Installation Guide

Hardie™ Gravis™ Panel Floor

FLOORING - INTERNAL & EXTERNAL

Australia June 2026

Make sure your information is up to date.
When specifying or installing Hardie™ products, ensure that you have the current technical information and guides. If in doubt, or you need more information, visit jameshardie.com.au or contact James Hardie on 13 11 03.

JamesHardie™

CodeMark Australia
Certificate CM40469

CONTENTS

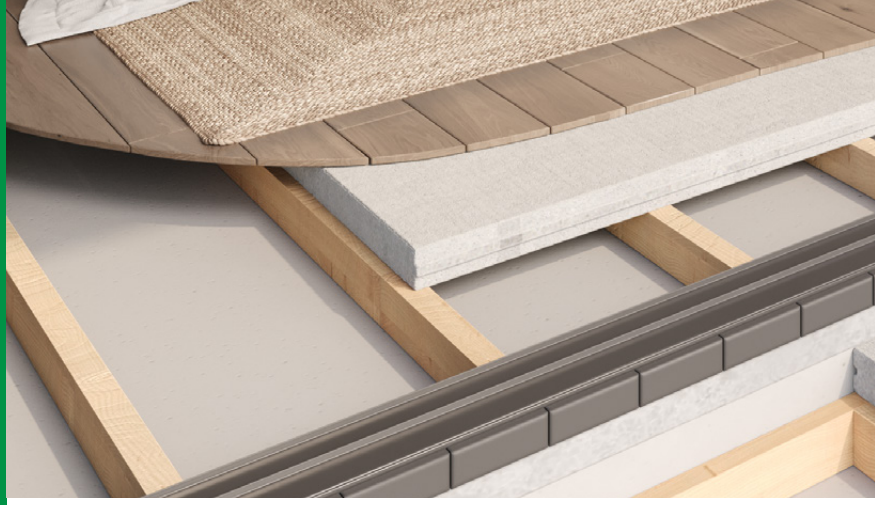
SCOPE

This guide covers the use of Hardie™ Gravis™ Panel in a residential floor application over a seasoned timber frame or a light-gauge steel frame installed in a vertical upright application, in accordance the applicable requirements of the National Construction Code (NCC) 2022 (Amdt. 2) and 2025 and subject to relevant state and territory adoption periods.

CODEMARK® CERTIFICATION

The CodeMark® Certification Scheme is a voluntary third-party building product certification scheme that authorises the use of new and innovative products in specified circumstances in order to facilitate compliance with Volume 1 and 2 of the NCC.

The Hardie™ Gravis™ System has been certified under the CodeMark® Certification Scheme (Certificate Number CM40469) and available at www.jameshardie.com.au. This certificate can be provided to building certifiers and other regulatory authorities to facilitate the assessment of the product compliance or used to verify the suitability of the product for certain applications.



1 Introduction

Hardie™ Gravis™ Panel - Floor provides a strong, stable and high-performing subfloor system designed for both residential and multi-residential construction.

Made from autoclaved aerated concrete (AAC) and reinforced with corrosion-protected steel, the panels deliver a solid, concrete-like feel underfoot while offering acoustic and thermal benefits that enhance comfort within the home. Once installed, the system is ready for finishes within 24 hours, helping maintain project efficiency and minimise delays.

This guide outlines the required specifications, installation procedures and best-practice recommendations to ensure a smooth, compliant and long-lasting subfloor that contributes to overall build quality.

IMPORTANT NOTES

1. Failure to install, finish or maintain this product in accordance with applicable building codes, regulations, standards and James Hardie's written application instructions may lead to personal injury, affect system performance, violate local building codes, and void the James Hardie Product Warranty.
2. All warranties, conditions, liabilities (direct, indirect or consequential) and obligations whether arising in contract, tort or otherwise other than those specified in James Hardie Product Warranty are excluded to the fullest extent allowed by law. For the James Hardie Product Warranty information and disclaimers about the information in this guide, visit www.jameshardie.com.au.
3. The builder must ensure the product meets aesthetic requirements before installation. James Hardie will not be responsible for rectifying aesthetic surface variations following installation.

2 Safe Working Practices

DANGER - CRYSTALLINE SILICA SUBSTANCE

Hardie™ AAC products contain sand, a source of respirable crystalline silica (RCS), and are a crystalline silica substance for the purposes of Work Health and Safety (WHS) regulations. To minimise exposure to RCS when cutting, drilling, sawing or abrading Hardie™ AAC products and during cleanup, apply the hierarchy of controls and follow James Hardie's safe work practice recommendations set out below.

Additional information and guidance is available in James Hardie's Safety Data Sheets and Best Practice Guide, available at www.jameshardie.com.au and by scanning the QR code below and in the Safe Work Australia Code of Practice: Managing risks of respirable crystalline silica in the workplace.

