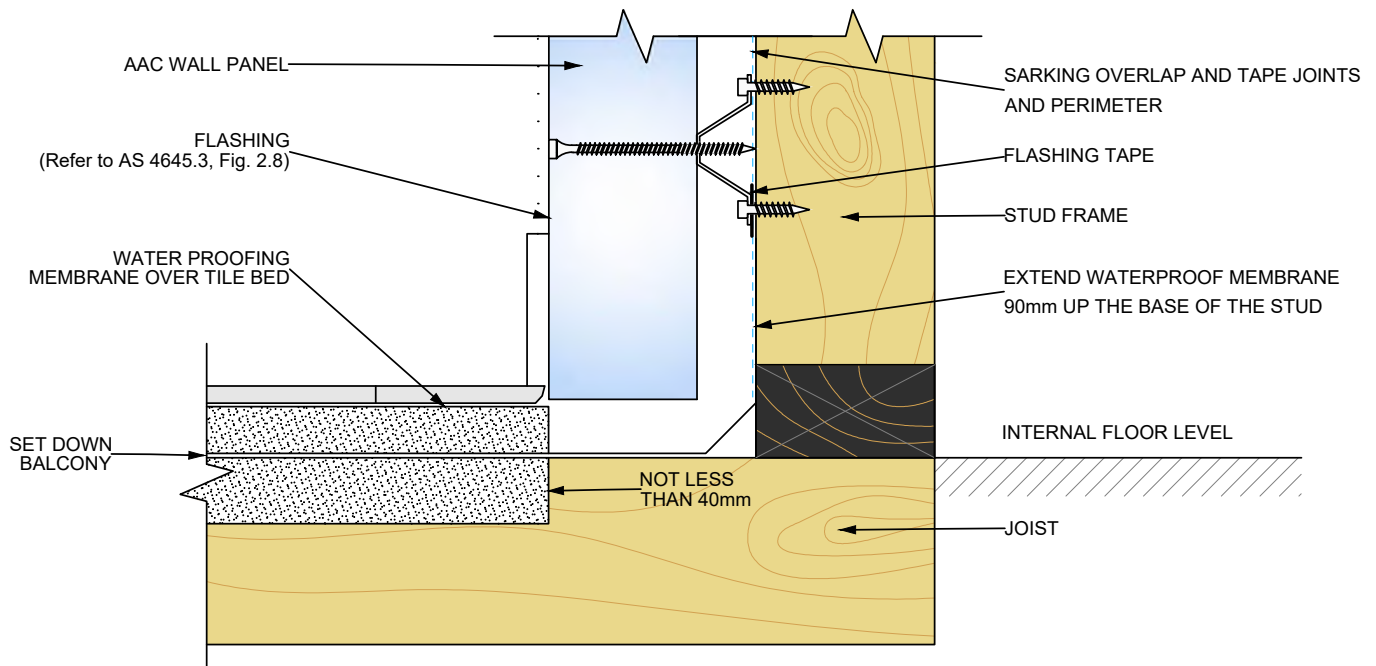
7.1.8 ROOF DETAIL WITH FLASHING UNDER PANEL



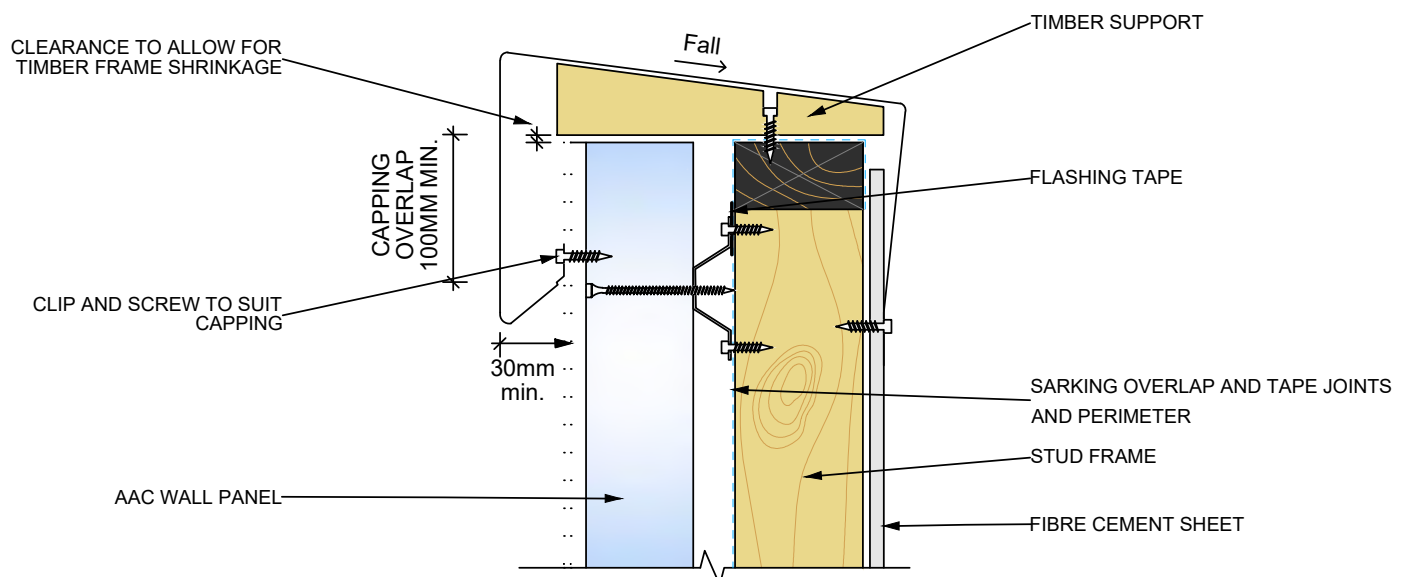
7.1.9 ROOF DETAIL WITH FLASHING SET INTO AAC PANEL



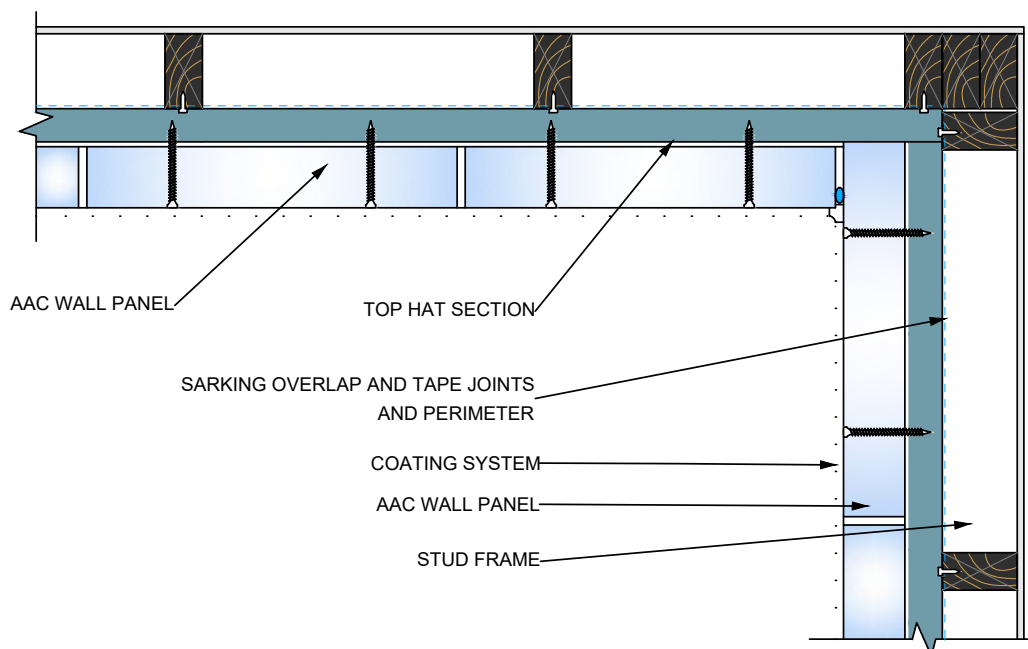
7.1.10 TYPICAL BALCONY DETAIL



7.1.11 TYPICAL PARAPET CAPPING



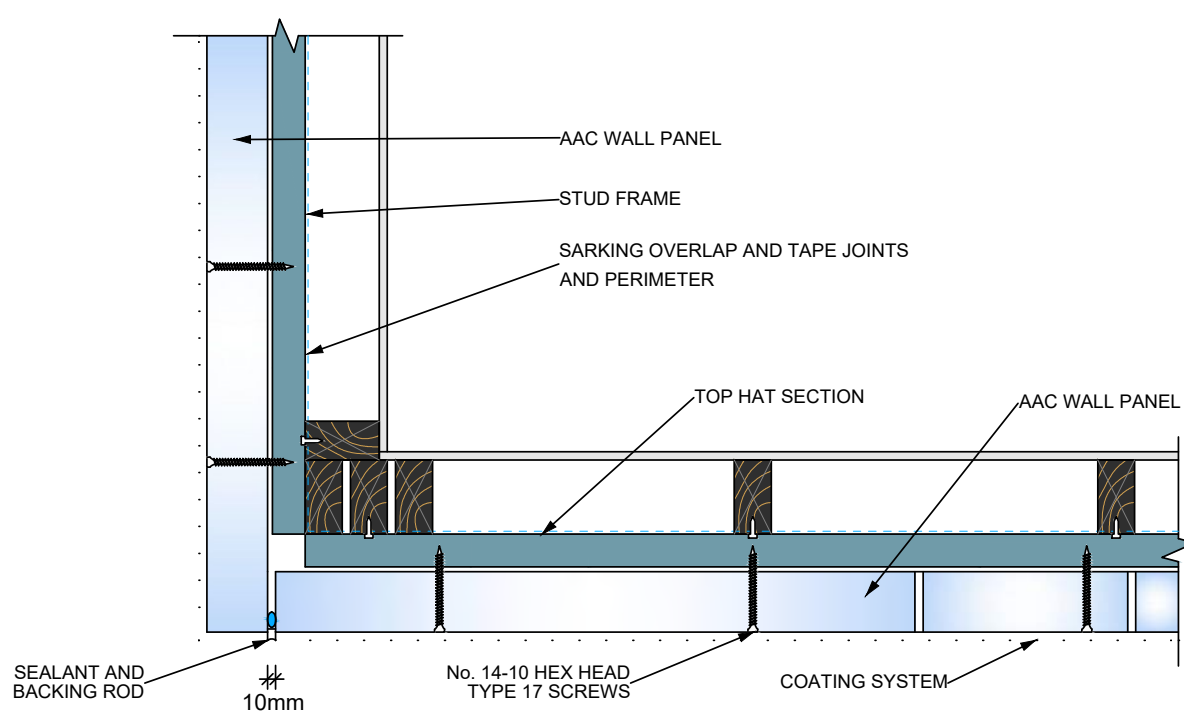
7.1.12 VERTICAL CONTROL JOINT AT INTERNAL CORNER



NOTES:

For number of top hats and screws, see fixing tables.

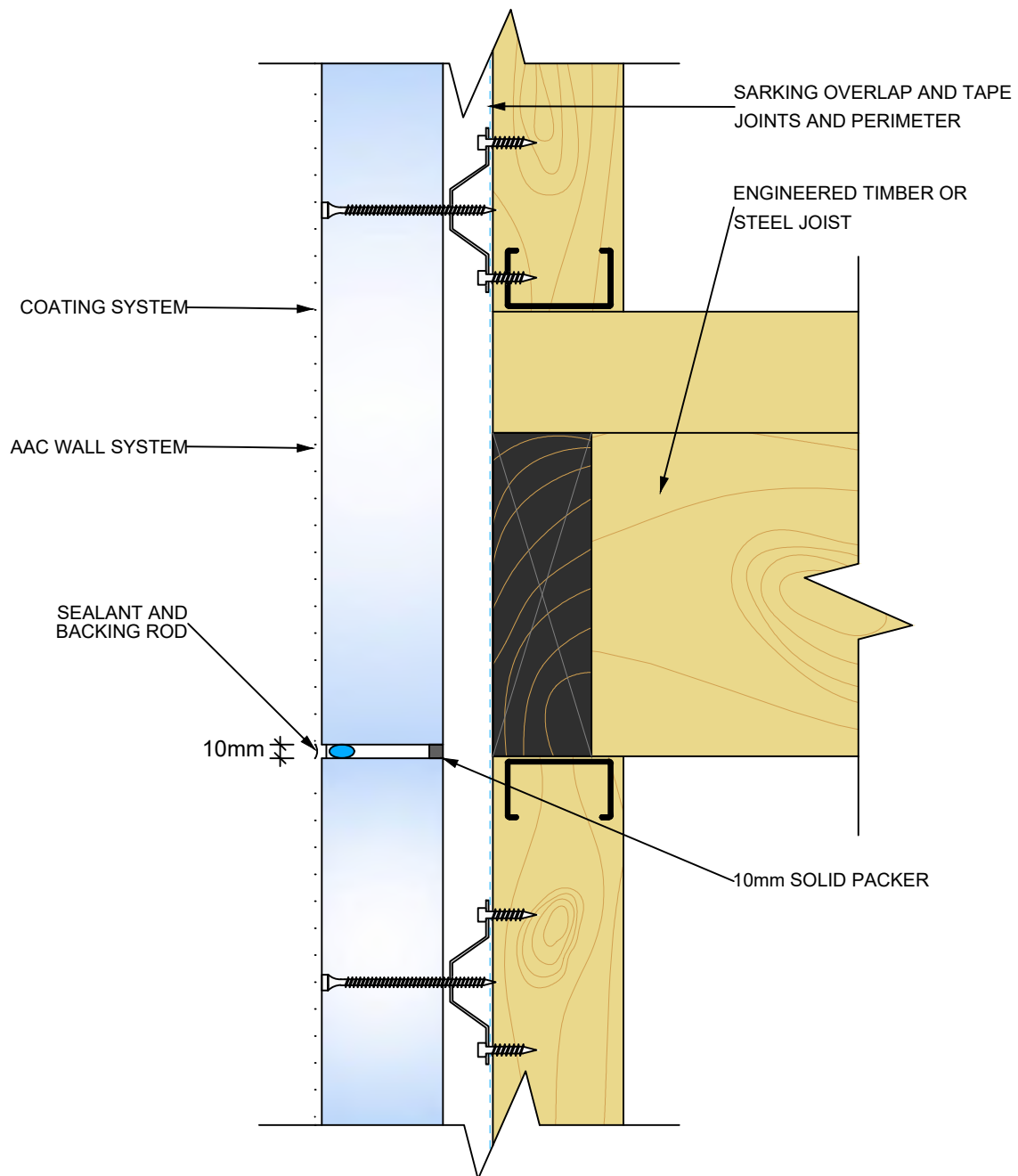
7.1.13 VERTICAL CONTROL JOINT AT EXTERNAL CORNER



NOTES:

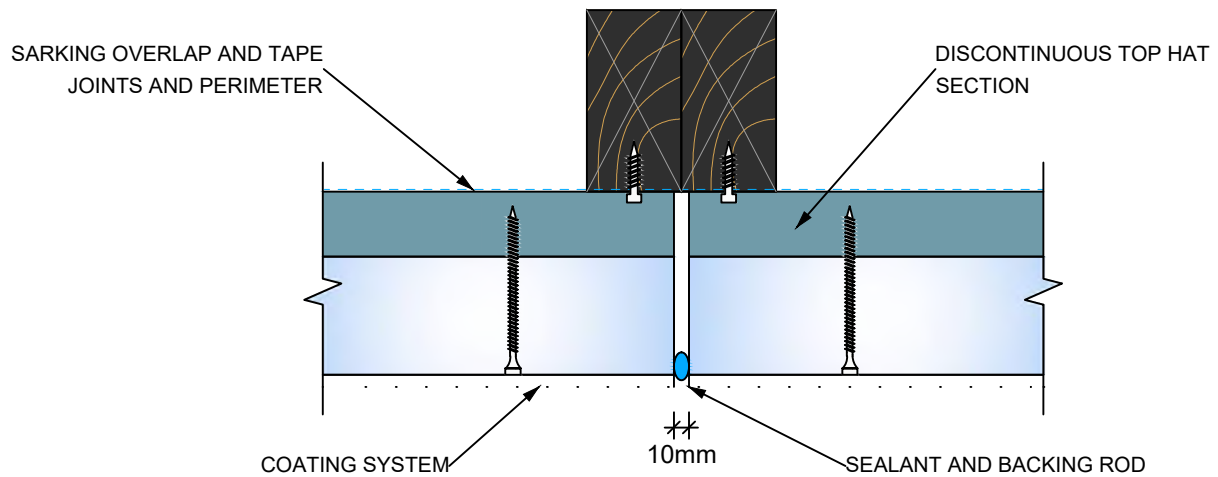
For number of top hats and screws, see fixing tables.

7.1.14 TYPICAL HORIZONTAL CONTROL JOINT

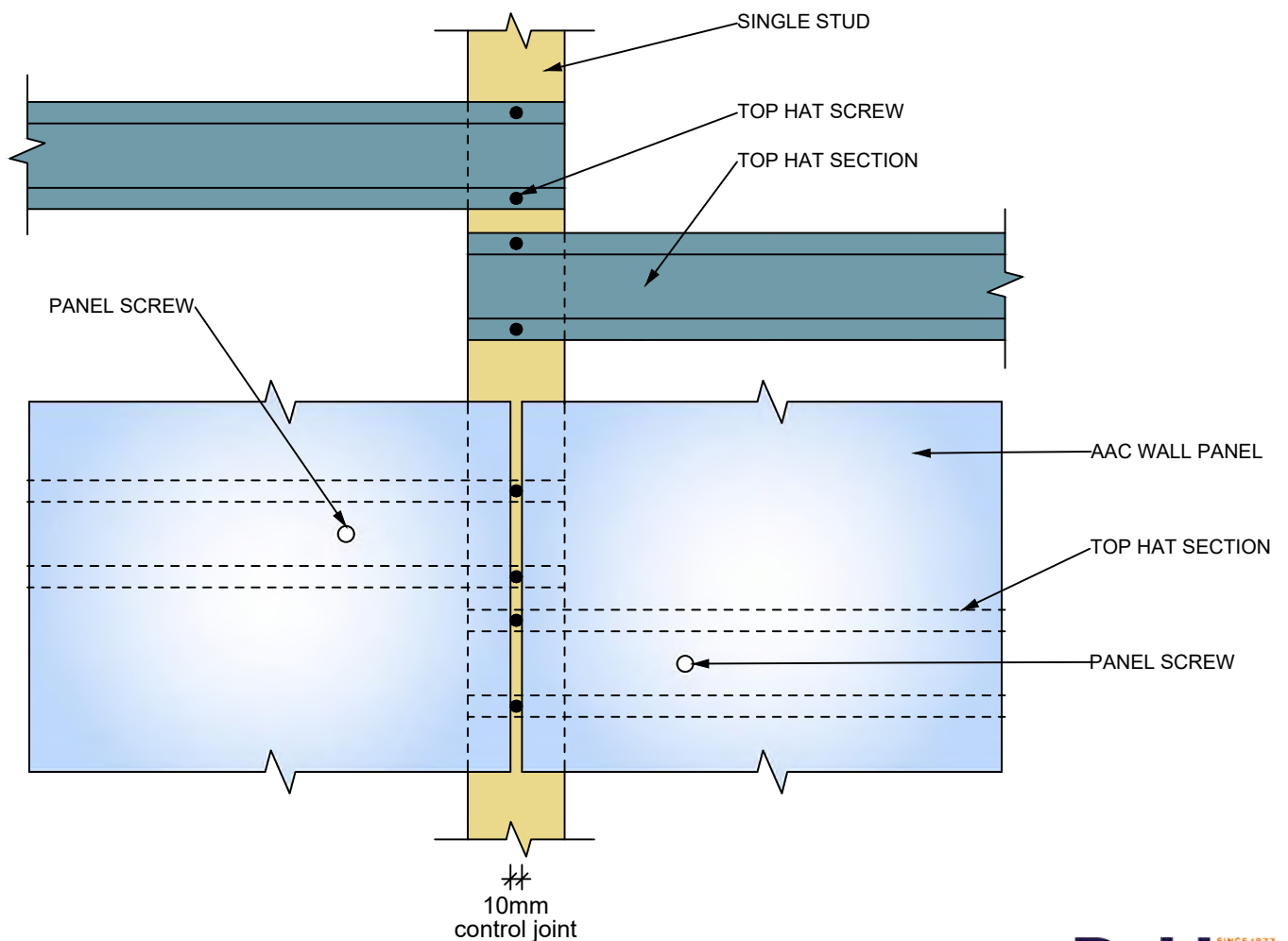


TYPICAL HORIZONTAL CONTROL JOINT

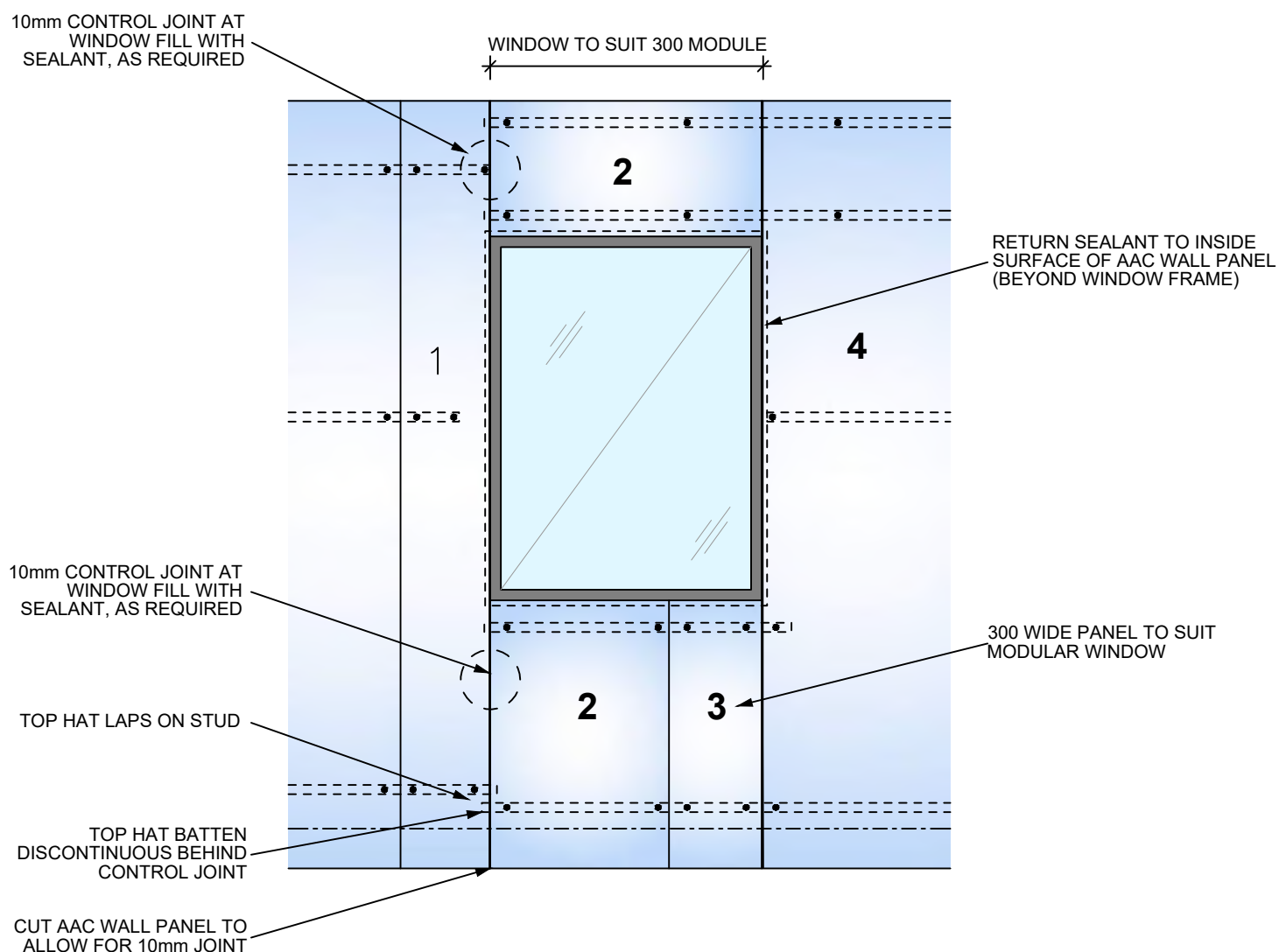
7.1.15 TYPICAL VERTICAL CONTROL JOINT WITH DOUBLE STUDS



7.1.16 VERTICAL CONTROL JOINT WITH SINGLE STUDS



7.1.17 VERTICAL WINDOW CONTROL JOINT WITH LINTEL OVER



NOTES:

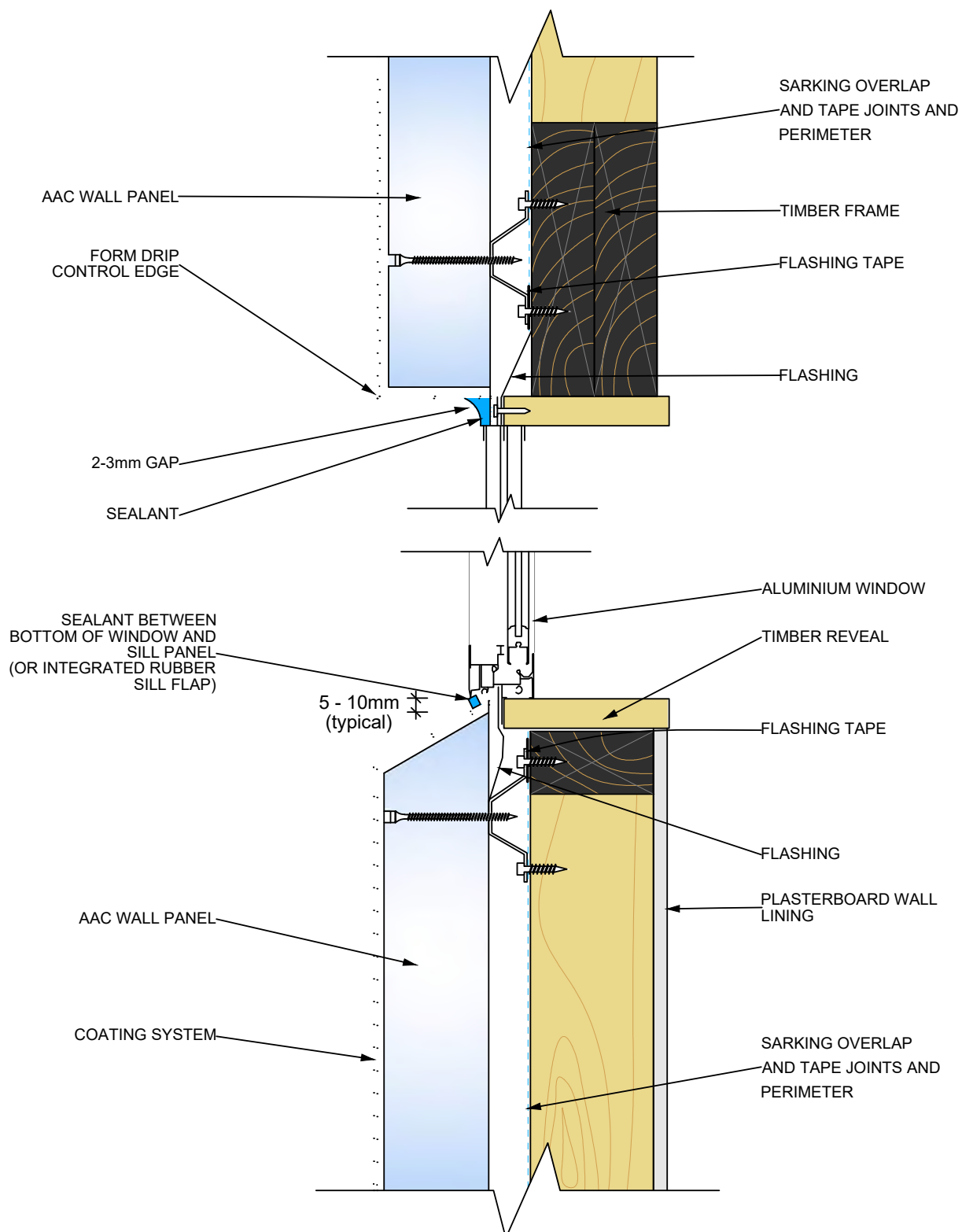
For number of top hats and screws, see fixing tables.

Additional top hats may be required. For suspended panels, see fixing tables.

The installation sequence of the AAC panels around the openings should be followed as numbered if there is no control joint at the opening, to maintain glue thickness on the edge of the panel.

VERTICAL WINDOW CONTROL JOINT WITH LINTEL OVER

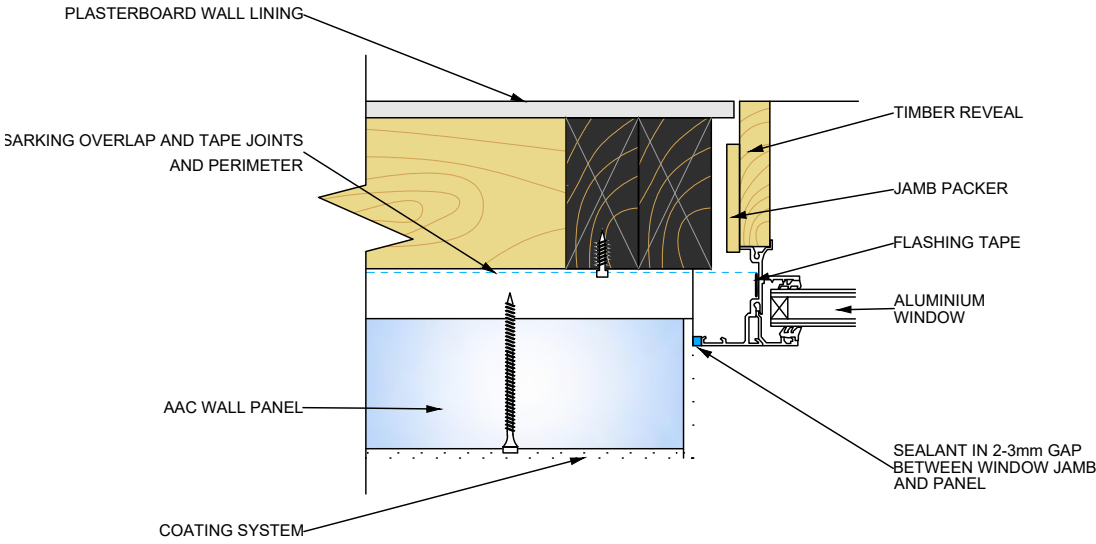
7.1.18 HEAD AND SILL DETAIL FOR SLIDING ALUMINIUM WINDOWS



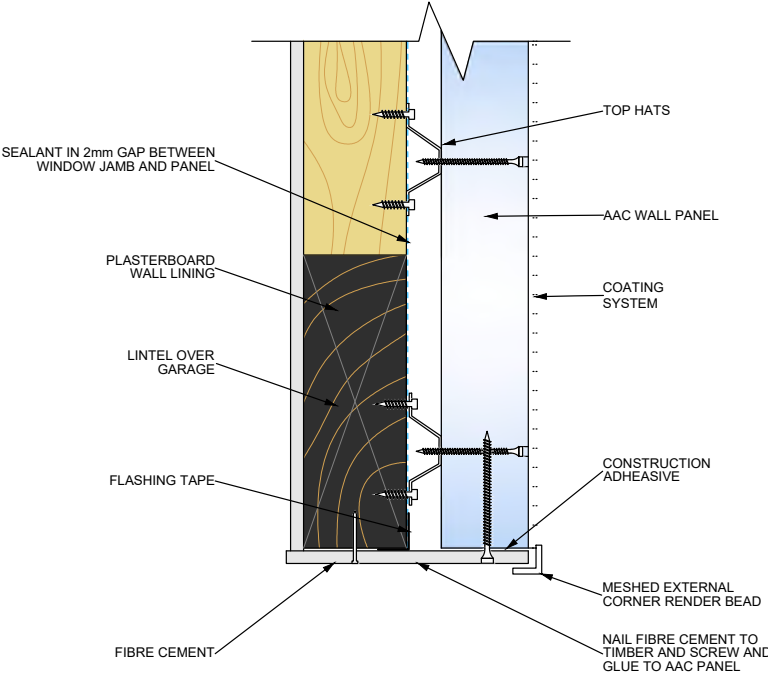
NOTES:

The drainage of windows and doors, with either aluminium or timber frames, shall be directed to the outside of the building on the top of the sill.

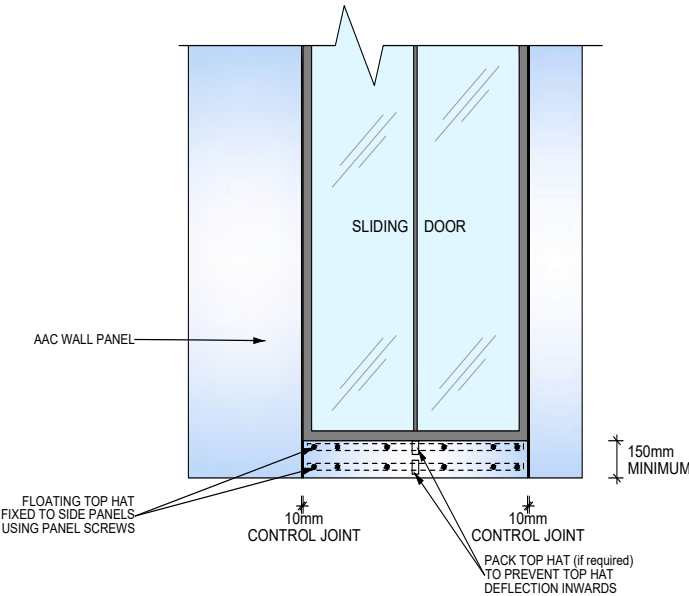
7.1.19 JAMB DETAIL FOR SLIDING ALUMINIUM WINDOWS



7.1.20 GARAGE DOOR HEAD DETAIL



7.1.21 SLIDING DOOR SILL 150mm TO 270mm



8 WARRANTY COVERAGE

Helix warrants that, for a period of twenty (20) years from the date of purchase, its 50mm and 75mm AAC panels will be free from defects caused by faulty manufacturing or materials. Under proper conditions and use, the product will be resistant to cracking, rotting, and termite damage, in accordance with the terms outlined below.

This warranty does not override any statutory rights the customer may have under the Australian Consumer Law or other applicable legislation.

Warranty Conditions

To claim this warranty, the following conditions must be met:

1. Proof of Purchase

The customer must provide reasonable supporting documents, including full payment proof.

2. Timely Notification

Helix must be notified within 12 weeks of the defect being discovered or when it ought to have been discovered, and no later than the expiry of the warranty period.

3. Inspection Opportunity

Helix must be given a reasonable opportunity to inspect the product on-site prior to removal, repair, or replacement. If testing or investigation is required, costs are to be initially borne by the claimant and will be reimbursed if the defect is found to be covered by this warranty.

4. Proper Handling and Installation

The product must be transported, installed, and maintained in accordance with Helix's official technical literature at the time of purchase.

5. Approved Components

All components used in the system must be specified and supplied by Helix.

6. Compliance with Construction Standards

The installation must comply with Helix's specifications, the National Construction Code (NCC), relevant Australian Standards, and applicable laws and regulations.

Exclusions from Warranty

This warranty does not apply to defects or damage resulting from:

1. External Factors: Including but not limited to building movement, corrosion, pollution, mechanical impact, hydrostatic pressure, fire, natural disasters, adverse weather conditions, vandalism, and other uncontrollable events.
2. Improper Construction Practices: Any work done before, during, or after installation that causes damage to the product or system.
3. Incorrect Handling: Damage from failure to follow handling instructions provided by Helix.
4. Third-Party Design Faults: Defects caused or contributed to by the design of the structure, foundations, or frames by third parties.
5. Non-Helix Materials: Any issues caused or contributed to by accessories or materials not supplied by Helix.
6. Coating or Sealant Failure: Cracks or deterioration in coatings or sealants applied over the panels.

Note: It is the purchaser's responsibility to consult with the coating/sealant manufacturer to ensure suitability for AAC substrates and confirm elasticity and waterproofing meet Helix's requirements.

Disclaimer

- This warranty only covers the product itself and does not include consequential or indirect losses.
- Helix does not verify whether its products are solely used in any specific project or whether the installation meets warranty conditions.
- Suitability of the product for a specific application is the responsibility of the purchaser.
- Site visits by Helix do not constitute inspections or installation approvals.

For warranty claims, please contact Helix's customer service team with proof of purchase, relevant photos, and installation documentation.

Information on Helix 50/75mm AAC Low-Rise External Wall System can be found at: www.helix.net.au

Helix AAC Pty Ltd, 497 Blackburn Road, Mount Waverley, Vic. 3149

SECTION 3.2

HELIX 50/75MM AAC INTERTENANCY & PARTY WALL SYSTEMS

DESIGN & INSTALLATION GUIDE



Proudly Distributed By:

Dahlsens
For the Builder.

1 HELIX INTERTENANCY & PARTY WALL SYSTEMS

This guide describes the performance, installation, and typical detailing requirements for Helix 50/75mm AAC Intertenancy & Party Wall Systems for use by designers and builders in load-bearing and no-loadbearing wall applications.

1.1 System Description

At the 'core' of the Helix 50/75mm AAC Intertenancy and Party Wall Systems you will find Helix 50mm or 75mm thickness AAC panels securely mechanically fixed, sealed and supported by structural building elements, typically a concrete slab or non-combustible steel, or timber wall framing.

Helix Intertenancy and Party Wall Systems, provide NCC 2022 compliant Autoclaved Aerated Concrete (AAC) panel Deemed-to-Satisfy acoustic, fire, and thermally rated solutions for internal walls, common walls and separation walls in residential and commercial buildings. Load-bearing party wall applications are typically limited to a maximum height of 12m.

Helix Intertenancy and Party Wall Systems have been tested, appraised and certified to the applicable DTS requirements of the NCC 2022 (Amdt.1), Volumes One, Two & Housing Provisions for:

Structure: B1D4(b)(ii) Determination of structural resistance of materials and forms of construction in accordance with AS 5146.1 and AS 5146.3; and H1D7(4)(a) when designed and constructed in accordance with AS 5146.1.

Fire Safety: C2D2(2) and 9.3.1(1)(a)(i) for Fire Resistance Level tested and assessed to AS 1530.4 for FRL 120/120/120, (note AS 5146.3 Cl.2.6.2 provisions are for non-load bearing walls only).

Non-Combustible: C2D10(5)(e), Autoclaved aerated concrete, including mortar are non-combustible and may be used wherever a non-combustible material is required.

Fire Hazard Properties: C2D11(3) do not apply to Autoclaved aerated concrete. Internal wall linings, materials and assemblies to comply with C2D11(1)(b) (S7C4 & S7C7).

Sound Insulation: F7P2, F7P4, and H4P6 & 10.7.1(1)

Helix 50/75mm Party Wall Systems (*Variants 1, 2, 3 & 4*) and Helix 75mm Intertenancy Wall (*Variants 5, 6 & 7*) achieve $R_w + C_{tr}$ not less than 50 and are discontinuous construction.

Helix 75mm Corridor Wall (*Variants 8 & 9*) achieve R_w not less than 50,

Helix 75mm Shaft Wall (*Variants 10, 11, 12 & 13*), Helix 75mm Shaft Wall (*Variant 14*) and Helix 75mm Services Wall (*Variant 15*) achieve R_w not less than 25.

Energy Efficiency: J4D6, and H6D2(1), 13.2.5. Systems achieve high Total R-values which may be used to satisfy J4D6 and H6D2(1) external wall insulation requirements, or as input to house energy rating software to achieve an energy rating.



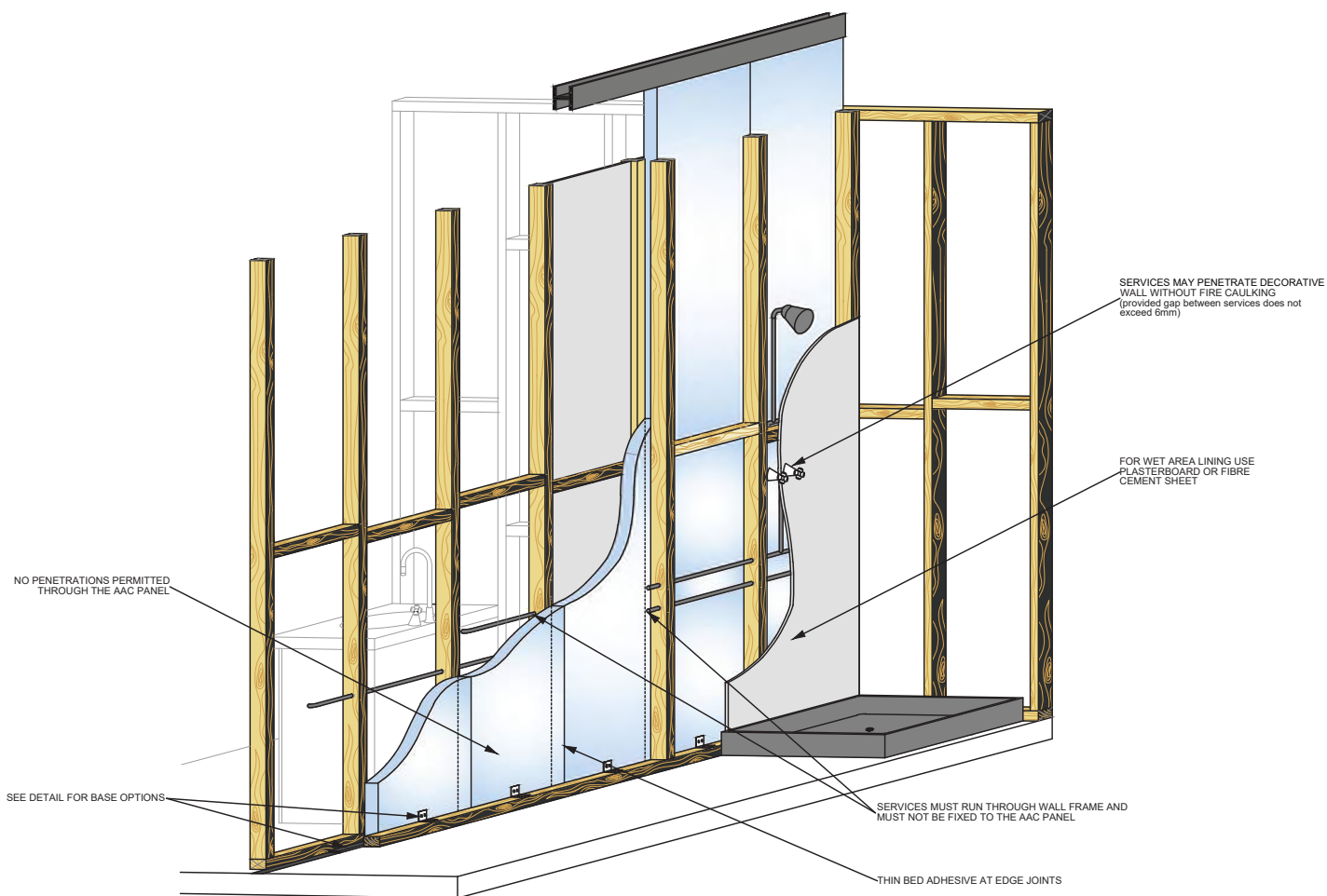


Figure 1: Helix 50/75mm Party Wall Systems (Variants 1, 2, 3 & 4)

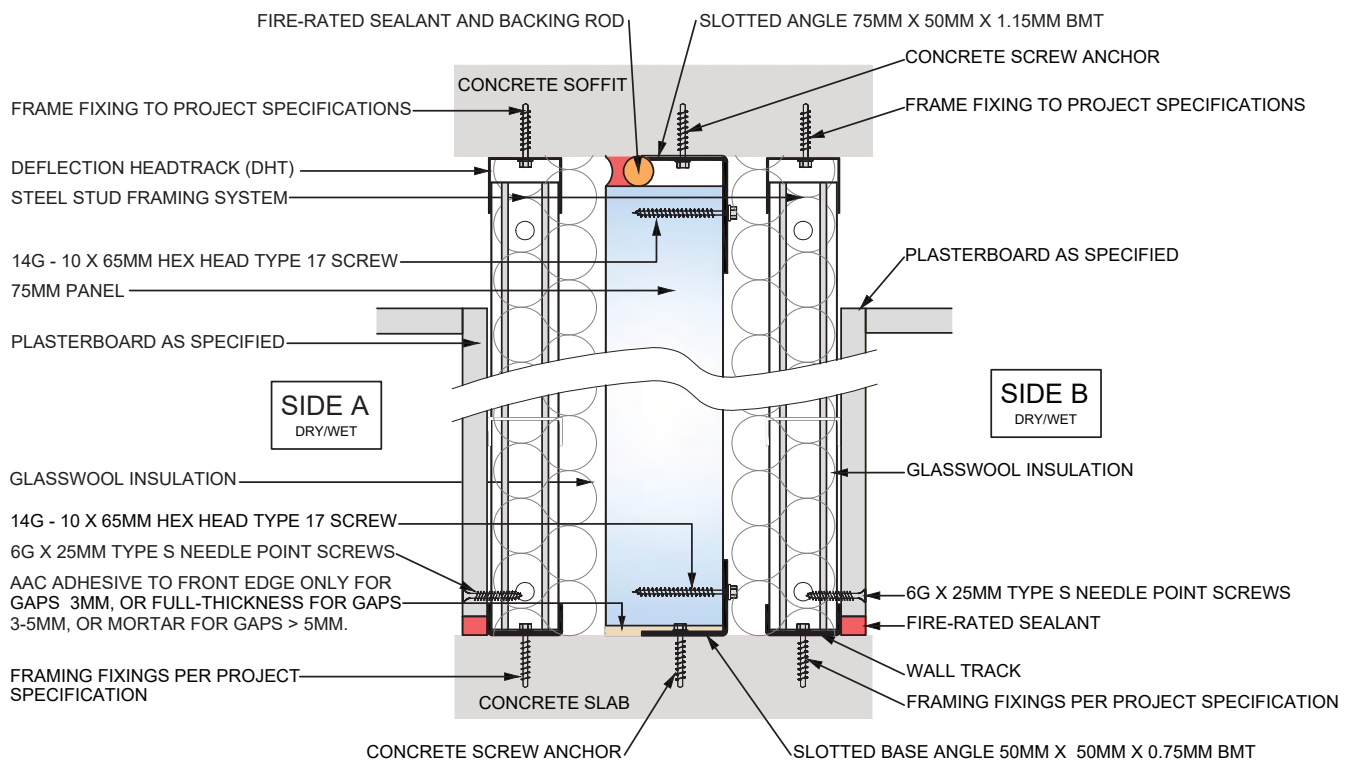


Figure 2: Helix 75mm Intertency Wall Systems – large concealed water services both sides (Variants 5, 6 & 7)

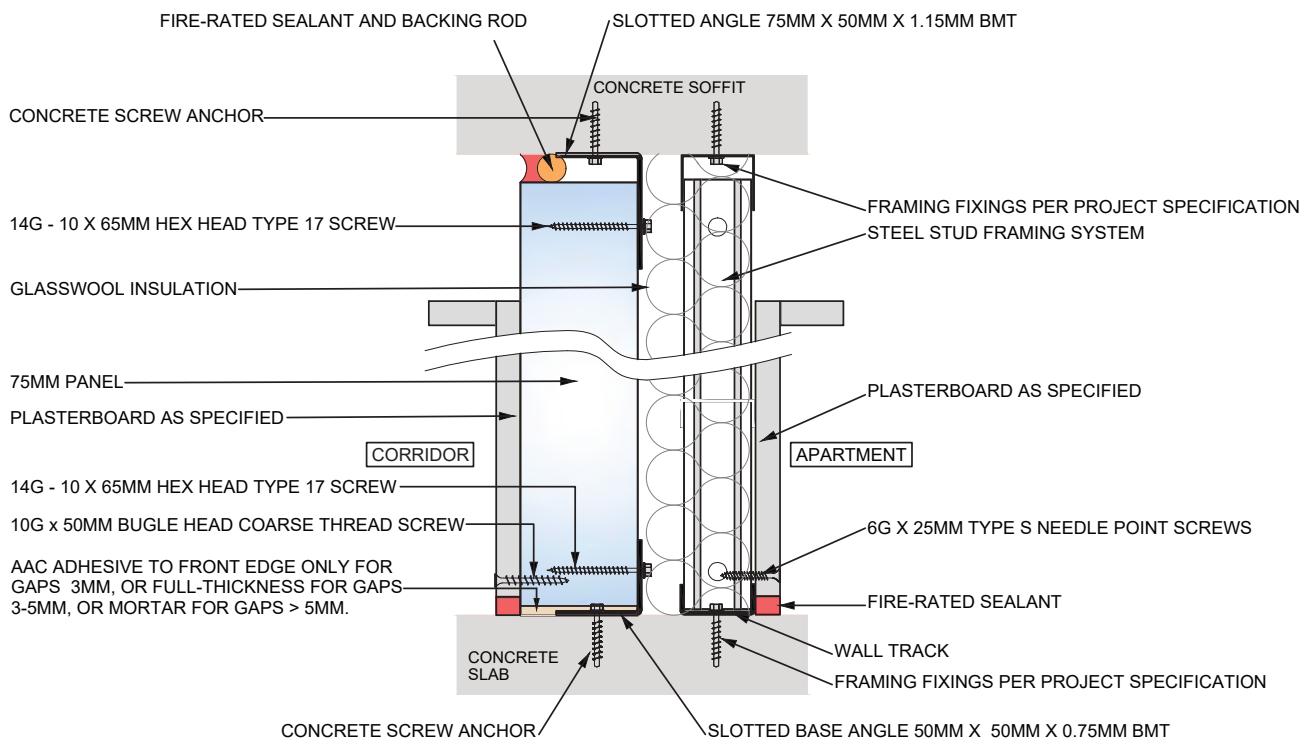


Figure 3: Helix 75mm Corridor Wall Systems – concealed water services one side (Variants 8 & 9)

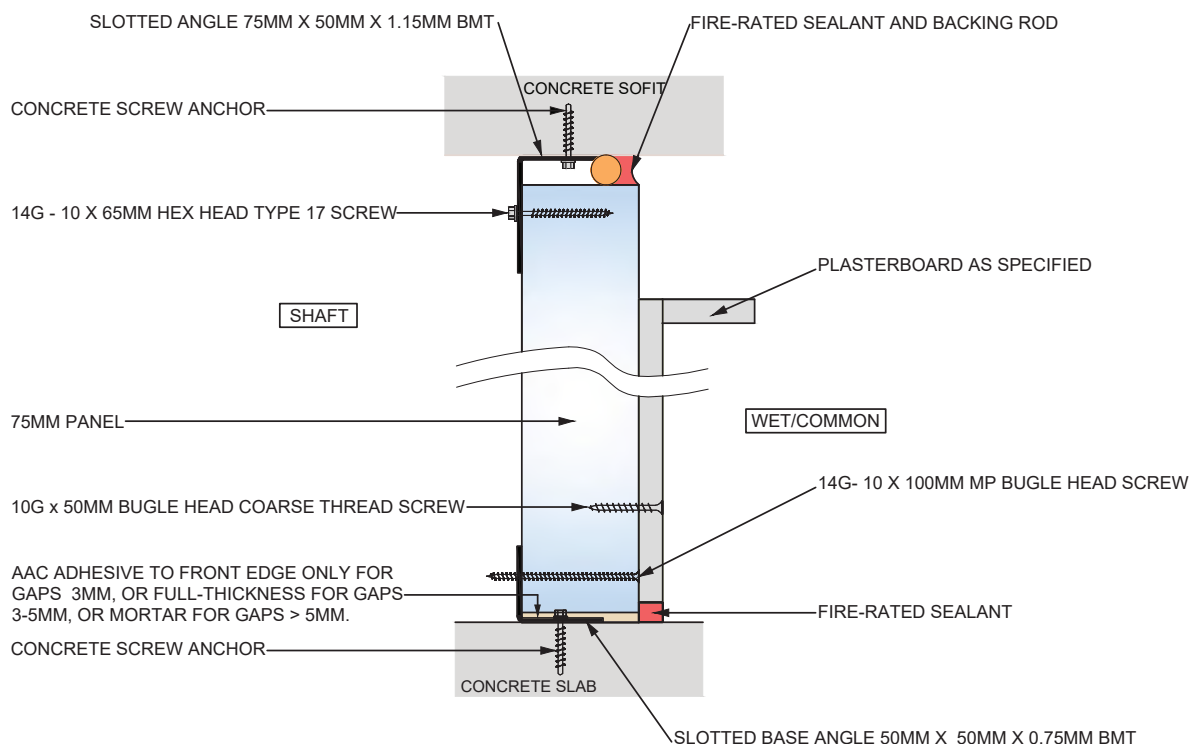


Figure 4 (a) Shaft Wall adjacent to wet or common areas (Variants 10, 11, 12 & 13),

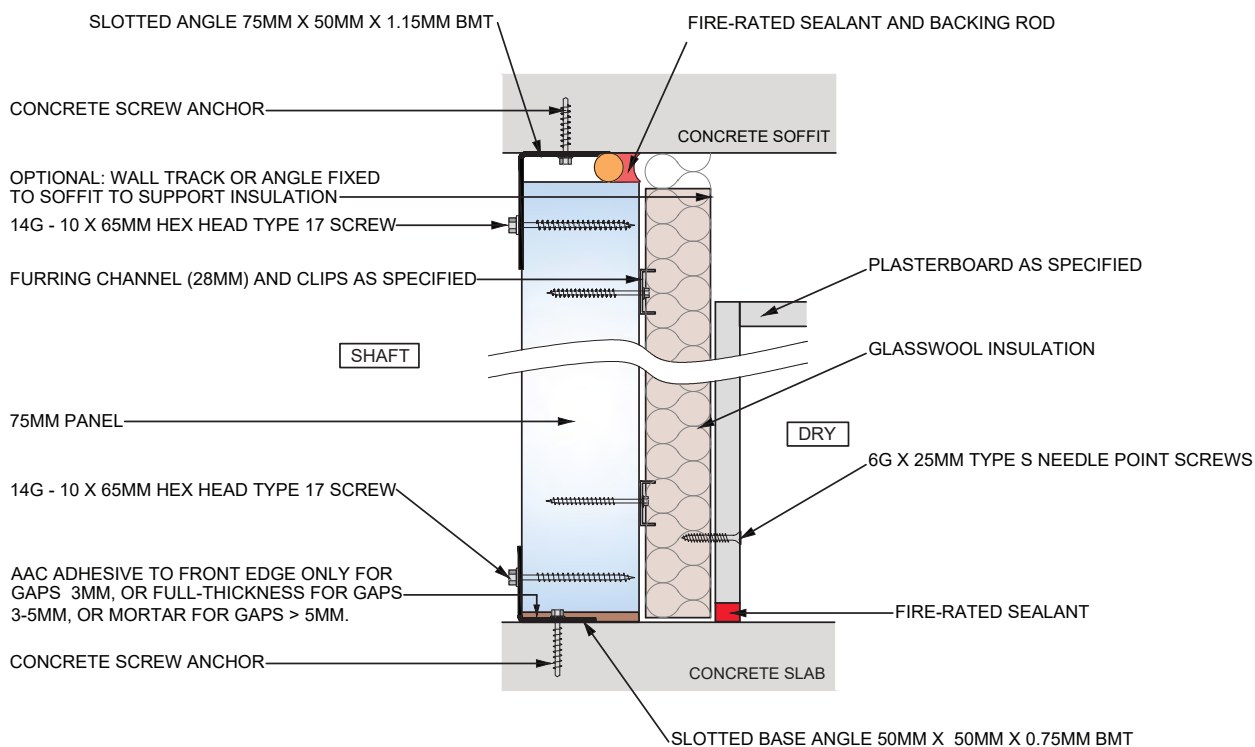


Figure 4 (b) Shaft Wall adjacent to dry habitable rooms (Variant 14)

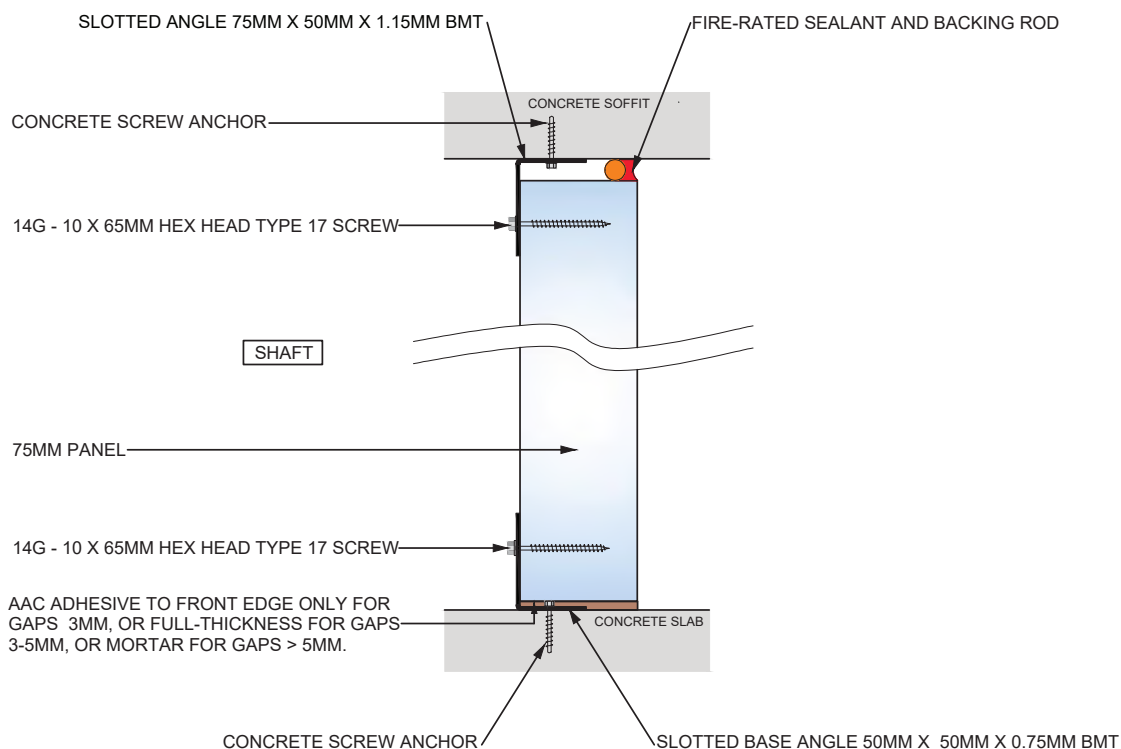


Figure 5: Helix 75mm Services Wall System - up to 3.3m height (Variant 15)

Helix 50/75mm AAC Intertenancy and Party Wall Systems are lightweight and easy to install.

They provide a high performing wall solutions for most buildings requiring fire, acoustic & thermally rated walls.

They are versatile and provide design freedom able to be installed on all types of elements such as concrete slab-on ground or timber or steel wall framing.

Helix 50/75mm AAC Intertenancy and Party Wall Systems provide the necessary FRL, and airborne & impact sound insulation required by NCC 2022 for walls separating dwellings, without the limitations of high mass construction.

Helix panel 50/75mm AAC benefits include:

- Adaptability to a wide-range of architectural designs,
- Lightweight for quick handling & construction,
- Durable to the elements & impact, and
- Detailed to proven Australian Standards for specifiers, builders and installers.

Helix 50/75mm AAC Intertenancy and Party Wall Systems are designed in Australia and are fully compliant to Australian requirements. It represents a proven high-performing construction system used successfully in Australia & Europe for many years. Lightweight and easy to install, it provides an easy to install solution that can be specified with confidence.

Product selection, and incorporation into the building design, must be made by a person who is conversant with the application and technical aspects of the product, and has ready access to the relevant technical information related to the product use.

Product installation must be carried out by a competent tradesperson under the direction of a Builder, both of whom are familiar with the method of installation and have access to all relevant technical information.

Helix 50/75mm AAC Intertency and Party Wall Systems

SYSTEM	Variant	Plasterboard		Stud Framing 450mm (up to 600mm c/c)		Insulation (Glasswool)		Gap (up to to 80mm)		Panel	Gap (up to to 80mm)		Insulation (Glasswool)		Stud Framing		Plasterboard	
		(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)		(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)
PARTY WALL 50/75mm, timber or steel frames	1	1x13mm, 10.5kg/m ² impact resistant, fire-rated, acoustic plasterboard (0.51in, 0.69lb/ft ²)		Timber 70x45, or Steel 70x35x0.55mm (2.76x1.77in, or 2.76x1.38x0.022in)		min. R2.0, 70mm, 10kg/m ³ (min. R2.0, 2.76in, 0.62lb/ft ³)		20 (0.79)	50 (1.97)	20 (0.79)		20 (0.79)	min. R2.0, 70mm, 10kg/m ³ (min. R2.0, 2.76in, 0.62lb/ft ³)		Timber 70x45, or Steel 70x35x0.55mm (2.76x1.77in, or 2.76x1.38x0.022in)		1x13mm, 10.5kg/m ² impact resistant, fire-rated, acoustic plasterboard (0.51in, 0.69lb/ft ²)	
	2	1x13mm, 8.4kg/m ² standard plasterboard (0.51in, 0.55lb/ft ²)		Timber 70x45, or Steel 70x35x0.55mm (2.76x1.77in, or 2.76x1.38x0.022in)		min. R2.0, 70mm, 10kg/m ³ (min. R2.0, 2.76in, 0.62lb/ft ³)		40 (1.57)	50 (1.97)	40 (1.57)		40 (1.57)	min. R2.0, 70mm, 10kg/m ³ (min. R2.0, 2.76in, 0.62lb/ft ³)		Timber 70x45, or Steel 70x35x0.55mm (2.76x1.77in, or 2.76x1.38x0.022in)		1x13mm, 8.4kg/m ² standard plasterboard (0.51in, 0.55lb/ft ²)	
	3	1x13mm, 8.4kg/m ² standard plasterboard (0.51in, 0.55lb/ft ²)		Timber 90x45, or Steel 90x35x0.55mm (2.76x1.77in, or 3.56x1.38x0.022in)		min. R2.0, 70mm, 10kg/m ³ (min. R2.0, 2.76in, 0.62lb/ft ³)		20 (0.79)	50 (1.97)	20 (0.79)		20 (0.79)	min. R2.0, 70mm, 10kg/m ³ (min. R2.0, 2.76in, 0.62lb/ft ³)		Timber 90x45, or Steel 90x35x0.55mm (2.76x1.77in, or 2.76x1.38x0.022in)		1x13mm, 8.4kg/m ² standard plasterboard (0.51in, 0.55lb/ft ²)	
	4	1x13mm, 8.4kg/m ² standard plasterboard (0.51in, 0.55lb/ft ²)		Timber 70x45, or Steel 70x35x0.55mm (2.76x1.77in, or 3.76x1.38x0.022in)		min. R2.0, 70mm, 10kg/m ³ (min. R2.0, 2.76in, 0.62lb/ft ³)		20 (0.79)	75 (2.95)	20 (0.79)		20 (0.79)	min. R2.0, 70mm, 10kg/m ³ (min. R2.0, 2.76in, 0.62lb/ft ³)		Timber 70x45, or Steel 70x35x0.55mm (2.76x1.77in, or 2.76x1.38x0.022in)		1x13mm, 8.4kg/m ² standard plasterboard (0.51in, 0.55lb/ft ²)	
INTERTEENCY WALL large concealed water services both sides	5	1x13mm, 8.4kg/m ² standard plasterboard (0.51in, 0.55lb/ft ²)		Steel 64x35x0.55mm, Ø450mm c/c (2.52x1.38x0.022in, Ø17.72in c/c)		min. 75mm, 11kg/m ³ or 50mm, 14kg/m ³ (min. 2.95in, 0.69lb/ft ³ or 1.97in, 0.87lb/ft ³)		20 (0.99)	75 (2.95)	20 (2.95)		20 (0.79)	min. 75mm, 11kg/m ³ or 50mm, 14kg/m ³ (min. 2.95in, 0.69lb/ft ³ or 1.97in, 0.87lb/ft ³)		Steel 64x35x0.55mm, Ø450mm c/c (2.52x1.38x0.022in, Ø17.72in c/c)		1x13mm, 8.4kg/m ² standard plasterboard (0.51in, 0.55lb/ft ²)	
	6	1x13mm, 8.4kg/m ² standard plasterboard (0.51in, 0.55lb/ft ²)		Steel 64x35x0.55mm, Ø450mm c/c (2.52x1.38x0.022in, Ø17.72in c/c)		min. 75mm, 11kg/m ³ or 50mm, 14kg/m ³ (min. 2.95in, 0.69lb/ft ³ or 1.97in, 0.87lb/ft ³)		20 (2.95)	75 (2.95)	20 (2.95)		20 (0.79)	min. 75mm, 11kg/m ³ or 50mm, 14kg/m ³ (min. 2.95in, 0.69lb/ft ³ or 1.97in, 0.87lb/ft ³)		Steel 64x35x0.55mm, Ø450mm c/c (2.52x1.38x0.022in, Ø17.72in c/c)		1x13mm, 8.4kg/m ² water-resistant plasterboard (0.51in, 0.64lb/ft ²)	
	7	1x13mm, 9.8kg/m ² water-resistant plasterboard (0.51in, 0.64lb/ft ²)		Steel 64x35x0.55mm, Ø450mm c/c (2.52x1.38x0.022in, Ø17.72in c/c)		min. 75mm, 11kg/m ³ or 50mm, 14kg/m ³ (min. 2.95in, 0.69lb/ft ³ or 1.97in, 0.87lb/ft ³)		20 (2.95)	75 (2.95)	20 (2.95)		20 (2.75)	min. 75mm, 11kg/m ³ or 50mm, 14kg/m ³ (min. 2.95in, 0.69lb/ft ³ or 1.97in, 0.87lb/ft ³)		Steel 64x35x0.55mm, Ø450mm c/c (2.52x1.38x0.022in, Ø17.72in c/c)		1x13mm, 9.8kg/m ² water-resistant plasterboard (0.51in, 0.64lb/ft ²)	
CORRIDOR WALL concealed water services one side	8	1x13mm, 8.4kg/m ² standard plasterboard (0.51in, 0.55lb/ft ²)		-		-		-	75 (2.95)	15 (0.59)		-	50mm, 14kg/m ³ (1.97in, 0.87lb/ft ³)		Steel 64x35x0.55mm, Ø450mm c/c (2.52x1.38x0.022in, Ø17.72in c/c)		1x13mm, 8.4kg/m ² standard plasterboard (0.51in, 0.55lb/ft ²)	
	9	1x13mm, 9.8kg/m ² water-resistant plasterboard (0.51in, 0.64lb/ft ²)		-		-		-	75 (2.95)	15 (0.59)		-	50mm, 14kg/m ³ (1.97in, 0.87lb/ft ³)		Steel 64x35x0.55mm, Ø450mm c/c (2.52x1.38x0.022in, Ø17.72in c/c)		1x13mm, 9.8kg/m ² water-resistant plasterboard (0.51in, 0.64lb/ft ²)	
SHAFT WALL adjacent to wet or common areas	10	-		-		-		-	75 (2.95)	-		-	-		-		1x13mm, 9.8kg/m ² water-resistant plasterboard (0.51in, 0.64lb/ft ²)	
	11	-		-		-		-	75 (2.95)	-		-	-		-		1x13mm, 8.4kg/m ² standard plasterboard (0.51in, 0.55lb/ft ²)	
	12	-		-		-		-	75 (2.95)	-		-	-		-		1x13mm, 11.9kg/m ² moisture resistant, fire-rated plasterboard (0.51in, 0.73lb/ft ²)	
	13	-		-		-		-	75 (2.95)	-		-	-		-		1x13mm, 10.8kg/m ² fire-rated plasterboard (0.51in, 0.71lb/ft ²)	
SHAFT WALL adjacent to dry habitable rooms	14	-		-		-		-	75 (2.95)	-		-	50mm, 14kg/m ³ (1.97in, 0.87lb/ft ³)		20mm steel l/c direct fixed by clips (1.10in steel l/c direct fixed by clips)		1x13mm, 9.8kg/m ² water-resistant plasterboard (0.51in, 0.64lb/ft ²)	
SERVICES WALL (up to 3.3m height)	15	-		-		-		-	75 (2.95)	-		-	-		-		NO plasterboard	

2 HELIX AAC PANELS

Helix panel material properties have been determined by testing and calculation in accordance with AS 5146 Parts 1 & 2 - Reinforced Autoclaved Aerated Concrete as:

Property	Symbol	Unit (Metric (Imperial))	Property	
			50 mm Panel	75 mm Panel
Panel Thickness	d	mm (in)	50 (1.97)	75 (2.95)
Panel Width	w	mm (in)	600 (23.62)	
Panel Length	L	mm (ft & in)	2200 (7 ft 2.6 in) 2400 (7 ft 10.5 in) 2550 (8 ft 4.4 in) 2700 (8 ft 10.3 in) 2850 (9 ft 4.2 in) 3000 (9 ft 10.1 in)	1800 (5 ft 10.9 in) 2200 (7 ft 2.6 in) 2400 (7 ft 10.5 in) 2550 (8 ft 4.4 in) 2700 (8 ft 10.3 in) 2850 (9 ft 4.2 in) 3000 (9 ft 10.1 in)
Panel Edge Profile	—	—	Square	
Declared Density Class	—	Class	500	
Dry Density	ρ_{dry}	kg/m ³ (lb/ft ³)	450–500 (28.1–31.2)	
Ambient Density	ρ_{ambient}	kg/m ³ (lb/ft ³)	478–531 (29.8–33.1)	
Density for Transport (AS 5146.2, Cl.3.2.7):	ρ_{trans}	kg/m ³ (lb/ft ³)	670–740 (41.8–46.2)	
Panel Weight	m_{ambient}	kg/m ² (lb/ft ²)	23.9–26.5 (4.89–5.43)	35.6–39.8 (7.29–8.15)
Declared Compressive Strength Class: AAC 2.5	Class	Class	AAC 2.5	AAC 3
Characteristic AAC Compressive Strength	f_{ck}	MPa (psi)	2.7 (392)	3.0 (435)
Reinforcement Tensile Yield Stress	f_{yk}	MPa (psi)	724 (105,000)	
Reinforcement Characteristic Weld Strength	V_{wk}	kN (lbf)	3.91 (879)	
Ultimate Strength Bending Capacity	ϕM_k	kNm/m (ft·lbf/ft)	0.226 (19.6)	0.893 (77.7)
Coefficient of Thermal Expansion	—	$\times 10^{-6}/^{\circ}\text{C}$	8×10^{-6}	
Thermal Resistance	$R_{50\text{dry}}$	m ² ·K/W (h·ft ² ·°F/Btu)	0.431 (2.45)	0.602 (3.42)
Longitudinal Steel Reinforcement	Number	mm (in)	5 × Ø4.5 (5 × Ø0.18)	5 × Ø4.5 (5 × Ø0.18)
Transverse Steel Reinforcement (depending on panel length)	Number	mm (in)	6–8 × Ø4.5 (6–8 × Ø0.18)	6–8 × Ø4.5 (6–8 × Ø0.18)

3 NATIONAL CONSTRUCTION CODE (NCC) 2022

The NCC is a performance-based code, providing minimum performance levels and prescriptive 'recipes' for certain materials and construction-types. Compliance via a prescriptive 'recipe' described in the deemed-to-satisfy clauses is called a Deemed-to-Satisfy Solution, otherwise performance must be evaluated by testing and engineering as a Performance Solution.

Intertenancy Walls and Party Walls are typically required to meet minimum performance requirements for; structure; fire; acoustics; and energy efficiency. Details of compliance are outlined below.

3.1 Structural Performance, B1D4(b)(ii) & H1D7(4)(a)

Helix 50/75mm AAC Intertenancy and Party Wall System panels have been tested in accordance with AS 5146.1, load-bearing Party Walls have been designed in accordance with AS 5146.3.

As referenced in NCC 2022 Volume Two, H1D7(4)(a), performance requirement H1P1 is satisfied for autoclaved aerated concrete if it is designed and constructed in accordance with AS 5146.1.

As referenced in NCC 2022 Volume One, B1D4(b)(ii), structural resistance of materials and forms of construction for autoclaved aerated concrete must be determined in accordance with AS 5146.1 & AS 5146.3.

Helix 50/75mm AAC Intertenancy and Party Wall Systems are designed such that the panels are not intended to carry vertical loads other than their self-weight. Wind pressure actions perpendicular to the surface are resisted by panel strength and fixing requirements as detailed. The steel or timber framing must be designed independently, taking into account internal pressures, and control joints are required at regular intervals to allow for building movement.

Helix 75mm Intertenancy Wall Systems (Variants 5, 6 & 7), Corridor Wall Systems (Variants 8 & 9), Shaft Wall Systems (Wet or Common Variants 10, 11, 12, 13), Shaft Wall Systems (Dry Variant 14) and Services Wall System (Variant 15) are designed to resist Design Ultimate Limit State Wind Pressures up to 0.375kPa.

In all cases, Helix panels shall be temporarily braced to resist construction loads, including wind.

3.2 Fire Safety Performance, C2D2(2) & 9.3.1(1)(a)(i)

Helix 50/75mm Party Wall Systems (Variants 1, 2, 3 & 4) (see Figure 1) have been tested and assessed as having the capacity to maintain an FRL of 60/60/60, 90/90/90 or 120/120/120 as applicable, and meet non-combustible construction requirements in conjunction with steel framing and non-combustible insulation, where:

- Helix panel 50/75mm mechanically fixed to either steel or timber wall framing (by others) using aluminium wall brackets attached only to the top and bottom plates such that there is no continuous construction across the cavity
- The brackets must be angles not smaller than 76mm x 43mm x 50mm in size and fabricated from a minimum of 1.6mm thick Grade 5005 aluminium.
- Fixings (Nails & Screws).
 - To fix aluminium bracket to top and bottom plate:
 - For timber plates, 2/25 x 2.5mm galvanized nails or 2/12-11 x 35mm hex head type 17 screws (Class 3 or 4).
 - For steel plates, 2/10-16 x 16mm wafer head/hex head screws (Class 3 or 4).
 - To fix aluminium bracket to the Helix panel:
 - 2/14-10 Hex Head screws (Class 3 or 4). Screw length shall be 10mm shorter than the panel thickness.
- Wall framing either timber framing 70x45mm MGP10, or light-gauge steel framing (min. 0.55mm BMT) compliant with the relevant framing code.
- R2.0, 70mm, 10.3kg/m³ Glasswool Batt Insulation
- Min. 10mm thickness Standard Grade Plasterboard fixed with stud adhesive, paper tape 6gx25mm bugle head needle point screws
- Horizontal joints shall be made with either;
 - Continuous steel channel, 76 x 32 x 0.75mm BMT or 76 x 50 x 0.70mm Deflection Track or J-Track, fixed back-to-back with 10-16 x 16mm wafer head screws at 600mm max. ctrs, with 16mm fire rated plasterboard fixed to panel with 10 x 50mm bugle head laminating screws at 400mm max. ctrs. on one side, or

- 100mm wide, 13mm thick, mineral fibre strips with a density of not less than 110kg/m³
- Maximum wall height of 12.0m

has been tested and assessed as having the capacity to maintain an FRL of 60/60/60, 90/90/90 or 120/120/120 as applicable, and meet noncombustible construction requirements in conjunction with steel framing and non-combustible insulation.

Helix 75mm Intertenancy Wall Systems (Variants 5, 6 & 7), Corridor Wall Systems (Variants 8 & 9), Shaft Wall Systems (Wet or Common Variants 10, 11, 12, 13), Shaft Wall Systems (Dry Variant 14) and Services Wall System (Variant 15)

(see Figures 2, 3, 4 & 5), have been tested and assessed as having the capacity to maintain an FRL up to -/90/90 as applicable, and meet non-combustible construction requirements in conjunction with steel framing, and non-combustible insulation, where:

- Helix panel 75mm,
- mechanically fixed to steel slotted angle brackets using 14-10 x 65mm hex head Type 17 screws, as detailed,
- sealed with AAC adhesive mortar, fire-rated sealant and backing rod, as detailed,

with

- Concrete slab above and below (as specified),
- Steel wall framing or steel battens (minimum 28mm thickness), as detailed
- Plasterboard wall and ceiling linings (minimum 13mm thickness, as detailed)
- Non-combustible glasswool insulation (minimum 75mm, 11kg/m³ or 50mm, 14kg/m³), as detailed have been tested and assessed as having the capacity to maintain an FRL up to -/90/90 as applicable, and meet non-combustible construction requirements in conjunction with steel framing, and non-combustible insulation.

3.3 Non Combustible, C2D10

Non-Combustible: C2D10(5)(e), Autoclaved aerated concrete, including mortar are non-combustible and may be used wherever a non-combustible material is required.

3.4 Fire Hazard Properties, C2D11

As a concrete product, C2D11(1) requirements for Group Number, SMOGRARC, ASEA, Spread-of-Flame and Smoke-Developed Indices, "...do not apply..." to Helix panel [per C2D11(3)].

3.5 Acoustic Performance, F7P2, F7P4, H4P6(2) & 10.7.1

Helix 50/75mm Party Wall Systems (1, 2, 3 & 4) & Intertenancy Wall Systems (5, 6 & 7) (see Figures 1 & 2) with:

- Timber or steel framing configurations achieve airborne sound insulation performance, calculated as weighted sound reduction indices with spectrum adaptation terms of:
- R_w (dB) from 64 to 65; and,
- $R_w + C_{tr}$ (dB) from 50 to 51.

Helix 50/75mm Party Wall Systems achieves NCC Volume One, F7P2 & F7P4 for;

- $R_w + C_{tr}$ (dB) not less than 50; and,
- discontinuous construction when constructed with a minimum 20mm cavity between leaves and there is no mechanical linkage between leaves except at the periphery, where;
- intermediate brackets are not required for walls up to 3m in height; and
- maximum intermediate bracket vertical spacings of 3m for walls up to 12m in height.

System	Helix Panel Thickness mm (in)	Plasterboard	Min. Stud Depth mm (in)	Frame-Panel Gap mm (in)	R _w (dB)	R _w + C _{tr} (dB)
1. Party Wall	50 (1.97)	1 x 13mm fire-rated/ acoustic/impact-resistant 10.5kg/m ²	70 (2.76)	20 (0.79)	64	50
2. Party Wall	50 (1.97)	1 x 13mm standard, 8.4kg/m ²	70 (2.76)	40 (1.57)	64	50
3. Party Wall	50 (1.97)	1 x 13mm standard, 8.4kg/m ²	90 (3.54)	20 (0.79)	64	50
4. Party Wall	75 (2.95)	1 x 13mm standard, 8.4kg/m ²	70 (2.76)	20 (0.79)	64	50
5. Intertenancy Wall	75 (2.95)	1 x 13mm standard, 8.4kg/m ²	64 (2.52)	20 (0.79)	64	50
6. Intertenancy Wall	75 (2.95)	Side A: 1 x 13mm standard, 8.4kg/m ² , Side B: 1 x 13mm water-resistant, 9.8kg/m ²	64 (2.52)	20 (0.79)	64	50
7. Intertenancy Wall	75 (2.95)	1 x 13mm water-resistant, 9.8kg/m ²	64 (2.52)	20 (0.79)	65	51

Helix 50/75mm AAC Party Wall Systems (x4) & Intertenancy Wall Systems (x3) achieve NCC Volume Two, 10.7.1(1) requirement for;

- a separating wall to have an R_w+C_{tr} (airborne) not less than 50; and
- for discontinuous construction when constructed with a minimum 20mm cavity between leaves and there is no mechanical linkage between leaves except at the periphery; and
- for Party Wall Systems;
- intermediate brackets are not required for walls up to 3m in height; and
- maximum intermediate bracket vertical spacings of 3m for walls up to 12m in height.

Helix 75mm Corridor Wall Systems, Shaft Wall Systems and Services Wall Systems (see Figures 3, 4 and 5) with configurations as detailed, achieve NCC Volume One, F7P2 & F7P4 airborne sound insulation performance, calculated as weighted sound reduction indices of:

System	Helix Panel Thickness mm (in)	Plasterboard	Min. Stud Depth mm (in)	Frame-Panel Gap mm (in)	R _w (dB)
8. Corridor Wall	75 (2.95)	1 x 13mm standard, 8.4kg/m ²	64 (2.52)	15 (0.59)	54
9. Corridor Wall	75 (2.95)	1 x 13mm water-resistant, 9.8kg/m ²	64 (2.52)	15 (0.59)	55
10. Shaft Wall	75 (2.95)	1 x 13mm water-resistant, 9.8kg/m ²	-	-	31
11. Shaft Wall	75 (2.95)	1 x 13mm standard, 8.4kg/m ²	-	-	31
12. Shaft Wall	75 (2.95)	1 x 13mm, 11.1kg/m ² (moisture resistant, fire-rated)	-	-	32
13. Shaft Wall	75 (2.95)	1 x 13mm, 10.8kg/m ² (fire-rated plasterboard)	-	-	31
14. Shaft Wall	75 (2.95)	1 x 13mm, 9.8kg/m ² water-resistant	28 (1.10) f/c	-	32
15. Services Wall	75 (2.95)	-	-	-	30

3.6 Thermal Performance, J4D6, H6D2(1) & 13.2.5

Helix 50/75mm AAC Intertenancy and Party Wall Systems incorporating 50mm or 75mm thickness panel, aluminium wall brackets, R2.0m²K/W, and 10mm plasterboard lining achieves the following Total R-values in accordance with AS/NZS 4859.1:2018 which may be used to satisfy the minimum Total R-value requirements of NCC 2022, Volume One J4D6, Volume Two H6D2(1)(b)(i) & Housing Provisions 13.2.5 external wall insulation requirements, where these values are higher, or as input to house energy rating software to achieve an energy rating.

Variant	Stud Framing 450mm (up to 600mm c/c)	Insulation Glasswool	Gap mm (in)	Panel mm (in)	Gap mm (in)	Insulation Glasswool	Stud Framing	TOTAL R-VALUE m ² K/W (h-ft ² -°F/Btu)	
								Winter (Heat flow outwards)	Summer (Heat flow inwards)
1, 2	Timber 70×45 (2.76 × 1.77 in)	R2.0, 70mm (2.76 in)	20–40 (0.79–1.57)	50 (1.97)	20–40 (0.79–1.57)	R2.0, 70mm (2.76 in)	Timber 70×45 (2.76 × 1.77 in)	4.6 (26.1)	4.4 (25.0)
1, 2	Steel 76×35×0.55 (2.99 × 1.38 × 0.022 in)	R2.0, 70mm (2.76 in)	40 (1.57)	50 (1.97)	40 (1.57)	R2.0, 70mm (2.76 in)	Steel 76×35×0.55 (2.99 × 1.38 × 0.022 in)	3.7 (21.0)	3.5 (19.9)
3	Timber 90×45 (3.54 × 1.77 in)	R2.0, 70mm (2.76 in)	20 (0.79)	50 (1.97)	20 (0.79)	R2.0, 70mm (2.76 in)	Timber 90×45 (3.54 × 1.77 in)	4.8 (27.3)	4.5 (25.6)
3	Steel 92×35×0.55 min. (3.62 × 1.38 × 0.022 in)	R2.0, 70mm (2.76 in)	20 (0.79)	50 (1.97)	20 (0.79)	R2.0, 70mm (2.76 in)	Steel 92×35×0.55 (3.62 × 1.38 × 0.022 in)	3.7 (21.0)	3.6 (20.4)
4	Timber 70×45 (2.76 × 1.77 in)	R2.0, 70mm (2.76 in)	20 (0.79)	75 (2.95)	20 (0.79)	R2.0, 70mm (2.76 in)	Timber 70×45 (2.76 × 1.77 in)	4.8 (27.3)	4.6 (26.1)
4	Steel 76×35×0.55 (2.99 × 1.38 × 0.022 in)	R2.0, 70mm (2.76 in)	20 (0.79)	75 (2.95)	20 (0.79)	R2.0, 70mm (2.76 in)	Steel 76×35×0.55 (2.99 × 1.38 × 0.022 in)	4.0 (22.7)	3.8 (21.6)

4 SYSTEM COMPONENTS

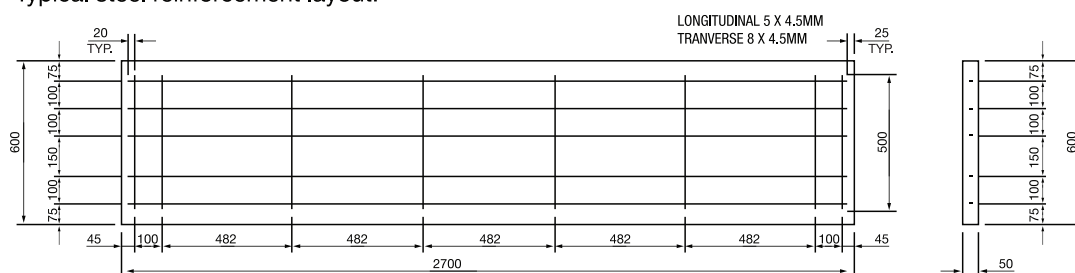
The performance of Helix 50/75mm AAC Intertency and Party Wall Systems rely on the use of the components as listed below. The use of other components will alter the performance of the system and is not approved by Helix.

4.1 Helix Panel, common to all systems

4.1.1 50mm AAC Panel

Product:	Autoclaved aerated concrete panels
Thickness:	50 mm (1.97 in)
Width:	600 mm (23.62 in)
Lengths:	2200 mm (7 ft 2.6 in), 2400 mm (7 ft 10.5 in), 2550 mm (8 ft 4.4 in), 2700 mm (8 ft 10.3 in), 2850 mm (9 ft 4.2 in), 3000 mm (9 ft 10.1 in)
Reinforcement:	Single layer steel mesh, centrally located.
Steel bars:	5 × Ø4.5 mm (5 × Ø0.177 in) longitudinal steel bars and 6–8 × Ø4.5 mm (6–8 × Ø0.177 in) transverse bars depending on panel length.

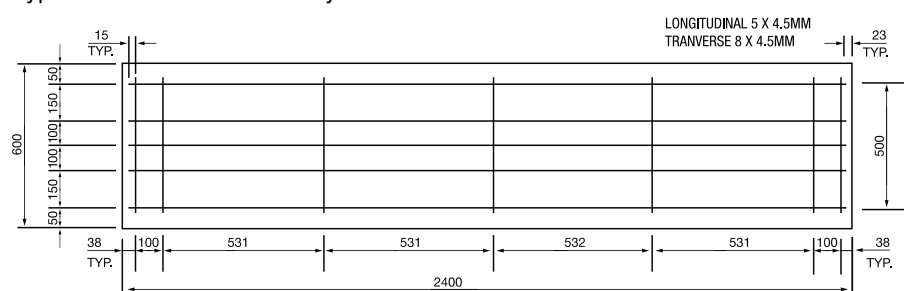
Typical steel reinforcement layout:



4.1.2 75mm AAC Panel

Product:	Autoclaved aerated concrete panels
Thickness:	75 mm (2.95 in)
Width:	600 mm (23.62 in)
Lengths:	1800 mm (5 ft 10.9 in), 2200 mm (7 ft 2.6 in), 2400 mm (7 ft 10.5 in), 2550 mm (8 ft 4.4 in), 2700 mm (8 ft 10.3 in), 2850 mm (9 ft 4.2 in), 3000 mm (9 ft 10.1 in)
Reinforcement:	Single layer steel mesh, centrally located.
Steel bars:	5 × Ø4.5 mm (5 × Ø0.177 in) longitudinal steel bars and 6–8 × Ø4.5 mm (6–8 × Ø0.177 in) transverse bars depending on panel length.

Typical steel reinforcement layout:



4.2 Helix 50/75mm Party Wall Systems (Variants 1, 2, 3 & 4) Components

4.2.1 Aluminium Wall Brackets

Helix 50/75mm AAC Party Wall Systems are mechanically fixed to either steel or timber wall framing (by others) using horizontal aluminium wall brackets. The brackets must be angles not smaller than 76mm x 43mm x 50mm in size and fabricated from a minimum of 1.6mm thick Grade 5005 aluminium.

In all cases the supporting structure must be designed accordance to AS 1684 for timber or NASH; or AS/NZS 4600 for steel, with the steel having a minimum thickness of 0.55mm BMT; with recognition of the Helix 50/75mm AAC Party Wall Systems spanning and fixing requirements.

4.2.2 Damp Proof Course

Damp proof course (DPC) must conform with AS/NZS 2904 Section 6 and Table 2 performance criteria.

4.2.3 Flashings

Flashings supplied by others must be designed and installed in general accordance with SA HB 39:2015 – Installation Code for Metal Roofing and Wall Cladding.

4.2.4 Panel Screws

2-off 14–10 Bugle Head or Hex Head Type 17 screw (Class 3 or 4) shall be used to fix Helix panel to Aluminium Wall Brackets. Screw length shall be 10mm shorter than panel thickness.

Screws shall be:

- a) at least Class 3 for moderate and mild exposure environments;
- b) at least Class 4 for severe marine further than 100m from breaking surf, marine and industrial exposure environments; and
- c) Class 4 stainless steel for severe marine exposure environments within 100m of breaking surf.

4.2.5 Bracket Screws

For timber framing, 2-off 25 x 2.5mm galvanized nails or 2-off 12–11 x 35mm hex head type 17 screws (Class 3 or 4). For steel framing, 2-off 10–16 x 16mm wafer head/hex head screws (Class 3 or 4).

Screws shall be:

- a) at least Class 3 for moderate and mild exposure environments;
- b) at least Class 4 for severe marine further than 100m from breaking surf, marine and industrial exposure environments; and
- c) Class 4 stainless steel for severe marine exposure environments within 100m of breaking surf.

4.2.6 Thin Bed Adhesive Mortar

The thin-bed adhesive mortar shall have a characteristic tensile strength equal to or greater than the characteristic tensile strength of the AAC, and be C1E classification in accordance with AS ISO 13007.1.

4.2.7 Mineral Wool – Horizontal Joints

100mm wide, 13mm thick, mineral wool fibre strips with a density of not less than 110kg/m³.

4.2.8 Steel & Plasterboard– Horizontal Joints

Continuous steel channel, 76 x 32 x 0.75mm BMT, or 76 x 50 x 0.70mm Deflection Track or J-Track, fixed back to back with 10-16 x 16mm wafer head screws at 600mm max. c/c, with 16mm Fire rated plasterboard fixed to panel with 10 x 50mm bugle head laminating screw @ 400mm max. c/c on one side of the joint.

4.2.9 Wall Framing, Plasterboard, Insulation and Fire & Acoustic Rated Sealant

Steel framing, plasterboard, insulation and fire & acoustic rated sealant requirements for Helix Party Wall Systems (Variants 1, 2, 3 & 4) shall be designed by others subject to project specific parameters and to achieve project requirements for acoustic, fire and thermal performance, see above and typical details.

4.3 Helix 75mm Intertenancy Wall Systems (Variants 5, 6 & 7), Components

Slotted Angle (75mm x 50mm x 1.15mm BMT)

Slotted Base Angle (50mm x 50mm x 0.75mm BMT)

Steel stud framing system to project specifications (see minimum specification for required acoustic, fire and thermal performance)

Plasterboard as specified (see minimum specification for required acoustic, fire and thermal performance)

Thin Bed Adhesive Mortar

Glasswool Insulation (see minimum specification for required acoustic, fire and thermal performance)

Fasteners / fixings as detailed in Section 7 at the middle of every slot

Concrete Screw Anchor, M8 Hilti HUS3-H or HUS4-H or Ramset AnkaScrew Xtrem, min. 55mm embedment depth, @ max. 600mm c/c & max. 150mm from each end.

Fire and acoustic rated sealant (rated to 90 mins)

Backing Rod open cell PU

4.4 Helix Corridor Wall Systems (Variants 8 & 9), Components

Slotted Angle (75mm x 50mm x 1.15mm BMT)

Slotted Base Angle (50mm x 50mm x 0.75mm BMT)

Steel stud framing system to project specifications (see minimum specification for required acoustic, fire and thermal performance)

Plasterboard as specified (see minimum specification for required acoustic, fire and thermal performance)

Thin Bed Adhesive Mortar

Glasswool Insulation (see minimum specification for required acoustic, fire and thermal performance)

Fasteners / fixings as detailed in Section 7 at the middle of every slot

Concrete Screw Anchor, M8 Hilti HUS3-H or HUS4-H or Ramset AnkaScrew Xtrem, min. 55mm embedment depth, @ max. 600mm c/c & max. 150mm from each end.

Fire and acoustic rated sealant (rated to 90 mins)

Backing Rod open cell PU

4.5 Helix Shaft Wall Systems (WET Variants 10, 11, 12 & 13), Components

Slotted Angle (75mm x 50mm x 1.15mm BMT)

Slotted Base Angle (50mm x 50mm x 0.75mm BMT)

Plasterboard as specified (see minimum specification for required acoustic, fire and thermal performance)

Thin Bed Adhesive Mortar

Fasteners / fixings as detailed in Section 7 at the middle of every slot

Concrete Screw Anchor, M8 Hilti HUS3-H or HUS4-H or Ramset AnkaScrew Xtrem, min. 55mm embedment depth, @ max. 600mm c/c & max. 150mm from each end.

Fire and acoustic rated sealant (rated to 90 mins)

4.6 Helix Shaft Wall Systems (DRY Variant 14), Components

Slotted Angle (75mm x 50mm x 1.15mm BMT)

Slotted Base Angle (50mm x 50mm x 0.75mm BMT)

Furring channel, 28x38x0.50mm BMT

Furring channel mounting clips

Plasterboard as specified (see minimum specification for required acoustic, fire and thermal performance)

Thin Bed Adhesive Mortar

Glasswool Insulation (see minimum specification for required acoustic, fire and thermal performance)

Fasteners / fixings as detailed in Section 7 at the middle of every slot

Concrete Screw Anchor, M8 Hilti HUS3-H or HUS4-H or Ramset AnkaScrew Xtrem, min. 55mm embedment depth, @ max. 600mm c/c & max. 150mm from each end.

Fire and acoustic rated sealant (rated to 90 mins)

Backing Rod open cell PU

4.7 Helix Services Wall System (Variant 15), Components

Slotted Angle (75mm x 50mm x 1.15mm BMT)

Slotted Base Angle (50mm x 50mm x 0.75mm BMT)

Thin Bed Adhesive Mortar

Fasteners / fixings as detailed in Section 7 at the middle of every slot

Concrete Screw Anchor, M8 Hilti HUS3-H or HUS4-H or Ramset AnkaScrew Xtrem, min. 55mm embedment depth, @ max. 600mm c/c & max. 150mm from each end.

Fire and acoustic rated sealant (rated to 90 mins)

Backing Rod open cell PU

5 SPECIFICATIONS

The following specification requirements are outside the scope of this guide:

- a) Building design.
- b) Site supervision and control.
- c) Quality assurance.
- d) Workplace health and safety.
- e) The construction of all other building elements.

The design of the timber or steel structural frame (including all bracing), concrete slabs and footings and other building components are excluded from the scope of the Helix 50/75mm AAC Intertenancy and Party Wall Systems.

The wall framing supporting AAC wall panels shall be in accordance with AS 1684 for timber; or, NASH or AS/NZS 4600 for steel, where the steel shall have a minimum thickness of 0.55mm BMT. Reinforced concrete slab-on-ground or reinforced concrete footings shall confirm to AS 2870 or AS 3600 requirements.

The Building Designer shall be responsible for the design and correct installation of control joints and articulation joints.

The design, supply and correct installation of doors and all other penetrations are outside the scope of Helix 50/75mm AAC Intertenancy and Party Wall Systems .

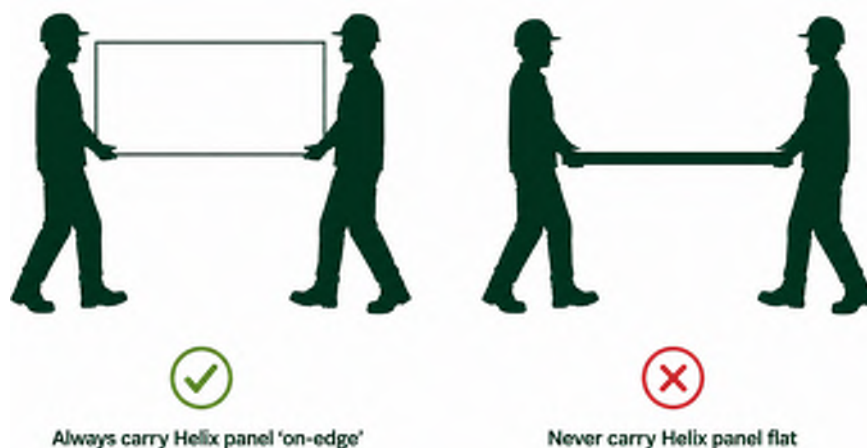
The designer and builder must ensure that the building including all drainage holes and integral flashings in all penetrations will prevent the ingress of rain water and will drain to the outside of the building.

5.1 Storage and Handling

Physical damage – Ensure Helix panel remains protected from damage and surface contamination prior to installation. Weather protection – Ensure the top surface of Helix panel is always covered to prevent the absorption of rainwater.

Do not stack packs of panels on top of each other. Packs must be properly supported on a level surface. Only place packs in areas that have been verified as being able to support their weight.

Manual handling of Helix panel should be kept to a minimum, ensure the panel is only handled “on-edge”.



Cutting of cement based products may cause dust, which contains respirable crystalline silica. When cutting AAC products, wear a P1 or P2 respirator and eye & ear protection, and use dust extraction equipment that complies with AS/NZS 60335.2.69 class M or H requirements. Wet cutting may be mandatory in certain States and/or Territories, confirm with local work safe authority on cutting requirement for AAC products. Always refer to the appropriate Safety Data Sheet for further information.

Steel panel reinforcement exposed during cutting must be re-coated with anti-corrosion protection paint.

6 INSTALLATION

6.1 General

Helix 50/75mm AAC Intertenancy and Party Wall Systems shall only be installed by qualified and experienced tradesmen under the direction of a builder who understand the installation techniques described in this guide, the Australian Standard AS 5146.3, and the NCC 2022(Amdt.1).

In accordance with AS 5146.3, Clause 3.1;

- the structural capacities of Helix 50/75mm AAC Intertenancy and Party Wall Systems as detailed, including fixings, are determined in accordance with AS 5146.1 and AS 5146.2, and the Standards referenced therein; and,
- Helix panels and their fixings are capable of supporting their own self-weight; and,
- Helix panels and their fixings shall be supported within buildings consisting of timber, steel or concrete structural supporting frames, slabs & footings, capable of resisting applicable horizontal and vertical loads.

In accordance with AS 5146.3, Clause 5.1;

- timber, steel or concrete structural supporting frames and slabs, including bracing capable of resisting applicable horizontal and vertical loads, conforming with AS 1684, AS/NZS 4600 or AS 3600 respectively; and,
- reinforced concrete slab-on-ground or reinforced concrete footings conforming with AS 2870 or AS 3600; and,
- the design of the timber or steel structural frame (including all bracing), concrete slabs and footings and other building components are excluded from the scope of Helix 50/75mm AAC Intertenancy and Party Wall Systems.

In accordance with AS 5146.3, Figure 5.4.1(B);

- maximum panel length is 3300mm (Note: Helix panel max. length is 3000mm); and,
- maximum vertical aluminium bracket spacing is 3000mm; and,
- maximum Helix Party Wall Systems height is 12000mm.

The aluminium wall brackets must be fixed to both-sides of Helix panels to the top and bottom plates. Aluminium wall brackets must be located within 50mm of the centreline of every panel. Each bracket must be fixed with 2 fixings into the Helix panel and 2 fixings into the frame. See Typical Details for additional information.

6.2 Control Joints and Articulation Joints

Specific requirements for Control joints and articulation joints will vary from building to building. It is the responsibility of the designer to ensure the Helix 50/75mm AAC Intertenancy and Party Wall Systems are suitable for any application. General guidance for control joints and articulation joints is provided in AS 5146.3 and as follows.

At minimum, vertical control joints or articulation joints shall be built into a wall at the following locations:

- a) Centres not exceeding 6.0m.
- b) For external and intertenancy walls of houses and low-rise multi-residential buildings, at centres not more than the values given in AS 5146.3 Table 2.9.1 for different site soil classes..
- c) At the position where a wall changes height by more than 20%.
- d) At a change in thickness of a wall.
- e) At control joints or construction joints in supporting concrete slabs.
- f) At the junctions of walls constructed of different materials.
- g) At corners, as measured from the inside edge, as follows:
 - i. At the corner of itself.
 - ii. At a maximum of 1.2m one side of a corner, or
 - iii. At a maximum of 2.4m on each side of a corner.

At minimum, horizontal control joints shall be built into a wall at the following locations:

- a) At the position where the Reinforced AAC members continue vertically past a suspended floor.
- b) At the position where the ends of two or more adjacent panels are aligned.

6.3 Installation Steps

6.3.1 Accessories Installation:

Damp-proof Course and Flashings – where required shall be installed in accordance with the Helix 50/75mm AAC Intertency and Party Wall Systems Typical Construction Details, NCC requirements (e.g. NCC 2022 Volume Two, 5.7.4), and as follows.

A surface upon which a sheet of damp-proof barrier or flashing is to be laid shall be as smooth as necessary to prevent puncturing and to prevent keying of supported Reinforced AAC members if they are required to be able to slip on the surface.

Where joints in damp-proof barriers or flashings cannot be avoided, the material shall be lapped or sealed against moisture penetration. The length of lapping shall be not less than 150mm.

Damp-proof barriers and flashings shall not be breached or punctured during construction. They may be pierced and sealed if steel starter bars are required to pass through.

Damp-proof barriers shall be built-in to project from both faces of the wall. On completion of the construction, the projections shall be either cut off flush with the external face of the finished wall or turned down.

Flashings, including over-flashings, shall be built-in with projections that are of a size and orientation to direct the moisture from the Reinforced AAC in the required manner and fixed to the wall frames at not less than 600mm spacing.

Over-flashings shall overlap under-flashings by at least 50mm.

6.3.2 Panel Installation:

1. Holes and chases shall not be made in Reinforced AAC.
2. Reinforced AAC members shall not be cut during construction, except at positions specified in the design documents.
3. Thin bed adhesive shall be applied to the entire edge surface of all joints between Reinforced AAC panels, other than control or articulation joints. The joint shall be 2–3mm wide.
4. Horizontal Joints - Provide horizontal joints at all locations as noted for the specific project. Horizontal control joints are made using either; Mineral Wool; or, Steel and Plasterboard as described in the Typical Details.
5. Vertical Joints – Provide vertical joints, at all locations as noted for the specific project. Vertical control joints are made using Mineral Wool as described in the Typical Details.
6. Helix panels shall be installed to achieve the requirements of Section 7 Construction Details.

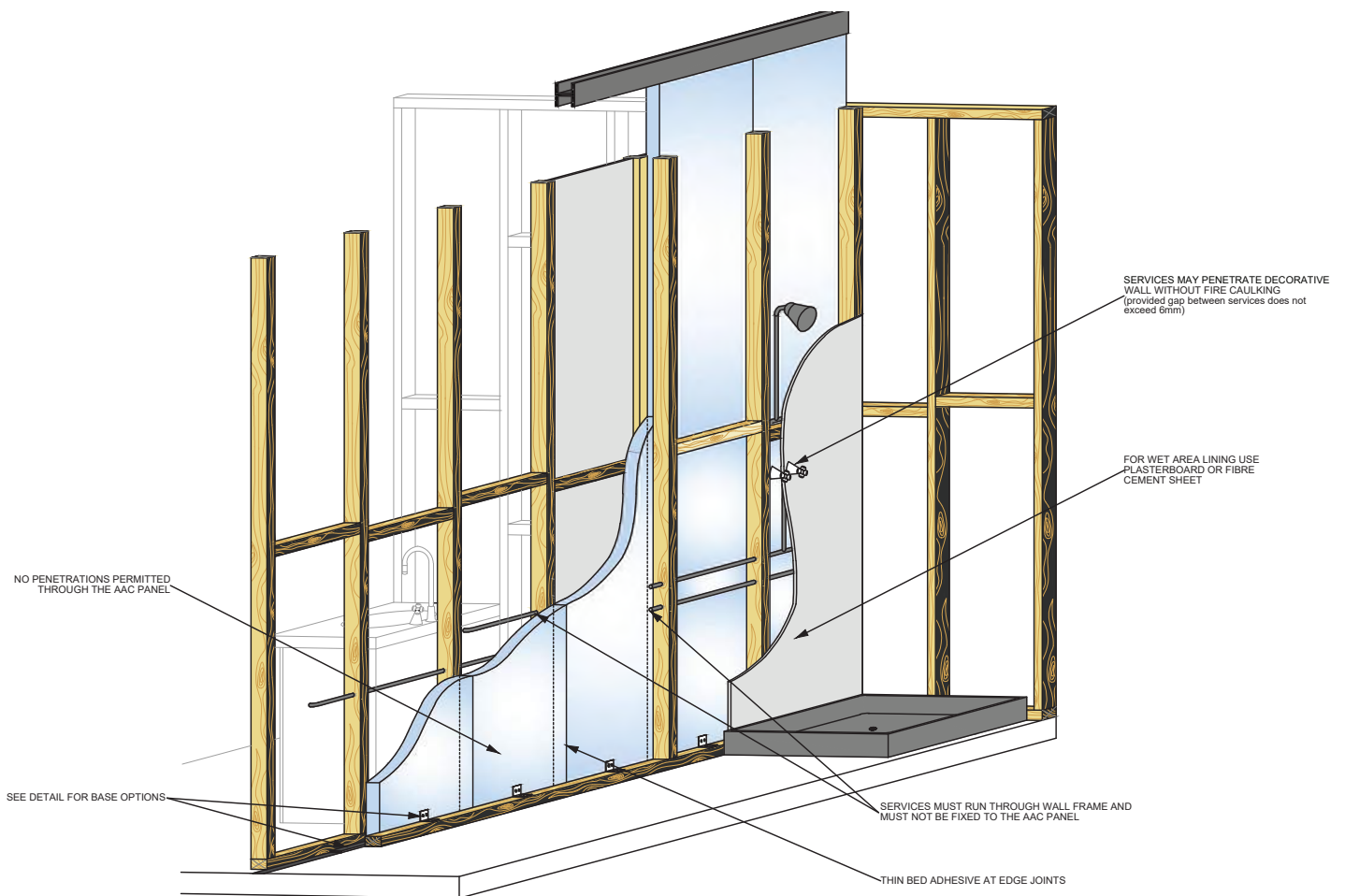
7 CONSTRUCTION DETAILS

Helix 50/75mm AAC Intertenancy and Party Wall Systems must be installed in strict accordance with this Technical and Installation Manual and comply with all relevant building codes and local government regulations.

These typical construction details are provided as a guide for construction industry professionals. These typical construction details do not constitute a project specific specification and should only be used within the context of project specifications.

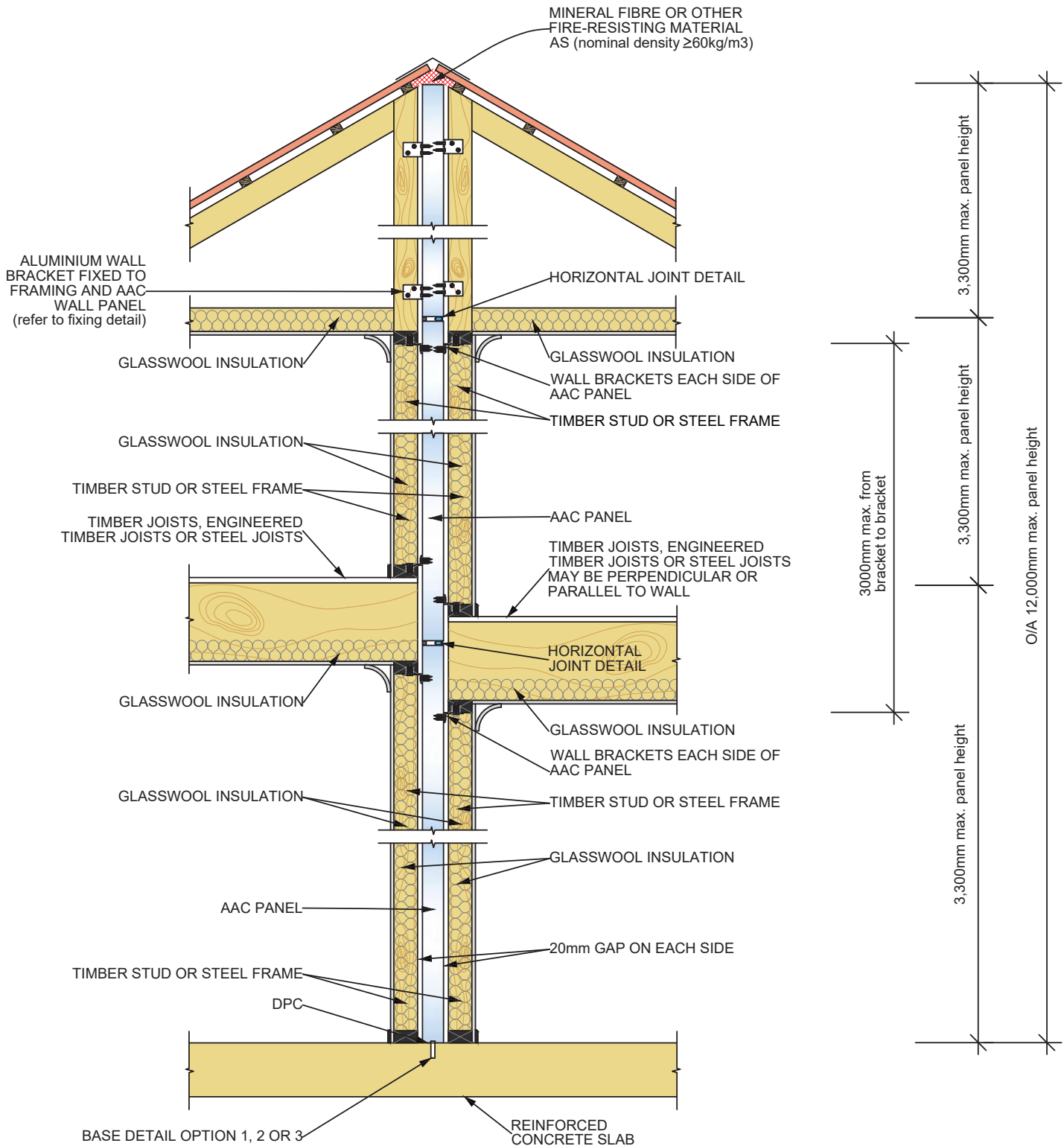
Modifications to these drawings shall not be made without the approval of Helix.