Failure to follow these recommendations to minimise exposure may result in serious injury or death. You should also consider any legal requirements that may apply in respect of any high-risk processing activities being performed by workers. See the SWA Code of Practice and applicable State or Territory regulations that apply where you're working for more information.

CUTTING / PROCESSING

- Uncontrolled cutting / processing of AAC is prohibited by law.
- You **must** use an effective **wet dust suppression** method **or** an effective **on-tool dust extraction** system.
- Always use equipment appropriate to the cutting method used, and compatible with AAC products.

WET CUTTING

Ensure the equipment used is appropriate and fit for purpose including:

- Having an appropriate ingress protection (IP) rating to ensure it is sufficiently waterproof.
- Having a consistent water flow and adequate water pressure during operation.
- Having the water feed attached and adequately directed at the material and/or blade to prevent dust being released.
- All electrical risks are managed in line with the power tool manufacturer's recommendations.

In addition, control other risks as appropriate including:

- Control slip risks arising from surface water.
- Clean up slurry before it dries.

DRY CUTTING

- Always connect the saw to an H or M class vacuum.
- Set blade depth 2–5 mm short of cutting through the underside of the panel to improve dust capture.

WET AND DRY CUTTING

- Always ensure workers wear a properly fitted P2 respirator and are clean shaven or wear a powered air purifying respirator (PAPR).
- Always ensure workers wear appropriate hearing and eye protection.
- Always cut outdoors or in a well-ventilated area.
- Ideally, position the cutting station downwind and at least 3 metres away from other workers.
- Warn other workers in the area of the risk.
- Cut product on a raised work platform at waist height to ensure tooling can be held securely and minimise RCS dust exposure to the operator.
- Job rotate the cutting of panels to minimise individual RCS dust exposures.

CLEAN UP AND GENERAL HOUSE KEEPING

- Poor housekeeping methods that disturb accumulated dust on workplace surfaces can also lead to increased RCS exposure.
- Always use an M or H class vacuum to clean up dust.
- Put full vacuum bags and/or filters in a sealed bag before disposal.
- Clean up dust slurry and put in a sealed bag before it dries.
- Always ensure workers wear a properly fitted P2 respirator and are clean shaven or wear a powered air purifying respirator (PAPR).

DO NOT:

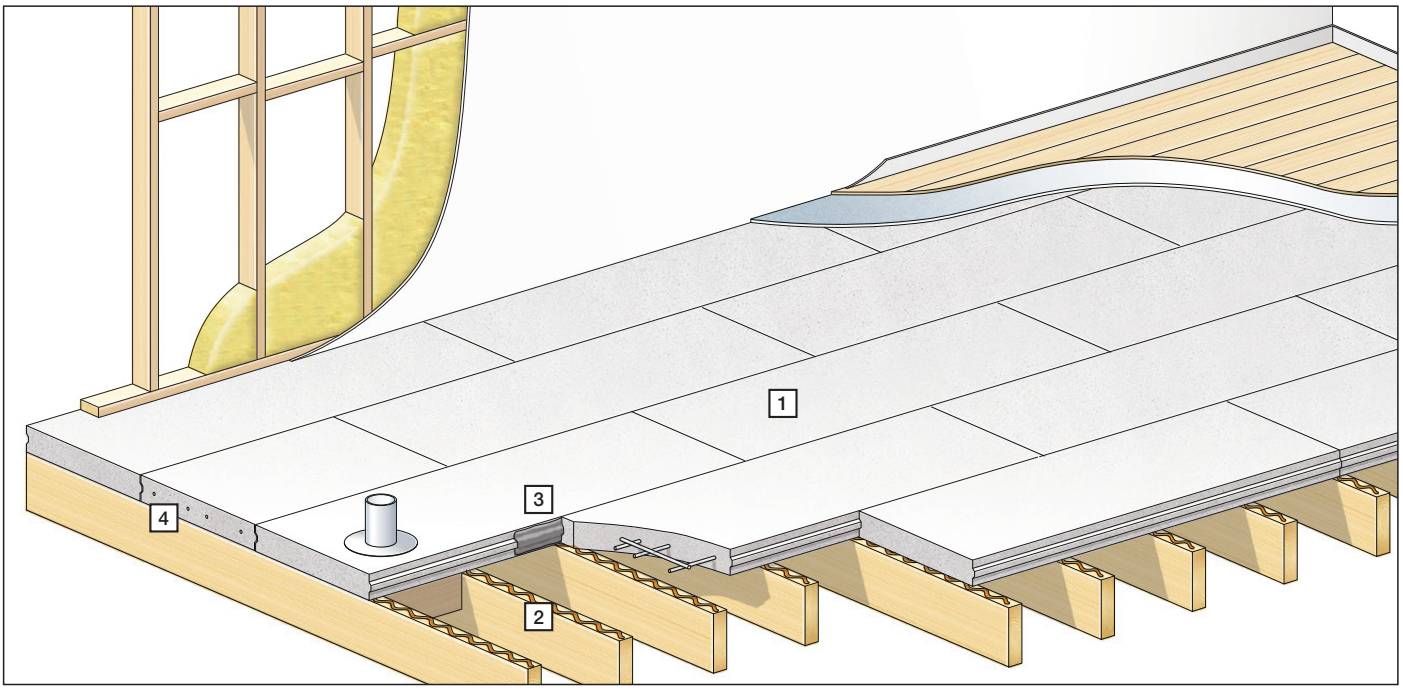
- Dry sweep – this is prohibited by relevant WHS legislation.
- Use compressed air or high-pressure water cleaners.
- Use a general-purpose vacuum cleaner not designed for use with hazardous dusts.