7.1 Typical Details – Helix 50/75mm Party Wall System (Variants 1, 2, 3 & 4)

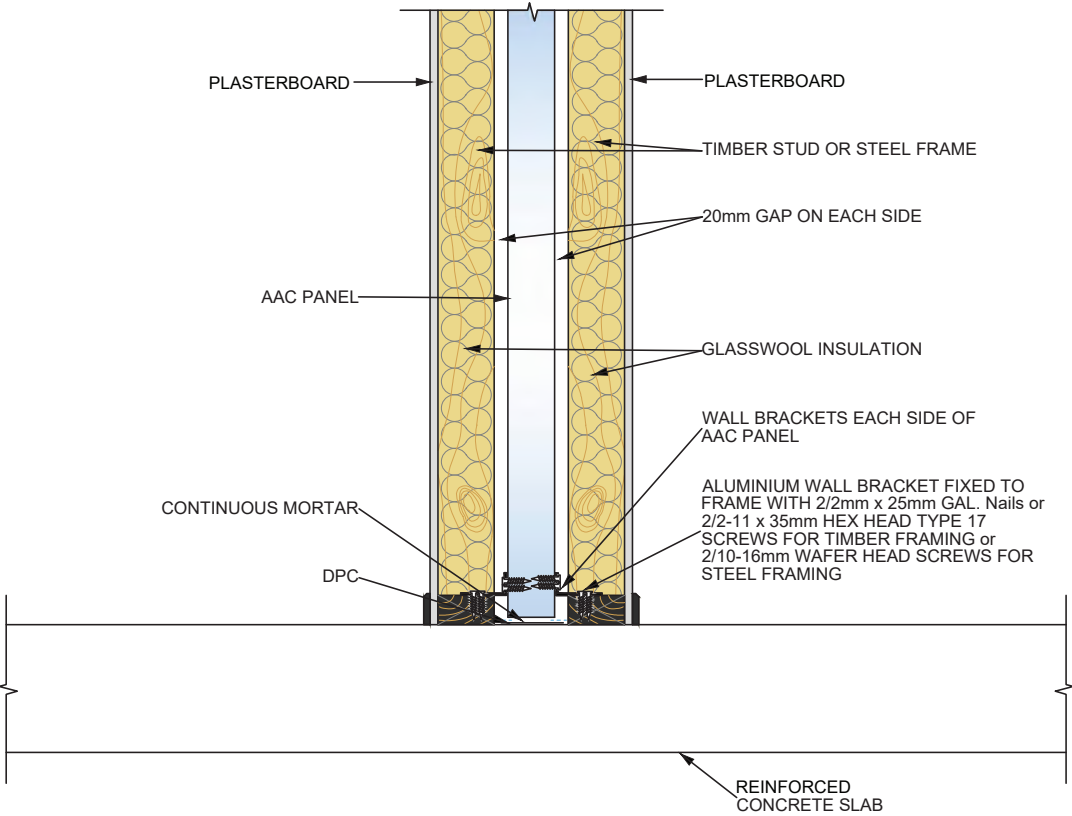


**GENERAL LAYOUT FOR VERTICALLY ALIGNED INTERTENANCY
DISCONTINUOUS WALL SYSTEM**

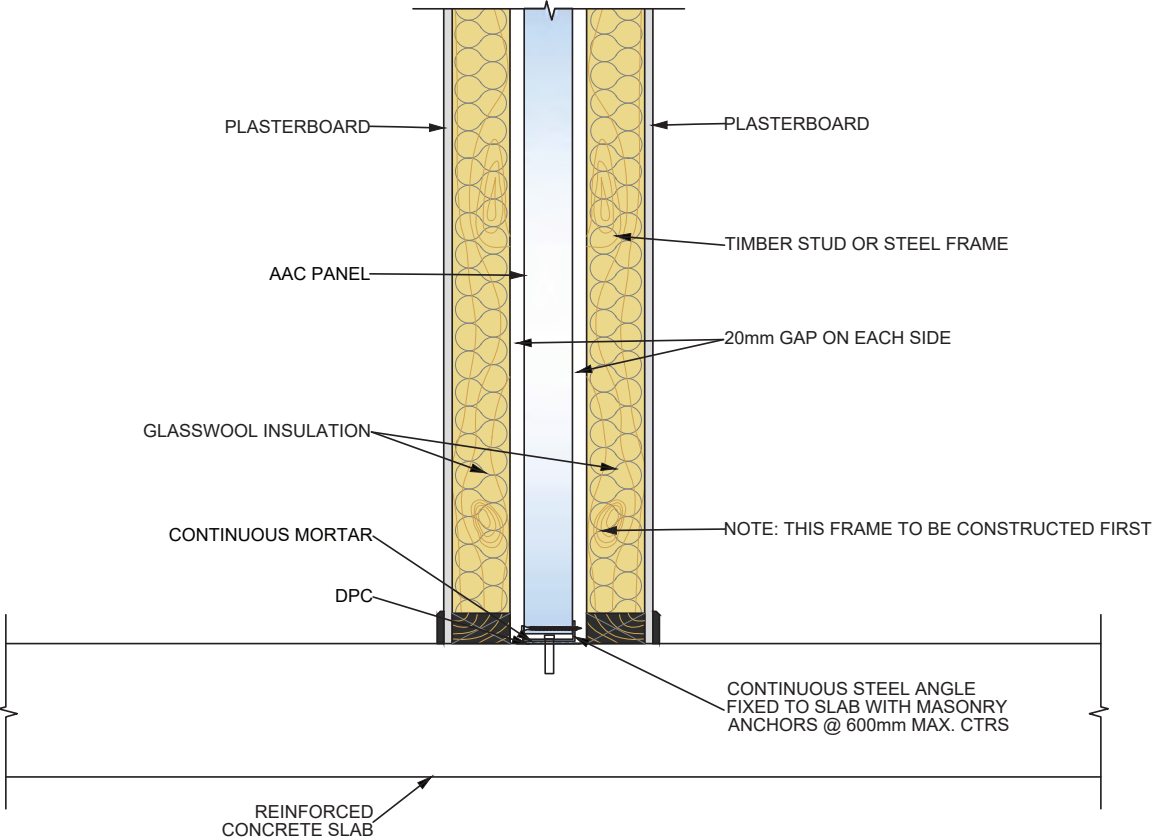
7.1.1 CROSS SECTION OF VERTICALLY ALIGNED REINFORCED AAC INTERTENANCY DISCONTINUOUS WALL SYSTEM



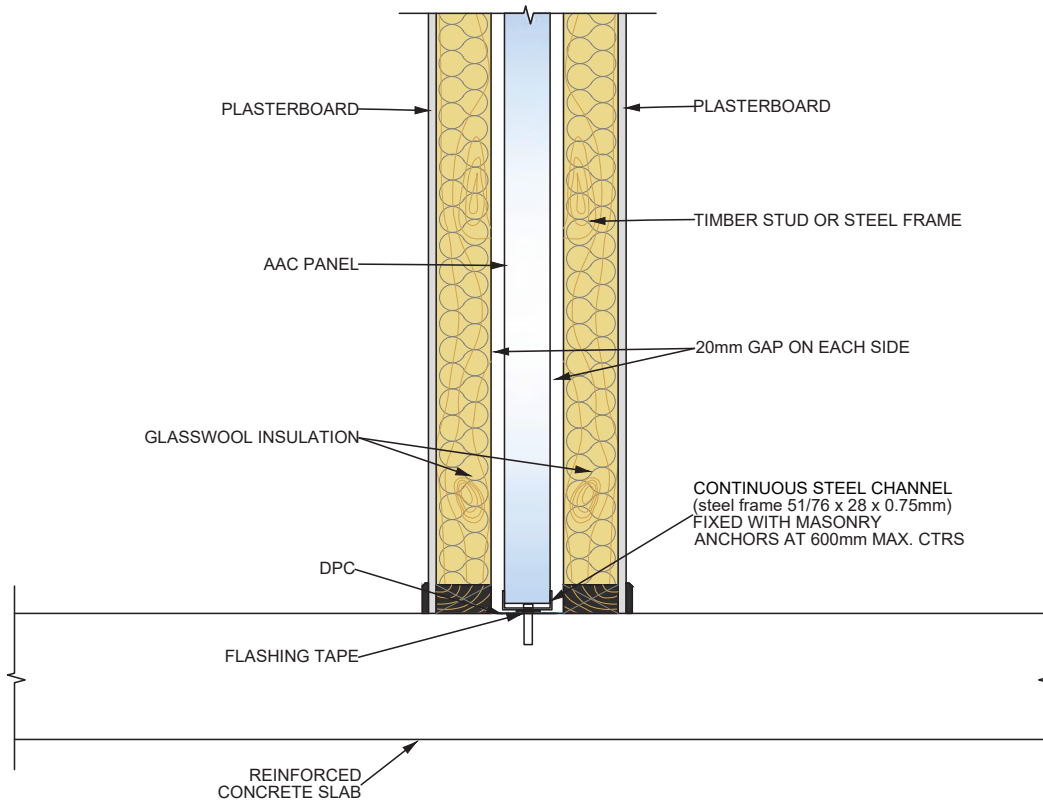
7.1.2 BASE CONNECTION FOR VERTICALLY ALIGNED REINFORCED AAC INTERTENANCY DISCONTINUOUS WALL SYSTEM – OPTION 1



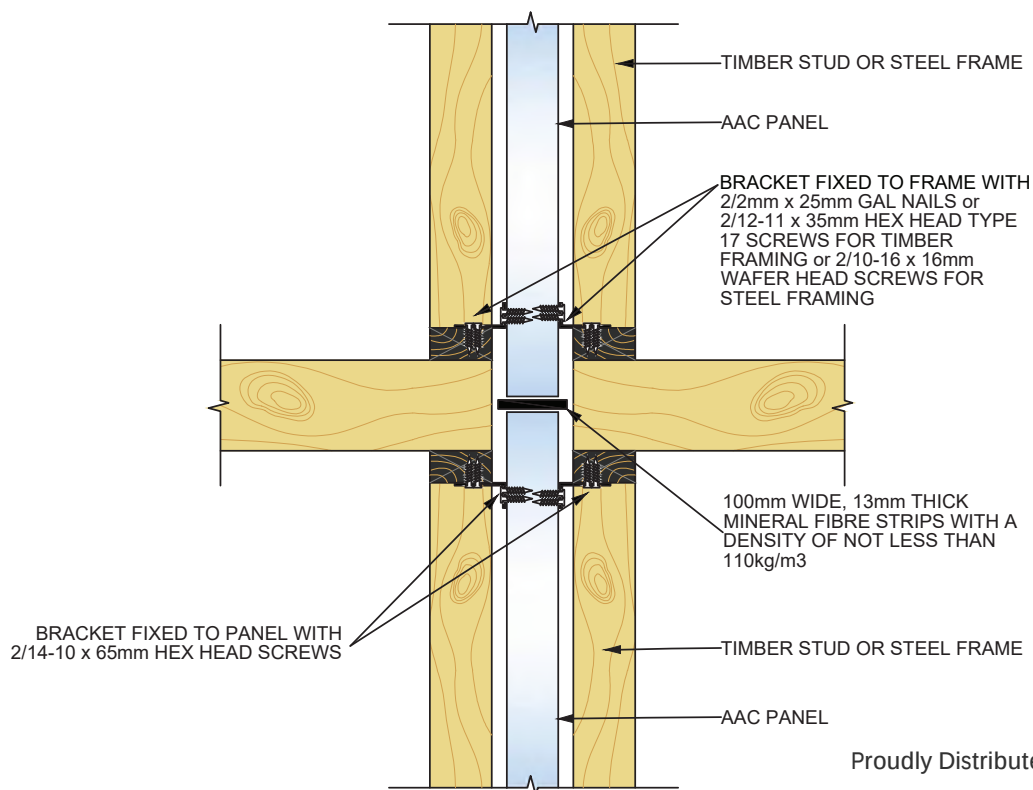
7.1.3 BASE CONNECTION FOR VERTICALLY ALIGNED REINFORCED AAC INTERTENANCY DISCONTINUOUS WALL SYSTEM – OPTION 2



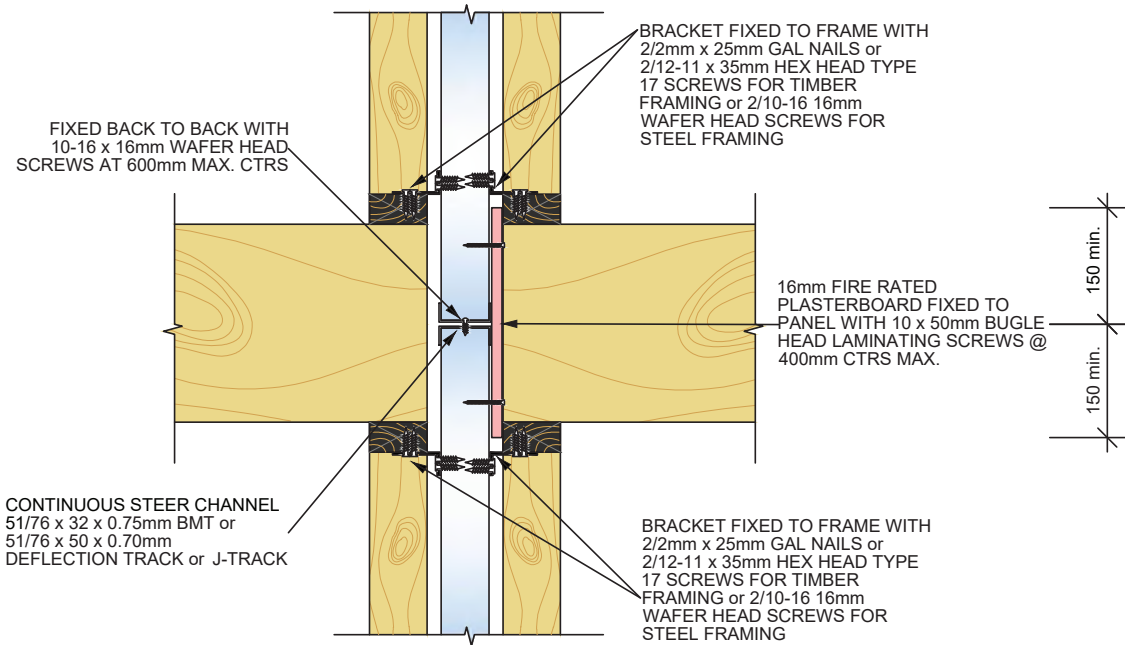
7.1.4 BASE CONNECTION FOR VERTICALLY ALIGNED REINFORCED AAC INTERTENANCY DISCONTINUOUS WALL SYSTEM – OPTION 3



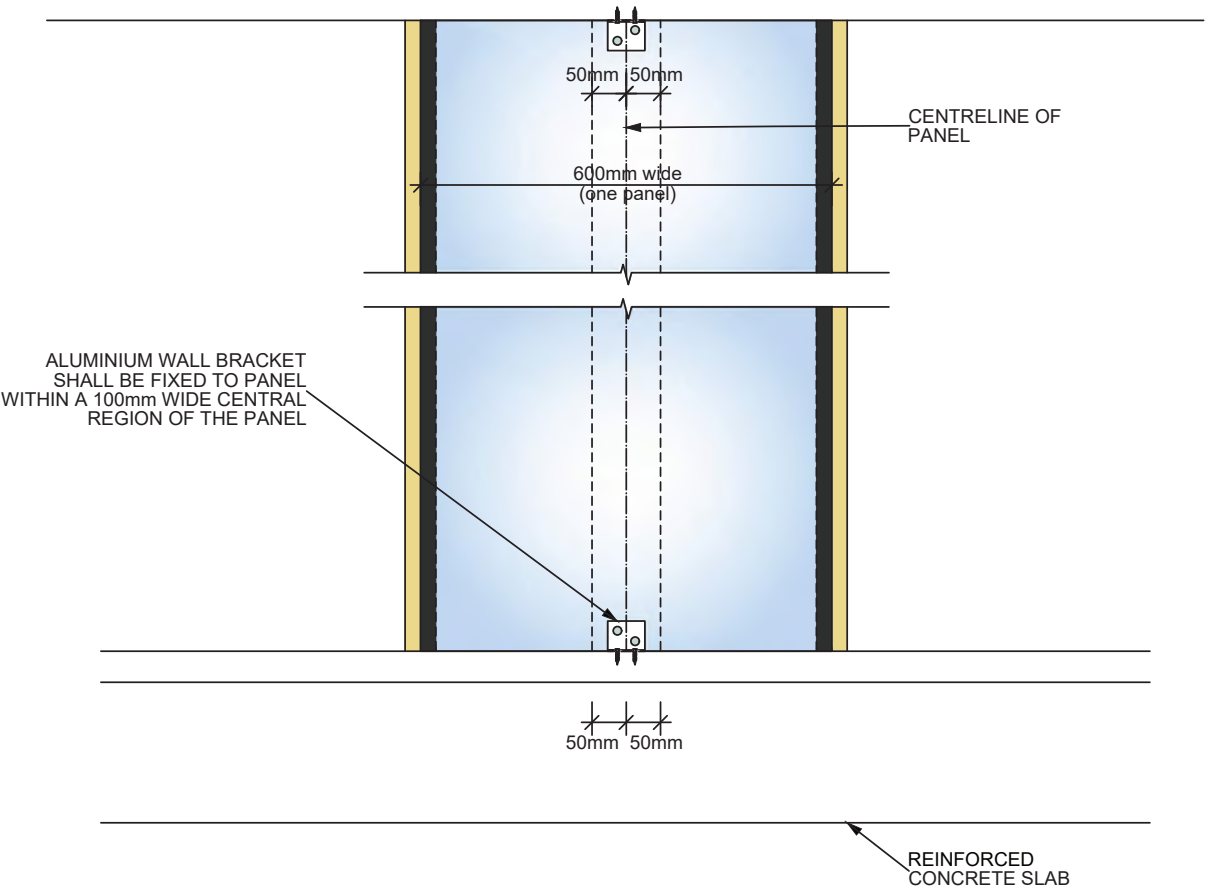
7.1.5 HORIZONTAL JOINT FIXING FOR VERTICALLY ALIGNED REINFORCED AAC INTERTENANCY DISCONTINUOUS WALL SYSTEM – OPTION 1



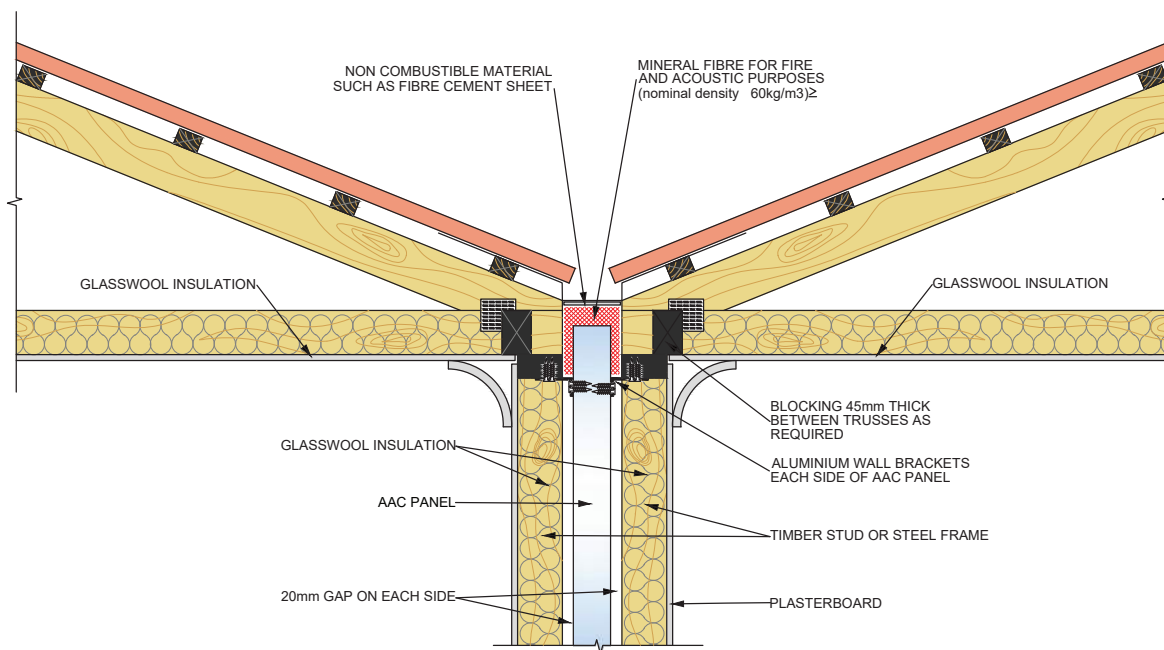
7.1.6 HORIZONTAL JOINT FIXING FOR VERTICALLY ALIGNED REINFORCED AAC INTERTENANCY DISCONTINUOUS WALL SYSTEM – OPTION 2



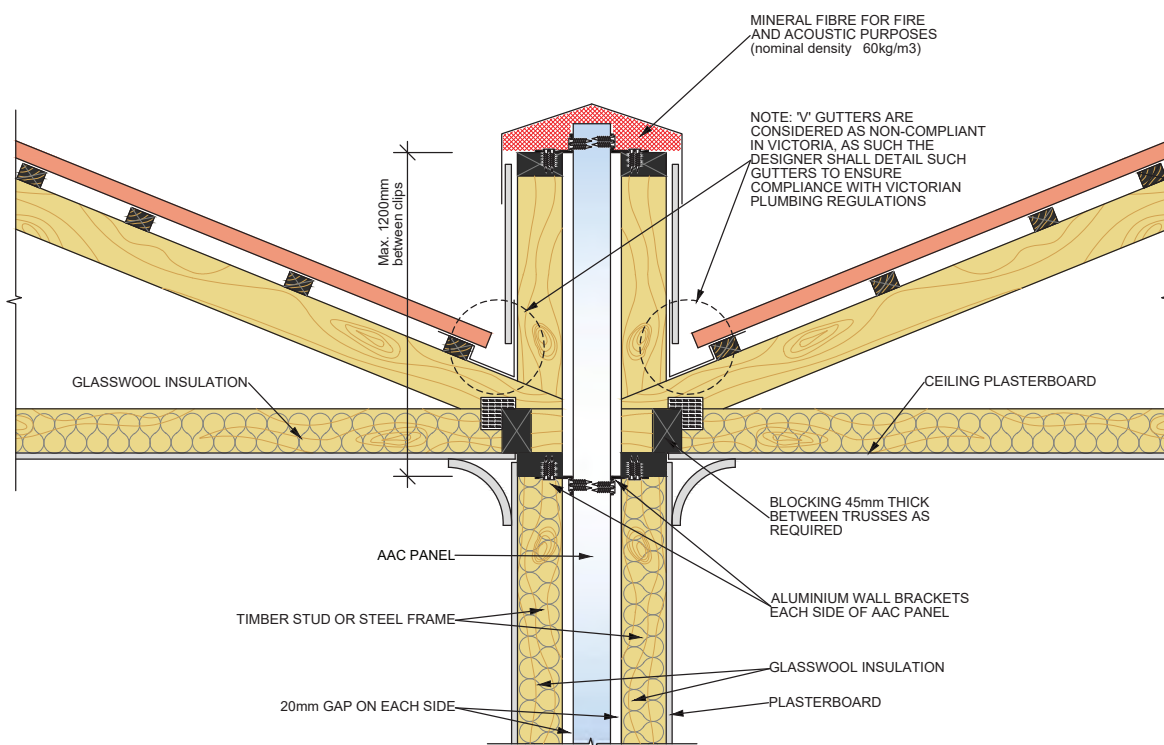
7.1.7 BRACKET FIXING FOR VERTICALLY ALIGNED REINFORCED AAC INTERTENANCY DISCONTINUOUS WALL SYSTEM



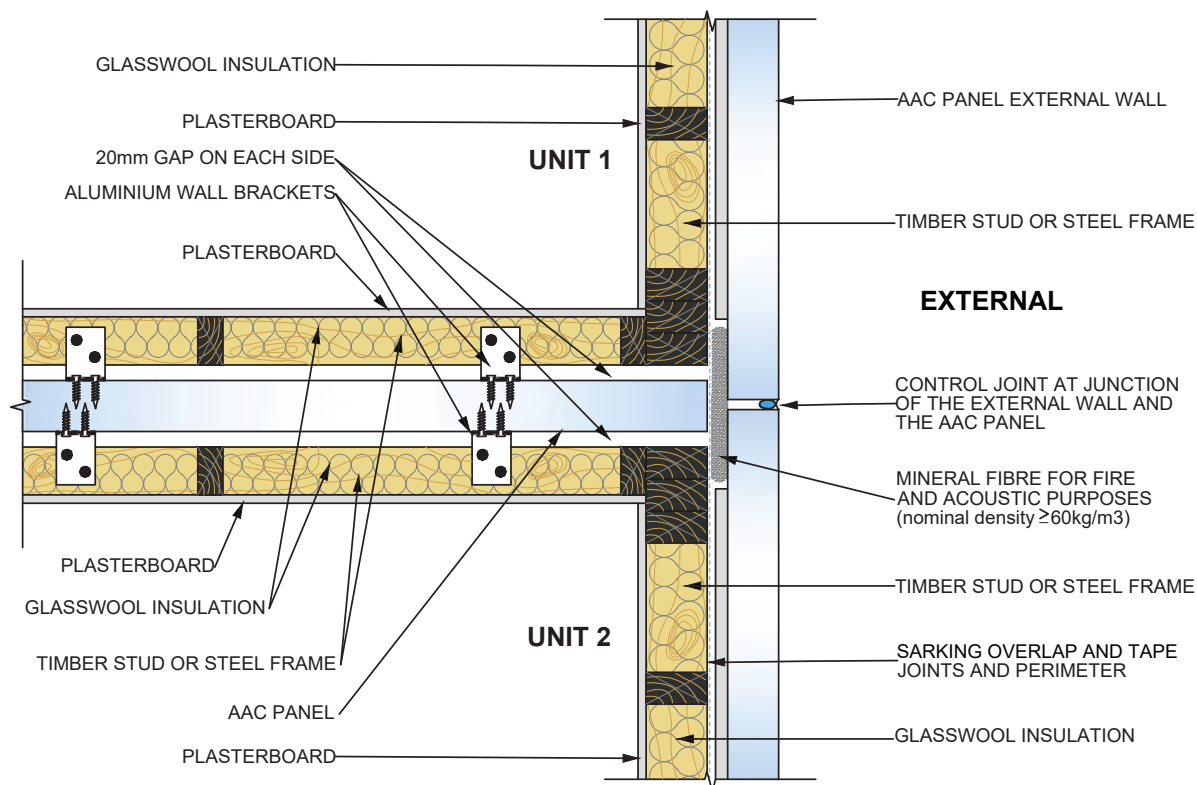
7.1.8 ROOF VALLEY FOR VERTICALLY ALIGNED REINFORCED AAC INTERTENANCY DISCONTINUOUS WALL SYSTEM



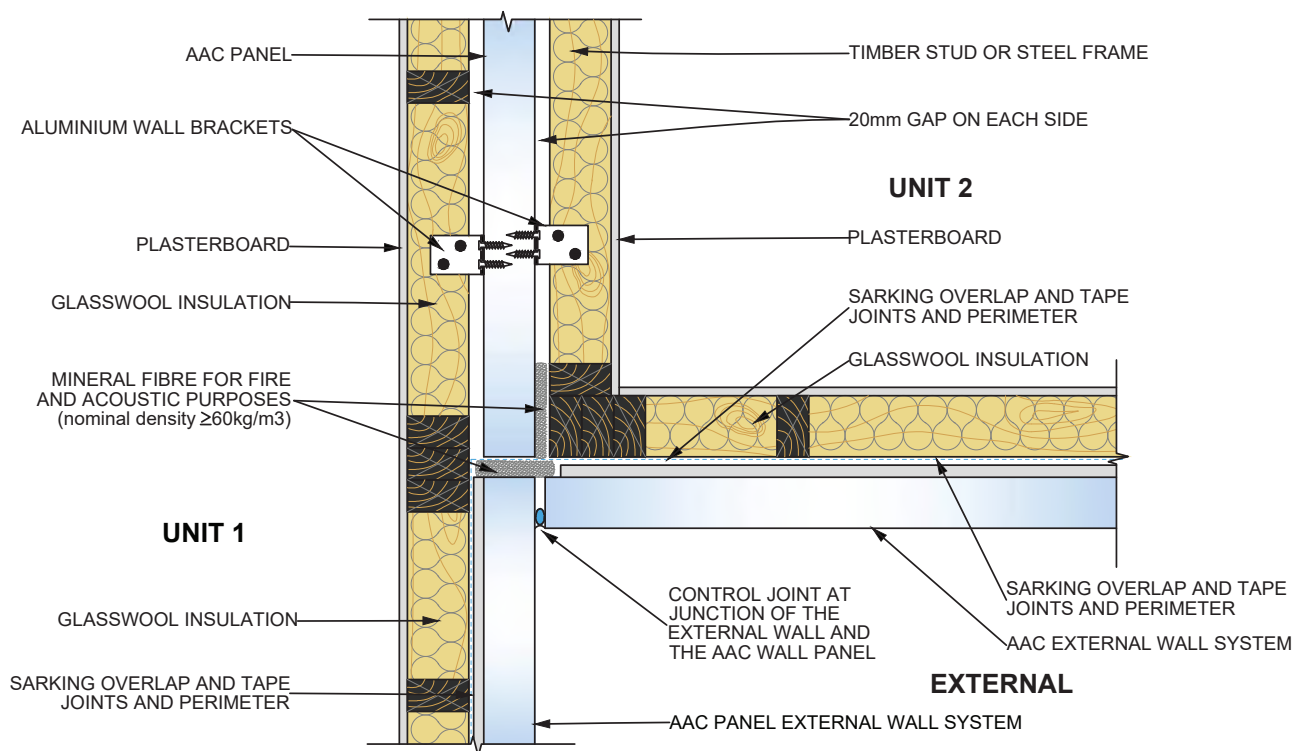
7.1.9 ROOF PARAPET FOR VERTICALLY ALIGNED REINFORCED AAC INTERTENANCY DISCONTINUOUS WALL SYSTEM



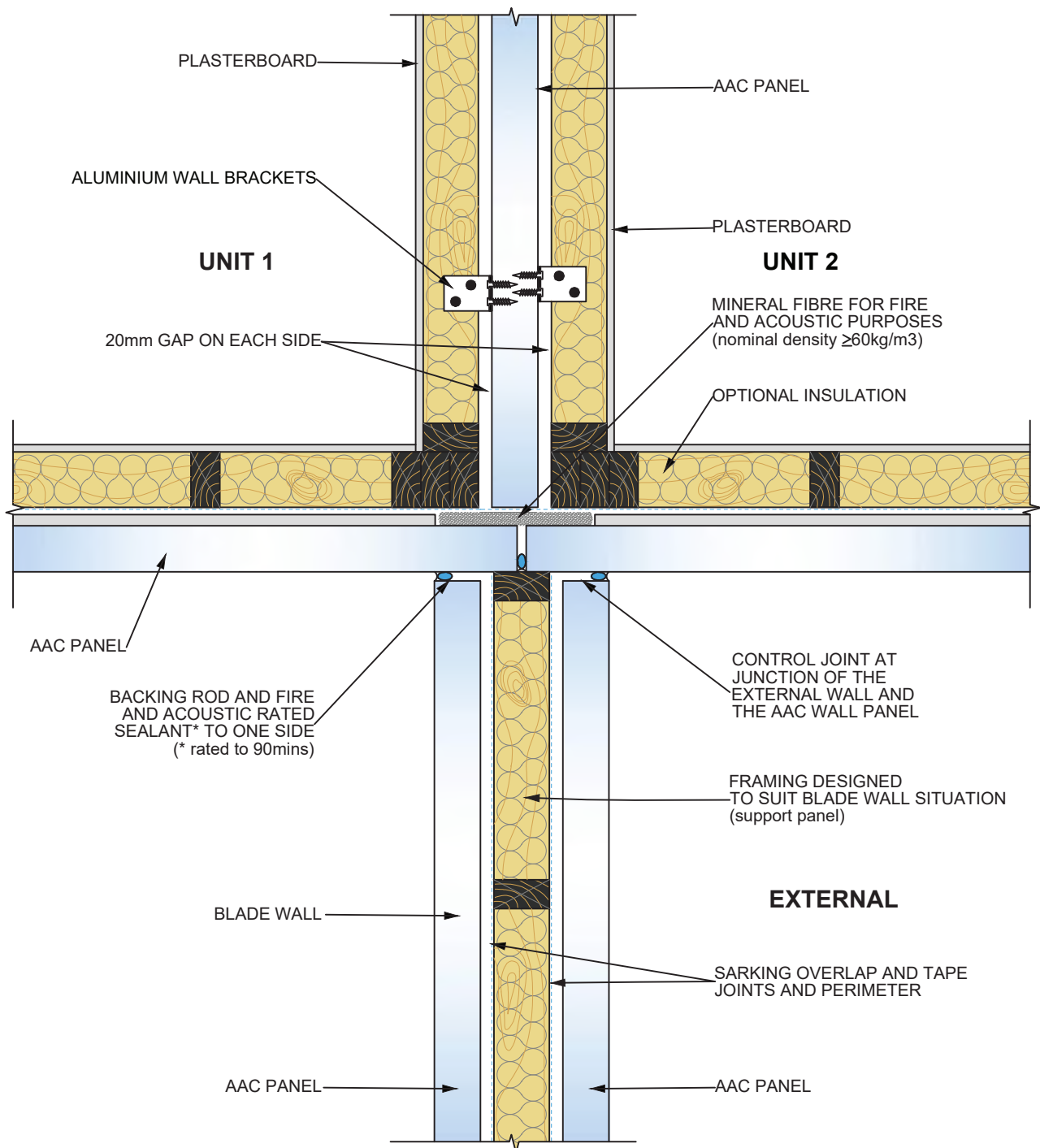
7.1.10 EXTERNAL WALL JUNCTION FOR VERTICALLY ALIGNED REINFORCED AAC INTERTENANCY DISCONTINUOUS WALL SYSTEM



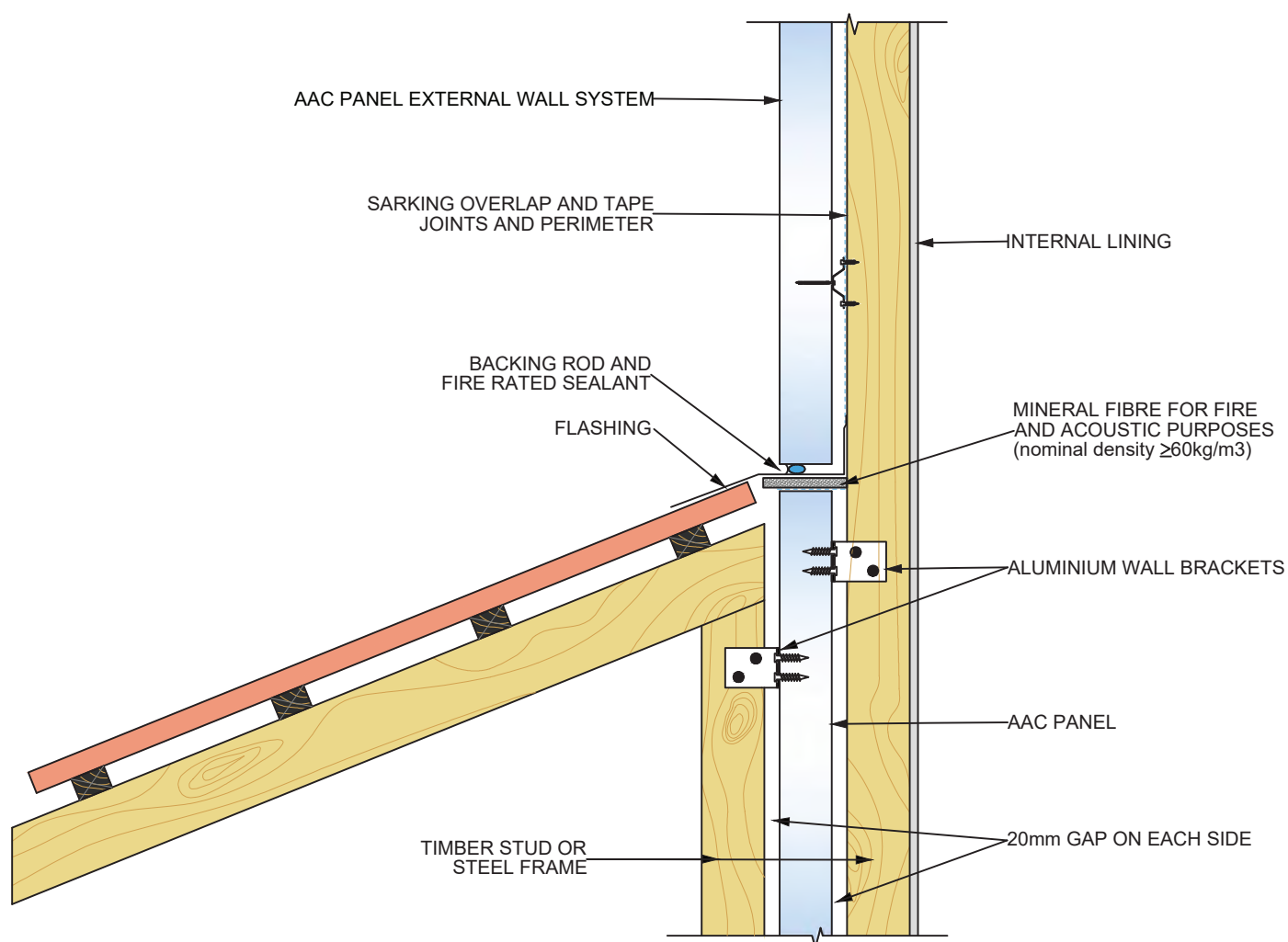
7.1.11 EXTERNAL WALL CORNER FOR VERTICALLY ALIGNED REINFORCED AAC INTERTENANCY DISCONTINUOUS WALL SYSTEM



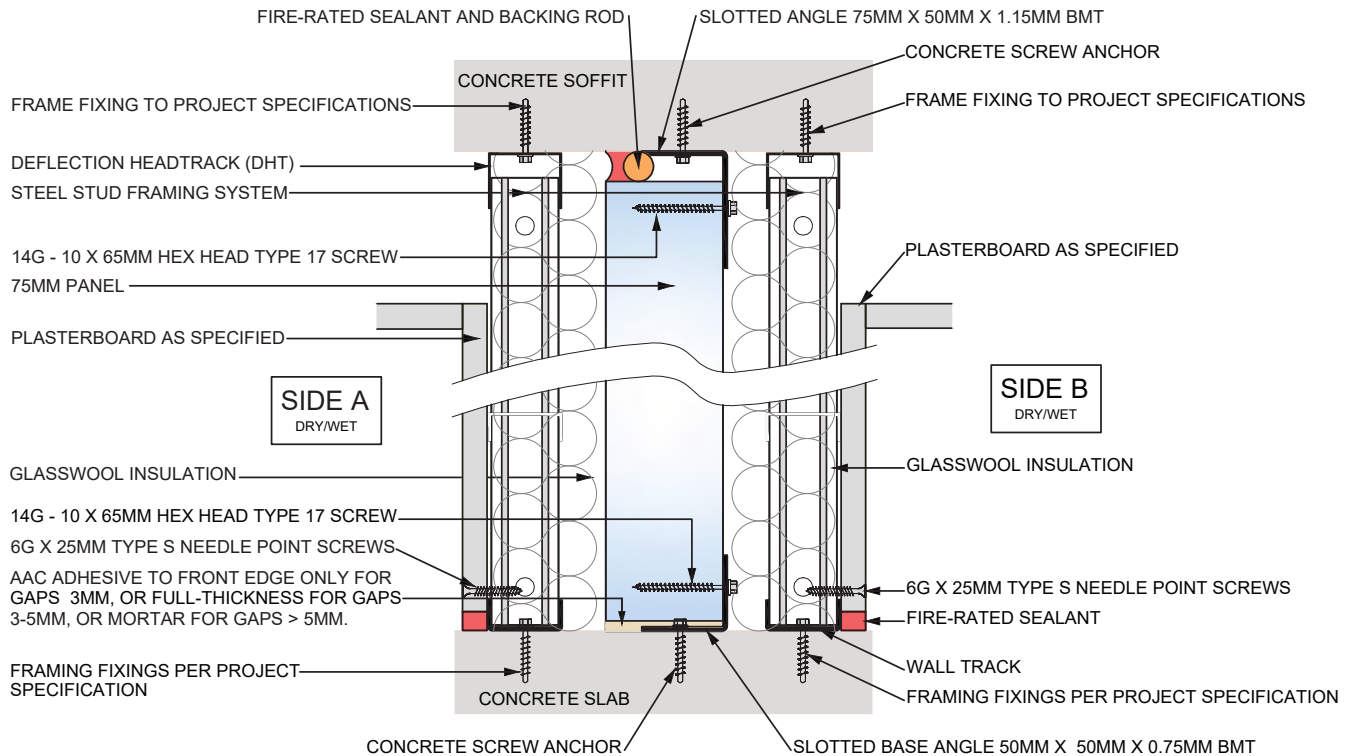
7.1.12 BLADE WALL JUNCTION FOR VERTICALLY ALIGNED REINFORCED AAC INTERTENANCY DISCONTINUOUS WALL SYSTEM



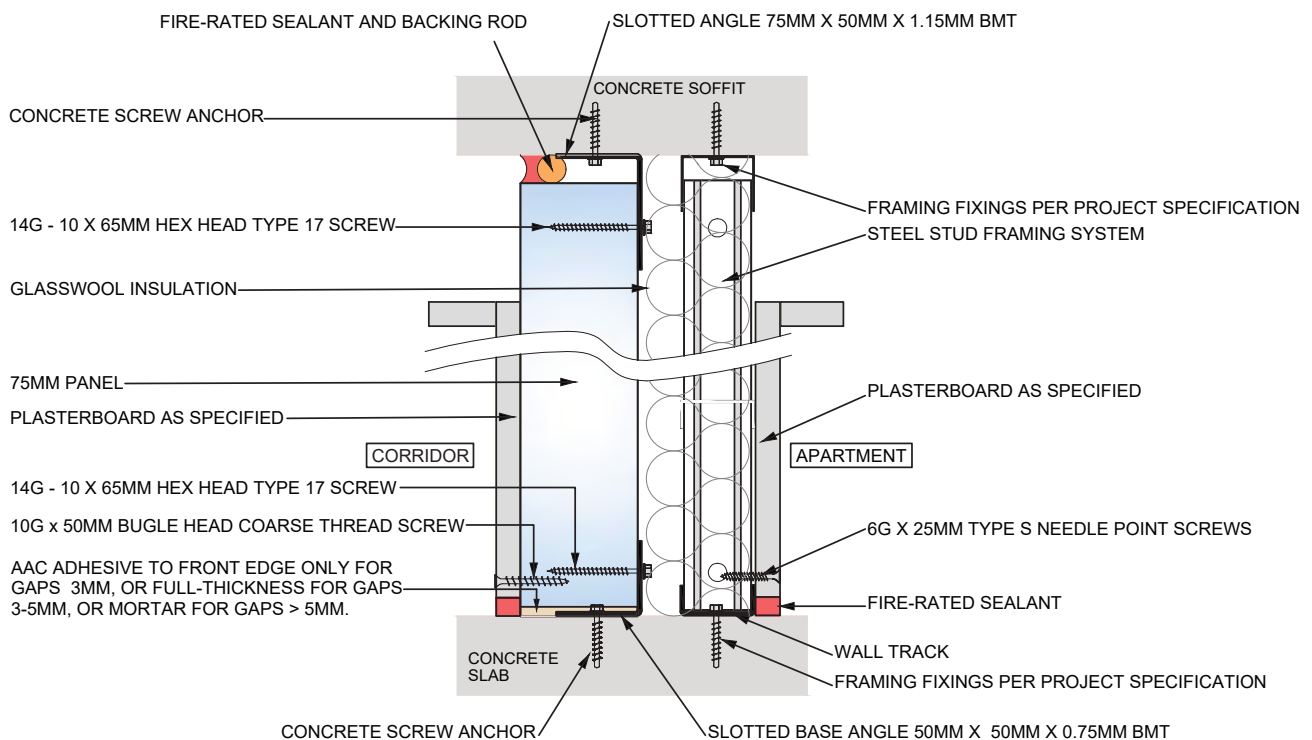
7.1.13 STEP IN ROOF FOR VERTICALLY ALIGNED REINFORCED AAC INTERTENANCY DISCONTINUOUS WALL SYSTEM



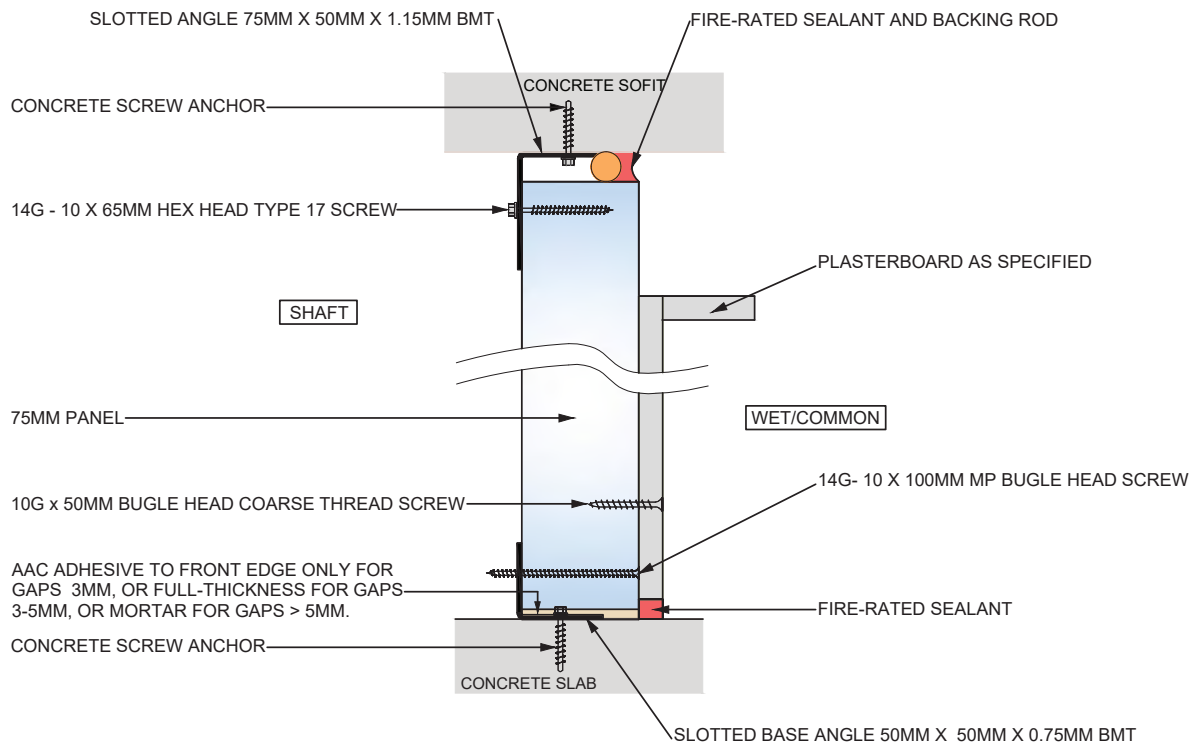
7.2 Helix 75mm Intertency Wall large concealed water services both sides (Variants 5, 6 & 7)



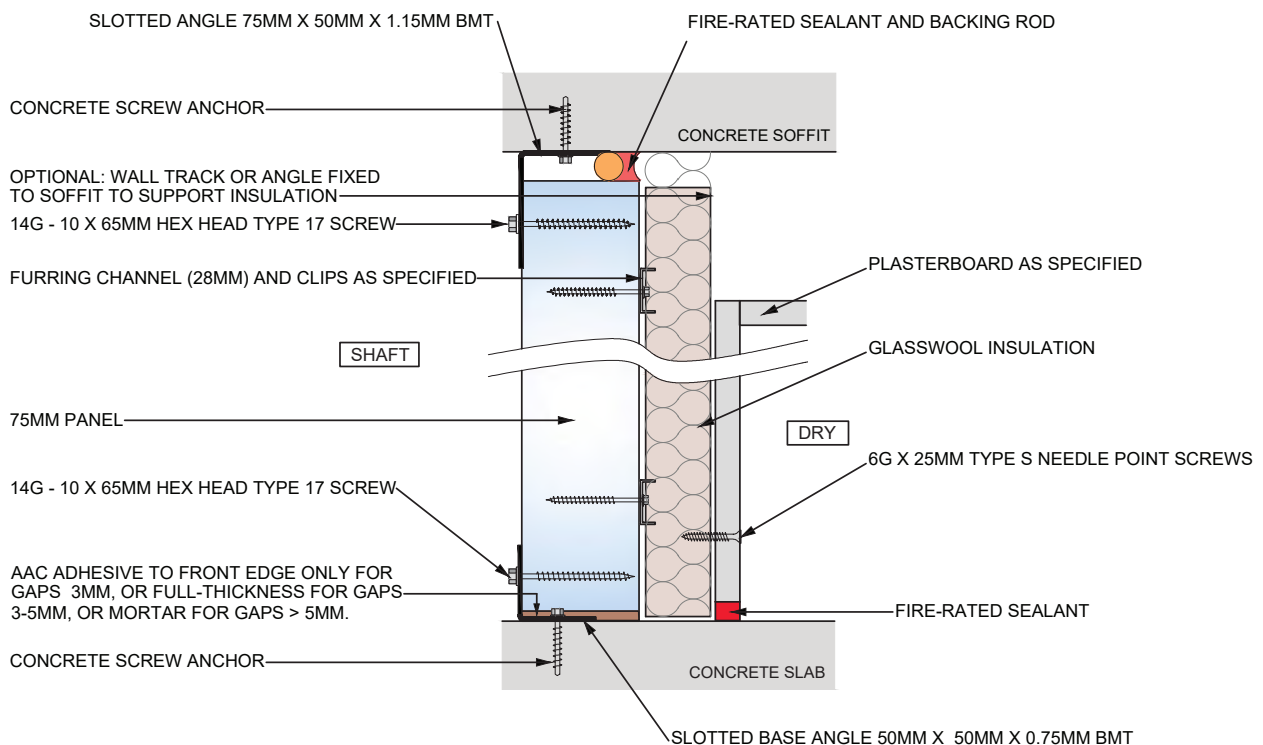
7.3 Helix 75mm Corridor Wall concealed water services one side (Variants 8 & 9)



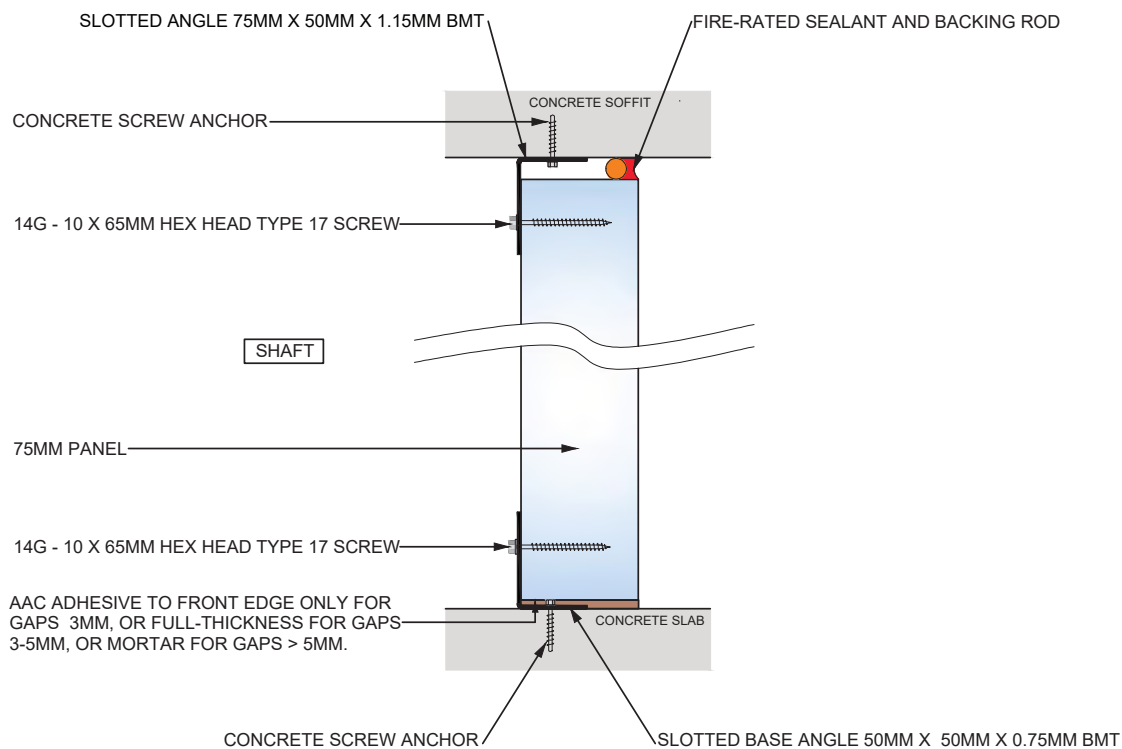
7.4 Helix 75mm Shaft Wall adjacent to wet or common areas (Variants 10, 11, 12 & 13)



7.5 Helix 75mm Shaft Wall adjacent to dry habitable rooms (Variant 14)



7.6 Helix 75mm Services Wall for walls up 3.3 metres high (Variant 15)



8 WARRANTY COVERAGE

Helix warrants that, for a period of twenty (20) years from the date of purchase, its 50mm and 75mm AAC panels will be free from defects caused by faulty manufacturing or materials. Under proper conditions and use, the product will be resistant to cracking, rotting, and termite damage, in accordance with the terms outlined below.

This warranty does not override any statutory rights the customer may have under the Australian Consumer Law or other applicable legislation.

Warranty Conditions

To claim this warranty, the following conditions must be met:

1. Proof of Purchase

The customer must provide reasonable supporting documents, including full payment proof.

2. Timely Notification

Helix must be notified within 12 weeks of the defect being discovered or when it ought to have been discovered, and no later than the expiry of the warranty period.

3. Inspection Opportunity

Helix must be given a reasonable opportunity to inspect the product on-site prior to removal, repair, or replacement. If testing or investigation is required, costs are to be initially borne by the claimant and will be reimbursed if the defect is found to be covered by this warranty.

4. Proper Handling and Installation

The product must be transported, installed, and maintained in accordance with Helix's official technical literature at the time of purchase.

5. Approved Components

All components used in the system must be specified and supplied by Helix.

6. Compliance with Construction Standards

The installation must comply with Helix's specifications, the National Construction Code (NCC), relevant Australian Standards, and applicable laws and regulations.

Exclusions from Warranty

This warranty does not apply to defects or damage resulting from:

1. External Factors: Including but not limited to building movement, corrosion, pollution, mechanical impact, hydrostatic pressure, fire, natural disasters, adverse weather conditions, vandalism, and other uncontrollable events.
2. Improper Construction Practices: Any work done before, during, or after installation that causes damage to the product or system.
3. Incorrect Handling: Damage from failure to follow handling instructions provided by Helix.
4. Third-Party Design Faults: Defects caused or contributed to by the design of the structure, foundations, or frames by third parties.
5. Non-Helix Materials: Any issues caused or contributed to by accessories or materials not supplied by Helix.
6. Coating or Sealant Failure: Cracks or deterioration in coatings or sealants applied over the panels.

Note: It is the purchaser's responsibility to consult with the coating/sealant manufacturer to ensure suitability for AAC substrates and confirm elasticity and waterproofing meet Helix's requirements.

Disclaimer

- This warranty only covers the product itself and does not include consequential or indirect losses.
- Helix does not verify whether its products are solely used in any specific project or whether the installation meets warranty conditions.
- Suitability of the product for a specific application is the responsibility of the purchaser.
- Site visits by Helix do not constitute inspections or installation approvals.

For warranty claims, please contact Helix's customer service team with proof of purchase, relevant photos, and installation documentation.

Information on Helix Panel 50/75mm AAC Intertenancy & Party Wall Systems can be found at: www.helix.net.au

Helix AAC Pty Ltd, 12 Tuscan Court, Thomastown, Vic. 3074

The background of the page is a photograph of a modern interior space. It features a large, multi-paned window with a black frame, looking out onto a lush green landscape with trees. The interior has light-colored walls and a very smooth, reflective floor that shows the window and the room's structure. A dark green curved graphic element is on the left side, containing the text.

SECTION 3.3

HELIX PANEL 75MM AAC FLOORING SYSTEMS

DESIGN & INSTALLATION GUIDE

Proudly Distributed By:

Dahlsens
For the Builder.

1 HELIX FLOORING SYSTEM

This guide describes the performance, installation, and typical detailing requirements for Helix 75mm AAC Flooring System for use by designers and builders in houses and multi-residential flooring applications.

1.1 System Description

At the 'core' of the Helix 75mm AAC Flooring System you will find Helix 75mm thickness AAC panels securely mechanically fixed, sealed and supported by structural building elements, typically non-combustible steel, or timber floor framing.

Helix Flooring System provides NCC 2022 compliant Autoclaved Aerated Concrete (AAC) panel Deemed-to-Satisfy and performance for structure, fire, acoustic and thermal rated solutions for flooring in residential and multi-residential commercial buildings.

Helix Flooring System is CodeMark certified and has been tested, appraised and certified to the applicable DTS and Performance requirements of the NCC 2022 (Amdt.2), Volumes One, Two & ABCB Housing Provisions Standard for:

Structure: B1D4(b)(ii) and H1P1(1)(2)(a),(b)&(d) for the determination of structural resistance of materials and forms of construction in accordance with AS 5146.1, AS 5146.2 and AS 5146.3.

Fire Safety: C2D2(2) and H3D4 for Fire Resistance Level tested and assessed to AS 1530.4 for FRL's up to 90/90/90, resistance to spread of fire (above) for a minimum of 90 minutes.

Non-Combustible: C2D10(5)(e) and H3D2 Autoclaved aerated concrete, including mortar are non-combustible and may be used wherever a non-combustible material is required.

Fire Hazard Properties: C2D11(3) where the requirements of C2D11(1) do not apply to Autoclaved aerated concrete.

Sound Insulation: F7P1 and F7P3 to satisfy the reduction in transmission of airborne and impact generated sound through a separating floor for $R_w + C_{tr} \geq 50$ and $L_{n,w} \leq 62$.

Energy Efficiency: JJ4D7 and H6D2(1)(b)(i), 13.2.6 Systems achieve high Total R-values which may be used to satisfy floor insulation requirements, or as input to house energy rating software to achieve an energy rating.



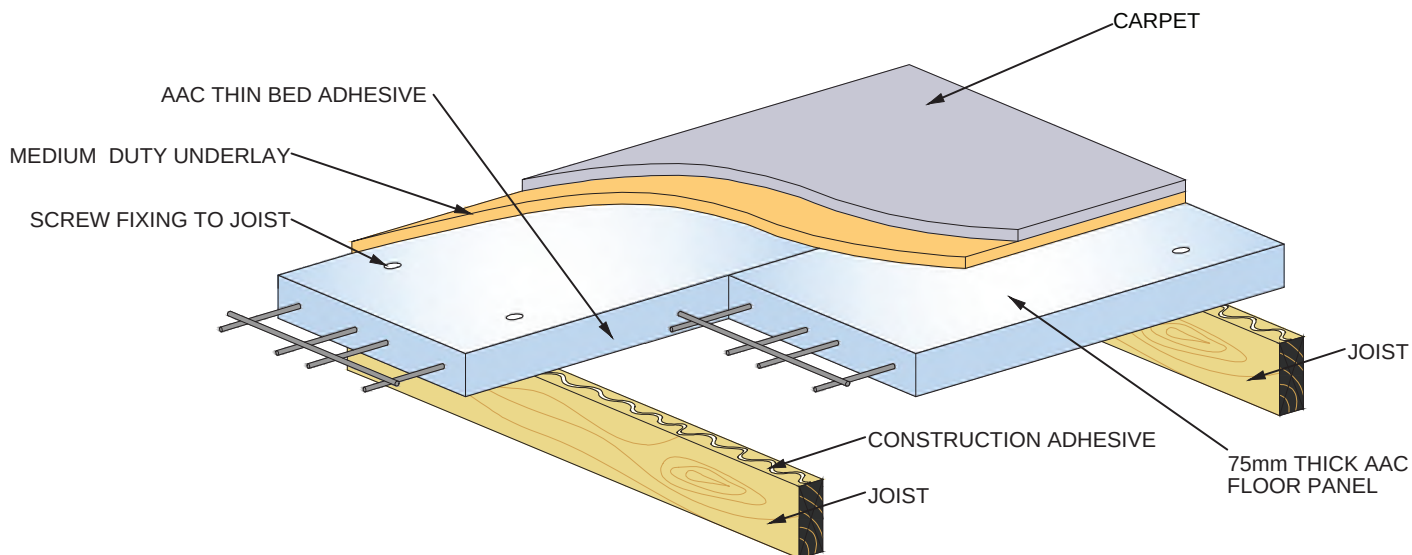


Figure 1: Helix 75mm Flooring System

Helix 75mm AAC Flooring System is lightweight and easy to install, and provides high performing floor solutions for most buildings requiring fire, acoustic & thermally rated floors.

They are versatile and provide design freedom able to be installed on all types of elements such as timber or light-gauge steel floor framing.

Helix 75mm AAC Flooring System provides the necessary FRL, and airborne & impact sound insulation required by NCC 2022 for floors separating dwellings, without the limitations of high mass construction.

Helix panel 75mm AAC benefits include:

- Lightweight for quick handling & construction,
- Durable to the elements & impact, and
- Detailed to proven Australian Standards for specifiers, builders and installers.

Helix 75mm AAC Flooring System is designed in Australia and is fully compliant to Australian requirements. It represents a proven high-performing construction system used successfully in Australia & Europe for many years. Lightweight and easy to install, it provides an easy to install solution that can be specified with confidence.

Product selection, and incorporation into the building design, must be made by a person who is conversant with the application and technical aspects of the product, and has ready access to the relevant technical information related to the product use.

Product installation must be carried out by a competent tradesperson under the direction of a Builder, both of whom are familiar with the method of installation and have access to all relevant technical information.

2 HELIX AAC PANELS

Helix panel material properties have been determined by testing and calculation in accordance with AS 5146 Parts 1 & 2 - Reinforced Autoclaved Aerated Concrete as:

Property	Symbol	Unit (Metric (Imperial))	75 mm Panel
Panel Thickness	d	mm (in)	75 (2.95)
Panel Width	w	mm (in)	600 (23.62)
Panel Length	L	mm (ft & in)	1800 (5 ft 10.9 in), 2200 (7 ft 2.6 in), 2400 (7 ft 10.5 in), 2550 (8 ft 4.4 in), 2700 (8 ft 10.3 in), 2850 (9 ft 4.2 in), 3000 (9 ft 10.1 in), 3300 (10 ft 9.9 in)
Panel Edge Profile	—	—	Square
Declared Density Class	—	Class	500
Dry Density	ρ_{dry}	kg/m ³ (lb/ft ³)	450–500 (28.1–31.2)
Ambient Density	ρ_{ambient}	kg/m ³ (lb/ft ³)	478–531 (29.8–33.1)
Density for Transport (AS 5146.2, Cl.3.2.7):	ρ_{trans}	kg/m ³ (lb/ft ³)	670–740 (41.8–46.2)
Panel Weight	m_{ambient}	kg/m ² (lb/ft ²)	35.6–39.8 (7.29–8.15)
Declared Compressive Strength Class: AAC 2.5	Class	Class	AAC 3
Characteristic AAC Compressive Strength	f_{ck}	MPa (psi)	3.0 (435)
Reinforcement Tensile Yield Stress	f_{yk}	MPa (psi)	724 (105,000)
Reinforcement Characteristic Weld Strength	V_{uk}	kN (lbf)	3.91 (879)
Ultimate Strength Bending Capacity	ϕM_k	kNm/m (ft-lbf/ft)	0.893 (77.7)
Coefficient of Thermal Expansion	—	$\times 10^{-6}/^{\circ}\text{C}$	8×10^{-6}
Thermal Resistance	$R_{50\text{dry}}$	m ² ·K/W (h·ft ² ·°F/Btu)	0.602 (3.42)
Longitudinal Steel Reinforcement	Number	mm (in)	5 × Ø4.5 (5 × Ø0.18)
Transverse Steel Reinforcement (depending on panel length)	Number	mm (in)	6–10 × Ø4.5 (6–10 × Ø0.18)

3 NATIONAL CONSTRUCTION CODE (NCC) 2022

The NCC is a performance-based code, providing minimum performance levels and prescriptive ‘recipes’ for certain materials and construction-types. Compliance via a prescriptive ‘recipe’ described in the deemed-to satisfy clauses is called a Deemed-to-Satisfy Solution, otherwise performance must be evaluated by testing and engineering as a Performance Solution.

Helix 75mm AAC Flooring System is typically required to meet minimum performance requirements for; structure; fire; acoustics; and energy efficiency. Details of compliance are outlined below.

3.1 Structural Performance, B1D4(b)(ii) & H1D7(4)(a)

Helix 75mm AAC Flooring System has been tested in accordance with AS 5146.1 and designed in accordance with AS 5146.3.

As referenced in NCC 2022 Volume Two, H1D7(4)(a), performance requirement H1P1 is satisfied for autoclaved aerated concrete if it is designed and constructed in accordance with AS 5146.1.

As referenced in NCC 2022 Volume One, B1D4(b)(ii), structural resistance of materials and forms of construction for autoclaved aerated concrete must be determined in accordance with AS 5146.1 & AS 5146.3.

Helix 75mm AAC Flooring System is designed for use in single occupancy dwellings in applications where AS/NZS 1170.1 Table 3.1 imposed concentrated floor actions do not exceed 2.0kPa distributed action and 1.8kN concentrated action (over 350mm² area).

Floor coverings required to be installed include carpet and underlay with minimum 13mm combined thickness, or other suitable floor coverings as described in Figures 7.1.1.to 7.1.4.

Maximum joist spacing is 600mm. There shall be provisions to prevent and/or control cracking of any brittle floor coverings, such as tiles, particularly at 600mm joist spacing.

Timber, steel or concrete structural supporting frames, including bracing capable of resisting applicable horizontal and vertical loads, complying with AS 1684, AS/NZS 4600 or AS 3600 respectively. The design of structural supporting frames is excluded from the scope of this Design and Installation Guide.

3.2 Fire Safety Performance, C2D2(2) & 9.3.1(1)(a)(i)

Helix 75mm AAC Flooring System testing and assessment has demonstrated the capacity to achieve an FRL of 90/90/90. The FRL performance of the floor system with a ceiling lining comprising of fire rated plasterboard system with an established FRL will achieve the FRL of the ceiling system. 75mm Helix panels will protect against the spread of fire from above for a duration of at least 90 minutes. Helix 75mm AAC Flooring System will meet non-combustible construction requirements in conjunction with steel framing and non-combustible insulation.

Note: AS 5146.3 describes the “resistance to fire from top only as 240 minutes” for a 75mm thick reinforced AAC floor.

Helix 75mm AAC Flooring System - FRL PERFORMANCE			
Floor Covering	Floor Joists (up to 600 mm (23.62 in) c/c)	Ceiling Lining	Ceiling System (FRL)
Carpet and Underlay, or Vinyl & Hardboard, or Vinyl & Screed, or Timber & Batten, or Timber & Foam (Floating), or Tile & Adhesive, or Tile & 50 mm (1.97 in) Concrete Topping Slab	Timber 240 mm (9.45 in) deep Timber/LVL	-	-/-/-
		10 mm (0.39 in) standard plasterboard	-/-/-
		13 mm (0.51 in) standard plasterboard	-/-/-
		13 mm (0.51 in) fire-rated plasterboard	30/30/30
		2 x 13 mm (0.51 in) fire-rated plasterboard	60/60/60
		2 x 16 mm (0.63 in) fire-rated plasterboard	90/90/90

3.3 Non Combustible, C2D10

Non-Combustible: C2D10(5)(e), Autoclaved aerated concrete, including mortar are non-combustible and may be used wherever a non-combustible material is required. Gaskets, caulking, sealants, damp-proof courses are not required to be non-combustible, and plasterboard may be used wherever a non-combustible material is required.

3.4 Fire Hazard Properties, C2D11

As a concrete product, C2D11(1) requirements for Group Number, SMOGRARC, ASEA, Spread-of-Flame and Smoke-Developed Indices, "...do not apply..." to Helix panel [per C2D11(3)]. Floor coverings are to be tested in accordance with AS ISO 9239.1:2003 and shall meet the requirements for the allowable Critical Heat Flux detailed in Table S7C3 of Specification 7 as applicable.

3.5 Acoustic Performance, F7P1, F7P3

Helix 75mm AAC Flooring Systems onto timber or steel framing with the ceiling lining configurations as detailed achieve NCC airborne and impact sound insulation performance requirements for:

- Weighted sound reduction indices with spectrum adaptation terms of R_w+C_{tr} (dB) not less than 50. Helix 75mm AAC Flooring System configurations range from 50 to 67, and
- $L_{n,w}$ (impact) not more than 62. AAC Flooring System configurations range from 37 to 57.

Helix 75 mm AAC Flooring System - ACOUSTIC PERFORMANCE					
System	Plasterboard Ceiling Finish	Timber Frame with Resilient Mounts at 600 mm (23.62 in) centres		Steel Frame with Resilient Mounts at 600 mm (23.62 in) centres	
		R_w+C_{tr}	$L_{n,w}$	R_w+C_{tr}	$L_{n,w}$
1. Medium pile carpet on foam underlay • HELIX AAC 75 mm (2.95 in) panel • 190 mm (7.48 in) deep timber or steel joist • R2 HD glasswool insulation 14 kg/m ³ (0.87 lb/ft ³) in the gap • 28 mm (1.10 in) furring channels and Rondo resilient clips fixed to underside of joist	1 x 13 mm (0.51 in) standard	50	37	50	37
	2 x 13 mm (0.51 in) fire-rated	53	37	53	37
	2 x 16 mm (0.63 in) fire-rated	58	37	58	37
2. Cushion back vinyl flooring (4 mm (0.16 in) thick) with Masonite underlay • HELIX AAC 75 mm (2.95 in) panel • 190 mm (7.48 in) deep timber or steel joist • R2 HD glasswool insulation 14 kg/m ³ (0.87 lb/ft ³) in the gap • 28 mm (1.10 in) furring channels and Rondo resilient clips fixed to underside of joist	1 x 13 mm (0.51 in) standard	50	55	50	55
	2 x 13 mm (0.51 in) fire-rated	53	52	53	52
	2 x 16 mm (0.63 in) fire-rated	58	51	58	51
3. 14 mm (0.55 in) engineered floating timber floorboard with 4–5 mm (0.16–0.20 in) rubber or rubber/cork underlay • HELIX AAC 75 mm (2.95 in) panel • 190 mm (7.48 in) deep timber or steel joist • R2 HD glasswool insulation 14 kg/m ³ (0.87 lb/ft ³) in the gap • 28 mm (1.10 in) furring channels and Rondo resilient clips fixed to underside of joist	1 x 13 mm (0.51 in) standard	50	55	50	55
	2 x 13 mm (0.51 in) fire-rated	53	52	53	52
	2 x 16 mm (0.63 in) fire-rated	58	51	58	51

Helix 75 mm AAC Flooring System - ACOUSTIC PERFORMANCE

System	Plasterboard Ceiling Finish	Timber Frame with Resilient Mounts at 600 mm (23.62 in) centres		Steel Frame with Resilient Mounts at 600 mm (23.62 in) centres	
		R _w +C _{tr}	L _{n,w}	R _w +C _{tr}	L _{n,w}
4. 19 mm (0.75 in) thick timber floorboards nailed to 45 mm x 45 mm (1.77 in x 1.77 in) timber batten cross laid on 4-5 mm (0.16-0.20 in) thick rubber or rubber/cork strips • HELIX AAC 75 mm (2.95 in) panel • 190 mm (7.48 in) deep timber or steel joist • R2 HD glasswool insulation 14 kg/m ³ (0.87 lb/ft ³) in the gap • 28 mm (1.10 in) furring channels and Rondo resilient clips fixed to underside of joist	1 x 13 mm (0.51 in) standard	50	55	46	55
	2 x 13 mm (0.51 in) fire-rated	52	52	49	52
	2 x 16 mm (0.63 in) fire-rated	56	51	49	51
5. 8 mm (0.31 in) ceramic tile with 4-5 mm (0.16-0.20 in) rubber or rubber/cork underlay • HELIX AAC 75 mm (2.95 in) panel • 190 mm (7.48 in) deep timber or steel joist • R2 HD glasswool insulation 14 kg/m ³ (0.87 lb/ft ³) in the gap • 28 mm (1.10 in) furring channels and Rondo resilient clips fixed to underside of joist	1 x 13 mm (0.51 in) standard	52	57	52	57
	2 x 13 mm (0.51 in) fire-rated	54	54	54	54
	2 x 16 mm (0.63 in) fire-rated	60	53	61	53
6. 8 mm (0.31 in) ceramic tile with 50 mm (1.97 in) topping slab floor finish • HELIX AAC 75 mm (2.95 in) panel • 190 mm (7.48 in) deep timber or steel joist • R2 HD glasswool insulation 14 kg/m ³ (0.87 lb/ft ³) in the gap • 28 mm (1.10 in) furring channels and Rondo resilient clips fixed to underside of joist	1 x 13 mm (0.51 in) standard	59	55	59	55
	2 x 13 mm (0.51 in) fire-rated	60	52	60	52
	2 x 16 mm (0.63 in) fire-rated	67	51	67	51

3.6 Thermal Performance, J4D7, H6D2(1)(b)(i)

Helix 75mm AAC Flooring System incorporating those floor coverings as shown below, 75mm thickness panel, steel or timber joists at 600mm spacing, R2.0 glasswool insulation, steel ceiling battens and minimum 13mm plasterboard ceiling lining, achieves the following Total R-values in accordance with AS/NZS 4859.1:2018 which may be used to satisfy the minimum Total R-value requirements of NCC 2022, Volume One J4D7, Volume Two H6D2(1)(b)(i) & Housing Provisions 13.2.5 floor insulation requirements, where these values are higher, or as input to house energy rating software to achieve an energy rating.

Helix 75 mm AAC Flooring System - THERMAL PERFORMANCE				
Application	Floor Covering	Floor Joists (at 600 mm (23.62 in) c/c spacing)	Total R-value (R _t) m ² -K/W (h-ft ² -°F/Btu)	
			Winter (Heat Flow Up)	Summer (Heat Flow Down)
Interfloor (2nd storey floor/ ceiling)	Carpet & foam underlay (min. 13 mm (0.51 in) total thick.)	Timber 190 x 45 mm (7.48 x 1.77 in)	3.82 (21.7)	3.44 (19.5)
		Steel C15012 (150 x 65 x 1.2 mm (5.91 x 2.56 x 0.05 in))	3.31 (18.8)	2.99 (17.0)
	4 mm (0.16 in) Vinyl & 5 mm (0.20 in) Masonite	Timber 190 x 45 mm (7.48 x 1.77 in)	3.52 (20.0)	3.15 (17.9)
		Steel C15012 (150 x 65 x 1.2 mm (5.91 x 2.56 x 0.05 in))	2.96 (16.8)	2.65 (15.0)
	14 mm (0.55 in) Floating Floorboards & 4–5 mm (0.16–0.20 in) Rubber/Cork Underlay	Timber 190 x 45 mm (7.48 x 1.77 in)	3.70 (21.0)	3.33 (18.9)
		Steel C15012 (150 x 65 x 1.2 mm (5.91 x 2.56 x 0.05 in))	3.18 (18.1)	2.86 (16.2)
	19 mm (0.75 in) Timber Floorboards & Timber Battens	Timber 190 x 45 mm (7.48 x 1.77 in)	3.82 (21.7)	3.44 (19.5)
		Steel C15012 (150 x 65 x 1.2 mm (5.91 x 2.56 x 0.05 in))	3.31 (18.8)	2.99 (17.0)
	8 mm (0.31 in) Ceramic Tile & 4–5 mm (0.16–0.20 in) Rubber/Cork Underlay	Timber 190 x 45 mm (7.48 x 1.77 in)	3.52 (20.0)	3.15 (17.9)
		Steel C15012 (150 x 65 x 1.2 mm (5.91 x 2.56 x 0.05 in))	2.96 (16.8)	2.65 (15.0)
	8 mm (0.31 in) Ceramic Tile & Concrete Topping Slab	Timber 190 x 45 mm (7.48 x 1.77 in)	3.52 (20.0)	3.15 (17.9)
		Steel C15012 (150 x 65 x 1.2 mm (5.91 x 2.56 x 0.05 in))	2.96 (16.8)	2.65 (15.0)
Enclosed Subfloor (Suspended ground floor)	Carpet & Foam Underlay (min. 13 mm (0.51 in) total thick.)	Timber 190 x 45 mm (7.48 x 1.77 in)	4.23 (24.0)	3.90 (22.1)
		Steel C15012 (150 x 65 x 1.2 mm (5.91 x 2.56 x 0.05 in))	3.73 (21.2)	3.45 (19.6)
	4 mm (0.16 in) Vinyl & 5 mm (0.20 in) Masonite	Timber 190 x 45 mm (7.48 x 1.77 in)	3.94 (22.4)	3.61 (20.5)
		Steel C15012 (150 x 65 x 1.2 mm (5.91 x 2.56 x 0.05 in))	3.37 (19.1)	3.10 (17.6)
	14 mm (0.55 in) Floating Floorboards & 4–5 mm (0.16–0.20 in) Rubber/Cork Underlay	Timber 190 x 45 mm (7.48 x 1.77 in)	4.12 (23.4)	3.79 (21.5)
		Steel C15012 (150 x 65 x 1.2 mm (5.91 x 2.56 x 0.05 in))	3.60 (20.4)	3.32 (18.9)
	19 mm (0.75 in) Timber Floorboards & Timber Battens	Timber 190 x 45 mm (7.48 x 1.77 in)	4.23 (24.0)	3.90 (22.1)
		Steel C15012 (150 x 65 x 1.2 mm (5.91 x 2.56 x 0.05 in))	3.73 (21.2)	3.45 (19.6)
	8 mm (0.31 in) Ceramic Tile & 4–5 mm (0.16–0.20 in) Rubber/Cork Underlay	Timber 190 x 45 mm (7.48 x 1.77 in)	3.94 (22.4)	3.61 (20.5)
		Steel C15012 (150 x 65 x 1.2 mm (5.91 x 2.56 x 0.05 in))	3.37 (19.1)	3.10 (17.6)
	8 mm (0.31 in) Ceramic Tile & Concrete Topping Slab	Timber 190 x 45 mm (7.48 x 1.77 in)	3.94 (22.4)	3.61 (20.5)
		Steel C15012 (150 x 65 x 1.2 mm (5.91 x 2.56 x 0.05 in))	3.37 (19.1)	3.10 (17.6)
Exposed Subfloor (e.g. Carpark)	Carpet & Foam Underlay (min. 13 mm (0.51 in) total thick.)	Timber 190 x 45 mm (7.48 x 1.77 in)	3.74 (21.2)	3.41 (19.4)
		Steel C15012 (150 x 65 x 1.2 mm (5.91 x 2.56 x 0.05 in))	3.23 (18.3)	2.96 (16.8)
	4 mm (0.16 in) Vinyl & 5 mm (0.20 in) Masonite	Timber 190 x 45 mm (7.48 x 1.77 in)	3.44 (19.5)	3.12 (17.7)
		Steel C15012 (150 x 65 x 1.2 mm (5.91 x 2.56 x 0.05 in))	2.88 (16.4)	2.62 (14.9)
	14 mm (0.55 in) Floating Floorboards & 4–5 mm (0.16–0.20 in) Rubber/Cork Underlay	Timber 190 x 45 mm (7.48 x 1.77 in)	3.63 (20.6)	3.30 (18.8)
		Steel C15012 (150 x 65 x 1.2 mm (5.91 x 2.56 x 0.05 in))	3.10 (17.6)	2.83 (16.1)
	19 mm (0.75 in) Timber Floorboards & Timber Battens	Timber 190 x 45 mm (7.48 x 1.77 in)	3.74 (21.2)	3.41 (19.4)
		Steel C15012 (150 x 65 x 1.2 mm (5.91 x 2.56 x 0.05 in))	3.23 (18.3)	2.96 (16.8)
	8 mm (0.31 in) Ceramic Tile & 4–5 mm (0.16–0.20 in) Rubber/Cork Underlay	Timber 190 x 45 mm (7.48 x 1.77 in)	3.44 (19.5)	3.12 (17.7)
		Steel C15012 (150 x 65 x 1.2 mm (5.91 x 2.56 x 0.05 in))	2.88 (16.4)	2.62 (14.9)
	8 mm (0.31 in) Ceramic Tile & Concrete Topping Slab	Timber 190 x 45 mm (7.48 x 1.77 in)	3.44 (19.5)	3.12 (17.7)
		Steel C15012 (150 x 65 x 1.2 mm (5.91 x 2.56 x 0.05 in))	2.88 (16.4)	2.62 (14.9)

Note : Glasswool insulation above ceiling R2.0, 75 mm (2.95 in) plasterboard minimum 13 mm (0.51 in) thickness on ceiling battens.

4 SYSTEM COMPONENTS

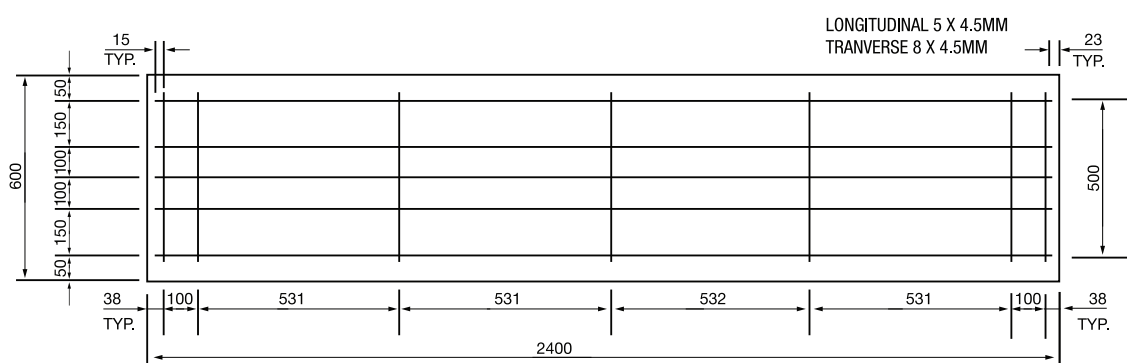
The performance of Helix 75mm AAC Flooring System relies on the use of the components as listed below. The use of other components will alter the performance of the system and is not approved by Helix.

4.1 Helix Panel, common to all systems

4.1.1 75mm AAC Panel

Product:	Autoclaved aerated concrete panels
Thickness:	75 mm (2.95 in)
Width:	600 mm (23.62 in)
Lengths:	1800 mm (5 ft 10.9 in), 2200 mm (7 ft 2.6 in), 2400 mm (7 ft 10.5 in), 2550 mm (8 ft 4.4 in), 2700 mm (8 ft 10.3 in), 2850 mm (9 ft 4.2 in), 3000 mm (9 ft 10.1 in), 3300 mm (10 ft 10.0 in)
Reinforcement:	Single layer steel mesh, centrally located.
Steel bars:	5 × Ø4.5 mm (Ø0.18 in) longitudinal bars and 6–10 × Ø4.5 mm (Ø0.18 in) transverse bars depending on panel length.

Typical steel reinforcement layout:



4.2 Helix 75mm Flooring System Components

4.2.1 Panel Screws

To Timber Joists: 14–10 MP Bugle Head Type 17 screw. Screw length shall be 25mm longer than the panel thickness. To light gauge steel joists (1.2mm BMT) 14–10 Hex Head Type 17 screw. Screw length shall be 20mm longer than the panel thickness.

Screws shall be:

- At least Class 3 for moderate and mild exposure environments;
- At least Class 4 for severe marine further than 100m from breaking surf, marine and industrial exposure environments; and
- Class 4 stainless steel for severe marine exposure environments within 100m of breaking surf.

4.2.2 Construction Adhesive

Continuous 5mm bead of construction adhesive is required between the panel and the joist.

4.2.3 Thin Bed Adhesive Mortar

The thin-bed adhesive mortar shall have a characteristic tensile strength equal to or greater than the characteristic tensile strength of the AAC, and be C1E classification in accordance with AS ISO 13007.1.

5 SPECIFICATIONS

The following specification requirements are outside the scope of this guide:

- a) Building design.
- b) Site supervision and control.
- c) Quality assurance.
- d) Workplace health and safety.
- e) The construction of all other building elements.

The design of the timber or steel structural frame (including all bracing) and other building components are excluded from the scope of the Helix 75mm AAC Flooring System.

The floor framing supporting AAC floor panels shall have a minimum width of 45mm and maximum spacing of 600mm, and be in accordance with AS 1684 for timber; or, NASH or AS/NZS 4600 for steel.

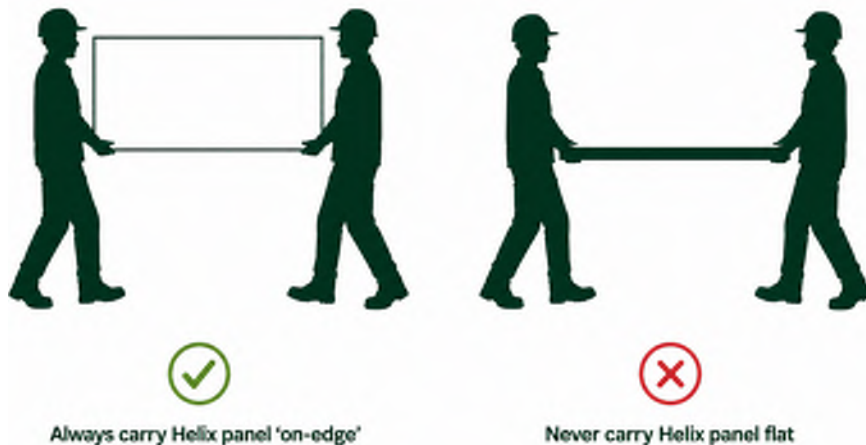
The Building Designer shall be responsible for the design and correct installation of control joints and articulation joints.

5.1 Storage and Handling

Physical damage – Ensure Helix panel remains protected from damage and surface contamination prior to installation. Weather protection – Ensure the top surface of Helix panel is always covered to prevent the absorption of rainwater.

Do not stack packs of panels on top of each other. Packs must be properly supported on a level surface. Only place packs in areas that have been verified as being able to support their weight.

Manual handling of Helix panel should be kept to a minimum, ensure the panel is only handled “on-edge”.



Cutting of cement based products may cause dust, which contains respirable crystalline silica. When cutting AAC products, wear a P1 or P2 respirator and eye & ear protection, and use dust extraction equipment that complies with AS/NZS 60335.2.69 class M or H requirements. Wet cutting may be mandatory in certain States and/or Territories, confirm with local work safe authority on cutting requirement for AAC products. Always refer to the appropriate Safety Data Sheet for further information.

Steel panel reinforcement exposed during cutting must be re-coated with anti-corrosion protection paint.

6 INSTALLATION

6.1 General

Helix 75mm AAC Flooring System shall only be installed by qualified and experienced tradesmen under the direction of a builder who understand the installation techniques described in this guide and the NCC 2022(Amdt.2).

In accordance with AS 5146.3, Clause 3.1;

- The structural capacity of Helix 75mm AAC Flooring System is determined in accordance with AS 5146.1, AS 5146.2, and AS 5146.3; and,
- Helix panels and their fixings are capable of supporting their own self-weight; and, those permanent and imposed actions as specified.
- Helix panels shall be structurally supported at their ends. Fixings shall be supported on structural framing capable of resisting all applicable loads..
- Any recesses at fixings and local chipping shall be patched prior to the installation of floor coverings.

6.2 Control Joints and Articulation Joints

Specific requirements for Control joints and articulation joints will vary from building to building. It is the responsibility of the designer to ensure the Helix 75mm AAC Flooring System is suitable for any application. General guidance for control joints and articulation joints is provided in AS 5146.3 and as follows.

At minimum, control joints shall be a minimum 10mm wide and shall consist of an expanded polystyrene tube or bead backing rod and a polyurethane multipurpose external grade material gunned into the joint to form a 10mm wide x 5 mm deep flexible seal. Control joints shall incorporate de-bonding tape. For application requiring resistance against fire or bushfire, a fire-rated sealant shall be suitable for the degree of fire resistance required. Any material used to fill joints shall be of a type that will not inhibit the performance of the joints during the life of the structure. Joints shall extend to the full length of the floor.

6.3 Flashings

Flashings – where required shall be installed based on customised detailing requirements for each building, in accordance with the Helix 75mm AAC Flooring System Typical Construction Details, which are provided in accordance with requirements for AS 5146.3 Clause 6.3.1, modified and supplemented as necessary.

6.4 Panel Installation

1. All joists and other bearing surfaces shall be level and flat, providing continuous support for the Reinforced AAC floor panels.
2. The minimum joist width shall be 45mm (Fig. 7.1.8 & 7.1.10).
3. The minimum end bearing length shall be 45 mm (Fig. 7.1.11).
4. Use two screws per panel at every supporting joist.
5. Apply a continuous 5mm bead of construction adhesive between the panel and the joist.
6. Panels shall be fixed to at least three (3) joists. Alternatively, panels shall be fully-supported around their perimeter.
7. Holes and chases shall not be made in Reinforced AAC panels.
8. Reinforced AAC members shall not be cut during construction, except at positions specified in the design documents.
9. Thin bed adhesive shall be applied to the entire edge surface of all joints between Reinforced AAC panels, other than control or articulation joints. The joint shall be 2–3mm wide.
10. Helix panels shall be installed to achieve the requirements of Section 7 Construction Details.

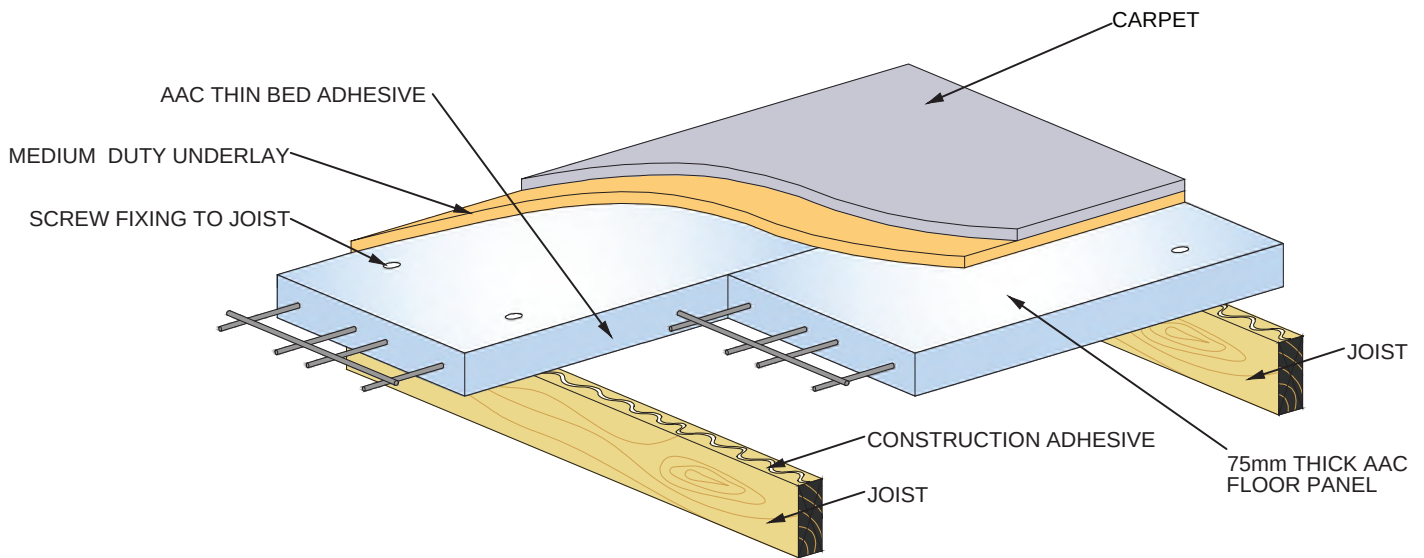
7 CONSTRUCTION DETAILS

Helix 75mm AAC Flooring System must be installed in strict accordance with this Design and Installation Guide and comply with all relevant building codes and local government regulations.

These typical construction details are provided as a guide for construction industry professionals. These typical construction details do not constitute a project specific specification and should only be used within the context of project specifications.

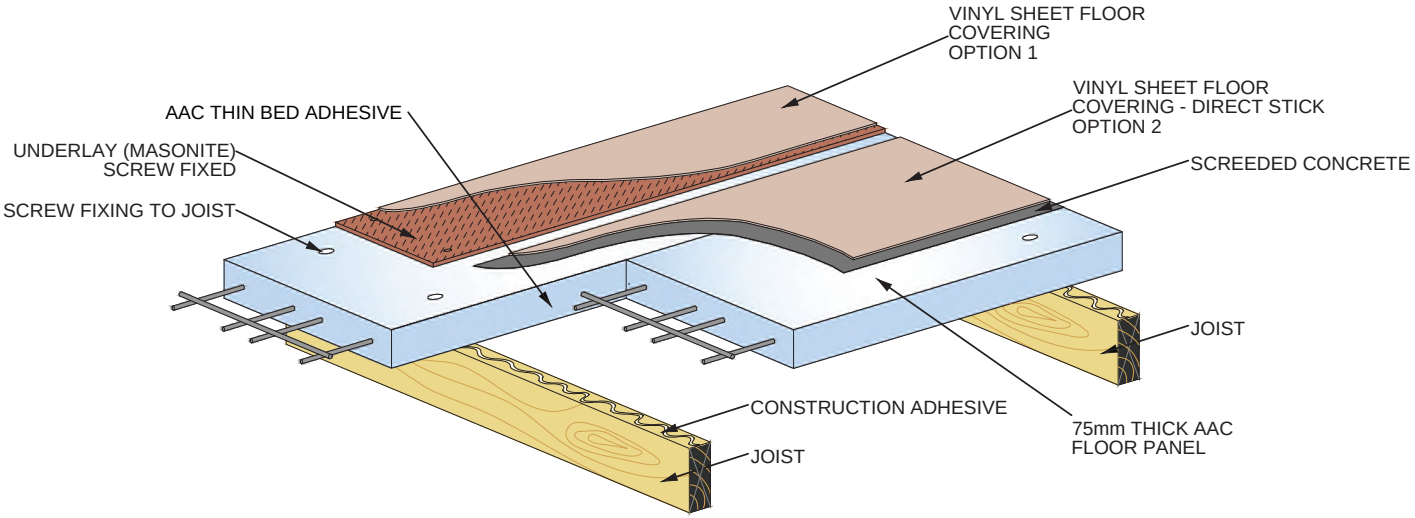
Modifications to these drawings shall not be made without the approval of Helix.

7.1 Typical Details – Helix 75mm Flooring System

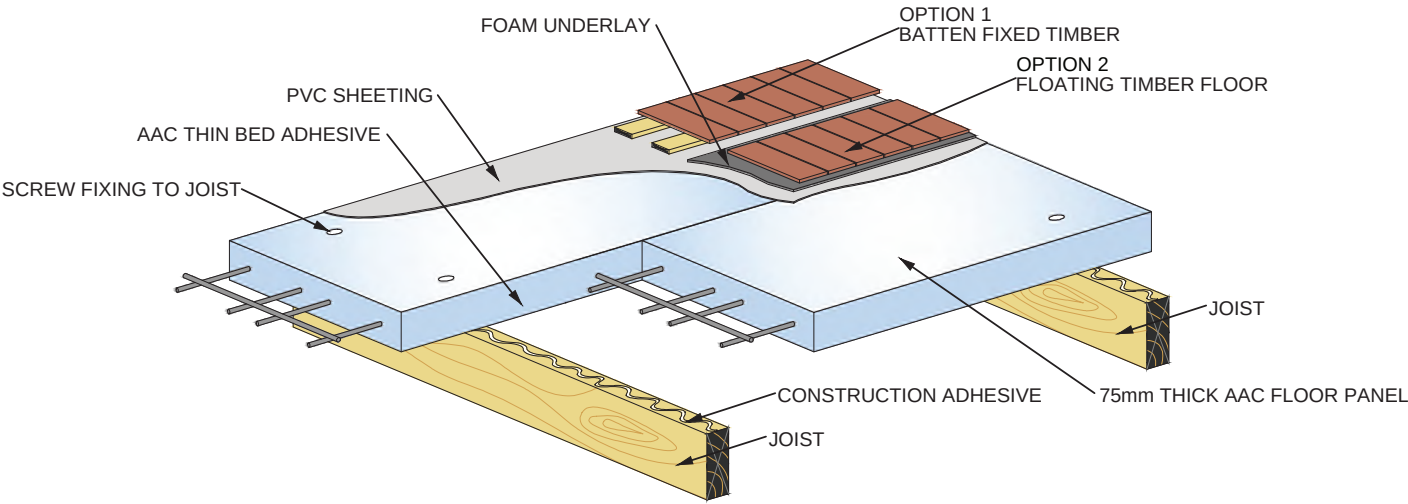


Floor with Carpet

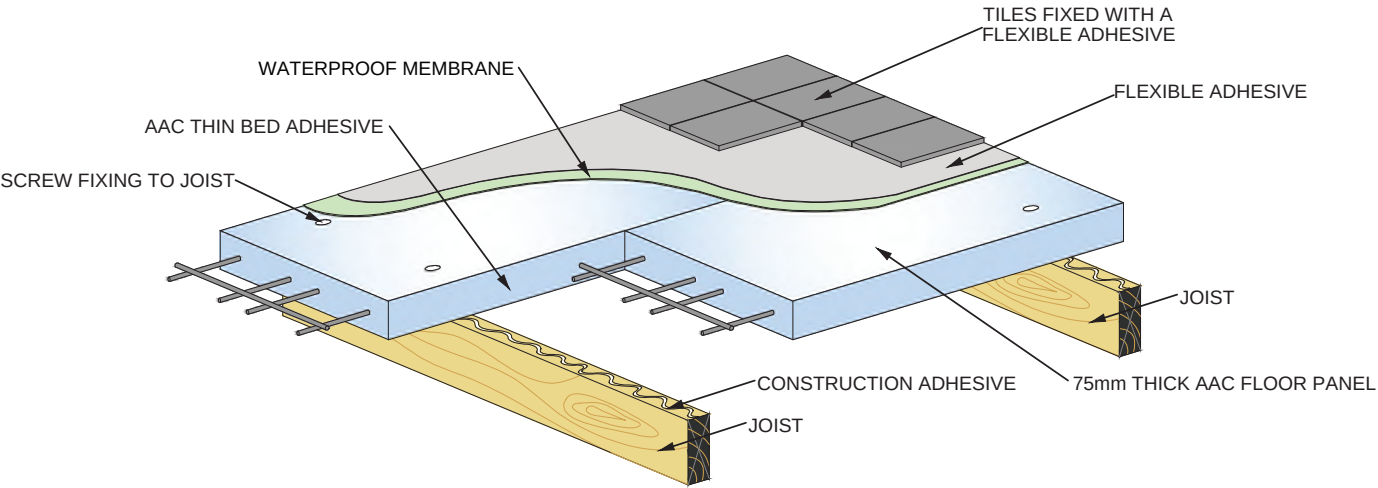
7.1.1 FLOOR WITH VINYL FLOOR COVERING ON HARDBOARD



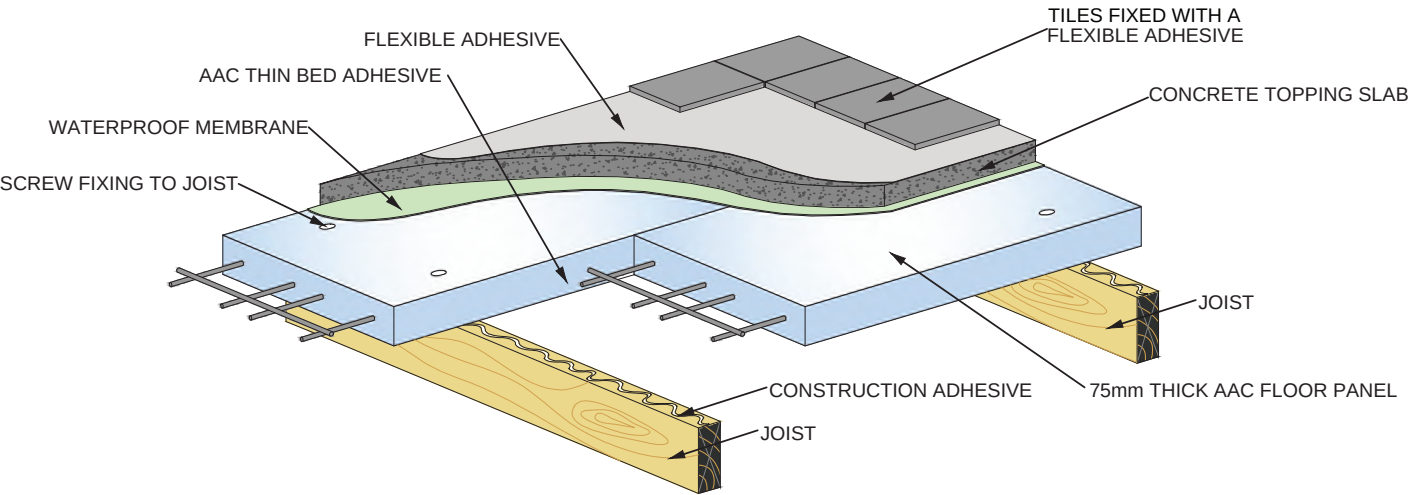
7.1.2 FLOOR WITH TIMBER PANEL FLOORING



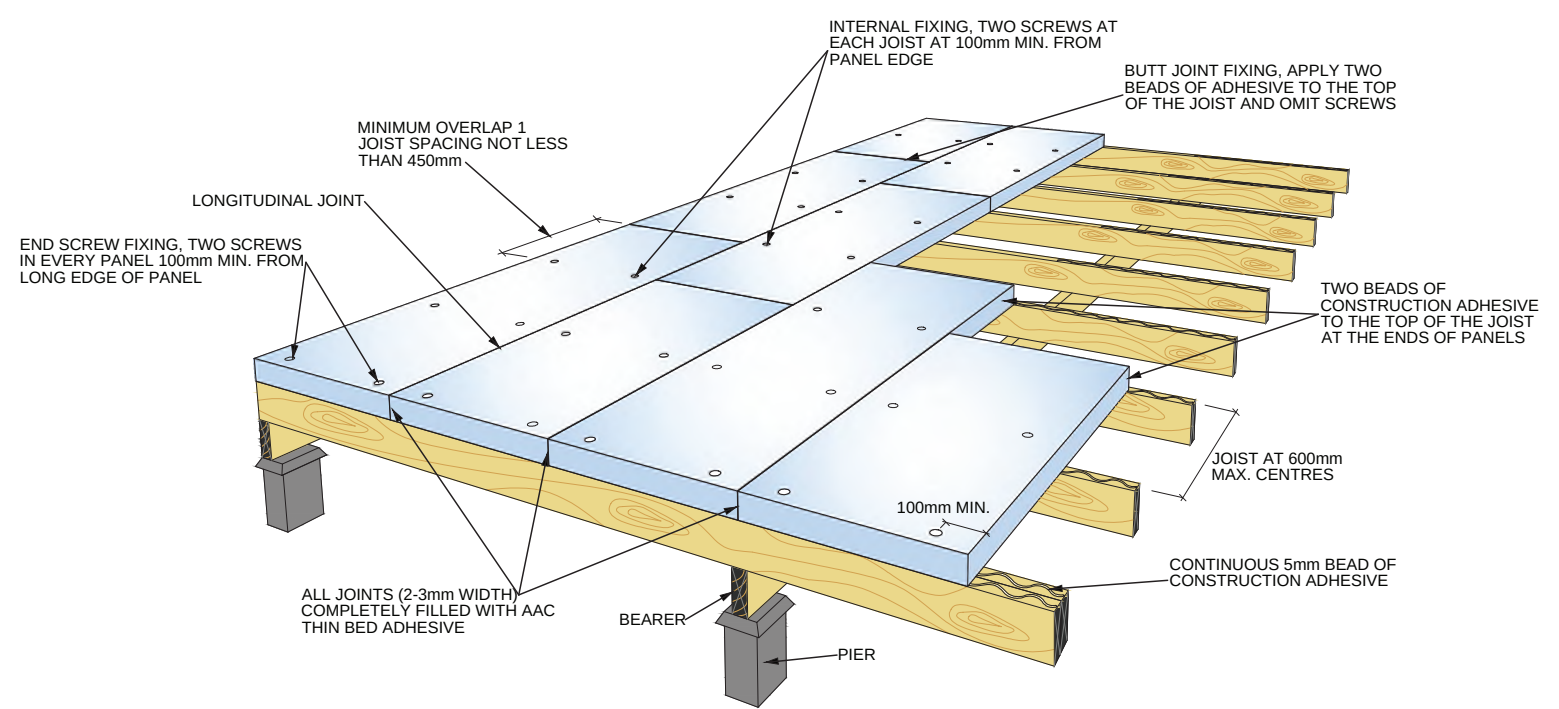
7.1.3 FLOOR WITH 8MM CERAMIC TILES



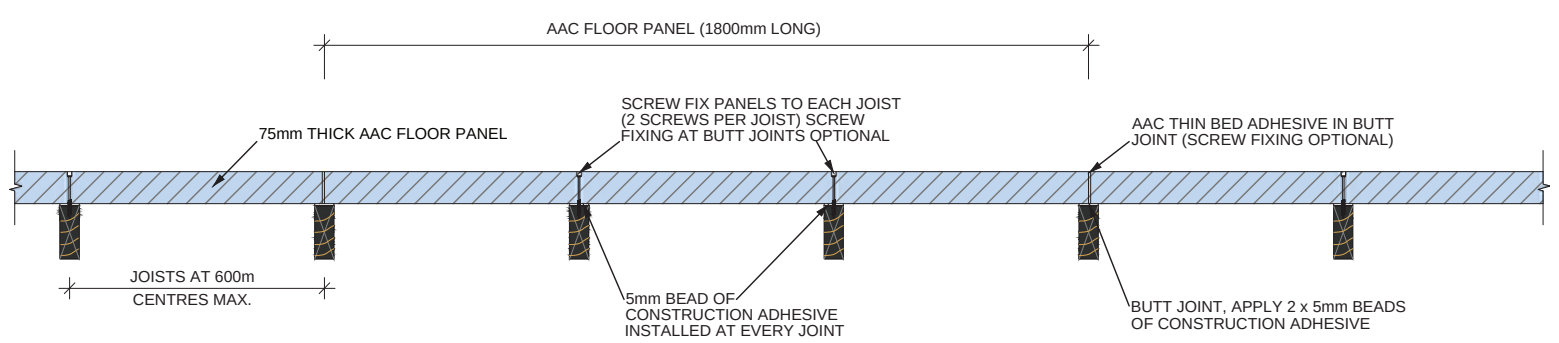
7.1.4 FLOOR WITH 8MM CERAMIC TILES ON 50MM CONCRETE TOPPING SLAB



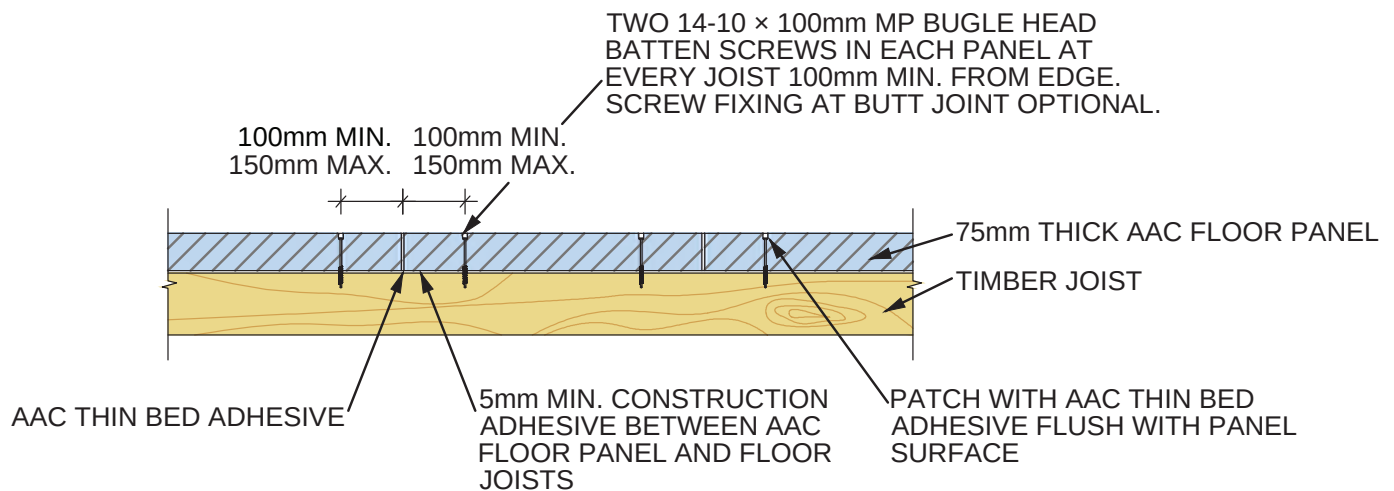
7.1.5 FLOOR FIXING ARRANGEMENT



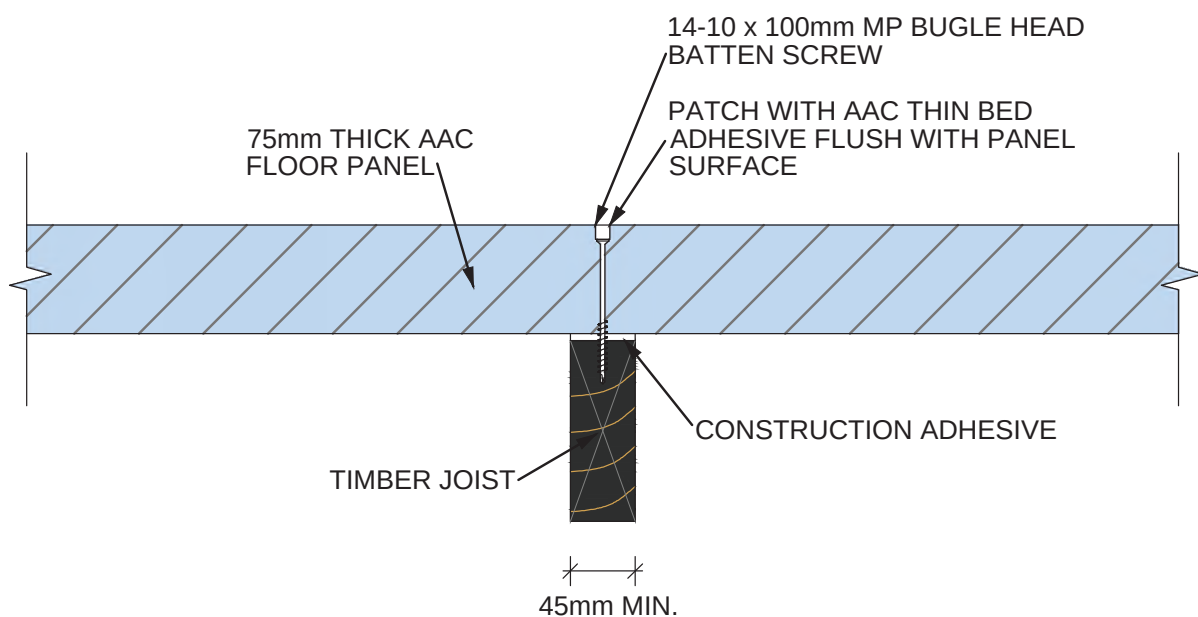
7.1.6 FLOOR FIXING LAYOUT



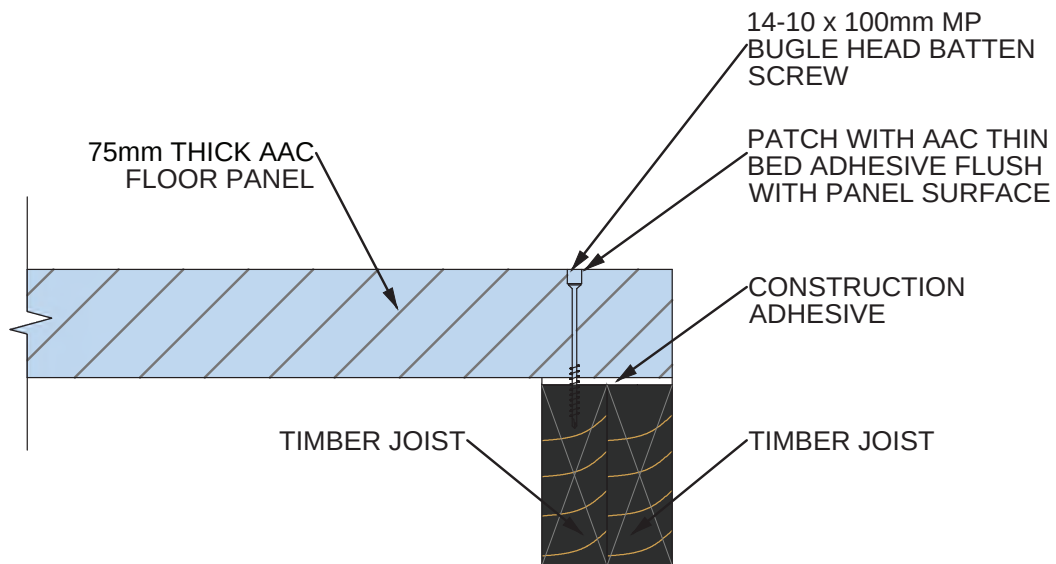
7.1.7 FLOOR FIXING DETAILS



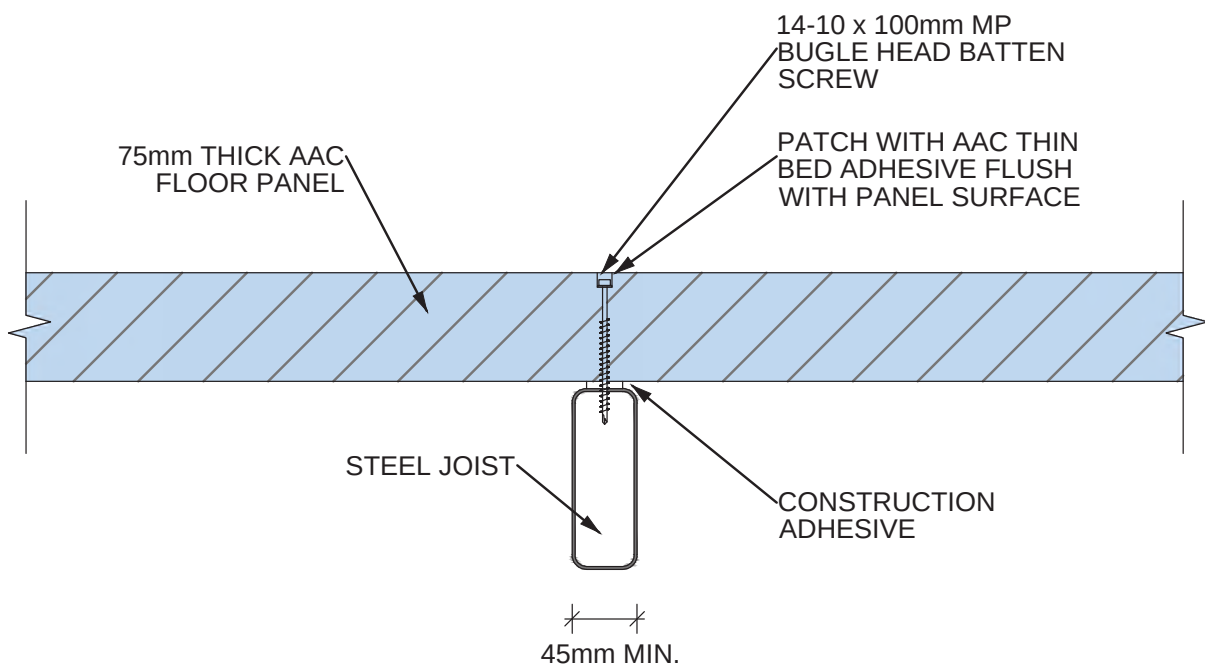
7.1.8 FLOOR FIXING TO TIMBER JOISTS



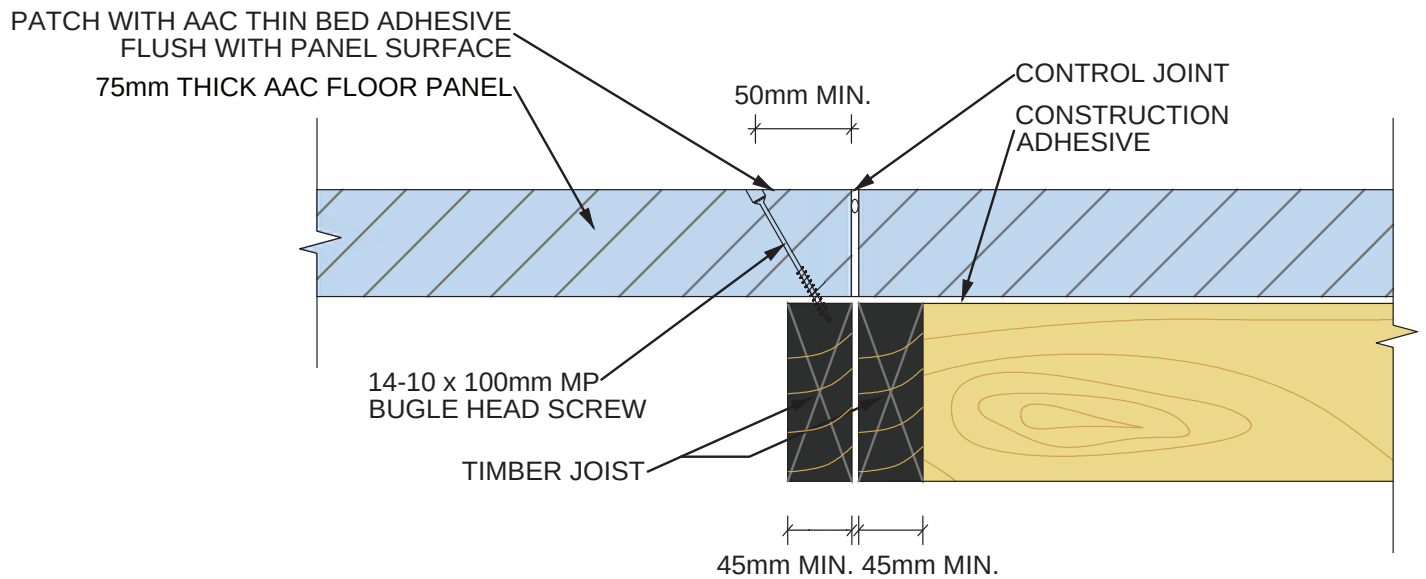
7.1.9 FLOOR FIXING AT END OF PANELS TO TIMBER JOISTS