HANDLING

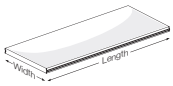
- Whenever possible, use mechanical aids such as trolleys, cranes or forklifts to move the panels on site.
- Position the pallet as close as practicable to the working area or cutting station, reducing the distance the panels need to be transported.
- When moving a panel by hand, to avoid risk of damage to the panel, always carry the panel on its side, not flat.
- Ensure workers wear appropriate gloves when handling AAC products.
- Take care when releasing the straps on pallets. Always brace or restrap opened packs to prevent panels falling.
- Never stack pallets of AAC panels more than two high on a construction site.

SCAN TO VIEW JAMES HARDIE'S BEST PRACTICE GUIDE

4 Components

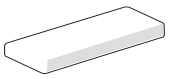


COMPONENTS

1 Hardie™ Gravis™ Panel Floor 75						Product Code
	Hardie™ Gravis™ Panel is manufactured from Autoclaved Aerated Concrete (AAC), internally reinforced with a corrosion-protected steel mesh.					900014
	Length (mm)	Width (mm)	Thickness (mm)	Weight per unit (kg)	Weight per meter (kg/m²)*	
	1800	600	75	56	52	
2 Hardie™ Joint Sealant						
	Hardie™ Joint Sealant is a general purpose polyurethane exterior grade joint sealant. Pack Size: 20/Box. Coverage: 1.0m/100mL.					300mL Cartridge 305534 600mL Sausage 305672
3 Hardie™ Gravis™ Adhesive 20kg						
	Hardie™ Gravis™ Adhesive is designed for bonding Hardie™ Gravis™ Panel at both vertical and horizontal joints. Pack size 20kg.					700001
4 Hardie™ Gravis™ Anti-Corrosion Sealer 0.5L						
	Hardie™ Gravis™ Anti-Corrosion Sealer is used to protect the exposed ends of reinforcement exposed during panel cutting. Bottle size 500mL.					700003
5 Hardie™ Gravis™ Patch 10kg						
	Hardie™ Gravis™ Patch is used for repairing minor chips or damage to Hardie™ Gravis™ Panel. Pack size 10kg.					700002

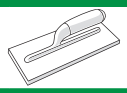
* Panel weights are based on 35% moisture content at time of handling/install.

COMPONENTS NOT SUPPLIED BY JAMES HARDIE

Insulation	
	Ceiling insulation may be included between each stud to achieve the required R-Value, acoustic performance and Fire Resistance Level (FRL) when required. Refer to the systems descriptions of Page 6 for further information.
Waterproofing	
	Waterproofing membrane specified and installed in accordance with the manufacturer's installation requirements.

4 Components

REQUIRED TOOLS

Drill fitted with Stirrer	
	Electric drill with fitted stirrer used to mix Hardie™ Gravis™ Adhesive.
Notched Trowel	
	Used to apply the adhesive to the panel edges. The trowel must match the Hardie™ Gravis™ Panel thickness.
Panel Lifters	
	Used to carry and handle the Hardie™ Gravis™ Panel.
Sand Float	
	Used to remove excess adhesive and smoothen the joints.
Levelling Plane	
	Used to smoothen the Hardie™ Gravis™ Panel surface if needed.
M or H Class Vacuum	
	For dust extraction when cutting Hardie™ Gravis™ Panel.
Saw or suitable AAC Saw	
	For cutting Hardie™ Gravis™ Panel. Fitted with a suitable diamond turbo blade and dust extraction.