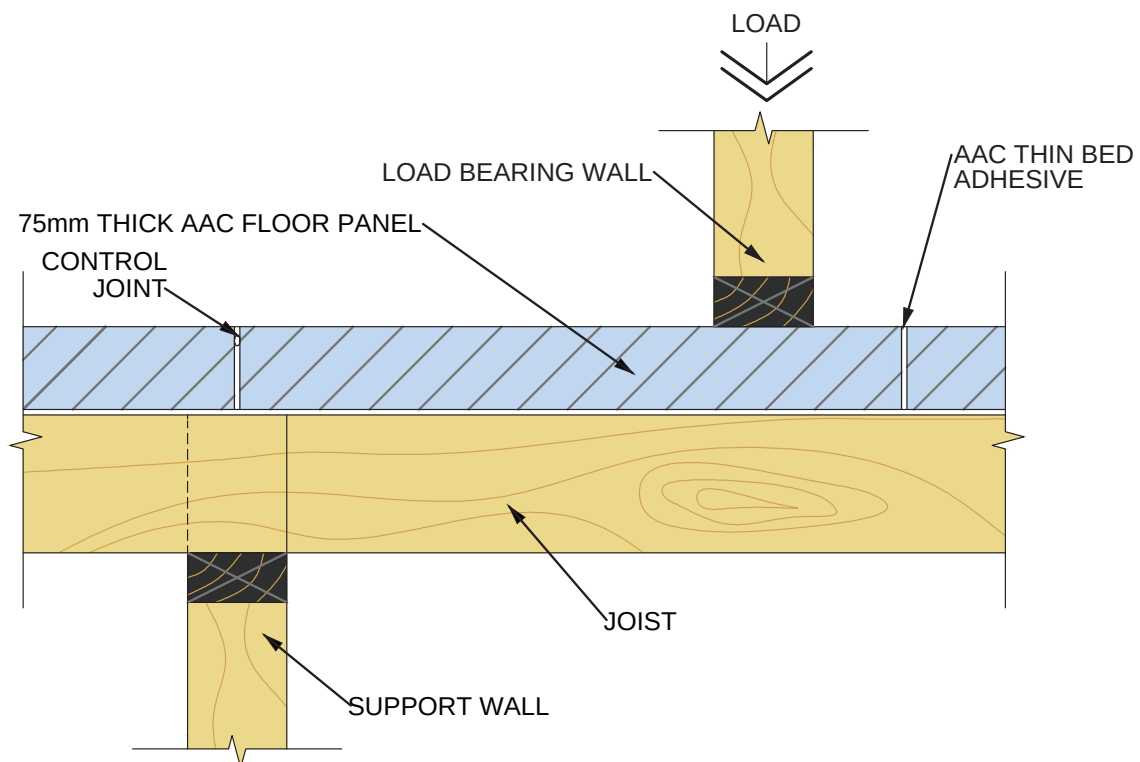
7.1.10 FLOOR FIXING AT STEEL JOISTS



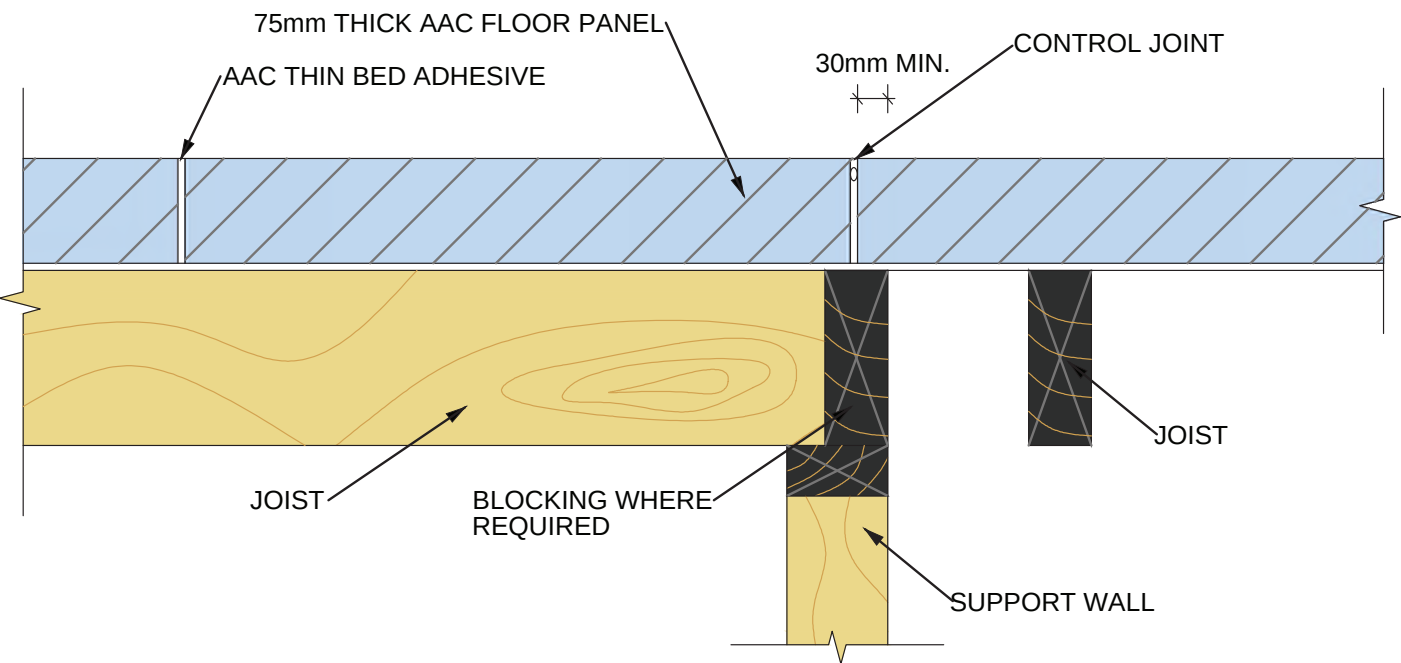
7.1.11 FLOOR FIXING AT END OF PANELS TO TIMBER JOISTS



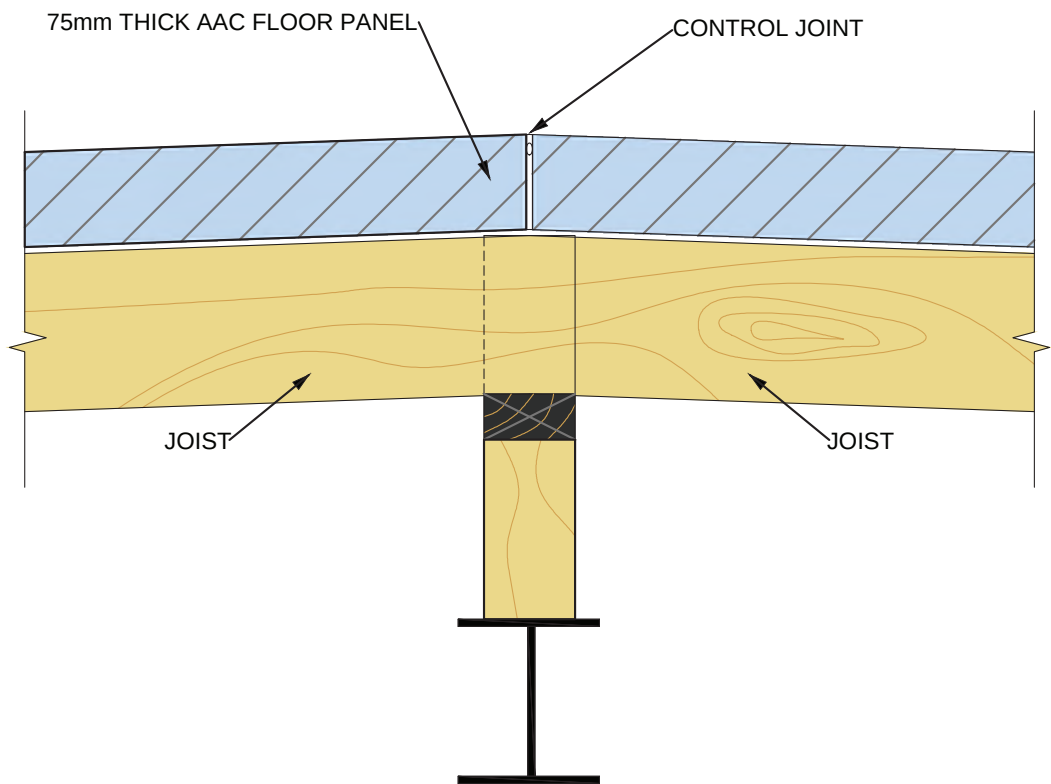
7.1.12 FLOOR CONTROL JOINT LOCATION FOR ECCENTRIC LOAD BEARING WALL



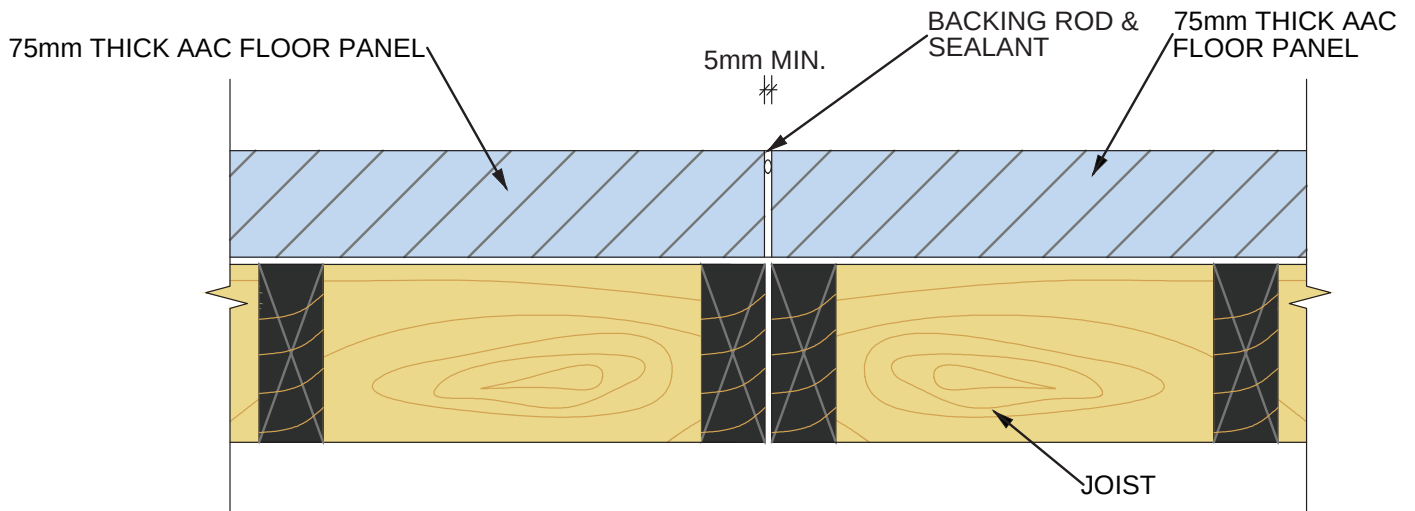
7.1.13 FLOOR CONTROL JOINT LOCATION FOR CHANGE IN JOIST ORIENTATION



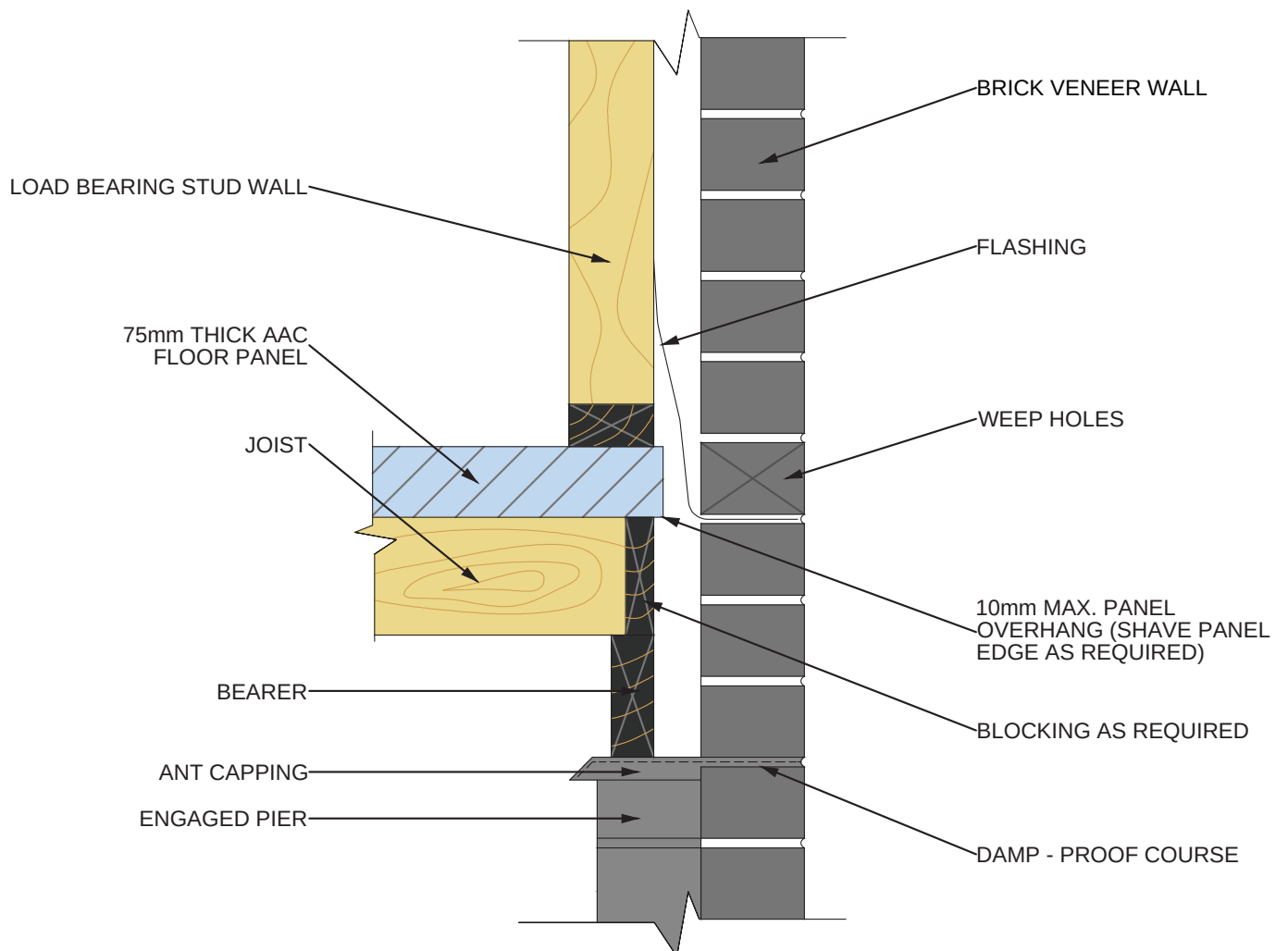
7.1.14 FLOOR CONTROL JOINT LOCATION FOR BEARER OR SUPPORT WALL



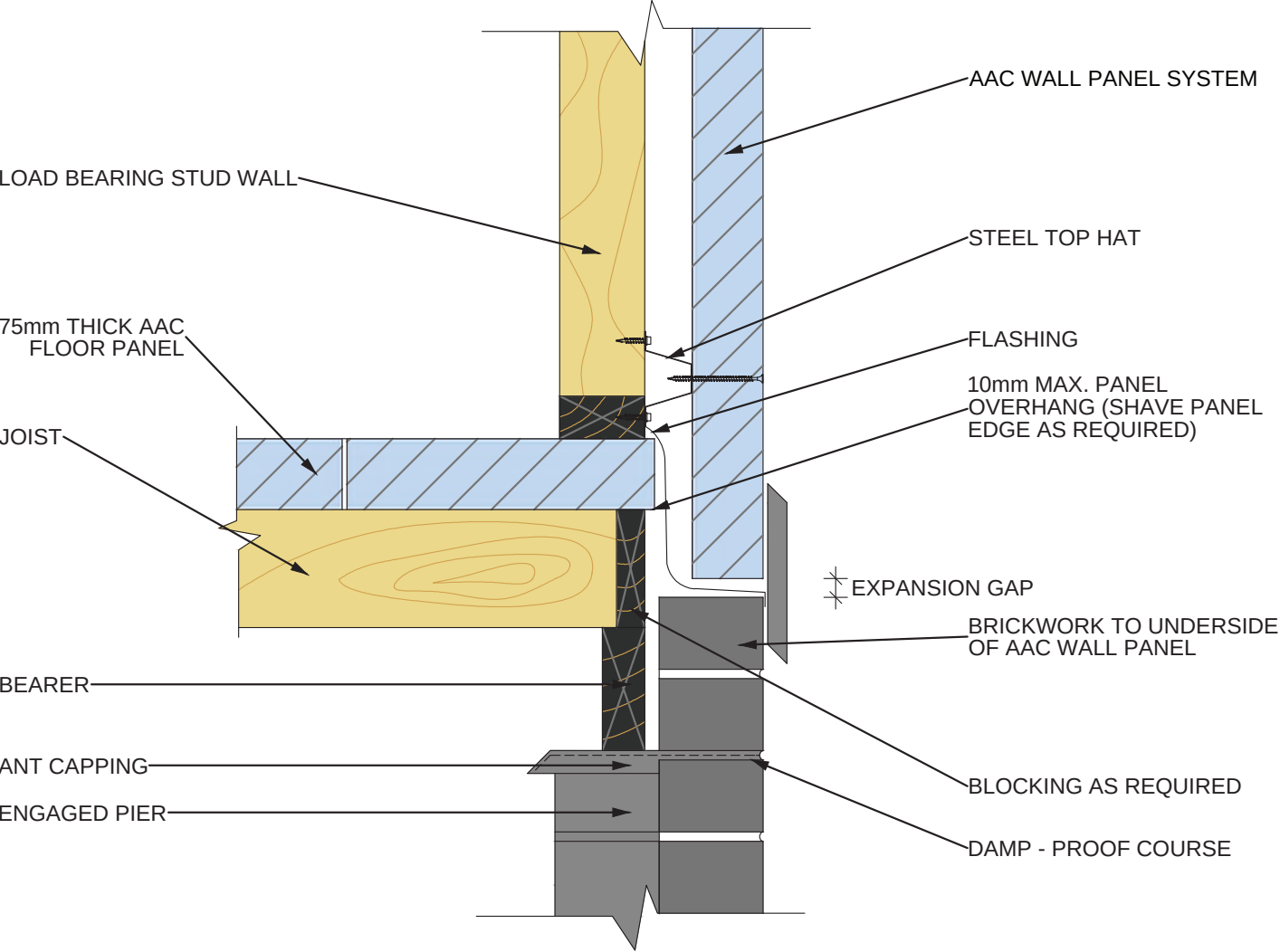
7.1.15 FLOOR UNKEYED CONTROL JOINT



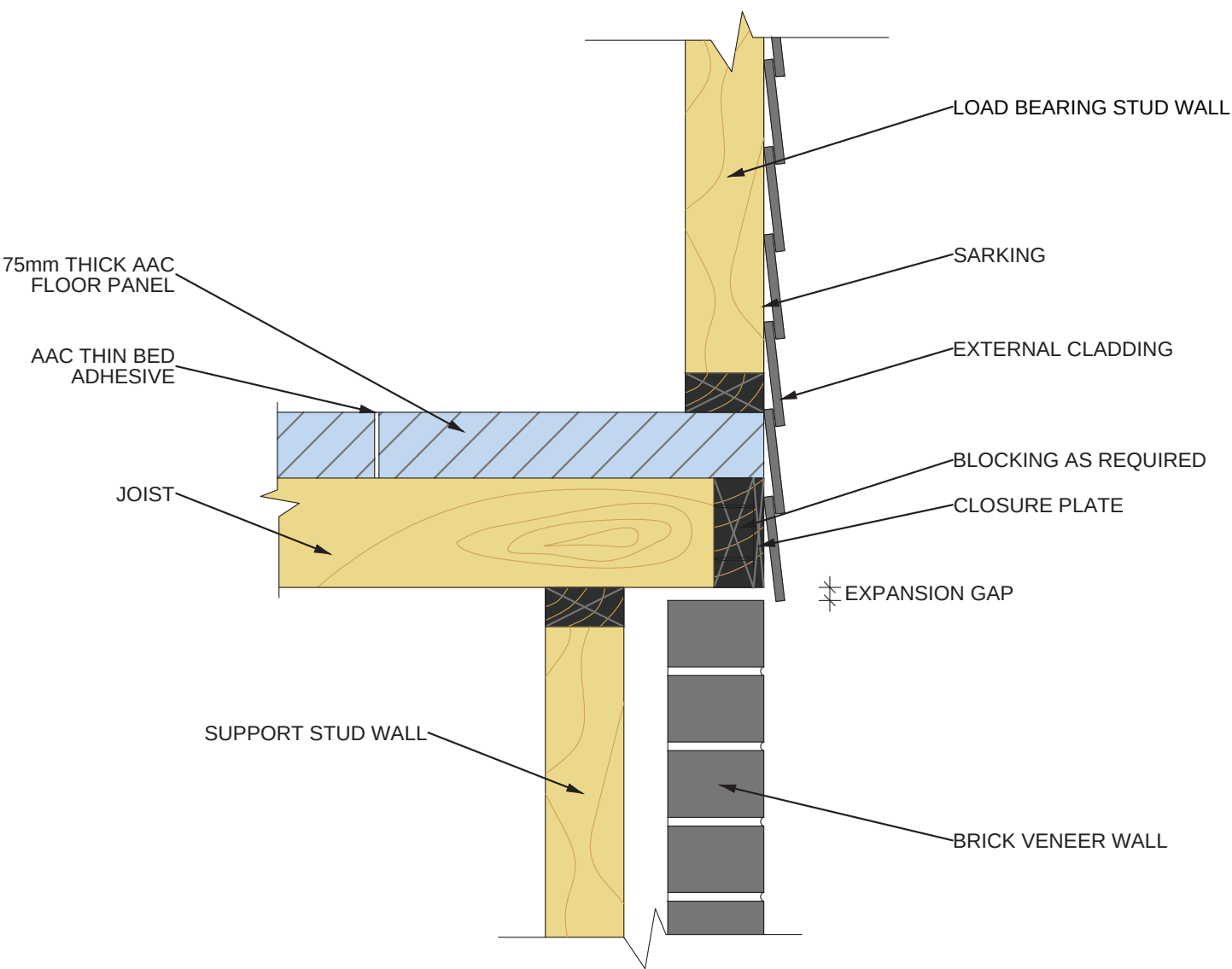
7.1.16 FLOOR EDGE BLOCKING DETAIL BETWEEN JOISTS



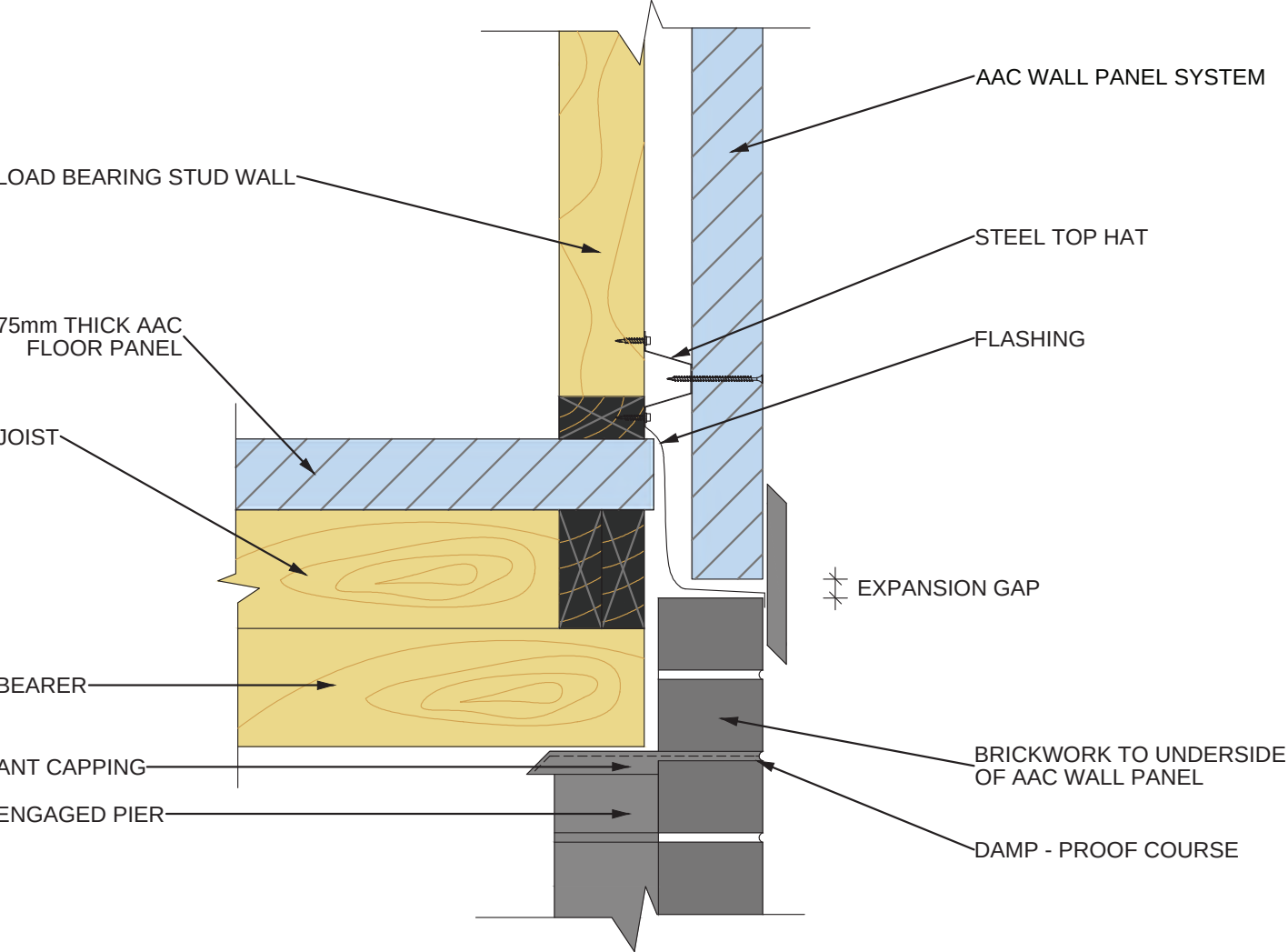
7.1.17 FLOOR EDGE BLOCKING DETAIL BETWEEN JOISTS WITH REINFORCED AAC LOW RISE EXTERNAL WALL SYSTEM



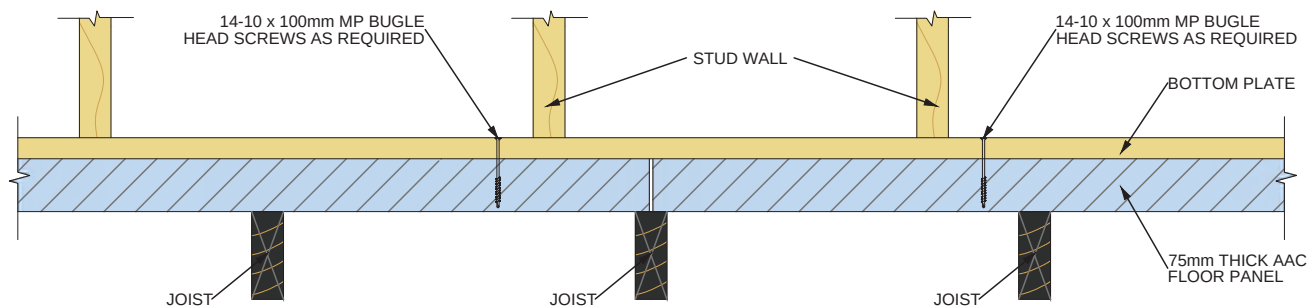
7.1.18 FLOOR WITH CANTILEVERED JOISTS



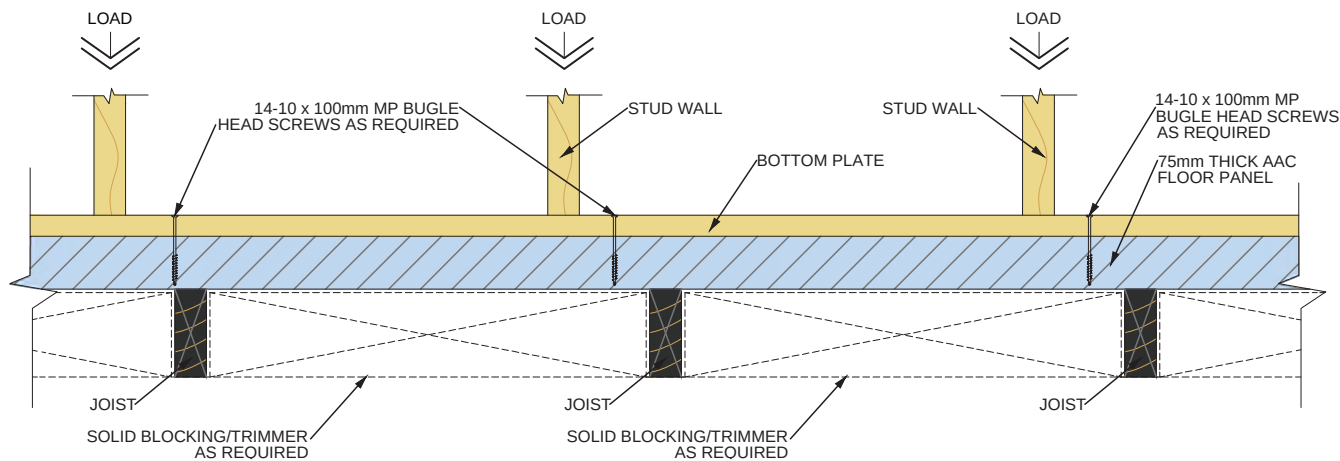
7.1.19 AAC FLOOR END SUPPORT



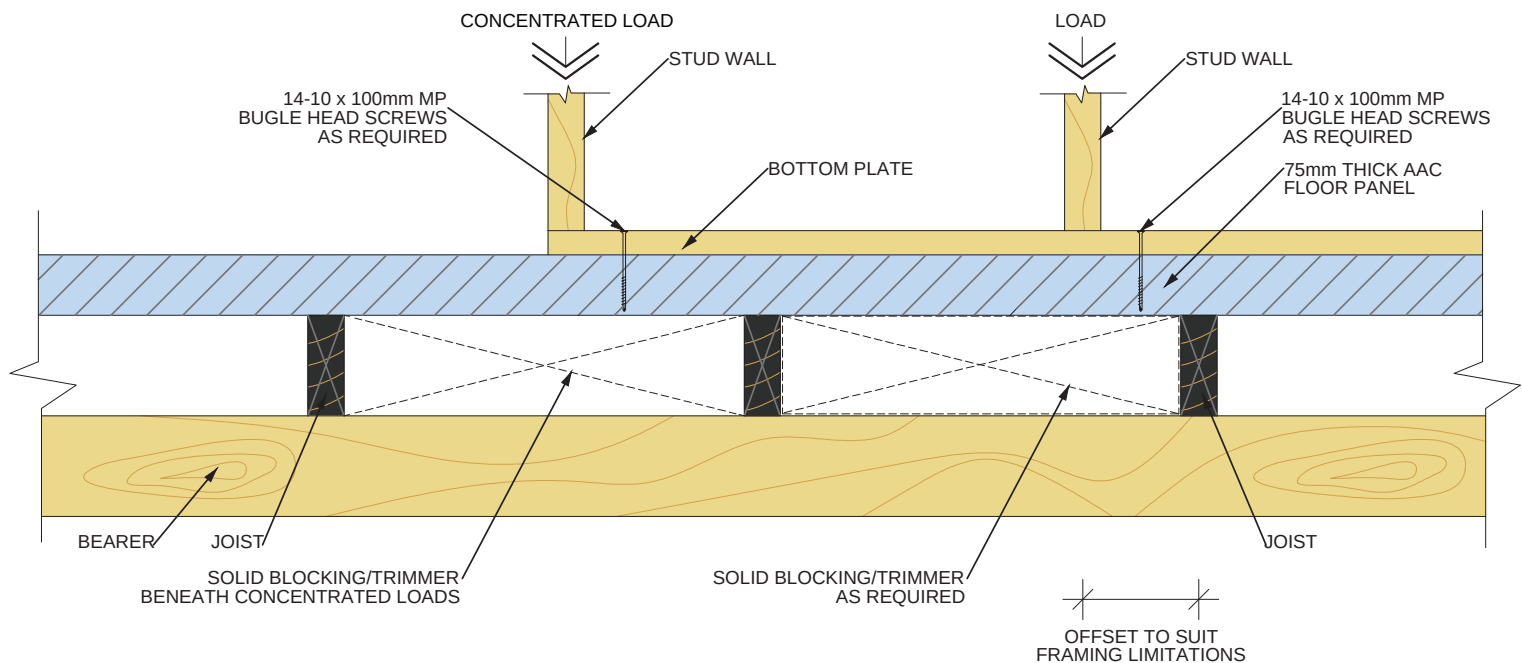
7.1.20 FLOOR BOTTOM PLATE FIXING FROM NON-BRACING WALLS



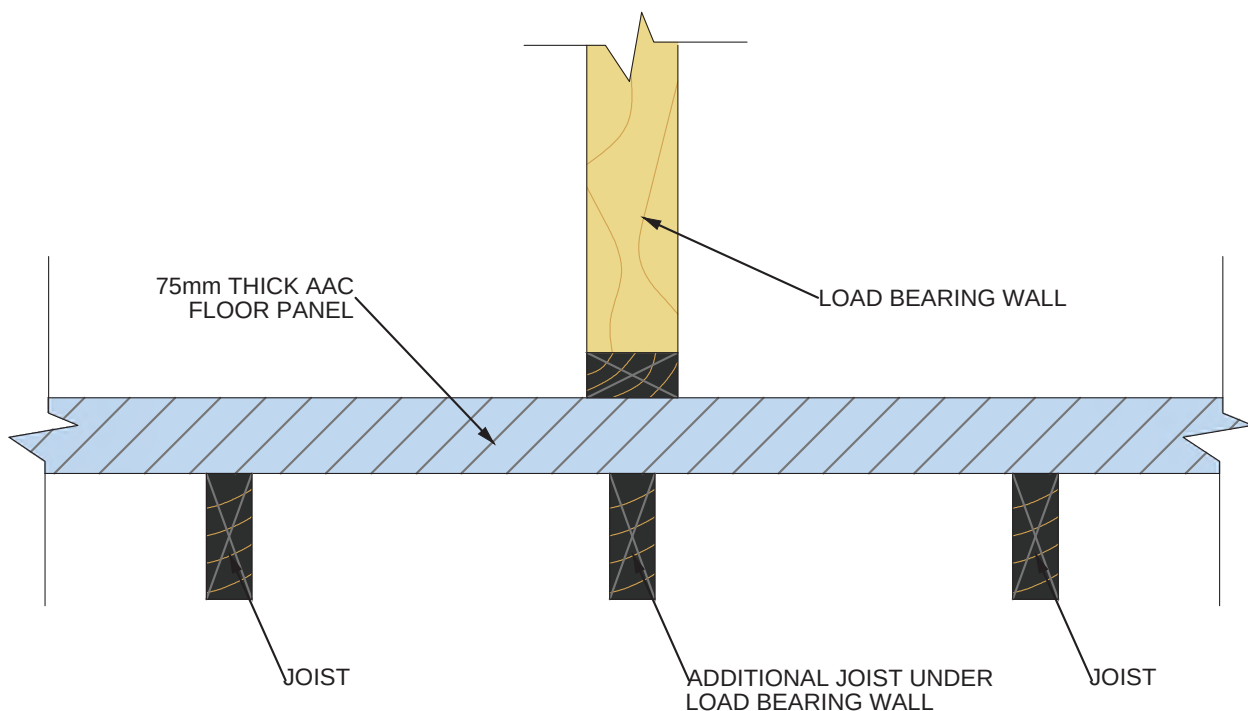
7.1.21 FLOOR JOIST BLOCKING UNDER LOAD BEARING WALLS PERPENDICULAR TO JOISTS



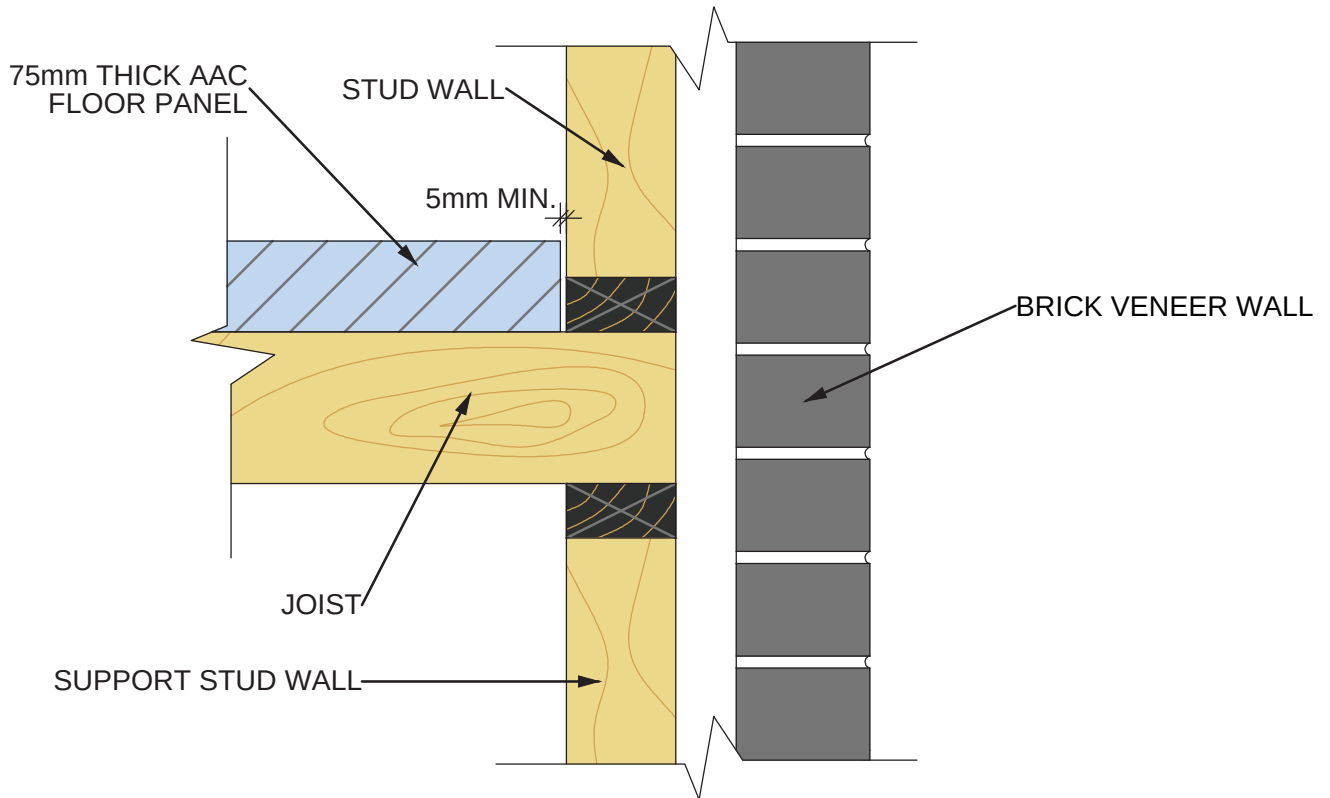
7.1.22 FLOOR BOTTOM PLATE STIFFENING AT CONCENTRATED LOAD



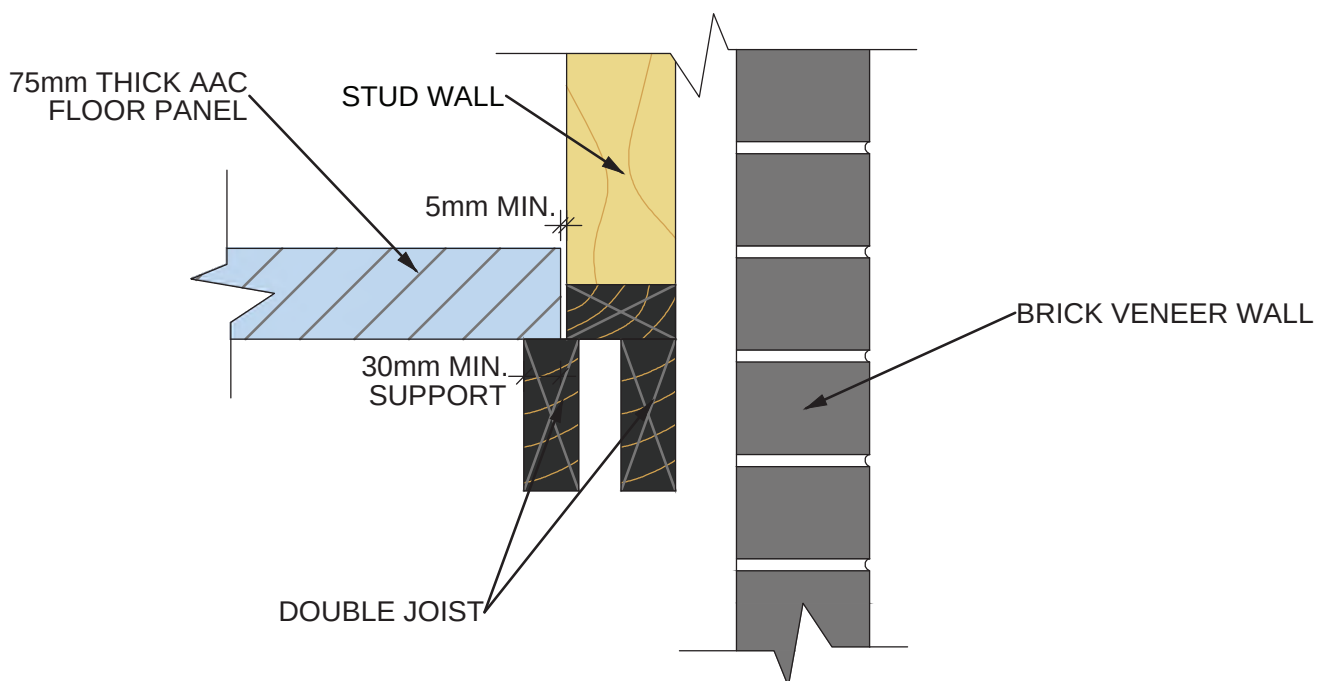
7.1.23 FLOOR ADDITIONAL SUPPORT UNDER LOAD BEARING WALLS PARALLEL TO JOISTS



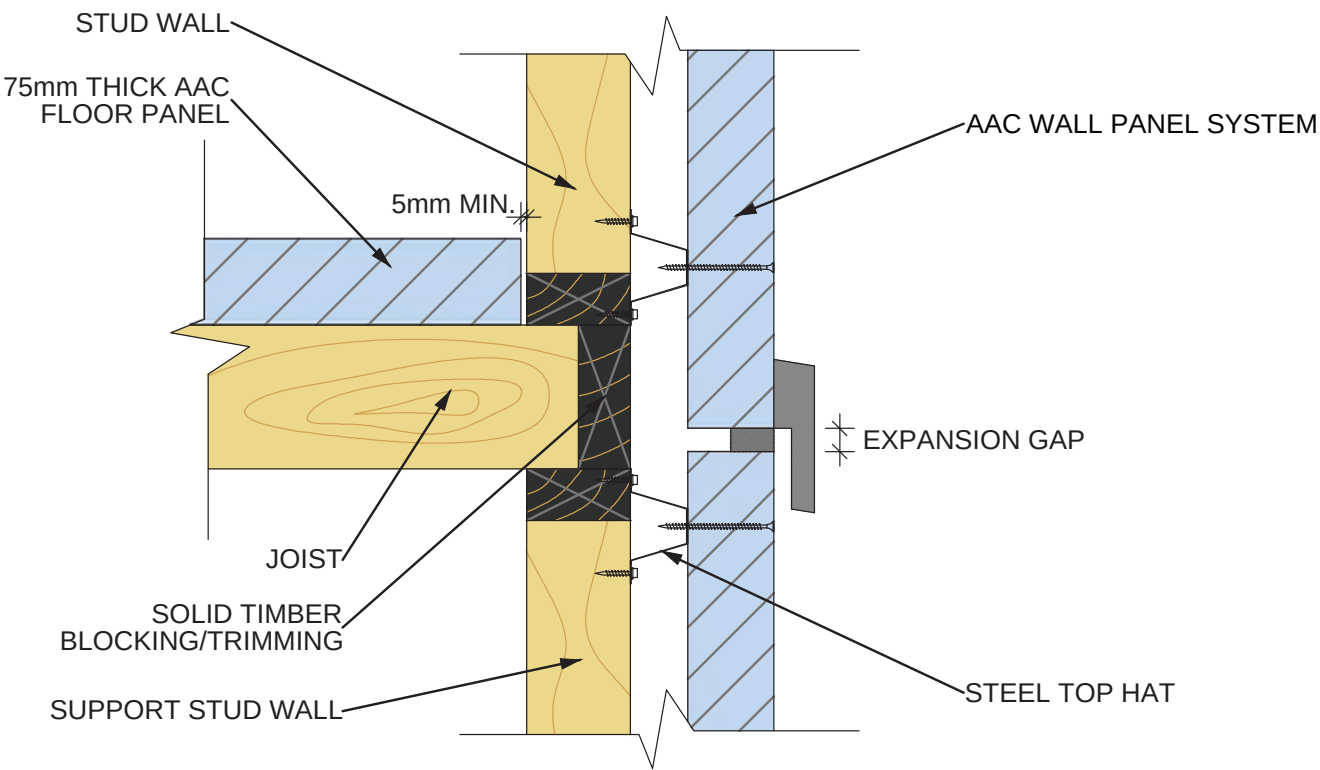
7.1.24 FITTED FLOOR WITH EXTERNAL LOAD BEARING WALL



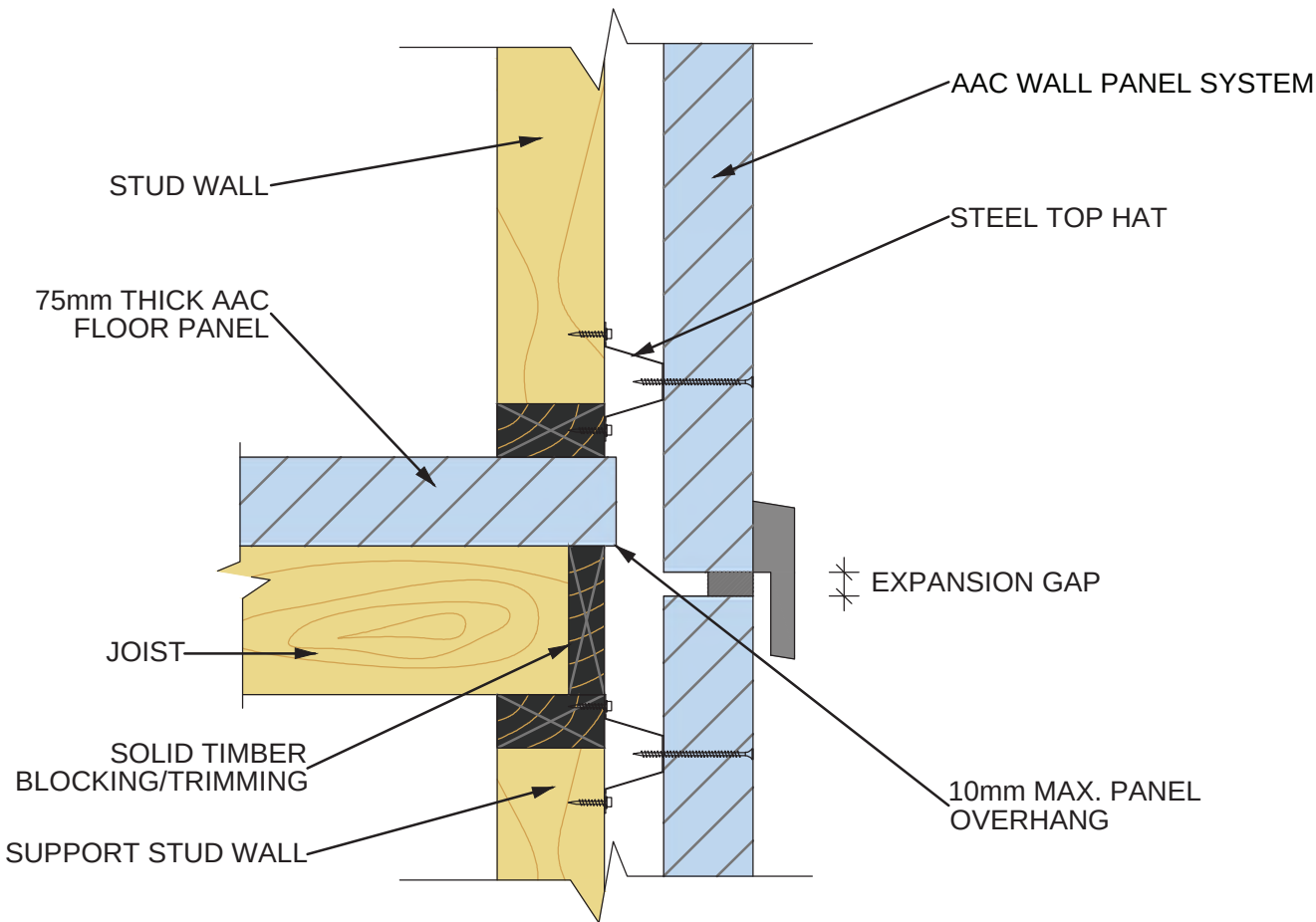
7.1.25 75MM THICK REINFORCED AAC FITTED FLOOR END SUPPORT



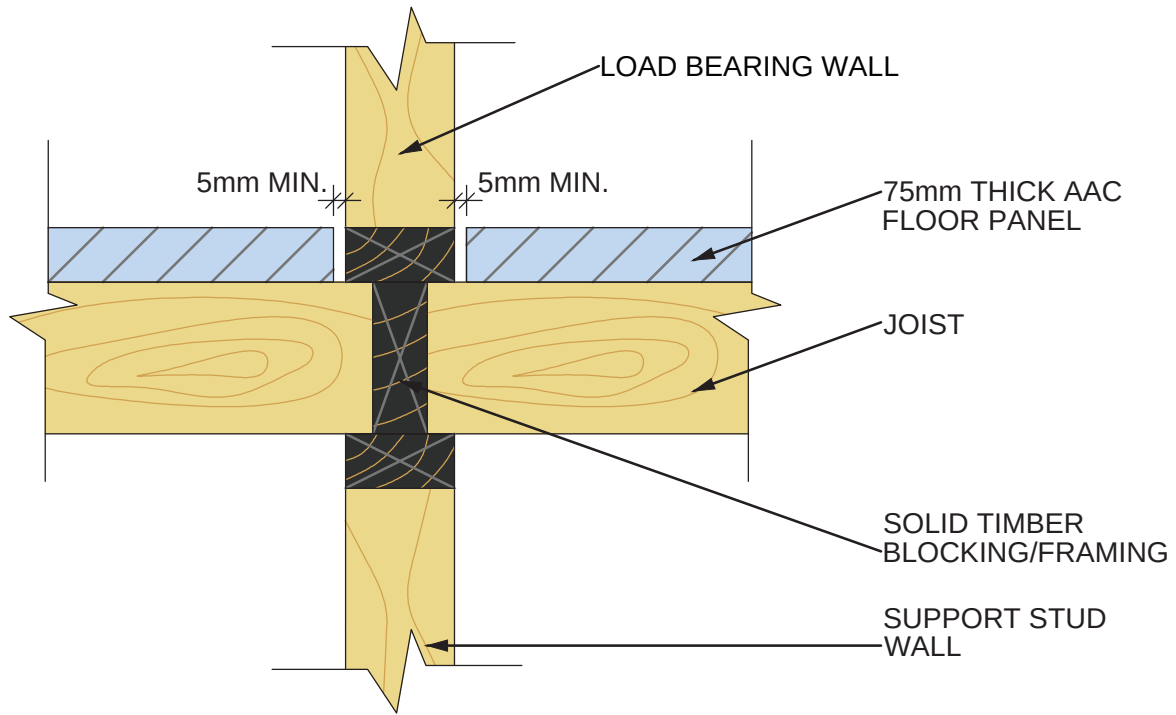
7.1.26 75MM THICK REINFORCED AAC FITTED FLOOR BEARING BLOCKING



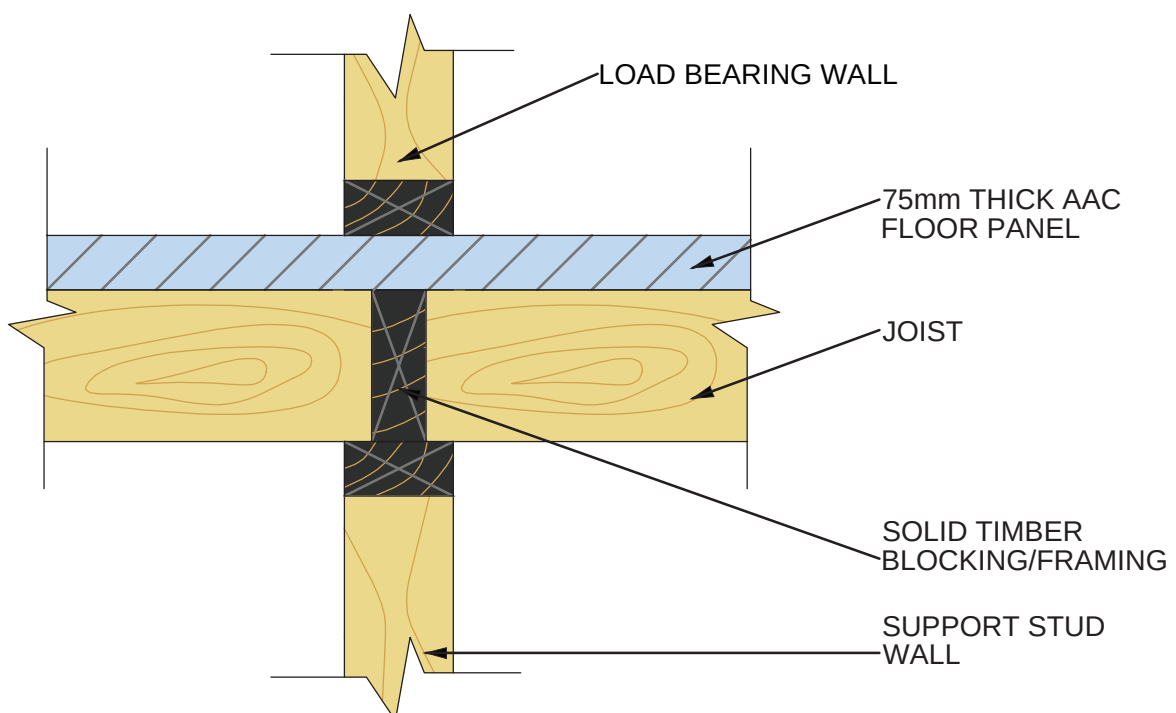
7.1.27 FLOOR WITH EXTERNAL LOAD BEARING WALL



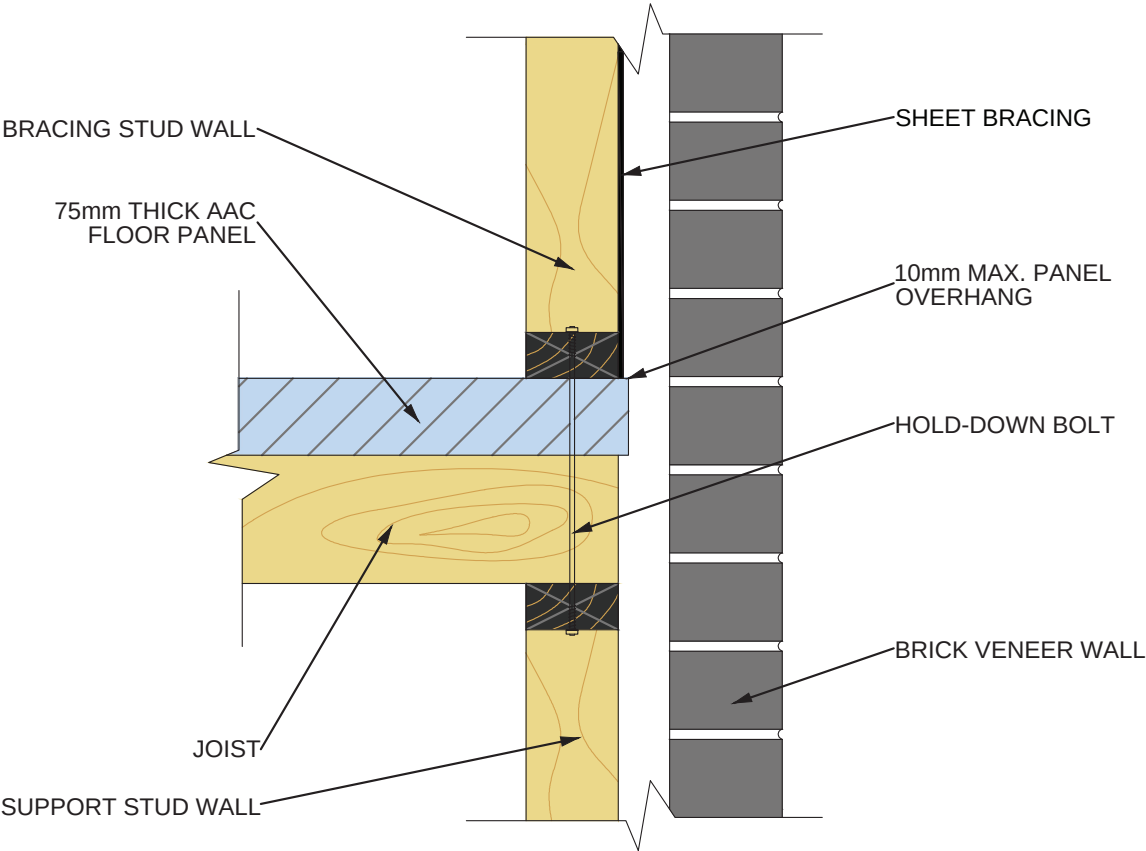
7.1.28 FLOOR WITH INTERNAL LOAD BEARING WALL



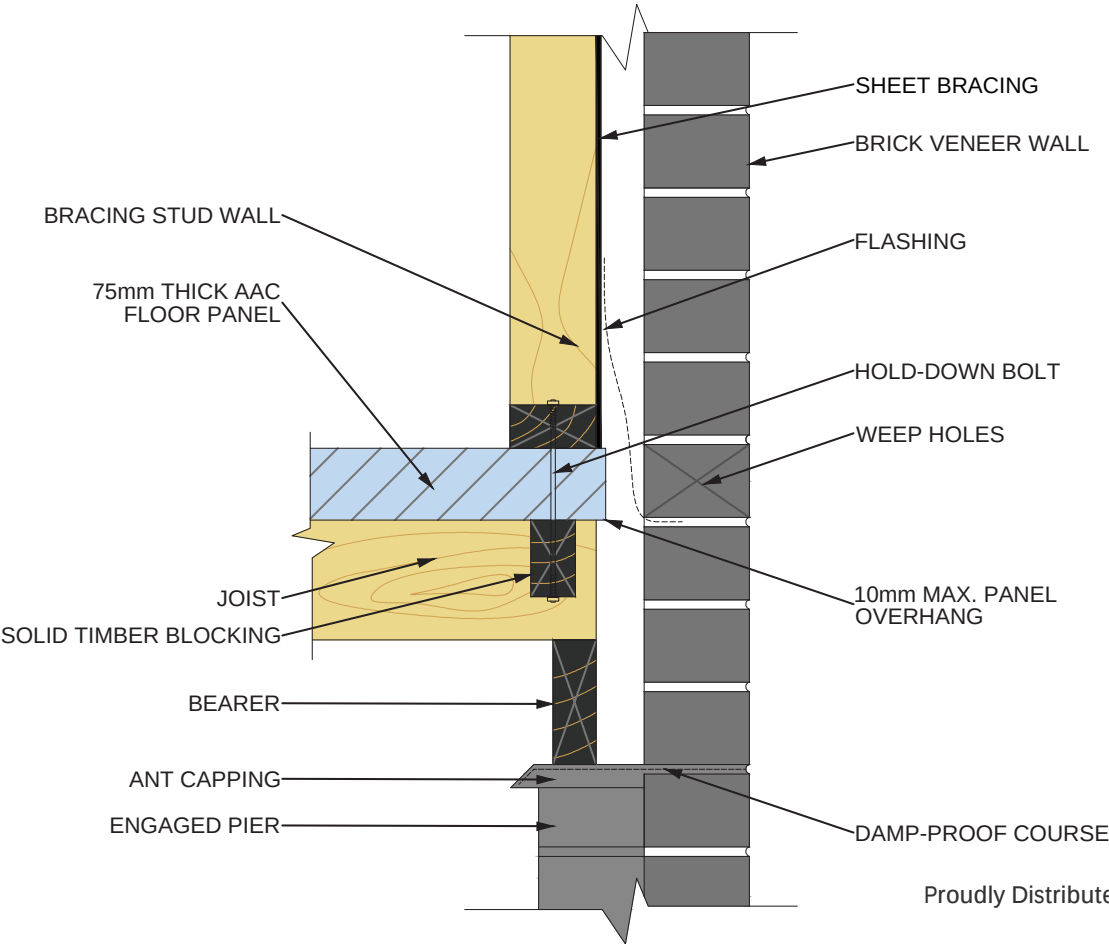
7.1.29 PLATFORM FLOOR WITH INTERNAL LOAD BEARING WALL



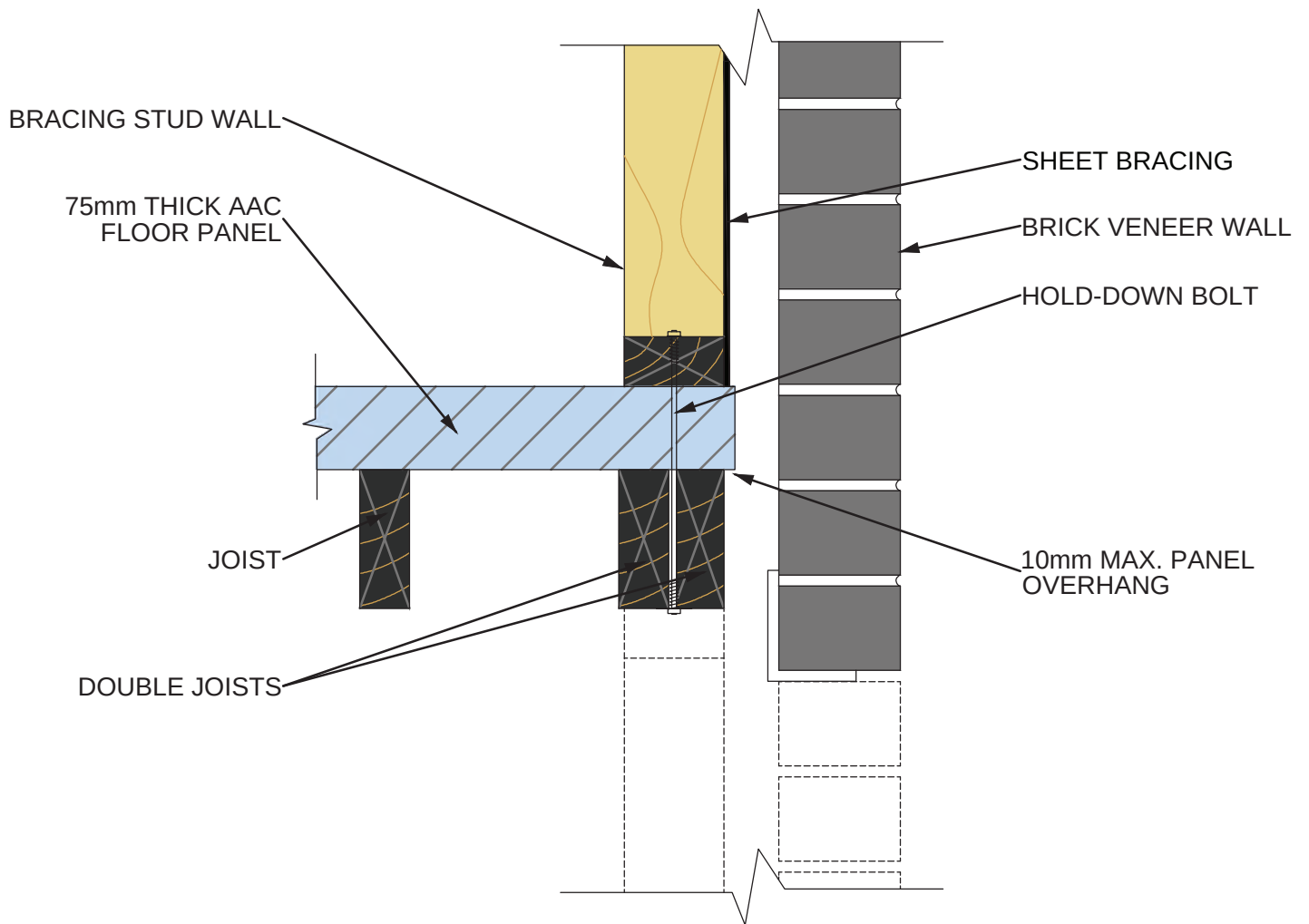
7.1.30 FLOOR WITH ANCHORAGE OF EXTERNAL BRACING WALL OVER SUPPORT WALL



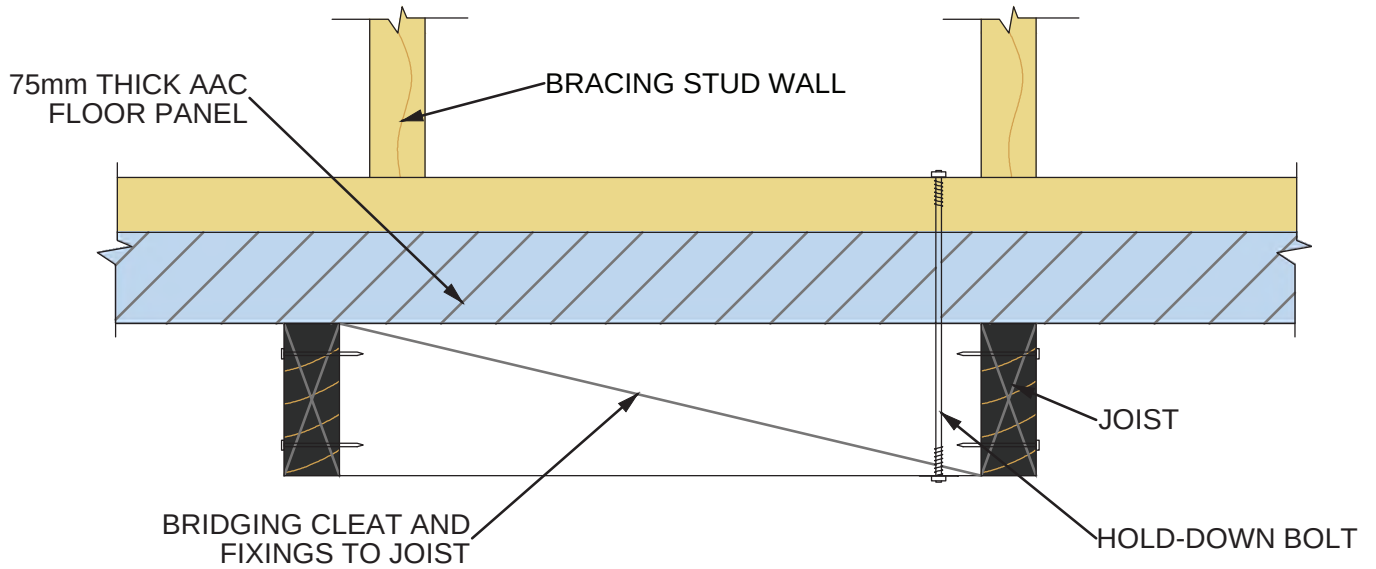
7.1.31 FLOOR WITH ANCHORAGE OF EXTERNAL BRACING WALL OVER BEARER



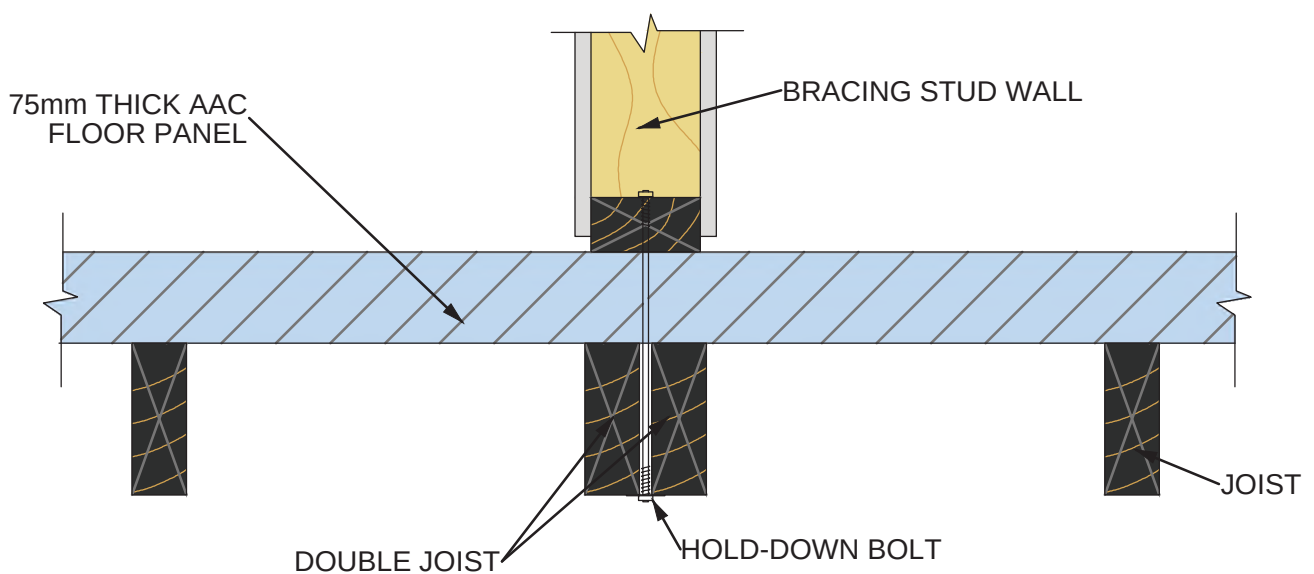
7.1.32 FLOOR WITH ANCHORAGE OF EXTERNAL BRACING WALL PARALLEL TO JOISTS



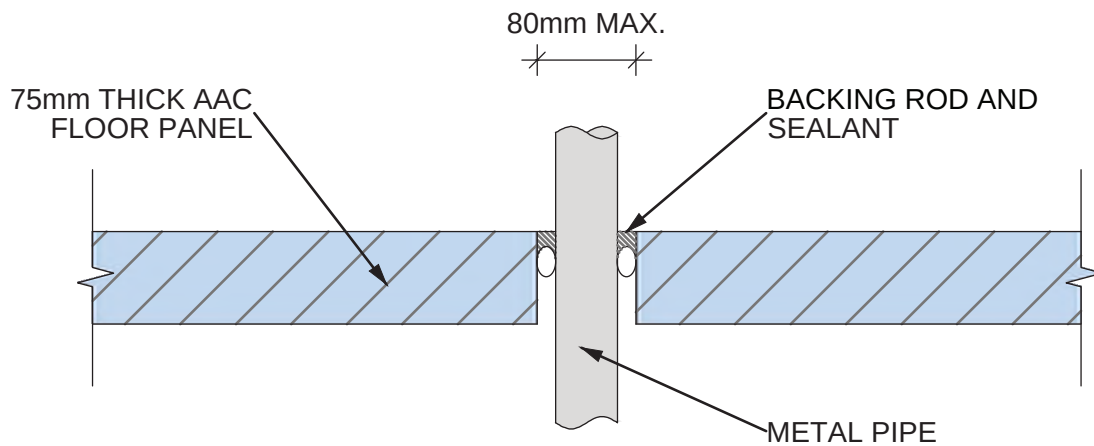
7.1.33 FLOOR WITH ANCHORAGE OF INTERNAL BRACING WALL PERPENDICULAR TO JOISTS



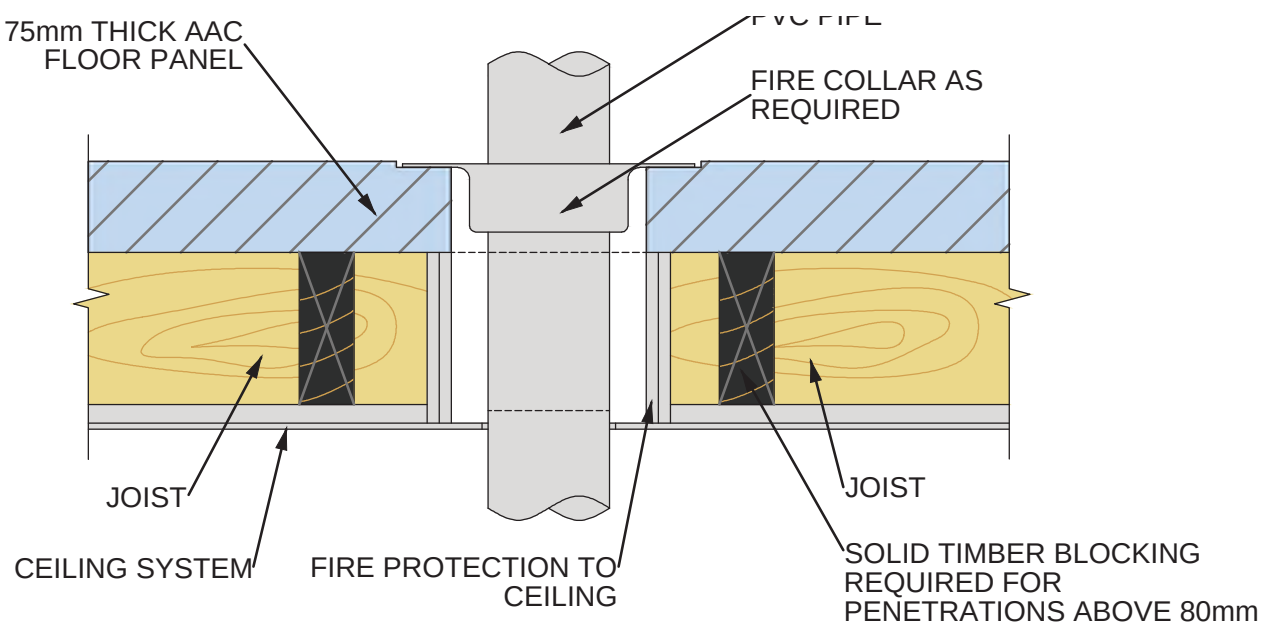
7.1.34 FLOOR WITH ANCHORAGE OF INTERNAL BRACING WALL PARALLEL TO JOISTS



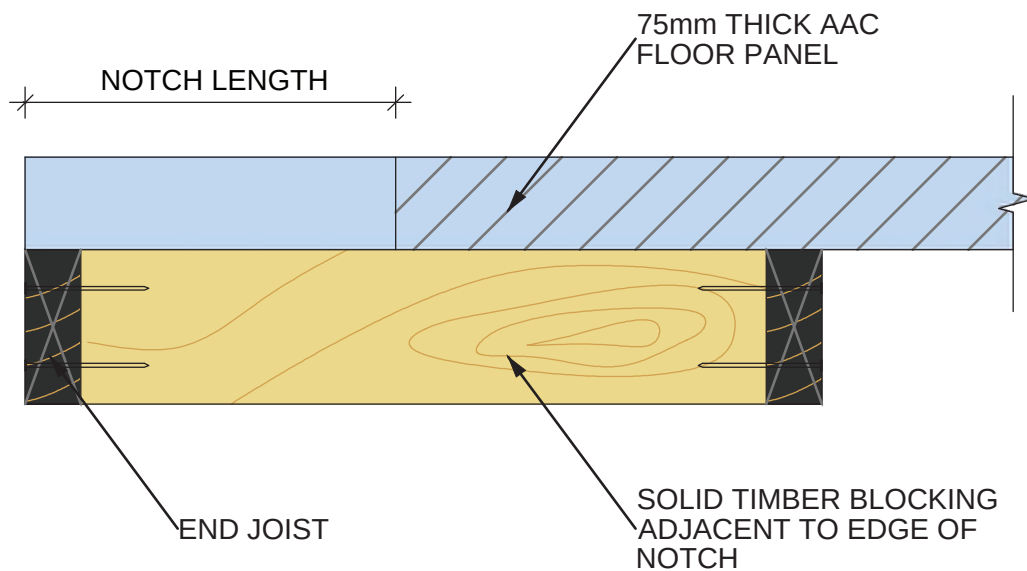
7.1.35 FLOOR WITH TYPICAL PENETRATION



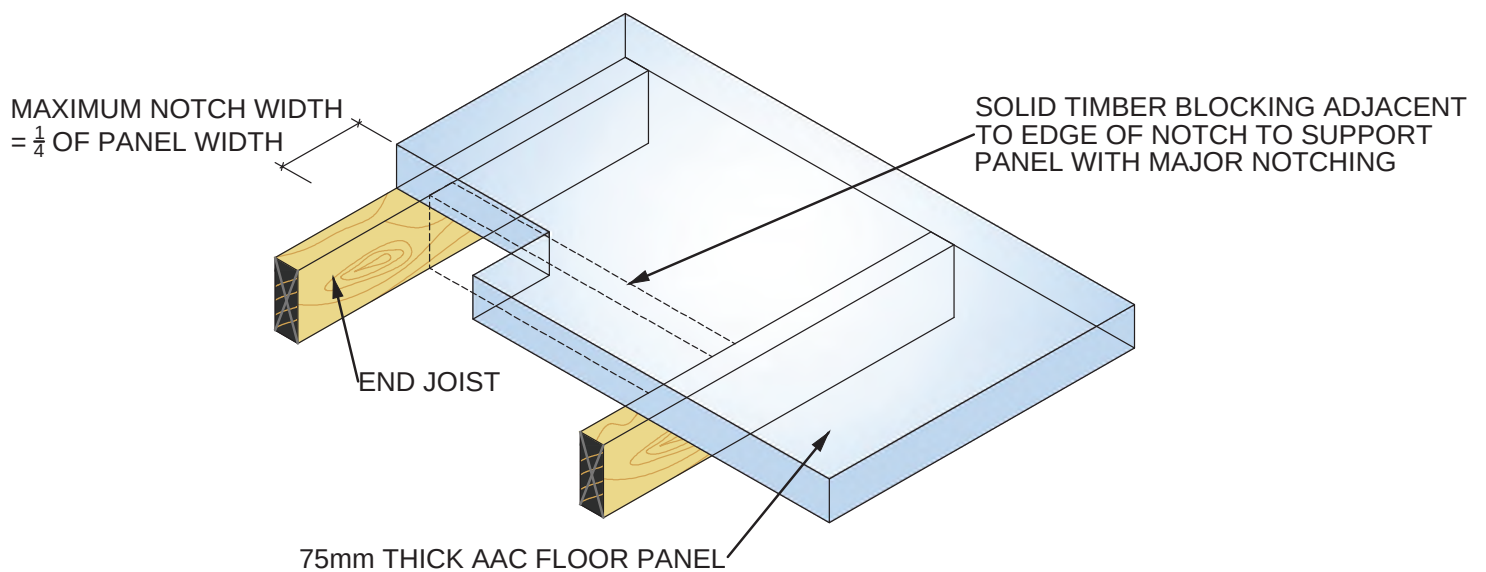
7.1.36 FLOOR WITH LARGE PENETRATION AND BLOCKING



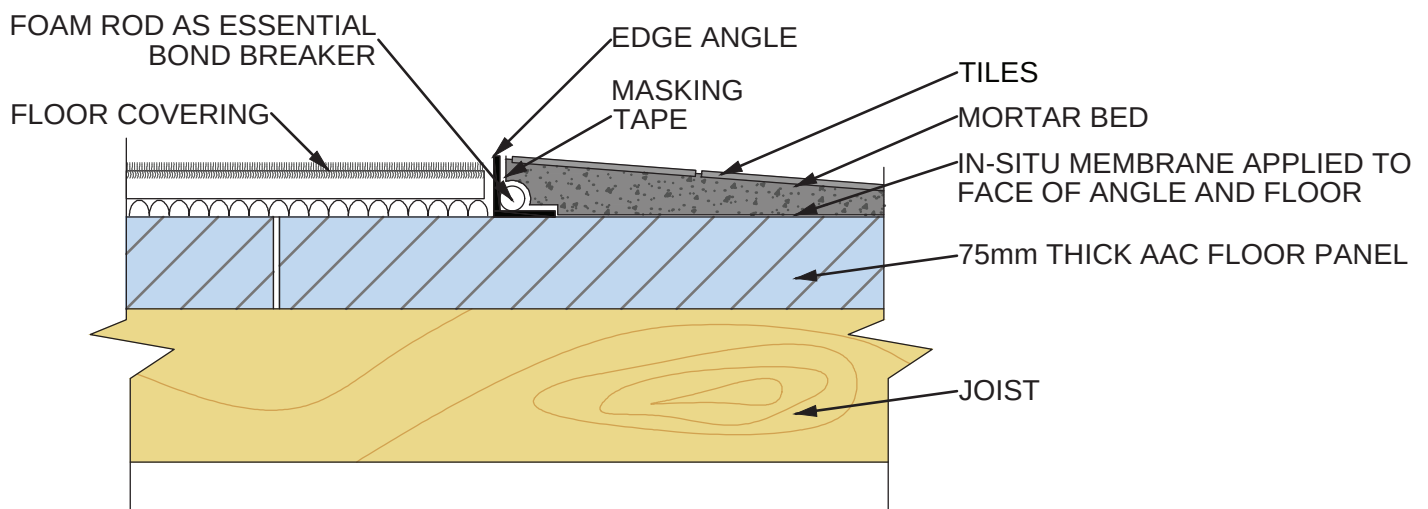
7.1.37 FLOOR WITH BLOCKING FOR CORNER NOTCHING



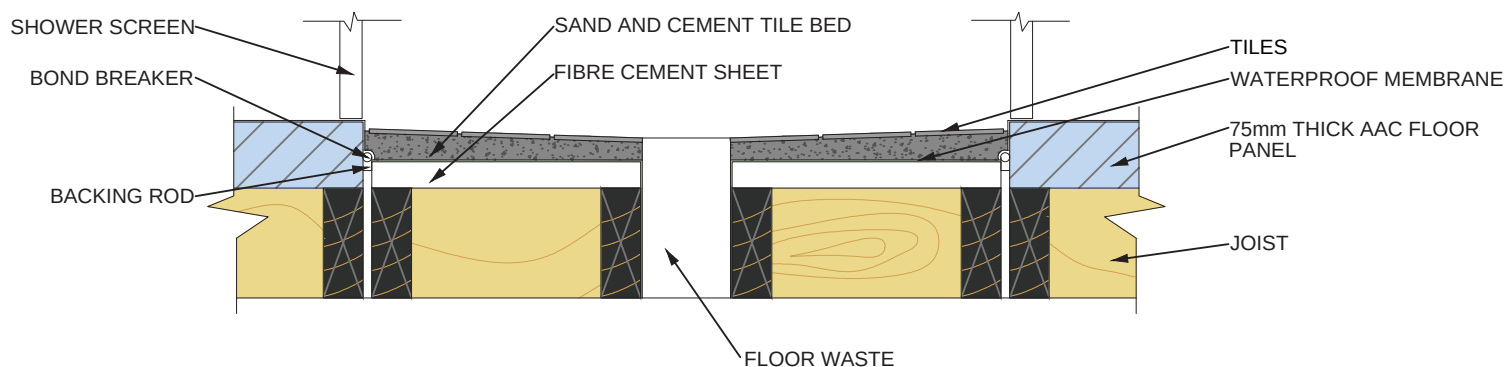
7.1.38 FLOOR WITH BLOCKING FOR CORNER NOTCHING - ISOMETRIC



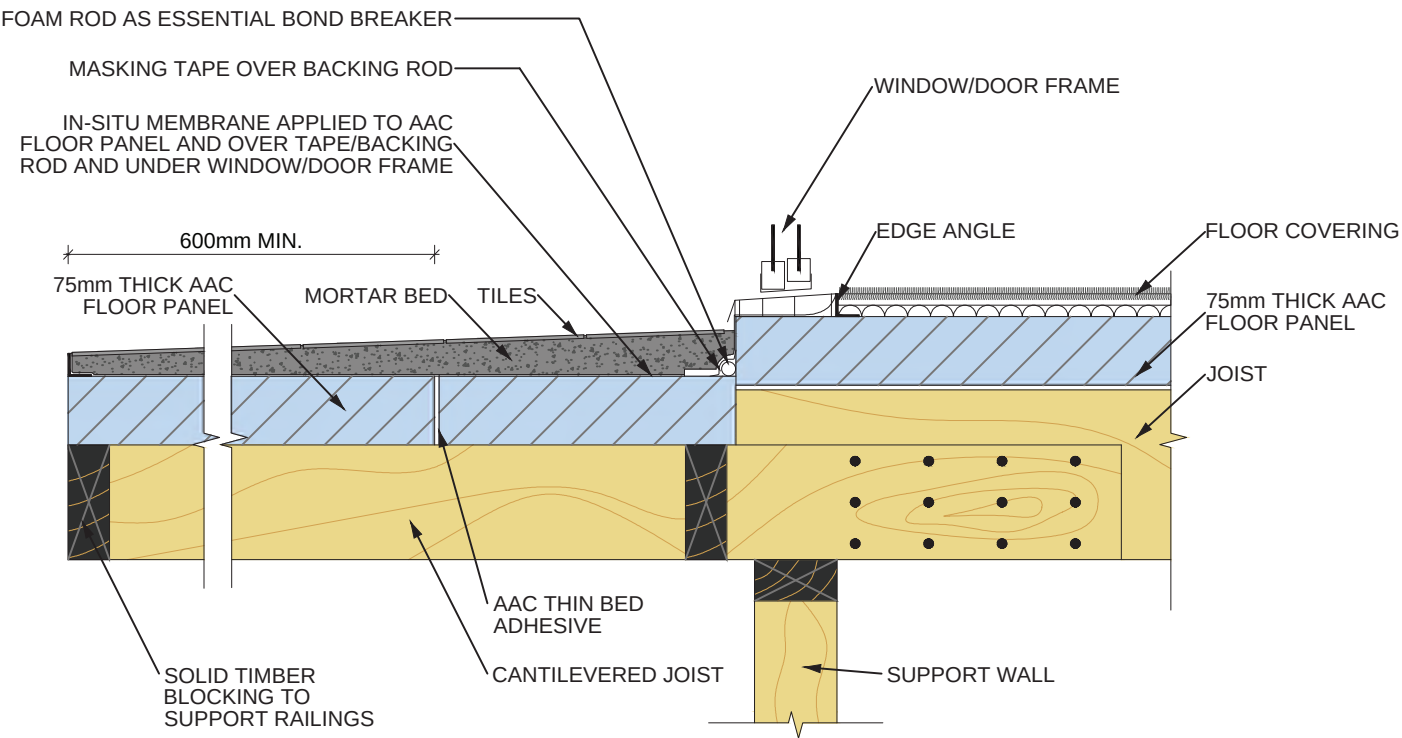
7.1.39 FLOOR WITHIN-SITU FORMED WET AREA



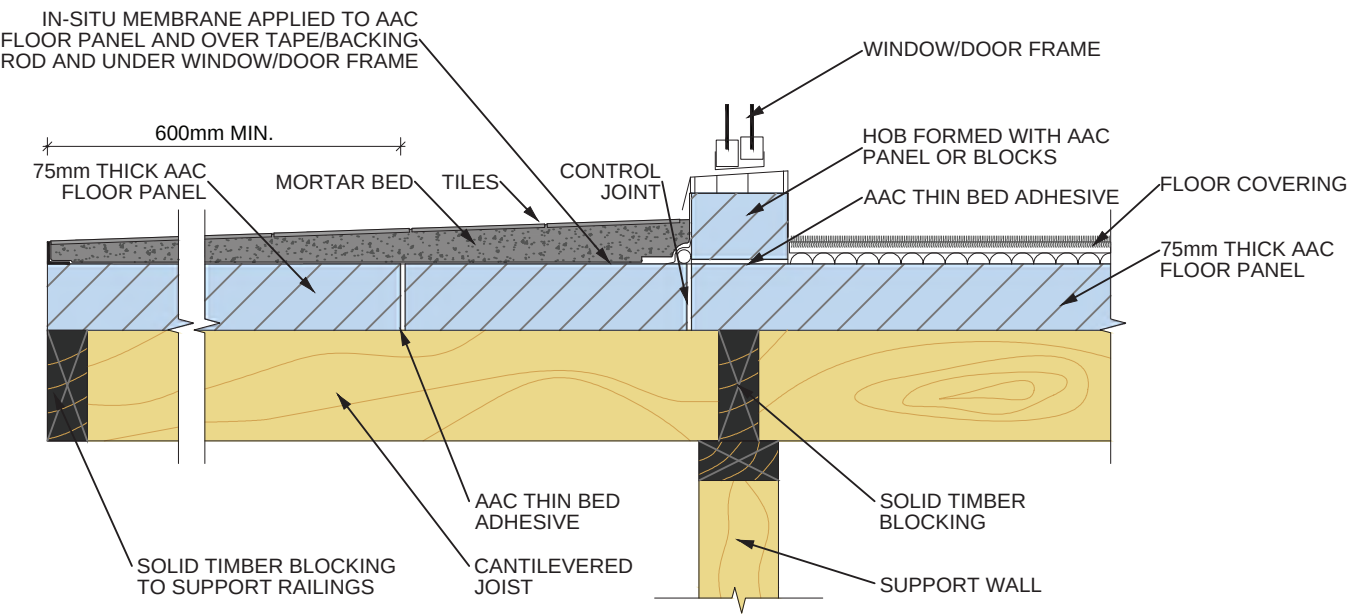
7.1.40 FLOOR WITH SHOWER RECESS



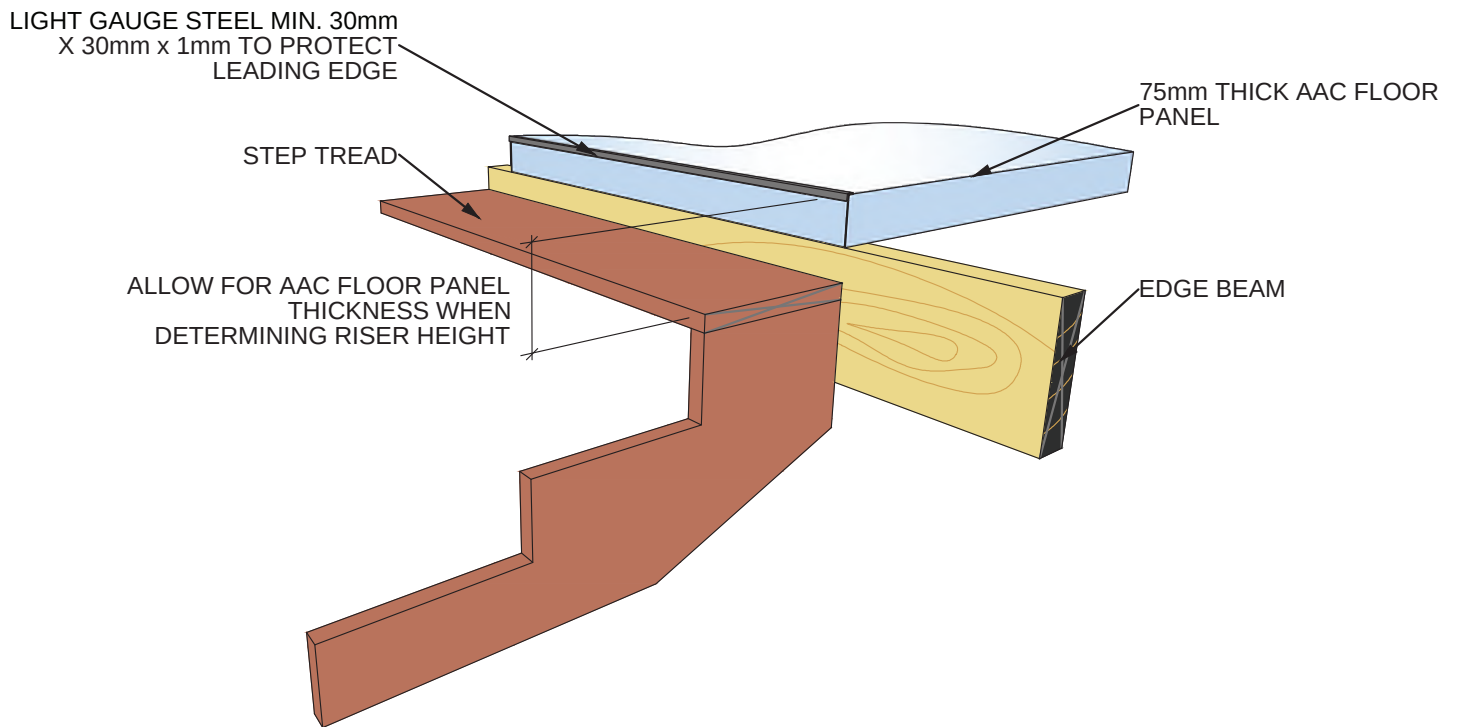
7.1.41 FLOOR WITH STEP-DOWN BALCONY AND CANTILEVERED JOISTS



7.1.42 FLOOR WITH IN-LINE BALCONY AND CANTILEVERED JOISTS



7.1.43 AAC FLOOR WITH STAIRCASE LAYOUT



8 WARRANTY COVERAGE

Helix warrants that, for a period of twenty (20) years from the date of purchase, its 75mm AAC panels will be free from defects caused by faulty manufacturing or materials. Under proper conditions and use, the product will be resistant to cracking, rotting, and termite damage, in accordance with the terms outlined below.

This warranty does not override any statutory rights the customer may have under the Australian Consumer Law or other applicable legislation.

Warranty Conditions

To claim this warranty, the following conditions must be met:

1. Proof of Purchase

The customer must provide reasonable supporting documents, including full payment proof.

2. Timely Notification

Helix must be notified within 12 weeks of the defect being discovered or when it ought to have been discovered, and no later than the expiry of the warranty period.

3. Inspection Opportunity

Helix must be given a reasonable opportunity to inspect the product on-site prior to removal, repair, or replacement. If testing or investigation is required, costs are to be initially borne by the claimant and will be reimbursed if the defect is found to be covered by this warranty.

4. Proper Handling and Installation

The product must be transported, installed, and maintained in accordance with Helix's official technical literature at the time of purchase.

5. Approved Components

All components used in the system must be specified and supplied by Helix.

6. Compliance with Construction Standards

The installation must comply with Helix's specifications, the National Construction Code (NCC), relevant Australian Standards, and applicable laws and regulations.

Exclusions from Warranty

This warranty does not apply to defects or damage resulting from:

1. External Factors: Including but not limited to building movement, corrosion, pollution, mechanical impact, hydrostatic pressure, fire, natural disasters, adverse weather conditions, vandalism, and other uncontrollable events.
2. Improper Construction Practices: Any work done before, during, or after installation that causes damage to the product or system.
3. Incorrect Handling: Damage from failure to follow handling instructions provided by Helix.
4. Third-Party Design Faults: Defects caused or contributed to by the design of the structure, foundations, or frames by third parties.
5. Non-Helix Materials: Any issues caused or contributed to by accessories or materials not supplied by Helix.
6. Coating or Sealant Failure: Cracks or deterioration in coatings or sealants applied over the panels.

Note: It is the purchaser's responsibility to consult with the coating/sealant manufacturer to ensure suitability for AAC substrates and confirm elasticity and waterproofing meet Helix's requirements.

Disclaimer

- This warranty only covers the product itself and does not include consequential or indirect losses.
- Helix does not verify whether its products are solely used in any specific project or whether the installation meets warranty conditions.
- Suitability of the product for a specific application is the responsibility of the purchaser.
- Site visits by Helix do not constitute inspections or installation approvals.

For warranty claims, please contact Helix's customer service team with proof of purchase, relevant photos, and installation documentation.

Information on Helix 75mm AAC Flooring System can be found at: www.helixsystems.com.au

Helix Pty Ltd, Unit 58/7 Dalton Road, Thomastown, VIC. 3074



SECTION 04

APPROVED APPLICATORS

Proudly Distributed By: **Dahlsens**
For the Builder

AUAC03872 Dulux AcraTex AcraShield Advance / Coventry Course / RenderWall AcraLite FR / 75mm Helix Panel on New Autoclaved aerated concrete (AAC) block or panel [Exterior]

Description

A High Build levelling and Finishing System for Helix Panel (75mm Autoclaved Aerated Concrete (AAC)).

THIS SYSTEM IS SUITABLE WHERE PANEL ALIGNMENT TOLLERANCES = 4MM
WHERE MAJOR MISALIGNMENT OCCURS, REFER TO ADDITIONAL REMEDIAL RECOMMENDATIONS FOR PRE-TREATMENT

Incorporating:

AcraTex RenderWall Plus **AcraLite FR** to Reinforce & level irregularities and produces a high quality even surface for AAC panel.
Dulux AcraTex **Coventry Coarse** is a decorative, low build protective coating displaying excellent resistance to weathering and atmospheric chemicals.
The finish will resemble that of a coarse granular render which has been sponge floated that compliments the natural Helix surface and distinctive panel profiling. Applied by traditional render application.
Further enhanced by AcraTex **AcraShield Advance**, which is a mid-build water borne, highly flexible 100% acrylic elastomeric membrane weatherproofing coating with excellent water impermeability, carbonation resistance, chloride ion resistance, and resistance to mould and mildew. That can be applied by roller - conventional nap or low-profile texture sleeves or airless spray to provide maximum crack bridging and anti-carbonation performance.

Substrate and Substrate Preparation

Substrate Notes

General

AAC is manufactured from sand, lime and cement, to which is added water and aluminium paste. After mixing, the cement slurry is poured into moulds. The aluminium paste reacts with the alkaline elements in the mixture and forms hydrogen gas. This liberated gas expands the mixture forming extremely small finely dispersed air spaces. The product is removed from the mould after a few hours, cut to the required dimension and finally cured under pressure in a steam autoclave.

Coating-Finishing systems for AAC must meet specific substrate supplier technical requirements. Typically AAC requires an AAC specific render-levelling coat plus a performance Acrylic Texture system. Standard cement renders (including site mixed and general bag mixed) are strictly NOT recommended by substrate suppliers and may lead to cracking and delamination.

Helix Panel is (typically) a 50 or 75mm panel of Autoclaved Aerated Concrete (AAC) with corrosion protected steel reinforcement embedded during production.
This lightweight, yet solid masonry panel is designed for external cladding in timber or steel frame construction. Panels are glued together (thin bed) using AAC Manufacturer's adhesive to a design standard of providing a level, fully filled joint.

Substrate Preparation Notes

Assess suitability

Check that the Helix blocks or panels are installed strictly in accordance with the AAC manufacturer's installation instructions. Ensure all AAC joints are completely and fully glued along their entire contact area. Failure to ensure full glue contact and cure will cause joint cracking and void all warranty of the coating system. It is the responsibility of the AAC installer to ensure all joints or major imperfections and misalignments are filled and sanded true and flush before applying any coating system. They must be flush and plumb ensuring the best possible surface prior to application of the base coat. Uneven face alignment will require additional materials to achieve a flush and level facade.

Check that expansion joints are strictly in accordance with AAC manufacturer's design guides, including the incorporation of discontinuous top-hat sections across joints and at corners. Expansion joints are recommended at (max) 3m height and 6m wide intervals and at all building weak points such as around openings (e.g. windows, doors and garage doors), horizontally between all floor levels, and at all interfaces of different building construction materials.

Clean surface

Remove any dust, laitance or efflorescence by brush or broom. Wash down the surface with clean potable water to ensure that the AAC surface is sound, clean and free of all dust, dirt, salts or any other surface contaminants.

Repair surface imperfections

Sand off or rasp surface misalignments, protrusions, mortar splashes, adhesive and other contaminants to leave a level surface. Fill voids and other imperfections with a suitable patching compound.
Dampen surface with water or suitable primer to prevent the substrate's porosity from hindering the curing of the base render.

Apply the specified RenderWall base render over the entire area in strict accordance with the technical data sheet, taking great care to ensure control joints remain free of levelling material during application. Ensure the finish is level and suitable for the specified texture coating system. Allow to fully cure.

Treat joints

Clean out and fill all control joints with a suitable paintable polyurethane joint sealant. Care must be taken to ensure joint remains free of levelling or texture material during application, or joint is cleaned out prior to sealant application. Typical control joint width is 10mm.

Install sealant in strict accordance with manufacturer recommendations and as neatly as possible – take great care not to smear the sealant on the façade side or edge of the expansion joint recess – use masking tape to protect edges. Failure to confine sealant to expansion joint recess only will lead to cracking of the texture coating over the smears.

Apply texture

Apply the specified texture coating to the entire area, removing all masking tape as soon as possible and well before the texture coating has skinned. Do not allow the texture coating to set over the control joint sealant.

Apply topcoat

When top coating the texture coating with an elastomeric topcoat such as AcraShield, apply the topcoat to the entire joint, including sealant.

Additional Notes

1. Ensure that all imperfections are pre-filled,
2. Rasp or scrap flush any proud AAC Joints

Expansion Joints:

Expansion joints must be in accordance with AAC manufacture's design guides including the incorporation of discontinuous top-hat sections across joints and at corners. Expansion joints are recommended at (max) 3m height & 6m wide intervals and at building weak points E.g. in line with openings (window / doors), horizontally between all floor levels, and at all interfaces of different building construction materials

Refer AAC manufacture's current recommendations for additional consideration of specific timber-metal frame requirements, upper storey movement control and above opening (garage door-windows) panel fixing and support.

It is recommended that all control joints be filled after the base RenderWall application has been applied using a suitable (paint-able) polyurethane joint sealant. Care must be taken to ensure joint remains free of levelling or texture material during application, or joint is cleaned out prior to sealant application AND applied Texture coating does not extend over control joint mastic. Typical control joint width is 10mm.

Install sealant in accordance with manufacturer recommendations – CARE is to be used not to smear the sealant to either side of the expansion joint recess – use masking tape to protect edges. Failure to confine sealant to expansion joint recess only (ie where it is smeared to either side of joint) will lead to cracking of the Texture coating at expansion joint edges.

After sealant is cured apply a 6 to 8mm masking tape over the sealant joint and apply / process the texture coating - remove the masking tape before the texture coating has skinned.

DO NOT apply the Texture coating over control joint sealant / mastic. Where colour cover of the sealant /mastic is required – carefully apply a thin diluted brush coat of texture only.

Coating System Summary

- | | |
|----------------|---|
| • Prep Coat | Dulux Acratex RenderWall Plus AcraLite FR |
| • Intermediate | Dulux Acratex Coventry Coarse |
| • 1st Coat | Dulux Acratex AcraShield Advance |
| • 2nd Coat | Dulux Acratex AcraShield Advance |

Coating System			
Prep Coat — Dulux Acratex RenderWall Plus AcraLite FR			
Coat Type Prep Coat		Datasheet AUAC00138 Dulux Acratex RenderWall Plus AcraLite FR	
Read the full Datasheet details at Dulux Acratex RenderWall Plus AcraLite FR			
Application Methods			
 Trowel			
	Min	Max	Recommended
Theoretical Spread Rate (m²/L)	0.5	0.3	0.3
Wet Film Per Coat (microns)	2000	4000	3000
Dry Film Per Coat (microns)	2000	4000	3000
Recoat Time **	1 hour		
Meets GBCA V.O.C. Requirements? Yes Total Volatile Organic Content (TVOC) values are calculated in accordance to the stated methodology within Green Star Technical Manuals. The TVOC content is theoretically calculated as the sum total of the known VOC values of the product's raw material components. These materials include the base paint plus additional low VOC tinter required for non-factory packaged colours.			
Coating Application Details Hawk and trowel finished with a polystyrene float			
Mixing Mix Ratio (approx. 15L mixed Dulux Acratex RenderWall Plus AcraLite FR) 20kg (1 full bag) of Dulux Acratex RenderWall Plus AcraLite FR Approx 3.5 litres of fresh clean water Refer to safety for handling instructions Measure the water component into a 15L pail and add the powder while mixing with a suitable power Mixing Drill Allow to stand for 3-5 minutes Remix and adjust consistency with up to 0.5L additional water (once) relative to application requirement Product usage Scaling factor = 1.7 kg (dry powder) per sqm per 1mm thick (eg. a 6mm thick application requires (6 x 1.7) = 10.2 kg per sqm of Dulux Acratex RenderWall Acrabuild Plus powder)			
Additional Coating Details • RenderWall Acrabuild Plus L/Shade: 193-85804-20kg• Exsulite Mesh 165G 200x50M L/Shade: N4400107-unit 1. Ensure that all imperfections are pre-filled,2. Rasp or scrap flush any proud AAC Joints 3. Install 200mm Exsulite Mesh centrally over all joints with Stainless Steel Staples – take care not to bulge mesh.4. Temper substrate with a light water spray to reduce suction in hot weather.5. Apply RenderWall Acrabuild Plus with Hawk & Trowel evenly over surface to a minimum thickness of approx 3-4mm, apply additional Render (if required), Screed , Level and Float to flat even surface. Allow to cure for 24 – 48 hours depending on weather conditions.6. With a straight edge and bubble level (held to true vertical plain) - cut open all Expansion (CJ) Joints with a uniform 8 to 10mm gap to expose CJ Mastic Joints. Using water and a brush CLEAN exposed Mastic to remove residue render dust.7. Followed by a levelling pass Always terminate the RenderWall Acrabuild Plus Render application above the damp course line. Never bridge damp course			
SDS Number DLX001233		SDS Link View SDS Link	

Intermediate — Dulux Acratex Coventry Coarse	
Coat Type Intermediate	Datasheet AUAC00081 Dulux Acratex Coventry Coarse
Read the full Datasheet details at Dulux Acratex Coventry Coarse	
Application Methods	



Trowel



Hopper Gun

Tex Spray. Coventry Coarse should be tinted in accordance with AcraTex Tint Guide to the specified membrane top coat colour (Or a colour as close as possible to the specified colour in accordance with product /base tint rules)

	Min	Max	Recommended
Theoretical Spread Rate (m ² /L)	0.8	0.7	0.8
Wet Film Per Coat (microns)	1333	1467	1333
Dry Film Per Coat (microns)	1000	1100	1000
Recoat Time **	24 hours	Indefinite	

V.O.C. Level
< 35 g/L untinted

Meets GBCA V.O.C. Requirements?
Not Applicable

Coating Application Details

Trowel and Hawk finished with a plastic float

Product should be tinted & thoroughly mixed before use.

Refer to the Dulux AcraTex Application Manual for detailed application instructions.

Use masking to protect adjacent areas. The area should be patched and primed ready for final texture coat.

Dulux Acratex Coventry Coarse is applied by hawk and stainless steel trowel, then finished in a circular motion with the plastic finishing float to achieve an even granular appearance.

Two people are required for most areas - one person to apply the Coventry Coarse to the wall, the second to process / float finish.

Delivery must be to a uniform thickness.

Allow the material to stand for a short time before "rubbing up" with float to produce the desired pattern/texture.

Application must be in a brisk uniform fashion terminating when the whole area is complete, banded by a natural break such as an expansion joint, corner etc.

Application commenced on a single area must be completed uninterrupted.

SDS Number
194-85753 Coventry Coarse QTB DLX003092

SDS Link
[View SDS Link](#)

SDS Number
194-85757 Coventry Coarse Extra Bright DLX003105

SDS Link

SDS Number
194-85944 Coventry Coarse Accent Base DLX003096

SDS Link

SDS Number
194-85753 Coventry Coarse Accent Base WG DLX002659

SDS Link

1st Coat — Dulux Acratex AcraShield Advance

Coat Type
1st Coat

Datasheet
AUAC00020 Dulux Acratex AcraShield Advance

Read the full Datasheet details at [Dulux Acratex AcraShield Advance](#)

Application Methods



Air Spray



Airless Spray



Brush



Roller

	Min	Max	Recommended
Theoretical Spread Rate (m ² /L)	6	4.5	6
Wet Film Per Coat (microns)	167	222	167
Dry Film Per Coat (microns)	75	100	75

Recoat Time **	2 Hours	indefinite	
V.O.C. Level Refer to specific data sheets AUCA00085 AcraShield Advance Low Gloss AUAC00049 AcraShield Advance Matt AUAC00153 AcraShield MIOX AUAC00119 AcraShield Aluminium		Meets GBCA V.O.C. Requirements? Not Applicable	
Coating Application Details Brush, roller and airless spray Brush and roll at the same time to avoid picture framing. Product should be thoroughly mixed before use. Refer to the Dulux Acratex Application Manual for detailed instructions. Dulux Acratex Acrashield may be applied by brush, roller or airless spray. A 10-20mm nap roller is used depending on the type of texture being overcoated. Typical Airless Spray set up is: Graco Ultra 500 using 0.019-0.021 spray tip at approx. 1000 psi.			
SDS Number DLX003010 AcraShield Advance Matt		SDS Link View SDS Link	
SDS Number DLX003011 AcraShield Advance Low Gloss		SDS Link View SDS Link	
SDS Number DLX003153 AcraShield MIOX		SDS Link View SDS Link	
SDS Number DLX003150 AcraShield Aluminium		SDS Link View SDS Link	

2nd Coat — Dulux Acratex AcraShield Advance

Coat Type 2nd Coat		Datasheet AUAC00020 Dulux Acratex AcraShield Advance	
Read the full Datasheet details at Dulux Acratex AcraShield Advance			
Application Methods			
 Air Spray  Airless Spray  Brush  Roller			
	Min	Max	Recommended
Theoretical Spread Rate (m²/L)	6	4.5	6
Wet Film Per Coat (microns)	167	222	167
Dry Film Per Coat (microns)	75	100	75
Recoat Time **	2 Hours	indefinite	
V.O.C. Level Refer to specific data sheets AUCA00085 AcraShield Advance Low Gloss AUAC00049 AcraShield Advance Matt AUAC00153 AcraShield MIOX AUAC00119 AcraShield Aluminium		Meets GBCA V.O.C. Requirements? Not Applicable	
Coating Application Details Brush, roller and airless spray Brush and roll at the same time to avoid picture framing. Product should be thoroughly mixed before use. Refer to the Dulux Acratex Application Manual for detailed instructions. Dulux Acratex Acrashield may be applied by brush, roller or airless spray. A 10-20mm nap roller is used depending on the type of texture being overcoated. Typical Airless Spray set up is: Graco Ultra 500 using 0.019-0.021 spray tip at approx. 1000 psi.			
SDS Number		SDS Link	

DLX003010 AcraShield Advance Matt	View SDS Link
SDS Number DLX003011 AcraShield Advance Low Gloss	SDS Link View SDS Link
SDS Number DLX003153 AcraShield MIOX	SDS Link View SDS Link
SDS Number DLX003150 AcraShield Aluminium	SDS Link View SDS Link

Comments

Comments

- Practical spreading rates will vary from quoted theoretical figures depending on substrate porosity, surface roughness, overspray losses, application methods and environmental conditions (e.g. wind). All preparation and painting must conform to AS2311: The Painting of Buildings

Do not apply paint if Relative Humidity is above 85% or temperature is within 3°C of Dew Point. Do not apply if the surface temperature is greater than 40°C or below 10°C, or likely to fall below 10°C during the application or drying period. Dry times apply to a single coat at recommended spread rate and at 25°C and 50% relative humidity. Allow longer times under cool, moist, or still conditions and or when applied at high film builds. Protect from dew, rain and frost for 48 hours when apply at the recommended spread rate. Avoid application in hot, windy conditions or on hot surfaces cool the surface by hosing with water and paint the cool damp surface.

When using Bright Reds, Oranges, Blues and Yellows or where very light (or dark) colours are applied over highly contrasting colours an extra coat maybe required. Dulux recommend full coating systems including a top coat. For **all** systems the texture and/or base coat should be tinted in accordance with AcraTex tint guide to the specified membrane top coat colour (or a colour as close as possible to the specified colour as product and tint rules allow). Application techniques should be adjusted to achieve the recommended DFT and finishing standard.

To avoid "Picture Framing" of texture topcoats "wet on wet" cutting in and coating technique is recommended or apply multiple coats thinning the first coat. At commencement of coating system application to the substrate it shall be deemed that the applicator has certified that the surface which it is to be applied to is fit to receive the specified coating(s) system. When the applicator is preparing the site sample for approval they should advise the project superintendent if the substrate condition is not of sufficient standard to produce the specified finish.

Where possible avoid dark colours - these will give rise to much higher surface temperature that may cause addition thermal stress and cooling demand to the building envelope and/ or require extra engineering considerations (greater building costs). Consult dulux on the potential to use InfraCOOL heat reflective coatings that will keep the surface cooler "like for like" colour. Glancing light joints and panel deformation may be clearly evident under glancing light, casting visible shadows of the minute and uneven projections of the joints. Glancing light is light that is nearly parallel to the surface of the wall and casts visible shadows and uneven projections of the joints. Just like rendered masonry/ jointed system any uneven projections will be highlighted and as such are outside the control / scope of this specification. Refer http://www.dulux.com.au/pdf/tech-advice/DLX_TECH_Glancing-Light.pdf

The coastal area is considered a marine environment and as such salt potentially can shorten the life of the coating systems. Care needs to be taken to wash down all areas twice. Once to remove surface contaminants, and raise salts to the surface and then secondly to remove these salts. Due to the locality, weather conditions and lag time between applications of the coating system it may require the need to wash again, between coats.

This specification is to be read in conjunction with dulux product data sheets, a dulux warranty can be provided on request when the **full** acratex system including a membrane topcoat/s is applied by a dulux acratex trained applicator, according to specification and at the specified spreading rates and to the surface preparation details described in the dulux acratex specification manual. The dynamics of the substrate is outside the control of dulux australia and as such joint deformation or cracking is excluded from warranty terms. Colour change is a natural part of a coating weathering and is excluded from warranty terms Refer warranty document for full terms and conditions.

Fungi and algae can exist on virtually any surface (even glass) provided the right conditions for growth are met. Visible growth on painted surfaces is typically caused by contaminants present together with the presence of high enough levels of moisture to support growth. Agents in paints become ineffective where they cannot "touch" the growth source (eg where growth emanates from deposits on the film). Additionally the active agents are "consumed" in the process such that protection is time limited where conditions support ongoing growth performance is greatly improved with the inclusion of a membrane Top coat like acraShield, elastomeric 201 or acraSkin. Refer:

<http://www.dulux.com.au/specifier/our-brands/dulux-acratex/more-than-just-render> The exterior texture coatings should be cleaned on a regular basis. This will help maintain your overall aesthetic appearance and preserve your acraTex texture coating system. Cleaning once every year will remove light soil as well as grime and airborne pollutants refer dulux acraTex care & maintenance guide <http://www.dulux.com.au/specifier/our-brands/dulux-acratex/acratex-care-and-maintenance>.

When using this specification, the applicator shall maintain records in accordance with AS 3894 Parts 10, 11 and 12 and others as required by the project manager. These records shall be made available for inspection at any time by the project manager or authorised representative and submitted to the principal contractor upon completion of work.