4 System Performance

Non-Combustibility and Fire Rated Walls

Hardie™ Gravis™ Panel is classified as non-combustible and, when used as part of an approved system, can achieve Fire Resistance Level (FRL) of up to 90/90/90 when designed and constructed in accordance with the requirements outlined in Table 1 and combined with the floor finishes presented on Tables 2 to 7.

TABLE 1

Hardie™ Gravis™ Panel - Floor Fire Resistance Level (FRL)		
Ceiling Lining	**FRL Below**	**FRL above**
-	- / - / -	90/90/90
10mm Standard Plasterboard	- / - / -	90/90/90
Min. 6mm Hardie™ Fibre Cement	- / - / -	90/90/90
1 x 13mm Fire Rated Plasterboard	30/30/30	90/90/90
2 x 13mm Fire Rated Plasterboard	60/60/60	90/90/90
2 x 16mm Fire Rated Plasterboard	90/90/90	90/90/90

Thermal Performance

This guide outlines certified modelled Total R-Values for floor systems using Hardie™ Gravis™ Panel. This information can be used as part of the input data required in energy efficiency assessments, described in Part H6 of the NCC 2022 Vol 2.

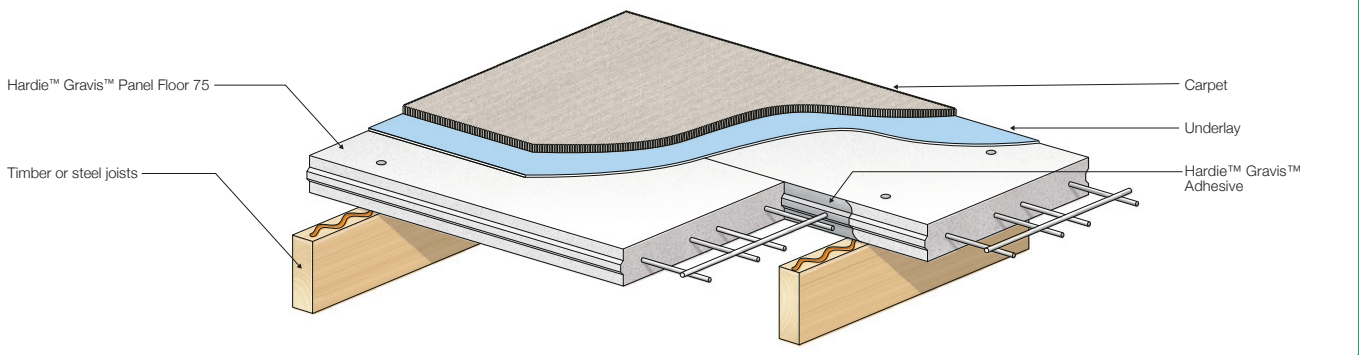
The Total R-values for common systems are in accordance with AS/NZS 4859.2:2018 Thermal Insulation Materials for Buildings - Part 2: Design.

Acoustic

Compliance with the sound insulation performance provisions of the National Construction Code (NCC) can be achieved either by construction in accordance with the Deemed to-Satisfy Provisions or on-site testing. The table below shows the acoustic performance of various floor configurations that comply with NCC acoustic insulation requirements.

TABLE 2

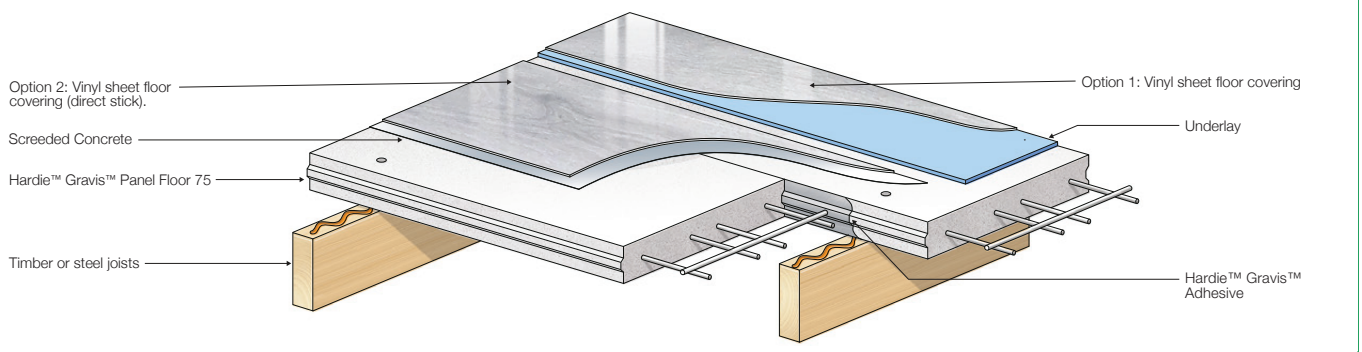
System Performance with Carpet - Hardie™ Gravis™ Panel Floor 75