Surfactant leaching from exterior water-based coatings

Occasionally amber, clear or white spots/streaks are seen on a newly painted surface within the first few weeks after application. They usually appear after light rain or overnight dew and generally located in sheltered areas or areas with limited sun exposure. Under normal conditions surfactant contained in the tinted paint colour is slowly leached to the surface and washed away by rain leaving no trace and is a normal part of drying of any exterior water-based paint. Under certain atmospheric conditions and these surfactants leach or migrate to the paint surface, is concentrated forms and leaves clear or white deposits upon drying. These conditions include cool or humid weather or painting cold substrate and in most cases these marks on the wall surfaces are more noticeable on dark colours, such as browns or dark greens, etc.. The clear/white surfactants that have migrated to the wall surface areas will cause no down grading nor performance changes or long term durability concerns of the paint films integrity and unfortunately have become an appearance issue instead. They easily removed from the paint film within a week or so of their appearance by washing with warm water & commercial grade detergent or via Nifti or Spray'n'Wipe followed by rinsing with fresh clean water. Under severe conditions they may reappear once or twice until all the surfactant has been removed. It will be less noticeable each time, and can be removed in the same manner as before. Refer http://www.dulux.com.au/pdf/tech-advice/DLX_TECH_Leaching.pdf

Further Information

CARE & MAINTENANCE GUIDE Texture

Disclaimer

This Specification is copyright to DuluxGroup (Australia) Pty Ltd and/or DuluxGroup (New Zealand) Pty Ltd (collectively, 'Dulux'). It may not be varied or altered without the prior written consent of Dulux, and if it is, Dulux has no responsibility or liability for those variations.

Unless Dulux has provided you with a customised, project-specific specification, this Duspec+ document does not represent that any particular product or product system will be suitable for your project.

Any information provided in this Duspec+ is given in good faith and is believed by Dulux to be correct at the time of publication. Products and coating systems can be expected to perform as indicated in this Duspec+ document, provided the substrate is in good condition, the coatings are applied by a suitably experienced and skilled applicator, and the preparation, application and maintenance is followed strictly as set out in this Duspec+ document, and as recommended on the applicable Dulux Product Data Sheet and Safety Data Sheets for the relevant products (available from www.duspecplus.com.au). Climatic conditions at application time can affect Duspec+ documentation suitability and product performance.

The correct colour or colour match is the responsibility of the applicator. Colours will change over time and Dulux does not guarantee that the same colour newly mixed will match a colour applied earlier which has been subjected to weathering or other change elements. No product colour is guaranteed against colour change.

Where any liability of Dulux in respect of this Specification cannot by law be excluded, Dulux's liability is limited, as permitted by law and at Dulux's option, to resupply of the relevant products or services or to reimbursing the cost of those products or services.

WHERE LEAD MAY BE PRESENT: The asset manager is responsible for verifying the presence of lead and determining whether to remove or encapsulate the lead. If lead is present, the work must be done in strict accordance with AS 4361 Parts 1 and 2 and Worksafe Australia guidelines.

AUAC03873 Dulux Acratex AcraShield Advance / Coventry Course / RenderWall Acrabuild Plus full Mesh / For 50mm Helix Panel on New Autoclaved aerated concrete (AAC) block or panel [Exterior]

Scope of Works

A High Build levelling and Finishing System for Helix Panel (50mm Autoclaved Aerated Concrete (AAC)).

THIS SYSTEM IS SUITABLE WHERE PANEL ALIGNMENT TOLLERANCES = 4MM

WHERE MAJOR MISALIGNMENT OCCURS, REFER TO ADDITIONAL REMEDIAL RECOMMENDATIONS FOR PRE-TREATMENT

Incorporating:

Dulux Acratex RenderWall **Acrabuild Plus** is a pre blended dry mix polymer modified cementitious wall render designed specifically to produce a high quality, even and true surface over brick, block, and Aerated Autoclave Concrete (AAC) block and AAC Panel installed and prepared in accordance with manufactures technical requirements.

Dulux AcraTex **Coventry Coarse** is a decorative, low build protective coating displaying excellent resistance to weathering and atmospheric chemicals. The finish will resemble that of a coarse granular render which has been sponge floated.

Dulux Acratex **AcraShield Advance** is a high build, pigmented, water based 100% acrylic coating available in matt, low gloss and gloss finishes. It is designed to overcoat Dulux Acratex textured coatings highly flexible 100% acrylic elastomeric membrane weatherproofing coating with excellent water impermeability, carbonation resistance, chloride ion resistance, and resistance to mould and mildew. That can be applied by roller - conventional nap or low profile texture sleeves or airless spray to provide maximum crack bridging and anti-carbonation performance.

Not for immersion.

Substrate and Substrate Preparation

Substrate Notes

General

AAC is manufactured from sand, lime and cement, to which is added water and aluminium paste. After mixing, the cement slurry is poured into moulds. The aluminium paste reacts with the alkaline elements in the mixture and forms hydrogen gas. This liberated gas expands the mixture forming extremely small finely dispersed air spaces. The product is removed from the mould after a few hours, cut to the required dimension and finally cured under pressure in a steam autoclave.

Coating-Finishing systems for AAC must meet specific substrate supplier technical requirements. Typically AAC requires an AAC specific render levelling coat plus a performance Acrylic Texture system. Standard cement renders (including site mixed and general bag mixed) are strictly NOT recommended by substrate suppliers and may lead to cracking and delamination.

Helix Panel is (typically) a 50 or 75mm panel of Autoclaved Aerated Concrete (AAC) with corrosion protected steel reinforcement embedded during production.

This lightweight, yet solid masonry panel is designed for external cladding in timber or steel frame construction. Panels are glued together (thin bed) using AAC Manufacturer's adhesive to a design standard of providing a level, fully filled joint.

Substrate Preparation Notes

Assess suitability

Check that the AAC blocks or panels are installed strictly in accordance with the AAC manufacturer's installation instructions. Ensure all AAC joints are completely and fully glued along their entire contact area. Failure to ensure full glue contact and cure will cause joint cracking and void all warranty of the coating system. It is the responsibility of the AAC installer to ensure all joints or major imperfections and misalignments are filled and sanded true and flush before applying any coating system. They must be flush and plumb ensuring the best possible surface prior to application of the base coat. Uneven face alignment will require additional materials to achieve a flush and level facade.

Check that expansion joints are strictly in accordance with AAC manufacturer's design guides, including the incorporation of discontinuous top-hat sections across joints and at corners. Expansion joints are recommended at (max) 3m height and 6m wide intervals and at all building weak points such as around openings (e.g. windows, doors and garage doors), horizontally between all floor levels, and at all interfaces of different building construction materials.

Clean surface

Remove any dust, laitance or efflorescence by brush or broom. Wash down the surface with clean potable water to ensure that the AAC surface is sound, clean and free of all dust, dirt, salts or any other surface contaminants.

Repair surface imperfections

Sand off or rasp surface misalignments, protrusions, mortar splashes, adhesive and other contaminants to leave a level surface. Fill voids and other imperfections with a suitable patching compound.

Dampen surface with water or suitable primer to prevent the substrate's porosity from hindering the curing of the base render.

Apply the specified RenderWall base render over the entire area in strict accordance with the technical data sheet, taking great care to ensure control joints remain free of levelling material during application. Ensure the finish is level and suitable for the specified texture coating system. Allow to fully cure.

Treat joints

Clean out and fill all control joints with a suitable paintable polyurethane joint sealant. Care must be taken to ensure joint remains free of levelling or texture material during application, or joint is cleaned out prior to sealant application. Typical control joint width is 10mm.

Install sealant in strict accordance with manufacturer recommendations and as neatly as possible – take great care not to smear the sealant on the façade side or edge of the expansion joint recess – use masking tape to protect edges. Failure to confine sealant to expansion joint recess only will lead to cracking of the texture coating over the smears. After sealant is cured apply a 6 to 8mm masking tape over the sealant.

Apply texture

Apply the specified texture coating to the entire area, removing all masking tape as soon as possible and well before the texture coating has skinned. Do not allow the texture coating to set over the control joint sealant.

Apply topcoat

When top coating the texture coating with an elastomeric topcoat such as AcraShield, apply the topcoat to the entire joint, including sealant.

Additional Notes

1. Ensure that all imperfections are pre-filled,
2. Rasp or scrap flush any proud AAC Joints
3. Install 165 gms Exsulite Mesh across whole panel over lapping by 100mm – take care not to bulge mesh. (Mesh must be embedded into the wet base coat of Acrabuild Plus)

Expansion Joints:

Expansion joints must be in accordance with AAC manufacture's design guides including the incorporation of discontinuous top-hat sections across joints and at corners. Expansion joints are recommended at (max) 3m height & 6m wide intervals and at building weak points E.g. in line with openings (window / doors), horizontally between all floor levels, and at all interfaces of different building construction materials. Refer AAC manufacture's current recommendations for additional consideration of specific timber-metal frame requirements, upper storey movement control and above opening (garage door-windows) panel fixing and support.

It is recommended that all control joints be filled after the base RenderWall application has been applied using a suitable (paint-able) polyurethane joint sealant. Care must be taken to ensure joint remains free of levelling or texture material during application, or joint is cleaned out prior to sealant application AND applied Texture coating does not extend over control joint mastic. Typical control joint width is 10mm. Install sealant in accordance with manufacturer recommendations – CARE is to be used not to smear the sealant to either side of the expansion joint recess – use masking tape to protect edges. Failure to confine sealant to expansion joint recess only (ie where it is smeared to either side of joint) will lead to cracking of the Texture coating at expansion joint edges.

After sealant is cured apply a 6 to 8mm masking tape over the sealant joint and apply / process the texture coating - remove the masking tape before the texture coating has skinned.

DO NOT apply the Texture coating over control joint sealant / mastic. Where colour cover of the sealant /mastic is required – carefully apply a thin diluted brush coat of texture only.

Coating System Summary

- | | |
|----------------|---|
| • Prep Coat | Dulux Acratex RenderWall Acrabuild Plus |
| • Intermediate | Dulux Acratex Coventry Coarse |
| • Top Coat | Dulux Acratex AcraShield Advance |
| • Top Coat | Dulux Acratex AcraShield Advance |

Coating System			
Prep Coat — Dulux Acratex RenderWall Acrabuild Plus			
Coat Type Prep Coat		Datasheet AUAC00134 Dulux Acratex RenderWall Acrabuild Plus	
Read the full Datasheet details at Dulux Acratex RenderWall Acrabuild Plus			
Application Methods			
 Trowel Check the degree of trueness (level) of the surface prior to commencement of application. Badly misaligned surfaces may require work screeds (pre-applied strips of render to set levels to work to) or non corrosive starter beads installed • Application by Hawk & Trowel should occur in 2 passes “wet on wet” • An initial pass of no more than 5mm thickness to fill mortar joints / hollows and generally align • Followed by a leveling pass. Always terminate the RenderWall Acrabuild Plus application above the damp course line. Never bridge damp course			
	Min	Max	Recommended
Theoretical Spread Rate (m²/L)	0.3	0.2	0.2
Wet Film Per Coat (microns)	4000	6000	6000
Dry Film Per Coat (microns)	4000	6000	6000
Recoat Time **	7-10days	Indefinite	
Meets GBCA V.O.C. Requirements? Yes Total Volatile Organic Content (TVOC) values are calculated in accordance to the stated methodology within Green Star Technical Manuals. The TVOC content is theoretically calculated as the sum total of the known VOC values of the product's raw material components. These materials include the base paint plus additional low VOC tinter required for non-factory packaged colours.			
Coating Application Details Product usage Scaling factor = 1.7 kg (dry powder) per sqm per 1mm thick (eg. a 6mm thick application requires (6 x 1.7) = 10.2 kg per sqm of Dulux Acratex RenderWall AcraBuild Plus powder)			
Mixing Mix Ratio (approx. 15L mixed Dulux AcraTex RenderWall AcraBuild Plus) ; 20kg (1 full bag) of Dulux Acratex RenderWall AcraBuild Plus ; Approx 3.5 litres of fresh clean water Refer to below for handling instructions ; Measure the water component into a 15L pail and add the powder while mixing with a suitable power Mixing Drill ; Allow to stand for 3-5 minutes ; Remix and adjust consistency with up to 0.5L additional water (once) relative to application requirement			
SDS Number DLX002683		SDS Link View SDS Link	

Intermediate — Dulux Acratex Coventry Coarse	
Coat Type Intermediate	Datasheet AUAC00081 Dulux Acratex Coventry Coarse
Read the full Datasheet details at Dulux Acratex Coventry Coarse	
Application Methods	
 Trowel  Hopper Gun Tex Spray. Coventry Coarse should be tinted in accordance with AcraTex Tint Guide to the specified membrane top coat colour (Or a colour as close as possible to the specified colour in accordance with product /base tint rules)	

	Min	Max	Recommended
Theoretical Spread Rate (m ² /L)	0.8	0.7	0.8
Wet Film Per Coat (microns)	1333	1467	1333
Dry Film Per Coat (microns)	1000	1100	1000
Recoat Time **	24 hours	Indefinite	

V.O.C. Level < 35 g/L untinted	Meets GBCA V.O.C. Requirements? Not Applicable
---	--

Coating Application Details Trowel and Hawk finished with a plastic float Product should be tinted & thoroughly mixed before use. Refer to the Dulux AcraTex Application Manual for detailed application instructions. Use masking to protect adjacent areas. The area should be patched and primed ready for final texture coat. Dulux Acratex Coventry Coarse is applied by hawk and stainless steel trowel, then finished in a circular motion with the plastic finishing float to achieve an even granular appearance. Two people are required for most areas - one person to apply the Coventry Coarse to the wall, the second to process / float finish. Delivery must be to a uniform thickness. Allow the material to stand for a short time before "rubbing up" with float to produce the desired pattern/texture. Application must be in a brisk uniform fashion terminating when the whole area is complete, banded by a natural break such as an expansion joint, corner etc. Application commenced on a single area must be completed uninterrupted.
--

SDS Number 194-85753 Coventry Coarse QTB DLX003092	SDS Link View SDS Link
SDS Number 194-85757 Coventry Coarse Extra Bright DLX003105	SDS Link
SDS Number 194-85944 Coventry Coarse Accent Base DLX003096	SDS Link
SDS Number 194-85753 Coventry Coarse Accent Base WG DLX002659	SDS Link

Top Coat — Dulux Acratex AcraShield Advance			
Coat Type Top Coat		Datasheet AUAC00020 Dulux Acratex AcraShield Advance	
Read the full Datasheet details at Dulux Acratex AcraShield Advance			
Application Methods			
 Air Spray  Airless Spray  Brush  Roller			
	Min	Max	Recommended
Theoretical Spread Rate (m²/L)	6	4.5	6
Wet Film Per Coat (microns)	167	222	167
Dry Film Per Coat (microns)	75	100	75
Recoat Time **	2 Hours	indefinite	
V.O.C. Level Refer to specific data sheets AUCA00085 AcraShield Advance Low Gloss AUAC00049 AcraShield Advance Matt AUAC00153		Meets GBCA V.O.C. Requirements? Not Applicable	

AcraShield MIOX AUAC00119 AcraShield Aluminium	
Coating Application Details Brush, roller and airless spray Brush and roll at the same time to avoid picture framing. Product should be thoroughly mixed before use. Refer to the Dulux Acratex Application Manual for detailed instructions. Dulux Acratex Acrashield may be applied by brush, roller or airless spray. A 10-20mm nap roller is used depending on the type of texture being overcoated. Typical Airless Spray set up is: Graco Ultra 500 using 0.019-0.021 spray tip at approx. 1000 psi.	
SDS Number DLX003010 AcraShield Advance Matt	SDS Link View SDS Link
SDS Number DLX003011 AcraShield Advance Low Gloss	SDS Link View SDS Link
SDS Number DLX003153 AcraShield MIOX	SDS Link View SDS Link
SDS Number DLX003150 AcraShield Aluminium	SDS Link View SDS Link

Top Coat — Dulux Acratex AcraShield Advance

Coat Type Top Coat		Datasheet AUAC00020 Dulux Acratex AcraShield Advance	
Read the full Datasheet details at Dulux Acratex AcraShield Advance			
Application Methods			
 Air Spray  Airless Spray  Brush  Roller			
	Min	Max	Recommended
Theoretical Spread Rate (m²/L)	6	4.5	6
Wet Film Per Coat (microns)	167	222	167
Dry Film Per Coat (microns)	75	100	75
Recoat Time **	2 Hours	indefinite	
V.O.C. Level Refer to specific data sheets AUCA00085 AcraShield Advance Low Gloss AUAC00049 AcraShield Advance Matt AUAC00153 AcraShield MIOX AUAC00119 AcraShield Aluminium		Meets GBCA V.O.C. Requirements? Not Applicable	
Coating Application Details Brush, roller and airless spray Brush and roll at the same time to avoid picture framing. Product should be thoroughly mixed before use. Refer to the Dulux Acratex Application Manual for detailed instructions. Dulux Acratex Acrashield may be applied by brush, roller or airless spray. A 10-20mm nap roller is used depending on the type of texture being overcoated. Typical Airless Spray set up is: Graco Ultra 500 using 0.019-0.021 spray tip at approx. 1000 psi.			
SDS Number DLX003010 AcraShield Advance Matt		SDS Link View SDS Link	
SDS Number DLX003011 AcraShield Advance Low Gloss		SDS Link View SDS Link	

SDS Number DLX003153 AcraShield MIOX	SDS Link View SDS Link
SDS Number DLX003150 AcraShield Aluminium	SDS Link View SDS Link

Coating System Notes

* Practical Spreading Rate will vary from the quoted Theoretical Spreading Rate due to factors such as method and condition of application and surface roughness.

** Recoat times are quotes for 25°C and 50% relative humidity, these may vary under different conditions.

Comments

Comments

- Practical spreading rates will vary from quoted theoretical figures depending on substrate porosity, surface roughness, overspray losses, application methods and environmental conditions (e.g. wind). All preparation and painting must conform to AS2311: The Painting of Buildings
Do not apply paint if Relative Humidity is above 85% or temperature is within 3°C of Dew Point. Do not apply if the surface temperature is greater than 40°C or below 10°C, or likely to fall below 10°C during the application or drying period. Dry times apply to a single coat at recommended spread rate and at 25°C and 50% relative humidity Allow longer times under cool, moist, or still conditions and or when applied at high film builds. Protect from dew, rain and frost for 48 hours when apply at the recommended spread rate. Avoid application in hot, windy conditions or on hot surfaces cool the surface by hosing with water and paint the cool damp surface.

When using Bright Reds, Oranges, Blues and Yellows or where very light (or dark) colours are applied over highly contrasting colours an extra coat maybe required. Dulux recommend full coating systems including a top coat. For **all** systems the texture and/or base coat should be tinted in accordance with AcraTex tint guide to the specified membrane top coat colour (or a colour as close as possible to the specified colour as product and tint rules allow). Application techniques should be adjusted to achieve the recommended DFT and finishing standard.

To avoid "Picture Framing" of texture topcoats "wet on wet" cutting in and coating technique is recommended or apply multiple coats thinning the first coat. At commencement of coating system application to the substrate it shall be deemed that the applicator has certified that the surface which it is to be applied to is fit to receive the specified coating(s) system. When the applicator is preparing the site sample for approval they should advise the project superintendent if the substrate condition is not of sufficient standard to produce the specified finish.

Where possible avoid dark colours - these will give raise to much higher surface temperature that may cause addition thermal stress and cooling demand to the building envelope and/ or require extra engineering considerations (greater building costs). Consult dulux on the potential to use InfraCOOL heat reflective coatings that will keep the surface cooler "like for like" colour. Glancing light joints and panel deformation may be clearly evident under glancing light, casting visible shadows of the minute and uneven projections of the joints. Glancing light is light that is nearly parallel to the surface of the wall and casts visible shadows and uneven projections of the joints. Just like rendered masonry/ jointed system any uneven projections will be highlighted and as such are outside the control / scope of this specification. Refer http://www.dulux.com.au/pdf/tech-advice/DLX_TECH_Glancing-Light.pdf

The coastal area is considered a marine environment and as such salt potentially can shorten the life of the coating systems. Care needs to be taken to wash down all areas twice. Once to remove surface contaminants, and raise salts to the surface and then secondly to remove these salts. Due to the locality, weather conditions and lag time between applications of the coating system it may require the need to wash again, between coats.

This specification is to be read in conjunction with dulux product data sheets, a dulux warranty can be provided on request when the **full** acratex system including a membrane topcoat/s is applied by a dulux acratex trained applicator, according to specification and at the specified spreading rates and to the surface preparation details described in the dulux acratex specification manual. The dynamics of the substrate is outside the control of dulux australia and as such joint deformation or cracking is excluded from warranty terms. Colour change is a natural part of a coating weathering and is excluded from warranty terms Refer warranty document for full terms and conditions.

Fungi and algae can exist on virtually any surface (even glass) provided the right conditions for growth are met. Visible growth on painted surfaces is typically caused by contaminants present together with the presence of high enough levels of moisture to support growth. Agents in paints become ineffective where they cannot "touch" the growth source (eg where growth emanates from deposits on the film). Additionally the active agents are "consumed" in the process such that protection is time limited where conditions support ongoing growth performance is greatly improved with the inclusion of a membrane Top coat like acraShield, elastomeric 201 or acraSkin. Refer: <http://www.dulux.com.au/specifier/our-brands/dulux-acratex/more-than-just-render> The exterior texture coatings should be cleaned on a regular basis. This will help maintain your overall aesthetic appearance and preserve your acraTex texture coating system. Cleaning once every year will remove light soil as well as grime and airborne pollutants refer dulux acraTex care & maintenance guide <http://www.dulux.com.au/specifier/our-brands/dulux-acratex/acratex-care-and-maintenance>.

When using this specification, the applicator shall maintain records in accordance with AS 3894 Parts 10, 11 and 12 and others as required by the project manager. These records shall be made available for inspection at any time by the project manager or authorised representative and submitted to the principal contractor upon completion of work.

Surfactant leaching from exterior water-based coatings

Occasionally amber, clear or white spots/streaks are seen on a newly painted surface within the first few weeks after application. They usually appear after light rain or overnight dew and generally located in sheltered areas or areas with limited sun exposure. Under normal conditions surfactant contained in the tinted paint colour is slowly leached to the surface and washed away by rain leaving no trace and is a normal part of drying of any exterior water-based paint. Under certain atmospheric conditions and these surfactants leach or migrate to the paint surface, is concentrated forms and leaves clear or white deposits upon drying. These conditions include cool or humid weather or painting cold substrate and in most cases these marks on the wall surfaces are more noticeable on dark colours, such as browns or dark greens, etc.. The clear/white surfactants that have migrated to the wall surface areas will cause no down grading nor performance changes or long term durability concerns of the paint films integrity and unfortunately have become an appearance issue instead. They easily removed from the paint film within a week or so of their appearance by washing with warm water & commercial grade detergent or via Nifti or Spray'n'Wipe followed by rinsing with fresh clean water. Under severe conditions they may reappear once or twice until all the surfactant has been removed. It will be less noticeable each time, and can be removed in the same manner as before. Refer http://www.dulux.com.au/pdf/tech-advice/DLX_TECH_Leaching.pdf

THIS SYSTEM IS SUITABLE WHERE PANEL ALIGNMENT TOLLERANCES = 4MM

WHERE MAJOR MISALIGNMENT OCCURS, REFER TO ADDITIONAL REMEDIAL RECOMMENDATIONS FOR PRE-TREATMENT

Further Information

CARE & MAINTENANCE GUIDE Texture

Disclaimer

This Specification is copyright to DuluxGroup (Australia) Pty Ltd and/or DuluxGroup (New Zealand) Pty Ltd (collectively, 'Dulux'). It may not be varied or altered without the prior written consent of Dulux, and if it is, Dulux has no responsibility or liability for those variations.

Unless Dulux has provided you with a customised, project-specific specification, this Duspec+ document does not represent that any particular product or product system will be suitable for your project.

Any information provided in this Duspec+ is given in good faith and is believed by Dulux to be correct at the time of publication. Products and coating systems can be expected to perform as indicated in this Duspec+ document, provided the substrate is in good condition, the coatings are applied by a suitably experienced and skilled applicator, and the preparation, application and maintenance is followed strictly as set out in this Duspec+ document, and as recommended on the applicable Dulux Product Data Sheet and Safety Data Sheets for the relevant products (available from www.duspecplus.com.au). Climatic conditions at application time can affect Duspec+ documentation suitability and product performance.

The correct colour or colour match is the responsibility of the applicator. Colours will change over time and Dulux does not guarantee that the same colour newly mixed will match a colour applied earlier which has been subjected to weathering or other change elements. No product colour is guaranteed against colour change.

Where any liability of Dulux in respect of this Specification cannot by law be excluded, Dulux's liability is limited, as permitted by law and at Dulux's option, to resupply of the relevant products or services or to reimbursing the cost of those products or services.

WHERE LEAD MAY BE PRESENT: The asset manager is responsible for verifying the presence of lead and determining whether to remove or encapsulate the lead. If lead is present, the work must be done in strict accordance with AS 4361 Parts 1 and 2 and Worksafe Australia guidelines.

AUAC03874 Dulux Acratex RenderWall AcraBuild Plus with mesh joints/Coventry Coarse/Acrashield Advance on 75mm Helix Panel on New Autoclaved aerated concrete (AAC) block or panel [Exterior]

Scope of Works

A High Build levelling and Finishing System for Helix Panel (75mm Autoclaved Aerated Concrete (AAC)).

THIS SYSTEM IS SUITABLE WHERE PANEL ALIGNMENT TOLLERANCES = 4MM

WHERE MAJOR MISALIGNMENT OCCURS, REFER TO ADDITIONAL REMEDIAL RECOMMENDATIONS FOR PRE-TREATMENT

Incorporating:

Dulux **Acratex RenderWall AcraBuild Plus** is a pre blended dry mix polymer modified cementitious wall render designed specifically to produce a high quality, even and true surface over brick, block, and Aerated Autoclave Concrete (AAC) block and AAC Panel installed and prepared in accordance with manufactures technical requirements.

Dulux **AcraTex Coventry Coarse** is a decorative, low build protective coating displaying excellent resistance to weathering and atmospheric chemicals. The finish will resemble that of a coarse granular render which has been sponge floated.

Further enhanced by **AcraTex AcraShield Advance**, which is a mid-build water borne, highly flexible 100% acrylic elastomeric membrane weatherproofing coating with excellent water impermeability, carbonation resistance, chloride ion resistance, and resistance to mould and mildew. That can be applied by roller - conventional nap or low-profile texture sleeves or airless spray to provide maximum crack bridging and anti-carbonation performance.

Substrate and Substrate Preparation

Substrate Notes

General

AAC is manufactured from sand, lime and cement, to which is added water and aluminium paste. After mixing, the cement slurry is poured into moulds. The aluminium paste reacts with the alkaline elements in the mixture and forms hydrogen gas. This liberated gas expands the mixture forming extremely small finely dispersed air spaces. The product is removed from the mould after a few hours, cut to the required dimension and finally cured under pressure in a steam autoclave.

Coating-Finishing systems for AAC must meet specific substrate supplier technical requirements. Typically AAC requires an AAC specific render levelling coat plus a performance Acrylic Texture system. Standard cement renders (including site mixed and general bag mixed) are strictly NOT recommended by substrate suppliers and may lead to cracking and delamination.

Helix Panel is (typically) a 50 or 75mm panel of Autoclaved Aerated Concrete (AAC) with corrosion protected steel reinforcement embedded during production.

This lightweight, yet solid masonry panel is designed for external cladding in timber or steel frame construction. Panels are glued together (thin bed) using AAC Manufacturer's adhesive to a design standard of providing a level, fully filled joint.

Substrate Preparation Notes

Assess suitability

Check that the AAC blocks or panels are installed strictly in accordance with the AAC manufacturer's installation instructions. Ensure all AAC joints are completely and fully glued along their entire contact area. Failure to ensure full glue contact and cure will cause joint cracking and void all warranty of the coating system. It is the responsibility of the AAC installer to ensure all joints or major imperfections and misalignments are filled and sanded true and flush before applying any coating system. They must be flush and plumb ensuring the best possible surface prior to application of the base coat. Uneven face alignment will require additional materials to achieve a flush and level facade.

Check that expansion joints are strictly in accordance with AAC manufacturer's design guides, including the incorporation of discontinuous top-hat sections across joints and at corners. Expansion joints are recommended at (max) 3m height and 6m wide intervals and at all building weak points such as around openings (e.g. windows, doors and garage doors), horizontally between all floor levels, and at all interfaces of different building construction materials.

Clean surface

Remove any dust, laitance or efflorescence by brush or broom. Wash down the surface with clean potable water to ensure that the AAC surface is sound, clean and free of all dust, dirt, salts or any other surface contaminants.

Repair surface imperfections

Sand off or rasp surface misalignments, protrusions, mortar splashes, adhesive and other contaminants to leave a level surface. Fill voids and other imperfections with a suitable patching compound.

Install 200mm Exsulite Mesh centrally over all joints (except control joints) with stainless steel staples – take care not to bulge mesh.

Dampen surface with water or suitable primer to prevent the substrate's porosity from hindering the curing of the base render.

Apply the specified RenderWall base render over the entire area in strict accordance with the technical data sheet, taking great care to ensure control joints remain free of levelling material during application. Ensure the finish is level and suitable for the specified texture coating system. Allow to fully cure.

Treat joints

Clean out and fill all control joints with a suitable paintable polyurethane joint sealant. Care must be taken to ensure joint remains free of levelling or texture material during application, or joint is cleaned out prior to sealant application. Typical control joint width is 10mm.

Install sealant in strict accordance with manufacturer recommendations and as neatly as possible – take great care not to smear the sealant on the façade side or edge of the expansion joint recess – use masking tape to protect edges. Failure to confine sealant to expansion joint recess only will lead to cracking of the texture coating over the smears. After sealant is cured apply a 6 to 8mm masking tape over the sealant.

Apply texture

Apply the specified texture coating to the entire area, removing all masking tape as soon as possible and well before the texture coating has skinned. Do not allow the texture coating to set over the control joint sealant.

Apply topcoat

When top coating the texture coating with an elastomeric topcoat such as AcraShield, apply the topcoat to the entire joint, including sealant.

Additional Notes

Install 200mm Exsulite Mesh centrally over all joints prior to applying base coat.

Coating System Summary

- | | |
|----------------|---|
| • Prep Coat | Dulux Acratex RenderWall Acrabuild Plus |
| • Intermediate | Dulux Acratex Coventry Coarse |
| • Top Coat | Dulux Acratex AcraShield Advance |
| • Top Coat | Dulux Acratex AcraShield Advance |

Coating System

Prep Coat — Dulux Acratex RenderWall Acrabuild Plus

Coat Type
Prep Coat

Datasheet
AUAC00134 Dulux Acratex RenderWall Acrabuild Plus

Read the full Datasheet details at [Dulux Acratex RenderWall Acrabuild Plus](#)

Application Methods



Trowel

Check the degree of trueness (level) of the surface prior to commencement of application. Badly misaligned surfaces may require work screeds (pre-applied strips of render to set levels to work to) or non corrosive starter beads installed • Application by Hawk & Trowel should occur in 2 passes "wet on wet" • An initial pass of no more than 5mm thickness to fill mortar joints / hollows and generally align • Followed by a leveling pass. Always terminate the RenderWall Acrabuild Plus application above the damp course line. Never bridge damp course

	Min	Max	Recommended
Theoretical Spread Rate (m²/L)	0.3	0.2	0.2
Wet Film Per Coat (microns)	4000	6000	6000
Dry Film Per Coat (microns)	4000	6000	6000
Recoat Time **	7-10days	Indefinite	

Meets GBCA V.O.C. Requirements?

Yes

Total Volatile Organic Content (TVOC) values are calculated in accordance to the stated methodology within Green Star Technical Manuals. The TVOC content is theoretically calculated as the sum total of the known VOC values of the product's raw material components. These materials include the base paint plus additional low VOC tinter required for non-factory packaged colours.

Coating Application Details

Product usage Scaling factor = 1.7 kg (dry powder) per sqm per 1mm thick
(eg. a 6mm thick application requires (6 x 1.7) = 10.2 kg per sqm of Dulux Acratex RenderWall AcraBuild Plus powder)

Mixing

Mix Ratio (approx. 15L mixed Dulux AcraTex RenderWall AcraBuild Plus)
; 20kg (1 full bag) of Dulux Acratex RenderWall AcraBuild Plus
; Approx 3.5 litres of fresh clean water Refer to below for handling instructions
; Measure the water component into a 15L pail and add the powder while mixing with a suitable power Mixing Drill
; Allow to stand for 3-5 minutes
; Remix and adjust consistency with up to 0.5L additional water (once) relative to application requirement

SDS Number
DLX002683

SDS Link
[View SDS Link](#)

Intermediate — Dulux Acratex Coventry Coarse

Coat Type
Intermediate

Datasheet
AUAC00081 Dulux Acratex Coventry Coarse

Read the full Datasheet details at [Dulux Acratex Coventry Coarse](#)

Application Methods



Trowel



Hopper Gun

Tex Spray. Coventry Coarse should be tinted in accordance with AcraTex Tint Guide to the specified membrane top coat colour (Or a colour as close as possible to the specified colour in accordance with product /base tint rules)

	Min	Max	Recommended
Theoretical Spread Rate (m ² /L)	0.8	0.7	0.8
Wet Film Per Coat (microns)	1333	1467	1333
Dry Film Per Coat (microns)	1000	1100	1000
Recoat Time **	24 hours	Indefinite	

V.O.C. Level
< 35 g/L untinted

Meets GBCA V.O.C. Requirements?
Not Applicable

Coating Application Details

Trowel and Hawk finished with a plastic float

Product should be tinted & thoroughly mixed before use.

Refer to the Dulux AcraTex Application Manual for detailed application instructions.

Use masking to protect adjacent areas. The area should be patched and primed ready for final texture coat.

Dulux Acratex Coventry Coarse is applied by hawk and stainless steel trowel, then finished in a circular motion with the plastic finishing float to achieve an even granular appearance.

Two people are required for most areas - one person to apply the Coventry Coarse to the wall, the second to process / float finish.

Delivery must be to a uniform thickness.

Allow the material to stand for a short time before "rubbing up" with float to produce the desired pattern/texture.

Application must be in a brisk uniform fashion terminating when the whole area is complete, banded by a natural break such as an expansion joint, corner etc.

Application commenced on a single area must be completed uninterrupted.

SDS Number
194-85753 Coventry Coarse QTB DLX003092

SDS Link
[View SDS Link](#)

SDS Number
194-85757 Coventry Coarse Extra Bright DLX003105

SDS Link

SDS Number
194-85944 Coventry Coarse Accent Base DLX003096

SDS Link

SDS Number
194-85753 Coventry Coarse Accent Base WG DLX002659

SDS Link

Top Coat — Dulux Acratex AcraShield Advance

Coat Type
Top Coat

Datasheet
AUAC00020 Dulux Acratex AcraShield Advance

Read the full Datasheet details at [Dulux Acratex AcraShield Advance](#)

Application Methods



	Min	Max	Recommended
Theoretical Spread Rate (m ² /L)	6	4.5	6
Wet Film Per Coat (microns)	167	222	167
Dry Film Per Coat (microns)	75	100	75
Recoat Time **	2 Hours	indefinite	

V.O.C. Level
Refer to specific data sheets AUCA00085 AcraShield Advance Low Gloss AUAC00049 AcraShield Advance Matt AUAC00153

Meets GBCA V.O.C. Requirements?
Not Applicable

AcraShield MIOX AUAC00119 AcraShield Aluminium	
Coating Application Details Brush, roller and airless spray Brush and roll at the same time to avoid picture framing. Product should be thoroughly mixed before use. Refer to the Dulux Acratex Application Manual for detailed instructions. Dulux Acratex Acrashield may be applied by brush, roller or airless spray. A 10-20mm nap roller is used depending on the type of texture being overcoated. Typical Airless Spray set up is: Graco Ultra 500 using 0.019-0.021 spray tip at approx. 1000 psi.	
SDS Number DLX003010 AcraShield Advance Matt	SDS Link View SDS Link
SDS Number DLX003011 AcraShield Advance Low Gloss	SDS Link View SDS Link
SDS Number DLX003153 AcraShield MIOX	SDS Link View SDS Link
SDS Number DLX003150 AcraShield Aluminium	SDS Link View SDS Link

Top Coat — Dulux Acratex AcraShield Advance

Coat Type Top Coat		Datasheet AUAC00020 Dulux Acratex AcraShield Advance	
Read the full Datasheet details at Dulux Acratex AcraShield Advance			
Application Methods			
 Air Spray  Airless Spray  Brush  Roller			
	Min	Max	Recommended
Theoretical Spread Rate (m²/L)	6	4.5	6
Wet Film Per Coat (microns)	167	222	167
Dry Film Per Coat (microns)	75	100	75
Recoat Time **	2 Hours	indefinite	
V.O.C. Level Refer to specific data sheets AUCA00085 AcraShield Advance Low Gloss AUAC00049 AcraShield Advance Matt AUAC00153 AcraShield MIOX AUAC00119 AcraShield Aluminium		Meets GBCA V.O.C. Requirements? Not Applicable	
Coating Application Details Brush, roller and airless spray Brush and roll at the same time to avoid picture framing. Product should be thoroughly mixed before use. Refer to the Dulux Acratex Application Manual for detailed instructions. Dulux Acratex Acrashield may be applied by brush, roller or airless spray. A 10-20mm nap roller is used depending on the type of texture being overcoated. Typical Airless Spray set up is: Graco Ultra 500 using 0.019-0.021 spray tip at approx. 1000 psi.			
SDS Number DLX003010 AcraShield Advance Matt		SDS Link View SDS Link	
SDS Number DLX003011 AcraShield Advance Low Gloss		SDS Link View SDS Link	

SDS Number DLX003153 AcraShield MIOX	SDS Link View SDS Link
SDS Number DLX003150 AcraShield Aluminium	SDS Link View SDS Link

Comments

Comments

- Practical spreading rates will vary from quoted theoretical figures depending on substrate porosity, surface roughness, overspray losses, application methods and environmental conditions (e.g. wind). All preparation and painting must conform to AS2311: The Painting of Buildings
Do not apply paint if Relative Humidity is above 85% or temperature is within 3°C of Dew Point. Do not apply if the surface temperature is greater than 40°C or below 10°C, or likely to fall below 10°C during the application or drying period. Dry times apply to a single coat at recommended spread rate and at 25°C and 50% relative humidity Allow longer times under cool, moist, or still conditions and or when applied at high film builds. Protect from dew, rain and frost for 48 hours when apply at the recommended spread rate. Avoid application in hot, windy conditions or on hot surfaces cool the surface by hosing with water and paint the cool damp surface.

When using Bright Reds, Oranges, Blues and Yellows or where very light (or dark) colours are applied over highly contrasting colours an extra coat maybe required. Dulux recommend full coating systems including a top coat. For **all** systems the texture and/or base coat should be tinted in accordance with AcraTex tint guide to the specified membrane top coat colour (or a colour as close as possible to the specified colour as product and tint rules allow). Application techniques should be adjusted to achieve the recommended DFT and finishing standard.

To avoid "Picture Framing" of texture topcoats "wet on wet" cutting in and coating technique is recommended or apply multiple coats thinning the first coat. At commencement of coating system application to the substrate it shall be deemed that the applicator has certified that the surface which it is to be applied to is fit to receive the specified coating(s) system. When the applicator is preparing the site sample for approval they should advise the project superintendent if the substrate condition is not of sufficient standard to produce the specified finish.

Where possible avoid dark colours - these will give raise to much higher surface temperature that may cause addition thermal stress and cooling demand to the building envelope and/ or require extra engineering considerations (greater building costs). Consult dulux on the potential to use InfraCOOL heat reflective coatings that will keep the surface cooler "like for like" colour. Glancing light joints and panel deformation may be clearly evident under glancing light, casting visible shadows of the minute and uneven projections of the joints. Glancing light is light that is nearly parallel to the surface of the wall and casts visible shadows and uneven projections of the joints. Just like rendered masonry/ jointed system any uneven projections will be highlighted and as such are outside the control / scope of this specification. Refer http://www.dulux.com.au/pdf/tech-advice/DLX_TECH_Glancing-Light.pdf

The coastal area is considered a marine environment and as such salt potentially can shorten the life of the coating systems. Care needs to be taken to wash down all areas twice. Once to remove surface contaminants, and raise salts to the surface and then secondly to remove these salts. Due to the locality, weather conditions and lag time between applications of the coating system it may require the need to wash again, between coats.

This specification is to be read in conjunction with dulux product data sheets, a dulux warranty can be provided on request when the **full** acratex system including a membrane topcoat/s is applied by a dulux acratex trained applicator, according to specification and at the specified spreading rates and to the surface preparation details described in the dulux acratex specification manual. The dynamics of the substrate is outside the control of dulux australia and as such joint deformation or cracking is excluded from warranty terms. Colour change is a natural part of a coating weathering and is excluded from warranty terms Refer warranty document for full terms and conditions.

Fungi and algae can exist on virtually any surface (even glass) provided the right conditions for growth are met. Visible growth on painted surfaces is typically caused by contaminants present together with the presence of high enough levels of moisture to support growth. Agents in paints become ineffective where they cannot "touch" the growth source (eg where growth emanates from deposits on the film). Additionally the active agents are "consumed" in the process such that protection is time limited where conditions support ongoing growth performance is greatly improved with the inclusion of a membrane Top coat like acraShield, elastomeric 201 or acraSkin. Refer: <http://www.dulux.com.au/specifier/our-brands/dulux-acratex/more-than-just-render> The exterior texture coatings should be cleaned on a regular basis. This will help maintain your overall aesthetic appearance and preserve your acraTex texture coating system. Cleaning once every year will remove light soil as well as grime and airborne pollutants refer dulux acraTex care & maintenance guide <http://www.dulux.com.au/specifier/our-brands/dulux-acratex/acratex-care-and-maintenance>.

When using this specification, the applicator shall maintain records in accordance with AS 3894 Parts 10, 11 and 12 and others as required by the project manager. These records shall be made available for inspection at any time by the project manager or authorised representative and submitted to the principal contractor upon completion of work.

Surfactant leaching from exterior water-based coatings

Occasionally amber, clear or white spots/streaks are seen on a newly painted surface within the first few weeks after application. They usually appear after light rain or overnight dew and generally located in sheltered areas or areas with limited sun exposure. Under normal conditions surfactant contained in the tinted paint colour is slowly leached to the surface and washed away by rain leaving no trace and is a normal part of drying of any exterior water-based paint. Under certain atmospheric conditions and these surfactants leach or migrate to the paint surface, is concentrated forms and leaves clear or white deposits upon drying. These conditions include cool or humid weather or painting cold substrate and in most cases these marks on the wall surfaces are more noticeable on dark colours, such as browns or dark greens, etc.. The clear/white surfactants that have migrated to the wall surface areas will cause no down grading nor performance changes or long term durability concerns of the paint films integrity and unfortunately have become an appearance issue instead. They easily removed from the paint film within a week

or so of their appearance by washing with warm water & commercial grade detergent or via Nifti or Spray'n'Wipe followed by rinsing with fresh clean water. Under severe conditions they may reappear once or twice until all the surfactant has been removed. It will be less noticeable each time, and can be removed in the same manner as before. Refer http://www.dulux.com.au/pdf/tech-advice/DLX_TECH_Leaching.pdf

Disclaimer

This Specification is copyright to DuluxGroup (Australia) Pty Ltd and/or DuluxGroup (New Zealand) Pty Ltd (collectively, 'Dulux'). It may not be varied or altered without the prior written consent of Dulux, and if it is, Dulux has no responsibility or liability for those variations.

Unless Dulux has provided you with a customised, project-specific specification, this Duspec+ document does not represent that any particular product or product system will be suitable for your project.

Any information provided in this Duspec+ is given in good faith and is believed by Dulux to be correct at the time of publication. Products and coating systems can be expected to perform as indicated in this Duspec+ document, provided the substrate is in good condition, the coatings are applied by a suitably experienced and skilled applicator, and the preparation, application and maintenance is followed strictly as set out in this Duspec+ document, and as recommended on the applicable Dulux Product Data Sheet and Safety Data Sheets for the relevant products (available from www.duspecplus.com.au). Climatic conditions at application time can affect Duspec+ documentation suitability and product performance.

The correct colour or colour match is the responsibility of the applicator. Colours will change over time and Dulux does not guarantee that the same colour newly mixed will match a colour applied earlier which has been subjected to weathering or other change elements. No product colour is guaranteed against colour change.

Where any liability of Dulux in respect of this Specification cannot by law be excluded, Dulux's liability is limited, as permitted by law and at Dulux's option, to resupply of the relevant products or services or to reimbursing the cost of those products or services.

WHERE LEAD MAY BE PRESENT: The asset manager is responsible for verifying the presence of lead and determining whether to remove or encapsulate the lead. If lead is present, the work must be done in strict accordance with AS 4361 Parts 1 and 2 and Worksafe Australia guidelines.

Sto Specifications

Coatings Specification over 50mm Helix Panel

Substrate Details

Base Coat Render	Unitex Aero Render
Applicable Texture Coating	Unitex 333 Texture
Coating	Protective Top Coat

For detailed information on Sto Products, Systems and Warranties, please contact:

Position: Sales Consultant
Name: Omar Abdelal
Phone: 0408 527 160
Email: omar.a@stoaustralia.com.au

Construction / Detailing

Responsibility

All works in this section shall be the responsibility of the Main Contractor, unless previously agreed in writing. Sto Australia Pty Ltd accepts no responsibility for defective workmanship in relationship to the application of the Unitex system, or for defects in the design, construction, or condition of the building, either as built or in relation to the works.

The Main Contractor is to ensure that they are fully conversant with exterior legislation requirements, the project specifications and details, current **AAC Panel & Unitex** specification (www.unitex.com.au) and any specific installation requirements relating to the Main Contractors responsibilities before any works commence. If there are any substitution of products or systems, the Main Contractor is to provide Builder with Unitex written, site-specific specifications. Before any works commence, the Main Contractor is to supply on-site, a 2m² to 5m² sample of the complete system for the Builders approval for substrate adhesion, build thickness, and finish quality.

The Main Contractor is also responsible for the various subcontractors to ensure that all items relating to substrate adhesion, weather tightness, penetrations and dissimilar material junctions affecting the construction system are strictly in accordance with project specific details, manufacturer's instructions and Unitex specification details i.e. items such as roofs, soffits, openings, lights & security fittings, electrical wiring, flashings, deck membranes dissimilar junctions etc. that abut, flash or penetrate the system.

The Main Contractor shall also ensure that all work is only carried out by competent contractors able to deliver the finished Unitex System, in accordance with the project drawings, manufactures details and Unitex specification details.

Note: If the Main Contractor has the opinion that the specification is not suitable for site conditions, the Builder and Unitex must be consulted with the concerns prior to any works commencing. i.e. Specifying a non-cavity system where a cavity system would be more suitable.

Substrate Construction

The **substrate** will be expected to be installed according to manufacturers, architect and engineering specifications and shall be inspected prior to application by the Main Contractor, and any variations from specifications or requirements communicated in writing to the Builder prior to the commencement of Unitex System works.

The substrate surface must be cleaned free of any grease, oils, scaling laitance, efflorescence, form-oil compounds, mould, fungi, rust, dirt, dust or any other foreign matter. Pre-painted surfaces must be wire-brushed back to the bare substrate, or a Hatch Test performed to assess coatability.

All surfaces **MUST** be suitably prepared for the Unitex System installation.

Prior to works commencing, check the surface is level and straight in all directions. If the substrate contains expansion joints, care should be taken to ensure they are maintained.

Note: If substrate installation and quality is doubtful the **Substrate Manufacturers Representative** should be contacted for a site inspection and approval before any work is undertaken.

Preparation

If the Builder has not protected adjoining surfaces, i.e. windows and frames etc, the Main Contractor must protect all other surfaces prior to works commencing.

Scaffolding

The scaffolding must be installed according to the requirements of all local and safety authorities, providing suitable access for the Main Contractor to complete the project to the required standards.

Control Joints

All expansion, control and cosmetic joints are to be nominated by and are the responsibility of the builder. Only Builders, and the Builders nominated engineer / architect etc. and base system provider can predict likely building and surface effect movement. An allowance for more, rather than less expansion/contraction joints provides the greatest opportunity for a quality finish by the applicator and prevention of structural movement cracking. Structural movement cracking is not covered by Unitex product warranty.

Unitex® Coatings Process over 50mm Helix Panel

STEP 1: Base Coat

Unitex Cembond



Application Method: Brush & Roller

Product Coverage: 50-70 m²

Dry Coating Thickness: N/A

Drying Time: 1 Hour – touch dry



1. Coat entire surface with Unitex Cembond as required and/or wash down walls to ensure dust/powder free.

STEP 2: Levelling Coat

Unitex Aero Render



Application Method: Trowel

Product Coverage: 4-7 m²

Dry Coating Thickness: 3mm to 5mm

Drying Time: approx. 72 Hours (must achieve less than 12% WME moisture content)



2. Apply one – two coats of Unitex Aero to entire surface. Allow to dry to 12% WME. Into the still wet base coat of render, embed Unitex Fibreglass mesh to entire surface

STEP 3: Texture Coat

Unitex 333 Texture



Application Method: Trowel/Float

Product Coverage: 10-12 m²

Dry Coating Thickness: N/A

Drying Time: approx. 72 Hours (must achieve less than 12% WME moisture content)



3. Apply one coat of Unitex Texture to entire surface and allow to dry to 10-12%WME.

STEP 3: Protective Coat – As Required

Unitex PTC as required



Application Method: Brush/Roller

Product Coverage: 45 m²

Dry Coating Thickness: .2mm

Drying Time: approx. 48 Hours (must achieve less than 12% WME moisture content)



4. Apply a recommended minimum of two coats of Unitex coloured PTC where required i.e. within 1km of breaking surf and over low LRV colours – see Unitex for specific details

Unitex® Product Information, TDS and MSDS documents:

All Unitex® products are thoroughly documented, and Technical Data Sheets and Material Safety Data Sheets are available through your Sto Technical Representative, or via the Unitex® websites: www.unitex.com.au and www.render.com.au

Disclaimer

The information contained in this specification is based on our experience, testing and certification representing the latest information at the date of documentation and is given in good faith. No responsibility is undertaken for use of this information outside of Sto Australia Pty Ltd parameters given substrates and site conditions are outside our control. Where a contractor applies Sto Australia Pty Ltd purchased products in accordance with the specifications, SDS, TDS and a Sto Australia Pty Ltd Warranty document is available when the project has been completed according to Sto Australia Pty Ltd written documentation. Sto Australia Pty Ltd reserves the right to alter or update information and formulations at any time without prior notice.

Sto Australia
96 prosperity Way
Dandenong VIC 3175
Phone: (03) 9768 4900
Fax (03) 9768 4999
www.stoaustralia.com.au

Sto (NSW)
14 Artisan Road Seven
Hills NSW 2147 Phone:
(02) 9838 0911
Fax (02) 9838 9555

Sto (Oakleigh)
1346 North Road
Oakleigh VIC 3167
Phone: 1800 RENDER
Fax (03) 9544 3620
www.render.com.au

Sto (SA)
2/54-56 Cavan Road Dry
Creek SA 5094 Phone:
(08) 8262 7900
Fax (08) 8262 7922
www.render.com.au

Sto Specifications

Coatings Specification over 75mm Helix Panel

Substrate Details

Base Coat Render	Unitex Aero Render
Applicable Texture Coating	Unitex 333 Texture
Coating	Protective Top Coat

For detailed information on Sto Products, Systems and Warranties, please contact:

Position: Sales Consultant
Name: Omar Abdelal
Phone: 0408 527 160
Email: omar.a@stoaustralia.com.au

Construction / Detailing

Responsibility

All works in this section shall be the responsibility of the Main Contractor, unless previously agreed in writing. Sto Australia Pty Ltd accepts no responsibility for defective workmanship in relationship to the application of the Unitex system, or for defects in the design, construction, or condition of the building, either as built or in relation to the works.

The Main Contractor is to ensure that they are fully conversant with exterior legislation requirements, the project specifications and details, current **AAC Panel & Unitex** specification (www.unitex.com.au) and any specific installation requirements relating to the Main Contractors responsibilities before any works commence. If there are any substitution of products or systems, the Main Contractor is to provide Builder with Unitex written, site-specific specifications. Before any works commence, the Main Contractor is to supply on-site, a 2m² to 5m² sample of the complete system for the Builders approval for substrate adhesion, build thickness, and finish quality.

The Main Contractor is also responsible for the various subcontractors to ensure that all items relating to substrate adhesion, weather tightness, penetrations and dissimilar material junctions affecting the construction system are strictly in accordance with project specific details, manufacturer's instructions and Unitex specification details i.e. items such as roofs, soffits, openings, lights & security fittings, electrical wiring, flashings, deck membranes dissimilar junctions etc. that abut, flash or penetrate the system.

The Main Contractor shall also ensure that all work is only carried out by competent contractors able to deliver the finished Unitex System, in accordance with the project drawings, manufactures details and Unitex specification details.

Note: If the Main Contractor has the opinion that the specification is not suitable for site conditions, the Builder and Unitex must be consulted with the concerns prior to any works commencing. i.e. Specifying a non-cavity system where a cavity system would be more suitable.

Substrate Construction

The **substrate** will be expected to be installed according to manufacturers, architect and engineering specifications and shall be inspected prior to application by the Main Contractor, and any variations from specifications or requirements communicated in writing to the Builder prior to the commencement of Unitex System works.

The substrate surface must be cleaned free of any grease, oils, scaling laitance, efflorescence, form-oil compounds, mould, fungi, rust, dirt, dust or any other foreign matter. Pre-painted surfaces must be wire-brushed back to the bare substrate, or a Hatch Test performed to assess coatability.

All surfaces **MUST** be suitably prepared for the Unitex System installation.

Prior to works commencing, check the surface is level and straight in all directions. If the substrate contains expansion joints, care should be taken to ensure they are maintained.

Note: If substrate installation and quality is doubtful the **Substrate Manufacturers Representative** should be contacted for a site inspection and approval before any work is undertaken.

Preparation

If the Builder has not protected adjoining surfaces, i.e. windows and frames etc, the Main Contractor must protect all other surfaces prior to works commencing.

Scaffolding

The scaffolding must be installed according to the requirements of all local and safety authorities, providing suitable access for the Main Contractor to complete the project to the required standards.

Control Joints

All expansion, control and cosmetic joints are to be nominated by and are the responsibility of the builder. Only Builders, and the Builders nominated engineer / architect etc. and base system provider can predict likely building and surface effect movement. An allowance for more, rather than less expansion/contraction joints provides the greatest opportunity for a quality finish by the applicator and prevention of structural movement cracking. Structural movement cracking is not covered by Unitex product warranty.

Unitex® Coatings Process over 75mm Helix Panel

STEP 1: Base Coat

Unitex Cembond



Application Method: Brush & Roller

Product Coverage: 50-70 m²

Dry Coating Thickness: N/A

Drying Time: 1 Hour – touch dry



1. Coat entire surface with Unitex Cembond as required and/or wash down walls to ensure dust/powder free.

STEP 2: Levelling Coat

Unitex Aero Render



Application Method: Trowel

Product Coverage: 4-7 m²

Dry Coating Thickness: 3mm to 5mm

Drying Time: approx. 72 Hours (must achieve less than 12% WME moisture content)



2. Apply one – two coats of Unitex Aero to entire surface. Allow to dry to 12% WME. Into the still wet base coat of render, embed Unitex Fibreglass mesh to entire surface

STEP 3: Texture Coat

Unitex 333 Texture



Application Method: Trowel/Float

Product Coverage: 10-12 m²

Dry Coating Thickness: N/A

Drying Time: approx. 72 Hours (must achieve less than 12% WME moisture content)



3. Apply one coat of Unitex Texture to entire surface and allow to dry to 10-12%WME.

STEP 3: Protective Coat – As Required

Unitex PTC as required



Application Method: Brush/Roller

Product Coverage: 45 m²

Dry Coating Thickness: .2mm

Drying Time: approx. 48 Hours (must achieve less than 12% WME moisture content)



4. Apply a recommended minimum of two coats of Unitex coloured PTC where required i.e. within 1km of breaking surf and over low LRV colours – see Unitex for specific details

Unitex® Product Information, TDS and MSDS documents:

All Unitex® products are thoroughly documented, and Technical Data Sheets and Material Safety Data Sheets are available through your Sto Technical Representative, or via the Unitex® websites: www.unitex.com.au and www.render.com.au

Disclaimer

The information contained in this specification is based on our experience, testing and certification representing the latest information at the date of documentation and is given in good faith. No responsibility is undertaken for use of this information outside of Sto Australia Pty Ltd parameters given substrates and site conditions are outside our control. Where a contractor applies Sto Australia Pty Ltd purchased products in accordance with the specifications, SDS, TDS and a Sto Australia Pty Ltd Warranty document is available when the project has been completed according to Sto Australia Pty Ltd written documentation. Sto Australia Pty Ltd reserves the right to alter or update information and formulations at any time without prior notice.

Sto Australia
96 prosperity Way
Dandenong VIC 3175
Phone: (03) 9768 4900
Fax (03) 9768 4999
www.stoaustralia.com.au

Sto (NSW)
14 Artisan Road Seven
Hills NSW 2147 Phone:
(02) 9838 0911
Fax (02) 9838 9555

Sto (Oakleigh)
1346 North Road
Oakleigh VIC 3167
Phone: 1800 RENDER
Fax (03) 9544 3620
www.render.com.au

Sto (SA)
2/54-56 Cavan Road Dry
Creek SA 5094 Phone:
(08) 8262 7900
Fax (08) 8262 7922
www.render.com.au

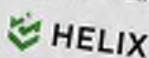


Certification Body:



JAS-ANZ Codes & 1001
JAS-ANZ AAC Certification
No. 24458503AK
PO Box 872,
Coffingwood VIC 3066
Australia
+61 3 9486 7395
www.cmicert.com.au
admin@cmicert.com.au

Certificate Holder:



Built for Life

499 Blackburn Road
Mount Waverley
Melbourne VIC 3149
Ph: 1300 653 427
www.helixaac.com.au

Certificate of Conformity

Helix Panel 50/75mm AAC Houses

Type and/or use of product:

Wall Cladding System for Houses & Low Rise Multi-Residential External

COMPLIES WITH THE FOLLOWING

Performance Requirement(s):

Deemed-to-Satisfy Provision(s):

C2D2(2)	Rising damp
C2D9	Fire resistance and structural integrity
C2D10(5)(b)	Lightweight construction
F3D5(4)(b)	Non-combustible building
F8D3	Weatherproofing – Requirements
G5D3	Condensation management
J4D6	Construction in bushfire
	Energy efficiency

State or territory variation(s):

F1P4 (SA, GD3D (NSW), Part 1.