System	Min. Insulation R-Value	Ceiling System	Frame	Thermal		Acoustic	
				R-Value Up	R-Value Down	Rw/Rw+Ctr	Lnw
JH-F01	None	None	Timber	1.18	1.23	36/33	85
JH-F02			Steel	1.09	1.14		
JH-F03	R.2.0	x1 layer of 10mm Standard Plasterboard	Timber	3.17	3.24	35/49	59
JH-F04			Steel	3.08	3.15		
JH-F05	R.2.0	x1 layer of 13mm Fire Rated Plasterboard	Timber	3.18	3.25	53/50	59
JH-F06			Steel	3.09	3.16		
JH-F07	R.2.0	x2 layers of 13mm Fire Rated Plasterboard	Timber	3.25	3.32	54/52	59
JH-F08			Steel	3.16	3.22		

TABLE 3

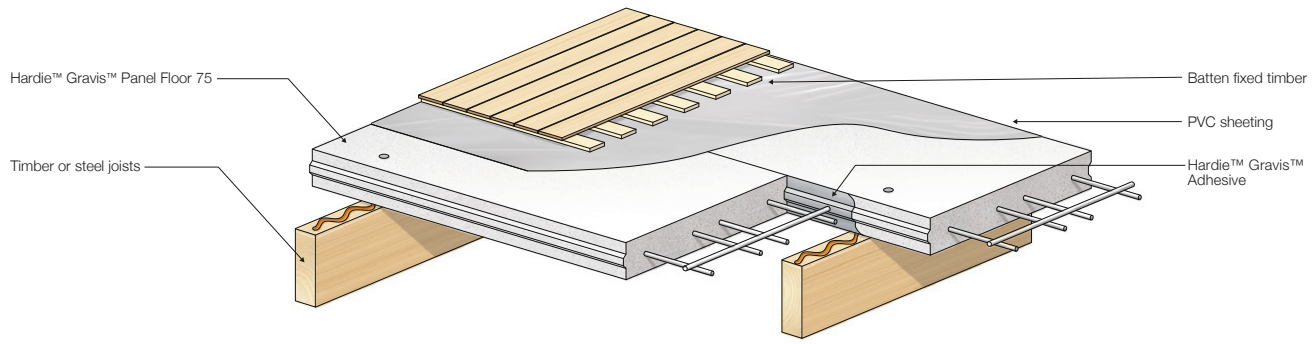
System Performance with Vinyl Floor on Hardboard - Hardie™ Gravis™ Panel Floor 75



System	Min. Insulation R-Value	Ceiling System	Frame	Thermal		Acoustic	
				R-Value Up	R-Value Down	Rw/Rw+Ctr	Lnw
JH-F09	None	None	Timber	0.98	1.03	37/35	89
JH-F10			Steel	0.89	0.94		
JH-F11	R.2.0	x1 layer of 10mm Standard Plasterboard	Timber	2.96	3.03	56/51	64
JH-F12			Steel	2.87	2.94		
JH-F13	R.2.0	x1 layer of 13mm Fire Rated Plasterboard	Timber	2.98	3.05	56/51	63
JH-F14			Steel	2.89	2.96		
JH-F15	R.2.0	x2 layers of 13mm Fire Rated Plasterboard	Timber	3.04	3.11	56/51	62
JH-F16			Steel	2.95	3.02		

TABLE 4

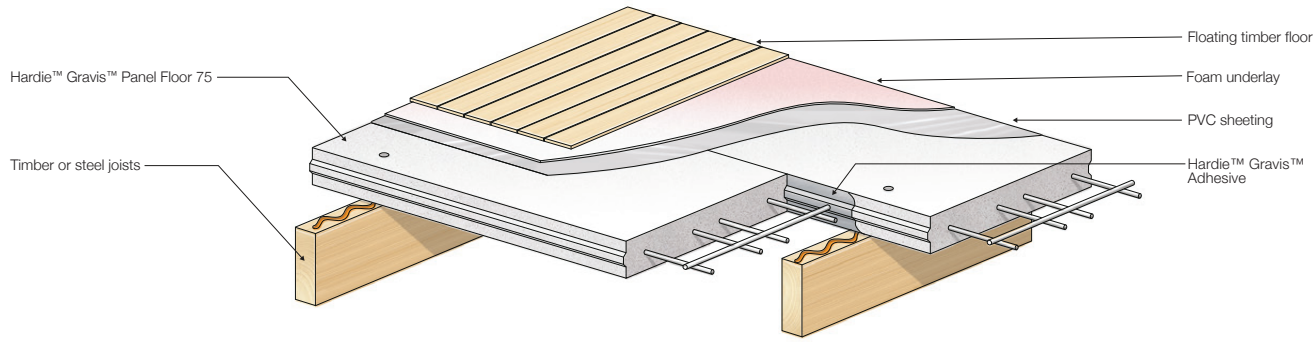
System Performance with Timber Fixed to Battens - Hardie™ Gravis™ Panel Floor 75



System	Min. Insulation R-Value	Ceiling System	Frame	Thermal		Acoustic	
				R-Value Up	R-Value Down	Rw/Rw+Ctr	Lnw
JH-F17	None	None	Timber	1.16	1.16	36/33	91
JH-F18			Steel	1.07	1.07		
JH-F19	R.2.0	x1 layer of 10mm Standard Plasterboard	Timber	3.15	3.15	56/51	66
JH-F20			Steel	3.05	3.05		
JH-F21	R.2.0	x1 layer of 13mm Fire Rated Plasterboard	Timber	3.16	3.16	56/51	66
JH-F22			Steel	3.07	3.07		
JH-F23	R.2.0	x2 layers of 13mm Fire Rated Plasterboard	Timber	3.22	3.22	56/51	65
JH-F24			Steel	3.13	3.13		

TABLE 5

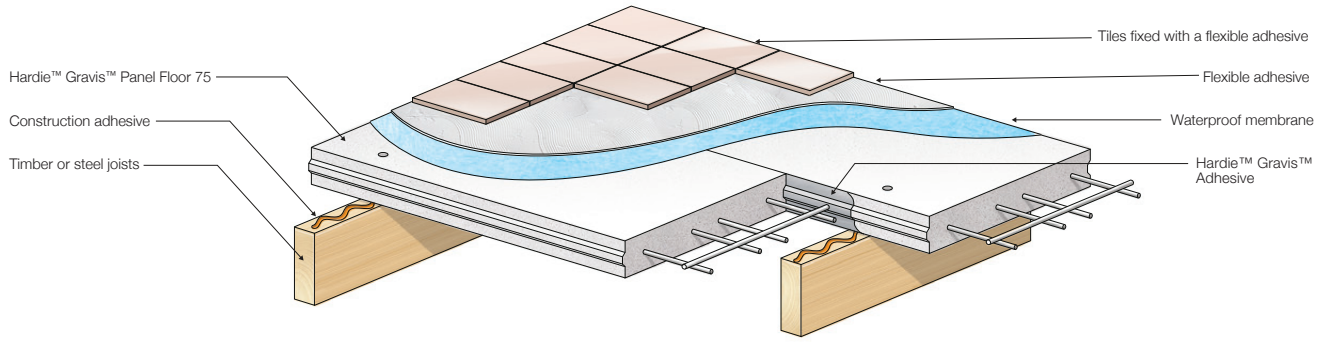
System Performance with Timber Floating Flooring - Hardie™ Gravis™ Panel Floor 75



System	Min. Insulation R-Value	Ceiling System	Frame	Thermal		Acoustic	
				R-Value Up	R-Value Down	Rw/Rw+Ctr	Lnw
JH-F25	None	None	Timber	1.11	1.16	36/33	95
JH-F26			Steel	1.02	1.07		
JH-F27	R.2.0	x1 layer of 10mm Standard Plasterboard	Timber	3.10	3.16	56/51	69
JH-F28			Steel	3.00	3.07		
JH-F29	R.2.0	x1 layer of 13mm Fire Rated Plasterboard	Timber	3.11	3.18	56/51	70
JH-F30			Steel	3.02	3.09		
JH-F31	R.2.0	x2 layers of 13mm Fire Rated Plasterboard	Timber	3.17	3.24	56/51	69
JH-F32			Steel	3.08	3.15		

TABLE 6

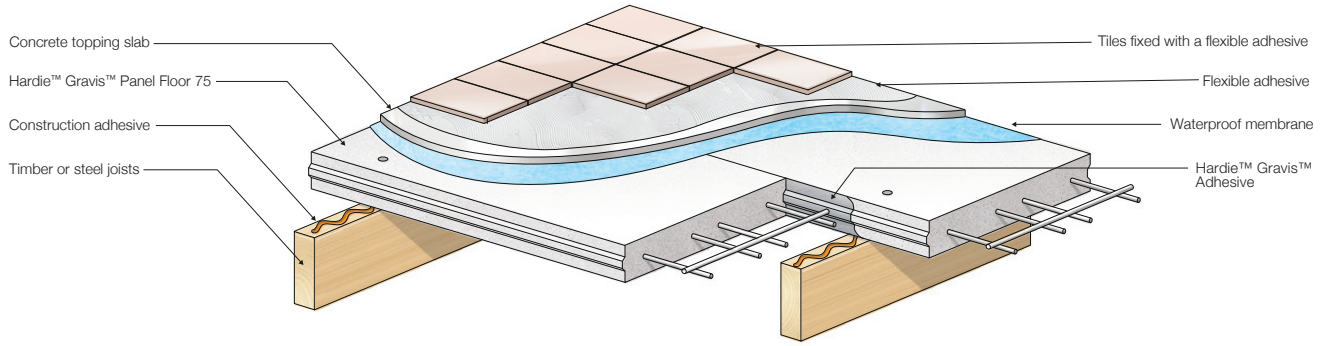
System Performance with 8mm Ceramic Tiles - Hardie™ Gravis™ Panel Floor