SUBJECT TO THE FOLLOWING LIMITATIONS AND CONDITIONS

Limitations and conditions:

1. The Helix Panel 50/75mm AAC Houses and Low-Rise Multi-Residential External Wall System, Version 1.0

Glen Gugliotti – CMI

Don Grehan – Unrestricted Builder

SECTION 05

CERTIFICATIONS

Proudly Distributed By:

Dahlsens
For the Builder.

CERTIFICATE

Material Fire Test Result Summary

IGNL-9340-04C 101 R00

DATE OF TEST 24.07.2025
ISSUE DATE 12.08.2025
EXPIRY DATE 11.08.2030

AS 1530.4:2014
Fire-resistance tests for elements of construction

SPONSOR
Australian Render Technologies Pty Ltd
130 Cochranes Road
Moorabbin VIC 3189

TEST BODY
Ignis Labs Pty Ltd
ABN 36 620 256 617
3 Cooper Place
Queanbeyan NSW 2620
Australia
www.ignislabs.com.au
(02) 6111 2909
Test body is the test location



NATA Accredited Laboratory
Number: 20534 Site number: 24604
Accredited for compliance with
ISO/IEC 17025 - Testing



Specimen Name

A.R.T Expansion Joint

Specimen Description

The trade name of the specimen is Expansion joint in Hebel Wall System. The sponsor described the specimen composed of two aluminium profiles which fit into the channel of EPDM grommet and adhered by adhesive. It is stapled into wall façade prior to the render and then base coated to secure it in place. The expansion joint is between the 75 mm CSR Hebel power panel and the pine framing. The wall assembly consisted of, from the exposed face to the unexposed face, CSR Hebel Power Panel, a perforated top hat measuring 35 mm x 4.8 mm x 0.55 mm BMT, 90 mm x 45 mm MGP10 untreated pine framing infilled with Bradford Gold Batts Hi-Performance R2.5 wall insulation, Bradford Enviroseal Thermoseal Resiwrap, and 10 mm plasterboard. The Hebel panels and the joint are rendered with Acratex Render Wall Acrabuild, Acratex Coventry Coarse and Acratex Acrashield Matt.

The received specimen measured 995 mm high by 995 mm wide by 220 mm thick and comprised rendered Hebel panels with a vertical joint, horizontal top hat battens, sarking, a timber frame and a plasterboard. It was sealed into the furnace using Gyprock Easy finish Topping Compound. The Hebel panel was the test exposed face and the plasterboard was the test unexposed face.

The construction of the specimen was undertaken by Australian Render Technologies Pty Ltd. Ignis Labs was not involved in the selection of the materials. Ignis Labs was opted to install the wall specimen to the testing furnace.

Result

Criteria	Test Result
	A.R.T Expansion Joint
Structural adequacy	-
Integrity	120 minutes
Insulation	120 minutes

Fire Resistance Level (FRL)

For the purpose of building regulations in Australia, the Fire Resistance Level (FRL) of the test specimen is as follows.

-/120/120

Test Method

The test specimen was tested in accordance with Australian Standard 1530, Method for fire tests on building components and structures, Part 4: Fire-resistance tests for elements of construction (AS 1530.4:2014) with the exemption of the measurement of deflection, the measurement of received total heat flux, and without applying a loading system. The furnace had a nominal opening of 1.0 m x 1.0 m for attachment of specimens. The infill parts of the furnace included Bostic fire ban one fire grade mastic.

Reference Documents

This certificate is based on the following documents:

- Ignis Labs Tech Report IGNL-9340-04-01 101R00 dated 12 August 2025.

Note

This certificate only and does not comply with the regulatory requirements for evidence of compliance.


Darren Laker
Laboratory Technician


Jessica Ying
Technical Lead Engineer

It is assumed that the content of this certificate the conditions and limitations are read, understood and implemented. Ignis Labs should be contacted if there are queries in regards to the content. Ignis Labs takes no responsibility for the misinterpretation by others. This document shall not be reproduced except in full and shall be rendered void if amended or altered. This document, the name Ignis Labs Pty Ltd may be used in advertising providing the content and format of the advertisement have been approved by the CEO of Ignis Labs Pty Ltd.

Version: IGNL-QF-101-Issue 01 Revision 00
Disclaimer These test results relate only to the behaviour of the test specimens of the material under the particular conditions of the test, and they are not intended to be the sole criterion for assessing the potential fire hazard of the material in use. The information contained in this document is provided for the sole use of the recipient and no reliance should be placed on the information by any other person. In the event that the information is disclosed or furnished to any other person, Ignis Labs Pty Ltd accepts no liability for any loss or damage incurred by that person whatsoever as a result of using the information.
Copyright © All rights reserved. No part of the content of this document may be reproduced, published, transmitted or adapted in any form or by any means without the written permission of Ignis Labs Pty Ltd.

Certification Body:

CMi
Certification
ABN: 81 663 250 815
JAS-ANZ Accreditation
No. 24450210AK
PO Box 273,
Palmwoods Qld 4555
Australia
P: +61 7 5445 2199
www.cmicert.com.au
office@cmicert.com.au

Certificate Holder:

HELI
Helix AAC Pty Ltd
ABN: 68354126
497 Blackburn Road
Mount Waverley
Melbourne VIC 3149
Ph: 1300 435 427
www.helixaac.com.au

Certificate number: CM40442

THIS IS TO CERTIFY THAT

Helix Panel 50/75mm AAC Houses and Low-Rise Multi-Residential External Wall System

Type and/or use of product:

Wall Cladding System for Houses & Low Rise Multi-Residential External Walls.

Description of product:

Low-Rise Multi-Residential External Wall comprising several proprietary components including non-load bearing steel reinforced Autoclaved Aerated Concrete (AAC) panels. Refer A2 below.

COMPLIES WITH THE FOLLOWING BCA PROVISIONS AND STATE OR TERRITORY VARIATION(S)

BCA 2022 (Amdt. 1)

	Volume One	Volume Two
Performance Requirement(s):	#1P4 Rising damp	H2P3 Rising damp
Deemed-to-Satisfy Provision(s):	B1D4(b)(ii) Structural resistance of materials and forms of construction	H1D7(4)(a) Structure – Roof and wall cladding – autoclaved aerated concrete wall cladding, AS 5146.1
	C2D2(2) Fire resistance and stability – FRLs	H2D6(4) Damp and weatherproofing – Roof and wall cladding
	C2D9 Lightweight construction	H3D3 Fire separation of external walls
	C2D10(5)(e) Non-combustible building elements	H4D9 Condensation management
	F3D5(1)(b) Weatherproofing – Roof and wall cladding	H6D2(1) Energy efficiency
	F8D3 Condensation management	H7D4(2)(a) Construction in bushfire prone areas
	G5D3 Construction in bushfire prone areas	
	J4D6 Energy efficiency	
State or territory variation(s):	F1P4 (SA), G5D3 (NSW), Part J4 (NT).	H2P3 (NSW, SA), H4D9 (TAS), Part H6 (NSW, NT & TAS), H7D4 (NSW, QLD, SA)

SUBJECT TO THE FOLLOWING LIMITATIONS AND CONDITIONS AND THE PRODUCT TECHNICAL DATA IN APPENDIX A AND EVALUATION STATEMENTS IN APPENDIX B

Limitations and conditions:

- The Helix Panel 50/75mm AAC Houses and Low-Rise Multi-Residential External Wall System must be installed in accordance with [Helix Panel 50/75mm AAC Houses and Low-Rise Multi-Residential External Wall System, Version 1, June 2025](#).

Building classification/s:

Class 1,2,3,4,5,6,7,8,9 & 10

Glen Gugliotti – CMi

Don Grehan – Unrestricted Building Certifier

Date of issue: 25/06/2025

Date of expiry: 25/06/2028



- For Class 2 to Class 9 buildings, the Helix Panel 50/75mm AAC Houses and Low-Rise Multi-Residential External Wall System is suitable for only Type C Fine-Resisting Construction when fixed to timber stud framing.
- The structural certification is limited to the cladding only and does not include the sub-structure. The Helix Panel 50/75mm AAC Houses and Low-Rise Multi-Residential External Wall System must be fixed to a structurally adequate external wall frame in accordance with the appropriate span tables in Section 6 of [Helix Panel 50/75mm AAC Houses and Low-Rise Multi-Residential External Wall System, Version 1, June 2025](#). The structural support members are designed and engineered separately as per project requirements by building designers and engineers. In all cases, it is a requirement that the Helix Panel 50/75mm AAC Houses and Low-Rise Multi-Residential External Wall System incorporates either:
 - A timber frame constructed in accordance with AS 1684 or AS 1720.1; or
 - A cold-formed steel frame constructed in accordance with NASH Standard for Residential and Low-rise Steel Framing, Part 1: Design Criteria; or
 - Framework compliant with the above minimum requirements and other standards, and the Building Code of Australia as applicable
- In all installations the minimum clearance between the underside of panel and the adjoining ground surface level below must comply with the specifications in Part 7.5.7 of the ABCB Housing Provisions.
- The Helix Panel 50/75mm AAC Houses and Low-Rise Multi-Residential External Wall System is suitable for use on buildings located in a designated Bushfire Prone Area subject to a Bushfire Attack Level (BAL) up to and including BAL-FZ when constructed in accordance with AS 3959-2018 (subject to state and territory variations) as outlined in A3 for a Class 1 building, a Class 2 building, a Class 3 building, or a Class 10a building.
- Compliance with BAL Low-FZ is limited to the tested system that achieve a minimum of FRL of 30/30/30. Refer A3 for FRL systems. It is the responsibility of the Building Designer to ensure compliance is achieved in accordance with AS 3959-2018.
- In NSW, the Helix Panel 50/75mm AAC Houses and Low-Rise Multi-Residential External Wall System is suitable for use on buildings located in a designated Bushfire-Prone Area:
- For a Class 1 building, a Class 2 building, a Class 3 building, a Class 4 part of a building, or a Class 10a building when constructed in accordance with AS 3959-2018 except as amended by Planning for Bush Fire Protection for BAL-40.
- For a Class 9 building, that is a special fire protection purpose located in an area subject to a Bushfire Attack Level (BAL) not exceeding BAL-12.5 determined in accordance with AS 3959-2018.
- The use of the certified product/system is subject to these Limitations and Conditions and must be read in conjunction with the Scope of Certification below.

Scope of certification: The CodeMark Scheme is a building product certification scheme. The rules of the Scheme are available at the ABCB website [www.abcb.gov.au](#). This Certificate of Conformity is to confirm that the relevant requirements of the Building Code of Australia (BCA) as claimed against have been met. The responsibility for the product performance and its fitness for the intended use remain with the Certificate Holder. The certification is not transferrable to a manufacturer not listed on Appendix A of this certificate.

Only criteria as identified within this Certificate of Conformity can be used for CodeMark certification claims. Where other claims are made in a client's Installation Manual, Website or other documents that are outside the criteria on this Certificate of Conformity, such criteria cannot be used or claimed to meet the requirements of this CodeMark certification.

The NCC defines a Performance Solution as one that complies with the Performance Requirements by means other than a Deemed-to-Satisfy Solution. A Building Solution that relies on a CodeMark Certificate of Conformity that certifies a product against the Performance Requirements cannot be considered as Deemed-to-Satisfy Solution.

This Certificate of Conformity may only relate to a part of a Performance Solution. In these circumstances other evidence of suitability is needed to demonstrate that the relevant Performance Requirements have been met. The relevant provisions of the Governing Requirements in Part A of the NCC will also need to be satisfied.

This Certificate of Conformity is issued based on the evidence of compliance as detailed herein. Any deviation from the specifications contained in this Certificate of Conformity is outside of this document's scope and the installation of the certified product will not be covered by this Certificate of Conformity.

Disclaimer: The Scheme Owner, Scheme Administrator and Scheme Accreditation Body do not make any representations, warranties or guarantees, and accept no legal liability whatsoever arising from or connected to, the accuracy, reliability, currency or completeness of any material contained within this certificate; and the Scheme Owner, Scheme Administrator and Scheme Accreditation Body disclaim to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages and costs arising as a result of the use of the product(s) referred to in this certificate.

When using the CodeMark logo in relation to or on the product/system, the Certificate Holder makes a declaration of compliance with the Scope of Certification and confirms that the product is identical to the product certified herein. In issuing this Certificate of Conformity, CMi Certification Pty Ltd (CMi) has relied on the experience and expertise of external bodies (laboratories and technical experts).

Nothing in this document should be construed as a warranty or guarantee by CMi, and the only applicable warranties will be those provided by the Certificate Holder.

APPENDIX A – PRODUCT TECHNICAL DATA

A1 Type and intended use of product

As per page 1.

A2 Description of product

50mm AAC Panel

Thickness:	50mm
Width:	600mm
Lengths:	2200, 2400, 2550, 2700, 2850, 3000mm
Reinforcement:	Single layer steel mesh, centrally located
Steel bars:	5 x Ø 4.5mm longitudinal bars and 6-8 x Ø 4.5mm transverse bars depending on panel length.

75mm AAC Panel

Thickness:	75mm
Width:	600mm
Lengths:	1800, 2200, 2400, 2550, 2700, 2850, 3000 mm
Reinforcement:	Single layer steel mesh, centrally located
Steel bars:	5 x Ø 4.5mm longitudinal bars and 6-8 x Ø 4.5mm transverse bars depending on panel length

System Components

Steel Top-Hat Battens	Steel top-hat battens shall be not less than 24 mm deep x 30 mm wide x 0.42 mm BMT, Grade G550 or equivalent, conforming with AS/NZS 4600. Steel top-hat battens shall be manufactured from AM150, Z275 or A2150 galvanized steel conforming with AS 1397 including marking with base metal thickness, steel grade and coating.
Vapour Permeable Wall Wrap	Wall Wrap must meet AS 4200.1 requirements for: - minimum Light Wall Duty Classification, and - Water Barrier Classification, and - be a Class 3 or 4 vapour control membrane in NCC Climate Zones 4 or 5; or a Class 4 vapour control membrane in NCC Climate Zones 6, 7 or 8. - "Low" Flammability Index (FI) in accordance with AS 1530.2. - Wall wrap must be installed in accordance with AS 4200.2, including taping of all joints, penetrations and around the wall perimeter, see typical construction details.
Damp Proof Course	Damp proof course (DPC) must satisfy AS/NZS 2904 Section 6 and Table 2 performance criteria.
Wall Wrap Tape	Wall wrap tape must be minimum 48mm wide, wrap-compatible, pressure sensitive, installed in accordance with the Helix 50/75mm AAC Low-Rise External Wall System Typical Construction Details. It is essential that wall wrap tape effectively seals all perimeter, joints, and openings in the wall wrap.
Flashings	Flashings supplied by others must be designed and installed in general accordance with SA HB 39:2015 – Installation Code for Metal Roofing and Wall Cladding
Panel Screws	4–10 Bugle Head or Hex Head Type 17 screw (Class 3 or 4) shall be used to fix Helix panel 50mm or 75mm AAC panel to light gauge steel top-hat battens from the outside of the building. Screw length shall be 65mm for 50mm thickness panels and 90mm for 75mm thickness panels. 14–10 Hex Head Type 17 screw (Class 3 or 4) shall be used to fix Helix panel 75mm AAC panel to light gauge steel top-hat battens from inside the building. Screw length shall be 65mm for 75mm thickness panels. Screws shall be: a) at least Class 3 for moderate and mild exposure environments; b) at least Class 4 for severe marine further than 100 m from breaking surf, marine and industrial exposure environments; and c) Class 4 stainless steel for severe marine exposure environments within 100 m of breaking surf.
Batten Screws	Screws to fix steel top-hat battens to: - Timber Frame: 12–11 x 35 mm Hex Head Type 17 screw (Class 3 or 4), 2 per stud. - Steel Frame: 10–16 x 16 mm Hex Head Self-drilling screw (Class 3 or 4), 2 per stud. Screws shall be: a) at least Class 3 for moderate and mild exposure environments; b) at least Class 4 for severe marine further than 100 m from breaking surf, marine and industrial exposure environments; and c) Class 4 stainless steel for severe marine exposure environments within 100 m of breaking surf.
Thin Bed Adhesive	The thin-bed adhesive shall: - have a characteristic tensile strength equal to or greater than the characteristic tensile strength of the AAC, and - be C1E classification in accordance with AS ISO 13007.1
Backing Rod	The 'backing rod' shall be a minimum of 10 mm wide expanded polyethylene tube or bead.
External Coatings & Membranes	External coating systems providing weatherproofing in accordance with NCC requirements or durability in accordance with AS 5146.3 Table 2.5, shall be water-resistant; vapour-permeable; capable of bridging up to a 1 mm crack in the substrate; and, consist of a base levelling coat, and texture and finish coats. For panels less than 75mm thickness AS 5146.3 Cl.2.8.4 requires that the coating system includes embedded fibreglass mesh reinforcing with a maximum aperture of 10 mm by 10 mm and a minimum weight of 145 g/m ² . When used to provide weatherproofing in accordance with the NCC requirements, external coating systems shall be water-proof, and be capable of bridging up to a 1 mm crack in the substrate, and consist of a base levelling coat, and texture coat, and finish coat

A3 Product specification

Structural Performance (B1D4(b)(ii) & H1D7(4)(a))	Helix 50/75mm AAC Low-Rise External Wall System has been tested in accordance with AS 5146.1 with design and construction in accordance with AS 5146.3 in accordance with: - NCC 2022(Amdt.1) Volume One, B1D4(b)(ii), structural resistance of materials and forms of construction for autoclaved aerated concrete; and - NCC 2022(Amdt.1) Volume Two, H1D7(4)(a), performance requirement H1P1 is satisfied for autoclaved aerated concrete if it is designed and constructed in accordance with AS 5146.1. Helix Panel 50/75mm AAC Houses and Low-Rise Multi-Residential External Wall System is suitable for use on buildings with AS/NZS 1170.2 design wind pressures up to -4.27kPa. This includes houses with AS 4055 Wind Classifications N1w - N5w & C1w - C3w (and excludes houses with AS 4055 Wind Classifications N6w and C4w). The design wind pressures for external walls of buildings are site-specific, and are dependent on many factors. The Wind Classification of a building in accordance with AS/NZS 1170.2 or AS 4055 must be provided by the design professional responsible for the building. The building may be designed in accordance with AS 4055 if: - the distance from ground level to the underside of eaves does not exceed 6.0m, and - the distance from ground level to the highest point of the roof (not including chimneys) does not exceed 8.5m, and - the width including roofed verandas, excluding eaves, does not exceed 16.0m, and the length not to exceed five times the width, and - roof pitch is not greater than 35 degrees. Please note that Helix Panel 50/75mm AAC Houses and Low-Rise Multi-Residential External Wall System is not intended to act as wall bracing, all racking resistance shall be provided by the supporting structure so that in-plane racking loads are not transferred to the AAC panels. Helix panels themselves are non-load-bearing elements, control joints are required at regular intervals to accommodate any building movement.
--	--

Fire Safety Performance (C202(2), H303)

The Helix 50/75mm AAC Low-Rise External Wall System as detailed, achieves:

- FRL of 90/90/90 with the 50 mm Helix Panel, and
- FRL of 120/120/120 with the 75 mm Helix Panel.

The Helix 50/75mm AAC Low-Rise External Wall System shall be attached to either timber or steel framing compliant to the relevant framing codes.

The maximum height of the wall system is 12 m. Where the total wall is to exceed 12 m in height, a control joint is to be applied with appropriate shelf angle and separation where the wall can be continued. The installation, fixing and control joint is to be reviewed and designed by an appropriately qualified structural engineer.

Control joints must be filled by a fire resisting material. The typical joint is to have a gap no greater than 10 mm wide and be filled with a fire rated mastic to at least a 10 mm depth.

As a non-combustible FRL-rated external wall system, Helix 50/75mm AAC Low-Rise External Wall System is suitable for applications including:

- Type A construction applications in Class 2, 3 or 4 parts of buildings requiring 90/90/90 or -/90/90 as specified in SSC11(3); and
- Class 1 buildings less than 900mm from an allotment boundary that require an FRL of not less than 60/60/60 as specified in 9.2.3(2)(a).

Lightweight construction (C209) Helix Panel has been subject to S6C10 material tests of (a). The relevant S6C10(a) standard adopted by reference in the BCA for Helix Panel is AS 5146.1. The material properties of Helix Panel have been determined by testing in accordance with AS 5146.1 by Accredited Testing Laboratories. Helix Panel complies with the requirements of AS 5146.1 for use in Reinforced AAC Walls in Houses and Low-Rise Multi-Residential Buildings as described in AS 5146.3.

Non Combustibility (C2010(5)(e)) Helix panels including mortar are classified non-combustible and may be used wherever a non-combustible material is required.

Damp-proofing Performance (F1P4 & H2P3) The damp-proofing performance of Helix 50/75mm AAC Low-Rise External Wall System to avoid unhealthy or dangerous conditions, or loss of amenity and undue dampness or deterioration of building elements is largely achieved on the basis of construction detailing with BCA ground clearance requirements of 50 mm to 150 mm in accordance with Part 7.5.7 of the ABCB Housing Provisions. Additionally, a damp proof course (not supplied by Helix) is detailed beneath the bottom plate, see Sections 4.4 & 6.5.1, per Part 5.7.4 of the ABCB Housing Provisions.

Weatherproofing Performance (F3D5(1)(b) & H2D6(4)) Helix 50/75mm AAC Low-Rise External Wall System has been tested in accordance with AS 5146.1 with design and construction in accordance with AS 5146.3. As referenced in NCC 2022(Amdt.1) Volume One, F3D5(1)(b), weatherproofing performance for autoclaved aerated concrete external wall cladding must comply with AS 5146.3. As required in NCC 2022(Amdt.1) Volume Two, H2D6(4), performance requirement H2P2 is satisfied for autoclaved aerated concrete if it is designed and constructed in accordance with AS 5146.1.

Helix 50/75mm AAC Low-Rise External Wall System achieves weatherproofing performance for:

- AS 4055 Wind Classifications N1w, N2w, N3w, N4w & N5w, and C1w, C2w & C3w, and
- AS/NZS 1170.2 Serviceability Limit State (SLS) Design Wind pressures up to +1.19 kPa & -1.79 kPa

Condensation Performance (F8D3(1)(a) & H4D9) Helix 50/75mm AAC Low-Rise External Wall System features a vapour permeable wall wrap compliant with AS 4200.1:2017 must be installed in accordance with AS 4200.2:2017. The Helix Panel 50/75mm AAC Houses and Low-Rise Multi-Residential External Wall System, Version 1, June 2025 provides details of installation between the battens & framing, and thermal insulation batts between framing members. It satisfies these deemed-to-satisfy requirements for condensation management in external wall construction. Contact the Certificate Holder for installation that are not outlined in the Helix Panel 50/75mm AAC Houses and Low-Rise Multi-Residential External Wall System, Version 1, June 2025.

Bushfire Performance, GSD3, H7D4(2)(a) Helix 50/75mm AAC Low-Rise External Wall System has been assessed by an accredited testing laboratory to achieve FRL's that meet AS 3959:2018 BAL-FZ Clause 9.4.1(c) requirement for 30/30/30 when tested from the outside. This assessment is made with particular reference to requirements for joint sealing, and the detailing requirements of AS 3959:2018 Clause 3.6.1 for vents, weepholes, gaps and screening materials.

Helix 50/75mm AAC Low-Rise External Wall System achieves bushfire resistance from BAL 12.5 up to BAL FZ in accordance with AS 5146.3, Clause 2.7.1, where:

- Support and fixing are in accordance with Section 6 of the Helix Panel 50/75mm AAC Houses and Low-Rise Multi-Residential External Wall System, Version 1, June 2025.
- All joints in the external surface material of walls shall be covered, sealed, overlapped, backed or butt-jointed to prevent gaps greater than 3 mm.
- Vents and weepholes in external walls shall be screened with a mesh with a maximum aperture of 2 mm, made of corrosion-resistant steel or bronze. Note that Helix 50/75mm AAC Low-Rise External Wall System above the floor level should be a closed system with no vents or weepholes. AAC cladding below the floor level may incorporate vents and weepholes if required.

Thermal Performance, J4D6, H6D2(1) & 13.2.5 Helix 50/75mm AAC Low-Rise External Wall System with breathable non-reflective wall wrap, 70mm R2.0m²/K/W glasswool batts and 10mm plasterboard lining has been assessed to achieve the following Total R-values in accordance with AS/NZS 4859.1:2018. These may be used to satisfy the Total R-value requirements of NCC 2022(Amdt.1), Volume Two H6D2(1)(b)(i) & Housing Provisions 13.2.5 external wall insulation requirements, where these values are higher, or as input to house energy rating software to achieve a star rating.

Helix 50/75mm AAC Exterior Wall Cladding System (with R2.0, 70mm batts)		Total R-value (m ² .K/W)	
		Winter (Heat flow outwards)	Summer (Heat flow inwards)
50mm	Timber Frame	2.59 (U _t = 0.39)	2.47 (U _t = 0.41)
	Steel Frame	2.24 (U _t = 0.45)	2.15 (U _t = 0.46)
75mm	Timber Frame	2.77 (U _t = 0.36)	2.66 (U _t = 0.38)
	Steel Frame	2.47 (U _t = 0.41)	2.38 (U _t = 0.42)

A4 Manufacturer and manufacturing plant(s)

This field is optional. Contact the Certificate Holder for details.

A5 Installation requirements

The Helix Panel 50/75mm AAC Houses and Low-Rise Multi-Residential External Wall System must be installed in accordance with [Helix Panel 50/75mm AAC Houses and Low-Rise Multi-Residential External Wall System, Version 1, June 2025](#).

A6 Other relevant technical data

No other relevant technical data.

APPENDIX B – EVALUATION STATEMENTS

B1 Evaluation methods

1. Energy Efficiency Provisions ASG3(1)(e). A report from a professional engineer or other appropriately qualified person.
2. Condensation Management Provisions ASG3(1)(e)&(f). A report from a professional engineer and another form of documentary evidence.
3. Fire Safety Provisions ASG3(1)(d)&(e). Reports from Accredited Testing Laboratories and a professional engineer.
4. Structural Resistance Provisions ASG3(1)(e). A report from a professional engineer or other appropriately qualified person.
5. Weatherproofing Provisions ASG3(1)(e). A report from a professional engineer or other appropriately qualified person.
6. Thermal Provisions AS 2(1)(e). Reports from a professional engineer.

B2 Reports

1. Acronem Consulting Australia Pty Ltd; Report No. ACA 250423; Surpior Panel 50/75mm AAC Houses and Low-Rise Multi-Residential External Wall System NCC 2022 (Amdt.1), Volumes One, Two & Housing Provisions – External Walls; Dated 03/06/2025. This report provides evidence and validates the below test reports for compliance with: B1D4(b)(i), H1D7(4)(a), F3D5(1)(b), H2D6(4), C2D2, H3D3, C2D9, C2D10(6)(d), H3D2(1)(d), C2D11, J4D6, H6D2(1), G5D3 & H7D4(2)(a). Test reports validated:
 - Mahaffey Associates; Report No. 20689-50mm; AS 5146.2 App. C Mean Dry Density 2700x600x50mm, 483 kg/m³ 22/04/2025; Dated 21/05/2025. Report provides evidence for compliance with B1D4(b)(i) and H1D7(4)(a).
 - Mahaffey Associates; Report No. 20689-75mm; AS 5146.2 App. C Mean Dry Density 1800x600x75mm, 515 kg/m³ 30/04/2025; Dated 21/05/2025. Report provides evidence for compliance with B1D4(b)(i) and H1D7(4)(a).
 - Mahaffey Associates; Report No. 20689-50mm; AS 5146.2 App. D Compressive Strength (2700x600x50mm, 2.7, AAC 2.5) 22/04/2025; Dated 21/05/2025. Report provides evidence for compliance with B1D4(b)(i) and H1D7(4)(a).
 - Mahaffey Associates; Report No. 20689-75mm; AS 5146.2 App. D Compressive Strength (1800x600x75mm, 3.0, AAC 3.0) 30/04/2025; Dated 21/05/2025. Report provides evidence for compliance with B1D4(b)(i) and H1D7(4)(a).
 - Mahaffey Associates; Report No. 20689-50mm; AS 5146.2 App. H Moisture Content (2700x600x50mm, 5.6%) 22/04/2025; Dated 21/05/2025. Report provides evidence for compliance with B1D4(b)(i) and H1D7(4)(a).
 - Mahaffey Associates; Report No. 20689-75mm; AS 5146.2 App. H Moisture Content (1800x600x75mm, 6.3%) 30/04/2025; Dated 21/05/2025. Report provides evidence for compliance with B1D4(b)(i) and H1D7(4)(a).
 - Mahaffey Associates; Report No. 20689-50mm; AS 5146.2 App. K Dimensions of Members (2700x600x50mm, see App.D & B Report) 22/04/2024; Dated 21/05/2025. Report provides evidence for compliance with B1D4(b)(i) and H1D7(4)(a).
 - Mahaffey Associates; Report No. 20689-75mm; AS 5146.2 App. K Dimensions of Members (1800x600x75mm, see App.D & B Report) 30/04/2025; Dated 21/05/2025. Report provides evidence for compliance with B1D4(b)(i) and H1D7(4)(a).
 - Mahaffey Associates; Report No. 20689-50mm; AS 5146.2 App. L Corrosion Protection of steel reinforcement by salt bath, Job #20689, 50mm (2700x600x50mm, C.L=2.4) 21/02/2025; Dated 26/02/2025. Report provides evidence for compliance with B1D4(b)(i) and H1D7(4)(a).
 - Mahaffey Associates; Report No. 20689-75mm; AS 5146.2 App. L Corrosion Protection of steel reinforcement by salt bath, Job #20689, 75mm (2700x600x75mm, C.L=7.0) 21/02/2025; Dated 26/02/2025. Report provides evidence for compliance with B1D4(b)(i) and H1D7(4)(a).
 - Mahaffey Associates; Report No. 20689-50mm; AS 5146.2 App. M Corrosion Protection of steel reinforcement by cover, Job #20689, 50mm (2700x600x50mm, 9) Jan 2025; Dated 05/02/2025. Report provides evidence for compliance with B1D4(b)(i) and H1D7(4)(a).
 - Mahaffey Associates; Report No. 20689-75mm; AS 5146.2 App. M Corrosion Protection of steel reinforcement by cover, Job #20689, 75mm (2700x600x75mm, 21) Jan 2024; Dated 05/02/2025. Report provides evidence for compliance with B1D4(b)(i) and H1D7(4)(a).
 - Mahaffey Associates; Report No. 20689-50mm; AS 5146.2 App. N Strength of welds between the longitudinal bars and transverse bars, Job #20689, 50mm (2700x600x50, Vuk=3.91kN) 17/01/2025; Dated 20/01/2025. Report provides evidence for compliance with B1D4(b)(i) and H1D7(4)(a).
 - Mahaffey Associates; Report No. 20689-75mm; AS 5146.2 App. N Strength of welds between the longitudinal bars and transverse bars, Job #20689, 75mm (2700x600x75, Vuk=4.17kN) 17/01/2025; Dated 20/01/2025. Report provides evidence for compliance with B1D4(b)(i) and H1D7(4)(a).
 - Mahaffey Associates; Report No. 20689-50mm; AS 5146.2 App. P, Bending Capacity of AAC Panels, Report No: 20689, 50mm (2700x600x50, Char.Bend.Cap.0.226 kNm/m) 01/04/2025; Dated 15/05/2025. Report provides evidence for compliance with B1D4(b)(i) and H1D7(4)(a).
 - Mahaffey Associates; Report No. 20689-75mm; AS 5146.2 App. P, Bending Capacity of AAC Panels, Report No: 20689, 75mm (2700x600x75, Char.Bend.Cap.0.893 kNm/m) 11/12/2024; Dated 30/01/2025. Report provides evidence for compliance with B1D4(b)(i) and H1D7(4)(a).
 - SRG Global; Test Report No. WS223707, AS1391 Tensile testings of reinforced wires extracted from 2.7 m x 0.6 m x 50mm as per Client Instructions. (Steel Class 500L per AS 5146.3, 2.13.1 & AS/NZS 4671:2019 Table 2 Note 2 for lower yield >500MPa); Dated 31/01/2025. Report provides evidence for compliance with B1D4(b)(i) and H1D7(4)(a).
 - SRG Global; Test Report No. WS223706, Tensile testings of reinforced wires extracted from 2.7 m x 0.6 m x 75mm as per Client Instructions. (Steel Class 500L per AS 5146.3, 2.13.1 & AS/NZS 4671:2019 Table 2 Note 2 for lower yield >500MPa); Dated 31/01/2025. Report provides evidence for compliance with B1D4(b)(i) and H1D7(4)(a).
 - Mahaffey Associates; Report No. 20689; AS 4671, App. C, Para.3.3, Mass per unit length for reinforcing steel, Job No: 20689, 7/02/2025 (2700x600x75, 0.128/0.124 g/mm) (2700x600x50, 0.133/0.128 g/mm); Dated 10/02/2025. Report provides evidence for compliance with B1D4(b)(i) and H1D7(4)(a).
 - Jensen Hughes Fire Testing Pty Ltd; Report No. FRT 240082 R1.0; Fire Resistance Test Report, 50 mm AAC Load Bearing Wall Panels (50mm Vertical Panels, Steel Top-Hats, Timber Framing @450mm c/c, 90/90/90); Dated 29/11/2024. Report provides evidence for compliance with C2D2(2) & H3D2.
 - Ignis Labs Pty Ltd; Test Report No. IGNE-9042-99-01R 01R00; Helix AAC fire assessment report; Dated 27/05/2025. Report provides evidence for compliance with C2D2(2) & H3D2.
 - Mahaffey Associates; Report No. 20689; ASTM E695-03 as modified by NCC 2022 S6C10, (75mm, 100/6, 250/11, 350/13); Dated 05/02/2025. Report provides evidence for compliance with C2D9.
 - Mahaffey Associates; Report No. 20689; ASTM E695-03 as modified by NCC 2022 S6C10, (50mm, 100/6, 250/14, 350/18); Dated 05/02/2025. Report provides evidence for compliance with C2D9.
 - Mahaffey Associates; Report No. 20689; Surface Indentation Test, NCC-2022, S6C10, 75mm (3mm render, 3.5/4.0/3.5); Dated 05/02/2025. Report provides evidence for compliance with C2D9.
 - Mahaffey Associates; Report No. 20689; Surface Indentation Test, NCC-2022, S6C10, 50mm (3mm render, 4.4/3.6/3.3); Dated 05/02/2025. Report provides evidence for compliance with C2D9.
 - Acronem Consulting Australia Pty Ltd; Calculation Numbers: W250523a, W250523c; Calculation of Total Thermal Resistance, Helix Pty Ltd, Helix Panel (vertical) 50mm/75mm AAC External Wall Cladding System, (R2.0 batts, 70x45mm timber studs at 450mm centres & 10mm plasterboard); Dated 22/05/2025. Calculations are in accordance with H6D2(1) and J4D6.
 - Acronem Consulting Australia Pty Ltd; Calculation Numbers: W250523b, W250523d; Calculation of Total Thermal Resistance, United Building Supply Pro Panel (vertical) 50mm/75mm AAC External Wall Cladding System, (R2.0 batts, 70x35mm steel studs at 450mm centres & 10mm plasterboard); Dated 22/05/2025. Calculations are in accordance with H6D2(1) and J4D6.

The Certificate Holder has chosen not to make the above evidence of compliance publicly available, due to the documents being considered commercial in confidence.

Certification Body:

CMI
CERTIFICATION
ABN: 81 663 250 815
IAS-ANZ Accreditation
No. 2445020AK
PO Box 275,
Palmwoods QLD 4555
Australia
P: +61 7 5445 2199
www.cmicert.com.au
office@cmicert.com.au

Certificate Holder:

HELIX
Helix AAC Pty Ltd
ABN: 48554815
497 Blackburn Road
Mount Waverley
Melbourne VIC 3149
PH: 1300 435 427
www.helixaac.com.au

Certificate number: CM40443

THIS IS TO CERTIFY THAT

Helix Panel 50/75mm AAC Intertency & Party Wall Systems

Type and/or use of product:

Intertency Wall System (For Low Rise Multi-Residential Buildings).

Description of product:

Intertency & Party Wall Systems comprising several proprietary components including non-load bearing steel reinforced Autoclaved Aerated Concrete (AAC) panels installed vertically. Refer A2 below.

COMPLIES WITH THE FOLLOWING BCA PROVISIONS AND STATE OR TERRITORY VARIATION(S)

BCA 2022 (Amdt. 1)

	Volume One	Volume Two
Performance Requirement(s):	F7P2 & F7P4 Sound insulation rating of walls – Subject to limitation and condition 5 & 6.	H4P6(2) Sound insulation – Subject to limitation and condition 5 & 6.
Deemed-to-Satisfy Provision(s):	B1D4(b)(ii) Structural resistance C2D2(2) Fire resistance and stability – FRL's – Subject to limitation and condition 2 & 3. C2D10(5)(e) Non-Combustible Building Elements	H1D7(4)(a) Structural reliability and resistance H3D4 Fire protection of separating walls – FRL's – Subject to limitation and condition 2 & 3. H4D8 Sound insulation
State or territory variation(s):	Part F7 (NT), Part J4 (NT)	Part H6 (NSW, NT & TAS)

SUBJECT TO THE FOLLOWING LIMITATIONS AND CONDITIONS AND THE PRODUCT TECHNICAL DATA IN APPENDIX A AND EVALUATION STATEMENTS IN APPENDIX B

Limitations and conditions:

- The Helix Panel 50/75mm AAC Intertency & Party Wall Systems must be installed in accordance with [Helix Panel 50/75mm AAC Intertency & Party Wall Systems Design & Installation Guide, Version 1, August 2025](#).
- The structural certification is limited to the panel only and does not include the sub-structure. The Helix Panel 50/75mm AAC Intertency & Party Wall Systems must be fixed to a structurally adequate wall frame in accordance with Section 6 of [Helix Panel 50/75mm AAC Intertency & Party Wall Systems Design & Installation Guide, Version 1, August 2025](#). The structural support members are designed and engineered separately as per project requirements and to the required Fire Resistance Level (FRL) of the wall by building designers and engineers. In all cases, it is a requirement that the Helix Panel 50/75mm AAC Intertency & Party Wall Systems incorporates either:
 - A timber frame constructed in accordance with AS 1684 or AS 1720.1; or
 - A cold-formed steel frame constructed in accordance with NASH Standard for Residential and Low-rise Steel Framing, Part 1: Design Criteria; or

Building classification/s:

Class 1,2,3,4,5,6,7,8,9 & 10


Glen Gugliotti – CMI


Don Grehan – Unrestricted Building Certifier

Date of issue: 19/09/2025

Date of expiry: 19/09/2028



- Framework compliant with the above minimum requirements and other standards, and the Building Code of Australia as applicable
- To comply with the FRL construction must be in strict accordance with the [Helix Panel 50/75mm AAC Intertency & Party Wall Systems Design & Installation Guide, Version 1, August 2025](#). Any deviation from this does not form part of this Certificate of Conformity.
- Project specific load bearing capacities for internal load bearing walls must be configured by the project engineer.
- A site specific performance solution is required for sound insulation as the acoustic performance of the 50mm and 75mm ACC Panels will need to be used in conjunction with other sound insulation materials. Refer to A3 for the acoustic performance of the 50mm and 75mm ACC panels.
- For the purpose of this certificate, discontinuous construction is defined in the BCA as a wall system having a minimum 20 mm cavity between two separate leaves, with—
 - for masonry, where wall ties are required to connect leaves, the ties are of the resilient type; and
 - for other than masonry, there is no mechanical linkage between leaves except at the periphery.
 The above systems where the panel has less than 20 mm cavity between 2 separate leaves and mechanical linkage other than at the periphery are not suitable for discontinuous construction.
- Other than the items and information listed, the remainder of the information contained in the product's literature is outside the scope of this certification.
- The use of the certified product/system is subject to these Limitations and Conditions and must be read in conjunction with the Scope of Certification below.

Scope of certification: The CodeMark Scheme is a building product certification scheme. The rules of the Scheme are available at the ABCB website www.abcb.gov.au. This Certificate of Conformity is to confirm that the relevant requirements of the Building Code of Australia (BCA) as claimed against have been met. The responsibility for the product performance and its fitness for the intended use remain with the Certificate Holder. The certification is not transferrable to a manufacturer not listed on Appendix A of this certificate.

Only criteria as identified within this Certificate of Conformity can be used for CodeMark certification claims. Where other claims are made in a client's Installation Manual, Website or other documents that are outside the criteria on this Certificate of Conformity, such criteria cannot be used or claimed to meet the requirements of this CodeMark certification.

The NCC defines a Performance Solution as one that complies with the Performance Requirements by means other than a Deemed-to-Satisfy Solution. A Building Solution that relies on a CodeMark Certificate of Conformity that certifies a product against the Performance Requirements cannot be considered as Deemed-to-Satisfy Solution.

This Certificate of Conformity may only relate to a part of a Performance Solution. In these circumstances other evidence of suitability is needed to demonstrate that the relevant Performance Requirements have been met. The relevant provisions of the Governing Requirements in Part A of the NCC will also need to be satisfied.

This Certificate of Conformity is issued based on the evidence of compliance as detailed herein. Any deviation from the specifications contained in this Certificate of Conformity is outside of this document's scope and the installation of the certified product will not be covered by this Certificate of Conformity.

Disclaimer: The Scheme Owner, Scheme Administrator and Scheme Accreditation Body do not make any representations, warranties or guarantees, and accept no legal liability whatsoever arising from or connected to, the accuracy, reliability, currency or completeness of any material contained within this certificate; and the Scheme Owner, Scheme Administrator and Scheme Accreditation Body disclaim to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages and costs arising as a result of the use of the product(s) referred to in this certificate.

When using the CodeMark logo in relation to or on the product/system, the Certificate Holder makes a declaration of compliance with the Scope of Certification and confirms that the product is identical to the product certified herein. In issuing this Certificate of Conformity, CMI Certification Pty Ltd (CMI) has relied on the experience and expertise of external bodies (laboratories and technical experts).

Nothing in this document should be construed as a warranty or guarantee by CMI, and the only applicable warranties will be those provided by the Certificate Holder.

APPENDIX A – PRODUCT TECHNICAL DATA

A1 Type and intended use of product

As per page 1.

A2 Description of product

ACC Inter-Tenancy Wall System consists of 50mm or 75mm thick AAC panels orientated vertically, fixed at the top and bottom of the panel to either steel or timber wall framing.

50mm AAC Panel						75mm AAC Panel					
Thickness:	50mm					Thickness:	75mm				
Width:	600mm					Width:	600mm				
Lengths:	2200, 2400, 2550, 2700, 2850 & 3000mm					Lengths:	1800, 2200, 2400, 2550, 2700, 2850 and 3000mm				
Reinforcement:	Single layer steel mesh, centrally located					Reinforcement:	Single layer steel mesh, centrally located				
Steel Reinforcement:	5 x Ø 4.5mm longitudinal bars and 6-8 x Ø 4.5mm transverse bars depending on panel length					Steel Reinforcement:	5 x Ø 4.5mm longitudinal bars and 6-8 x Ø 4.5mm transverse bars depending on panel length				
Helix 50/75mm AAC Intertency and Party Wall Systems											
System	Variant	Plasterboard	Stud Framing 450mm (up to 600mm c/c)	Insulation Glasswool	Gap (up to 80mm)	Panel Thickness (mm)	Gap (up to 80mm)	Insulation Glasswool	Stud Framing	Plasterboard	
PARTY WALL 50/75mm, timber or steel frames	1	1x13mm, 10.5kg/m ² (impact resistant, fire-rated, acoustic plasterboard)	Timber 70x45, or Steel 70x35x0.55min.	min. R2.0, 70mm, 10kg/m ³	20	50	20	min. R2.0, 70mm, 10kg/m ³	Timber 70x45, or Steel 70x35x0.55min.	1x13mm, 10.5kg/m ² (impact resistant, fire-rated, acoustic plasterboard)	
	2	1x13mm, 8.4kg/m ² standard plasterboard	Timber 70x45, or Steel 70x35x0.55min.	min. R2.0, 70mm, 10kg/m ³	40	50	40	min. R2.0, 70mm, 10kg/m ³	Timber 70x45, or Steel 70x35x0.55min.	1x13mm, 8.4kg/m ² standard plasterboard	
	3	1x13mm, 8.4kg/m ² standard plasterboard	Timber 90x45, or Steel 92x35x0.55min.	min. R2.0, 70mm, 10kg/m ³	20	50	20	min. R2.0, 70mm, 10kg/m ³	Timber 90x45, or Steel 92x35x0.55min.	1x13mm, 8.4kg/m ² standard plasterboard	
	4	1x13mm, 8.4kg/m ² standard plasterboard	Timber 70x45, or Steel 70x35x0.55min.	min. R2.0, 70mm, 10kg/m ³	20	75	20	min. R2.0, 70mm, 10kg/m ³	Timber 70x45, or Steel 70x35x0.55min.	1x13mm, 8.4kg/m ² standard plasterboard	
INTERTENANCY WALL large, concealed water services both sides	5	1x13mm, 8.4kg/m ² standard plasterboard	Steel 64x35x0.55min. @450mm c/c	min. 75mm, 11kg/m ³ or 50mm, 14kg/m ³	20	75	20	min. 75mm, 11kg/m ³ or 50mm, 14kg/m ³	Steel 64x35x0.55min. @450mm c/c	1x13mm, 8.4kg/m ² standard plasterboard	
	6	1x13mm, 8.4kg/m ² standard plasterboard	Steel 64x35x0.55min. @450mm c/c	min. 75mm, 11kg/m ³ or 50mm, 14kg/m ³	20	75	20	min. 75mm, 11kg/m ³ or 50mm, 14kg/m ³	Steel 64x35x0.55min. @450mm c/c	1x13mm, 9.8kg/m ² water-resistant plasterboard	
	7	1x13mm, 9.8kg/m ² water-resistant plasterboard	Timber 90x45, or Steel 92x35x0.55min.	min. R2.0, 70mm, 10kg/m ³	20	50	20	min. R2.0, 70mm, 10kg/m ³	Timber 90x45, or Steel 92x35x0.55min.	1x13mm, 8.4kg/m ² standard plasterboard	
CORRIDOR WALL concealed water services one side	8	1x13mm, 8.4kg/m ² standard plasterboard	-	-	-	75	15	50mm 14kg/m ³	Steel 64x35x0.55min. @450mm c/c	1x13mm, 8.4kg/m ² standard plasterboard	
	9	1x13mm, 9.8kg/m ² water-resistant plasterboard	-	-	-	75	15	50mm 14kg/m ³	Steel 64x35x0.55min. @450mm c/c	1x13mm, 9.8kg/m ² water-resistant plasterboard	
SHAFT WALL adjacent to wet or common areas	10	-	-	-	-	75	-	-	-	1x13mm, 9.8kg/m ² water-resistant plasterboard	
	11	-	-	-	-	75	-	-	-	1x13mm, 8.4kg/m ² standard plasterboard	
	12	-	-	-	-	75	-	-	-	1x13mm, 10.5kg/m ² (moisture resistant, fire-rated plasterboard)	
	13	-	-	-	-	75	-	-	-	1x13mm, 10.8kg/m ² (fire-rated plasterboard)	
SHAFT WALL adjacent to dry habitable rooms	14	-	-	-	-	75	-	50mm 14kg/m ³	28mm steel f/c direct fixed by clips	1x13mm, 9.8kg/m ² water-resistant plasterboard	
SERVICES WALL (up to 3.3m height)	15	-	-	-	-	75	-	-	-	NO plasterboard	

System Components

Aluminium Wall Brackets	Helix 50/75mm AAC Party Wall Systems are mechanically fixed to either steel or timber wall framing (by others) using horizontal aluminium wall brackets. The brackets must be angles not smaller than 76mm x 43mm x 50mm in size and fabricated from a minimum of 1.6mm thick Grade 5005 aluminium. In all cases the supporting structure must be designed accordance to AS 1684 for timber or NASH; or AS/NZS 4600 for steel, with the steel having a minimum thickness of 0.55mm BMT, with recognition of the Helix 50/75mm AAC Party Wall Systems spanning and fixing requirements.
Damp Proof Course	Damp proof course (DPC) must conform with AS/NZS 2904 Section 6 and Table 2 performance criteria.
Flashings	Flashings supplied by others must be designed and installed in general accordance with SA HB 39-2015 - Installation Code for Metal Roofing and Wall Cladding.
Panel Screws	2-off 14 - 10 Bugle Head or Hex Head Type 17 screw (Class 3 or 4) shall be used to fix Helix panel to Aluminium Wall Brackets. Screw length shall be 10mm shorter than panel thickness. Screws shall be: a) at least Class 3 for moderate and mild exposure environments; b) at least Class 4 for severe marine further than 100m from breaking surf, marine and industrial exposure environments; and c) Class 4 stainless steel for severe marine exposure environments within 100m of breaking surf.
Bracket Screws	For timber framing, 2-off 25 x 2.5mm galvanized nails or 2-off 12 - 11 x 35mm hex head type 17 screws (Class 3 or 4). For steel framing, 2-off 10 - 16 x 16mm wafer head/hex head screws (Class 3 or 4). Screws shall be: a) at least Class 3 for moderate and mild exposure environments; b) at least Class 4 for severe marine further than 100m from breaking surf, marine and industrial exposure environments; and c) Class 4 stainless steel for severe marine exposure environments within 100m of breaking surf.
Thin Bed Adhesive Mortar	The thin-bed adhesive mortar shall have a characteristic tensile strength equal to or greater than the characteristic tensile strength of the AAC, and be C1E classification in accordance with AS ISO 13007.1.
Mineral Wool - Horizontal Joints	100mm wide, 13mm thick, mineral wool fibre strips with a density of not less than 110kg/m ³ .
Steel & Plasterboard - Horizontal Joints	Continuous steel channel, 76 x 32 x 0.75mm BMT, or 76 x 50 x 0.70mm Deflection Track or J-Track, fixed back to back with 10-16 x 16mm wafer head screws at 600mm max. c/c, with 16mm fire rated plasterboard fixed to panel with 10 x 50mm bugle head laminating screw @ 400mm max. c/c on one side of the joint.

A3 Product specification

Structural Performance (B1D4(b)(ii) & H1D7(4)(a))	Helix 50/75mm AAC Intertency and Party Wall System panels have been tested in accordance with AS 5146.1, load-bearing Party Walls have been designed in accordance with AS 5146.1. Helix 50/75mm AAC Intertency and Party Wall Systems are designed such that the panels are not intended to carry vertical loads other than their self-weight. Wind pressure actions perpendicular to the surface are resisted by panel strength and fixing requirements as detailed in Helix Panel 50/75mm AAC Intertency & Party Wall Systems Design & Installation Guide, Version 1, August 2025 . The steel or timber framing must be designed independently, taking into account internal pressures, and control joints are required at regular intervals to allow for building movement. Helix 75mm Intertency/Corridor/Shaft/Services Walls are designed to resist Design Ultimate Limit State Wind Pressures up to 0.375kPa. In all cases, Helix panels shall be temporarily braced to resist construction loads, including wind.
Fire Safety Performance (C2D2 & H1D4)	Helix 50/75mm Party Wall Systems have been tested and assessed as having the capacity to maintain an FRL of 60/60/60, 90/90/90 or 120/120/120 as applicable, and meet non-combustible construction requirements in conjunction with steel framing and non-combustible insulation when installed in accordance with Section 3.2 Fire Safety Performance of the Helix Panel 50/75mm AAC Intertency & Party Wall Systems Design & Installation Guide, Version 1, August 2025 .
Non Combustibility (C2D10(5)(e))	Helix panels including mortar are classified non-combustible and may be used wherever a non-combustible material is required.

Acoustic (H4D8 & F7D6)	Helix 50/75mm Party Wall Systems (1, 2, 3 & 4) & Intertency Wall Systems (5, 6 & 7)					
System	Helix Panel Thickness (mm)	Plasterboard	Min. Stud Depth (mm)	Frame-Panel Gap (mm)	R _w (dB)	R _w +C _w (dB)
1. Party Wall	50	1 x 13mm fire-rated/acoustic/impact resistant 10.5kg/m ²	70	20	64	50
2. Party Wall	50	1 x 13mm standard 8.4kg/m ²	70	40	64	50
3. Party Wall	50	1 x 13mm standard 8.4kg/m ²	90	20	64	50
4. Party Wall	75	1 x 13mm standard 8.4kg/m ²	70	20	64	50
5. Intertency Wall	75	1 x 13mm standard 8.4kg/m ²	64	20	64	50
6. Intertency Wall	75	Side A: 1 x 13mm standard 8.4kg/m ² Side B: 1 x 13mm water-resistant 9.8kg/m ²	60	20	64	50
7. Intertency Wall	75	1 x 13mm water-resistant 9.8kg/m ²	64	20	65	51
Helix 75mm Corridor Wall Systems, Shaft Wall Systems and Services Wall Systems						
System	Helix Panel Thickness (mm)	Plasterboard	Min. Stud Depth (mm)	Frame-Panel Gap (mm)	R _w (dB)	
8. Corridor Wall	75	1 x 13mm standard 8.4kg/m ²	64	15	54	
9. Corridor Wall	75	1 x 13mm water-resistant 9.8kg/m ²	64	15	55	
10. Shaft Wall	75	1 x 13mm water-resistant 9.8kg/m ²	-	-	31	
11. Shaft Wall	75	1 x 13mm standard 8.4kg/m ²	-	-	31	
12. Shaft Wall	75	1 x 13mm 11.1kg/m ² (moisture resistant, fire-rated)	-	-	32	
13. Shaft Wall	75	1 x 13mm 10.8kg/m ² (fire-rated plasterboard)	-	-	31	
14. Shaft Wall	75	1 x 13mm water-resistant 9.8kg/m ²	28mm f/c	-	32	
15. Services Wall	75	-	-	-	30	

A4 Manufacturer and manufacturing plant(s)

This field is optional. Contact the Certificate Holder for details.

A5 Installation requirements

The Helix Panel 50/75mm AAC Intertency & Party Wall Systems must be installed in accordance [Helix Panel 50/75mm AAC Intertency & Party Wall Systems Design & Installation Guide, Version 1, August 2025](#).

A6 Other relevant technical data

Thermal Performance Helix 50/75mm AAC Intertency and Party Wall Systems incorporating 50mm or 75mm thickness panel, aluminium wall brackets, R2.0m2K/W, and 10mm plasterboard lining achieves the following Total R-values in accordance with AS/NZS 4859.1:2018.

Variant	Stud Framing 450mm (up to 600mm c/c)	Insulation Glasswool	Gap (mm)	Panel Thickness (mm)	Gap (mm)	Insulation Glasswool	Stud Framing	Total R-Value (m2K/W)	
								Winter (Heat flow outwards)	Summer (Heat flow inwards)
1, 2	Timber 70x45	R2.0, 70mm	20-40	50	20-40	R2.0, 70mm	Timber 70x45	4.6	4.4
1, 2	Steel 76x35x0.55	R2.0, 70mm	40	50	40	R2.0, 70mm	Steel 76x35x0.55	3.7	3.5
3	Timber 90x45	R2.0, 70mm	20	50	20	R2.0, 70mm	Timber 90x45	4.8	4.5
3	Steel 92x35x0.55min.	R2.0, 70mm	20	50	20	R2.0, 70mm	Steel 92x35x0.55	3.7	3.6
4	Timber 70x45	R2.0, 70mm	20	75	20	R2.0, 70mm	Timber 70x45	4.8	4.6
4	Steel 76x35x0.55	R2.0, 70mm	30	75	20	R2.0, 70mm	Steel 76x35x0.55	4.0	3.8

APPENDIX B – EVALUATION STATEMENTS

B1 Evaluation methods

- Acoustic Provisions ASG3(1)(d). Reports from Accredited Testing Laboratories.
- Fire Safety Provisions ASG3(1)(d)&(e). Reports from Accredited Testing Laboratories and a professional engineer.
- Structural Resistance Provisions ASG3(1)(d)&(e). Reports from Accredited Testing Laboratories and a professional engineer.

B2 Reports

- Acronem Consulting Australia Pty Ltd; Report No. ACA 250714; SUNPOK 50MM/75MM AAC INTERTENCY AND PARTY WALL SYSTEMS NCC 2022(AMDT.2), VOLUMES ONE, TWO & ABCB HOUSING PROVISIONS – INTERNAL, COMMON AND SEPARATING WALLS; Dated 13/08/2025. This report provides evidence and validates the below test reports for compliance with: F7P2, F7P4, B1D4(b)(ii), C2D2(2), C2D10(5)(e), C2D11(1)(b), J4D6, H4P6(2), H1D7(4)(a), H3D4, H4D8, H6D2 & C2D11(3)

The Certificate Holder has chosen not to make the above evidence of compliance publicly available, due to the documents being considered commercial in confidence.



www.helixsystems.com.au



1300 435 492

Proudly Distributed By:

Dahlsens SINCE 1877
For the Builder.



www.dahlsens.com.au



1300 324 573