System	Min. Insulation R-Value	Ceiling System	Frame	Thermal		Acoustic	
				R-Value Up	R-Value Down	Rw/Rw+Ctr	Lnw
JH-F33	None	None	Timber	0.92	0.92	36/33	95
JH-F34			Steel	0.83	0.83		
JH-F35	R.2.0	x1 layer of 10mm Standard Plasterboard	Timber	2.91	2.91	56/51	69
JH-F36			Steel	2.82	2.82		
JH-F37	R.2.0	x1 layer of 13mm Fire Rated Plasterboard	Timber	2.92	2.92	56/51	70
JH-F38			Steel	2.83	2.83		
JH-F39	R.2.0	x2 layers of 13mm Fire Rated Plasterboard	Timber	2.99	2.99	56/51	69
JH-F40			Steel	2.90	2.90		

TABLE 7

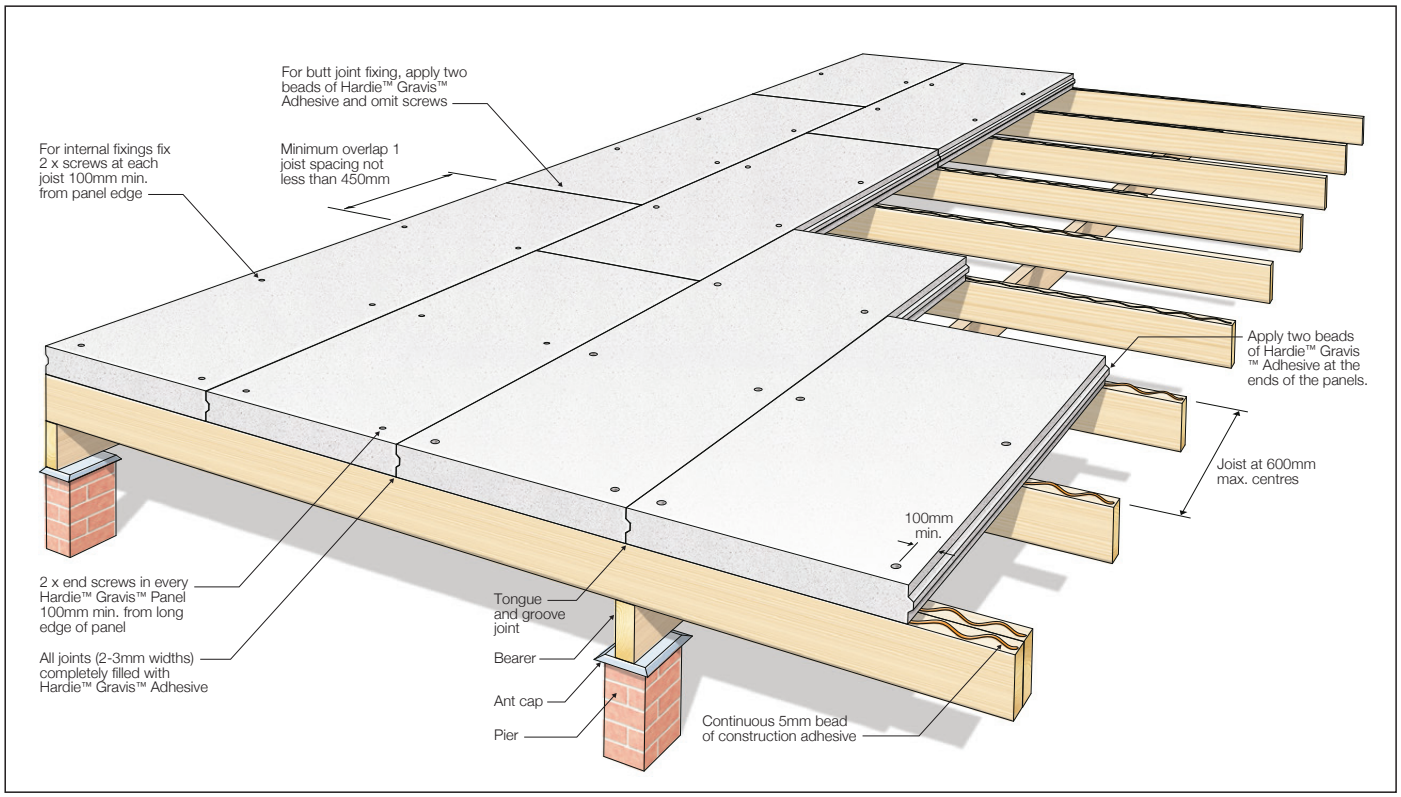
System Performance with 8mm Ceramic Tiles on 50mm Concrete Topping Slab - Hardie™ Gravis™ Panel Floor



System	Min. Insulation R-Value	Ceiling System	Frame	Thermal		Acoustic	
				R-Value Up	R-Value Down	Rw/Rw+Ctr	Lnw
JH-F41	None	None	Timber	0.95	1.00	40/37	83
JH-F42			Steel	0.86	0.91		
JH-F43	R.2.0	x1 layer of 10mm Standard Plasterboard	Timber	2.94	3.01	60/55	59
JH-F44			Steel	2.85	2.92		
JH-F45	R.2.0	x1 layer of 13mm Fire Rated Plasterboard	Timber	2.96	3.02	66/60	57
JH-F46			Steel	2.86	2.93		
JH-F47	R.2.0	x2 layers of 13mm Fire Rated Plasterboard	Timber	3.02	3.09	68/63	56
JH-F48			Steel	2.93	2.99		

NOTES:
For flooring systems R-Value or Heat Flow Up signifies Summer Conditions (Cooler indoors)
For flooring systems R-Value or Heat Flow Down signifies Winter Conditions (Warmer indoors)
All steel frames require minimum 0.55bmt
All timber joist systems consider 140mm deep joists
All steel joist systems consider 150mm deep joists
All systems consider a joist spacing of 600mm

5 Design Considerations



FRAMING REQUIREMENTS

Hardie™ Gravis™ Panel may be fixed to either durable timber or corrosion resistant light gauge steel frame joists at maximum 600mm centres. Floor joist must be a nominal of 45mm wide (except for Narrow Timber I Joists and LVL solid joists). Framing must have the appropriate level of durability required to prevent corrosion or deterioration. All sheet square edges which include movement joints, must be continuously supported by framing.

Timber Framing

Use of timber framing must be in accordance with AS 1684 - 'Residential timber-framed construction', treated dry kiln timber or durable hardwood, the building code of Australia and the framing manufacturer's specifications.

- Narrow Timber I Joists (min. 40mm wide): Refer to table 8 for specific fastener requirements. The flange of the joist profile must have an adequate depth to ensure full fastener embedment.
- LVL solid joist (min. 42mm wide): Refer to table 8 for specific fastener requirements.

NOTE: To help protect against moisture ingress and rot, always prime the end grain of timber members, together with surfaces which are permanently concealed and may be in contact with other building materials.

Steel Framing

Use of steel framing must be in accordance with the National Association of Steel-Framed Housing (NASH) Standard for Residential and Low-rise Steel Framing, Part 1 and the framing manufacturer's specifications. Framing members must be in the range 0.75mm to 1.9mm BMT (base metal thickness). The steel framing must have the appropriate level of durability required to prevent corrosion.

WATERPROOFING

All wet areas must include a waterproof membrane applied over the Hardie™ Gravis™ Panel flooring system. The selection of the waterproofing membrane should be specified by the designer and installed in accordance with the manufacturer's instructions.

When Hardie™ Gravis™ Panel is used in wet zones such as bathrooms or shower areas, the building designer must ensure that equipotential bonding is provided to comply with AS/NZS 3000 Electrical Installations (Wiring Rules).

PENETRATIONS

Penetrations up to 80 mm can be made in the Hardie™ Gravis™ Panel without compromising structural integrity. For penetrations larger than 80 mm, install additional blocking on both sides of the opening to maintain performance. When multiple penetrations are required in the same panel, they must be aligned in a straight line and parallel to the long edge of the panel. All penetrations must be created in accordance with Figures 30 and 31.

For any penetrations through fire rated or acoustically rated flooring, treatment must be carried out by a qualified professional to ensure the required performance is maintained. This may include the use of fire rated sealants, collars, or similar approved systems.

CONTROL JOINTS

Control joints in Hardie™ Gravis™ Panel and through the tile finish are required in both dry and wet areas to reduce stress caused by differential movement. This helps prevent cracking in the panels and the floor finish. Control joints must be installed at intervals not exceeding 6,000mm, and at locations where joist orientation changes or over bearers/support walls.

The project designer is responsible for determining any additional control joints necessary to achieve the required performance and long-term durability of the flooring system.

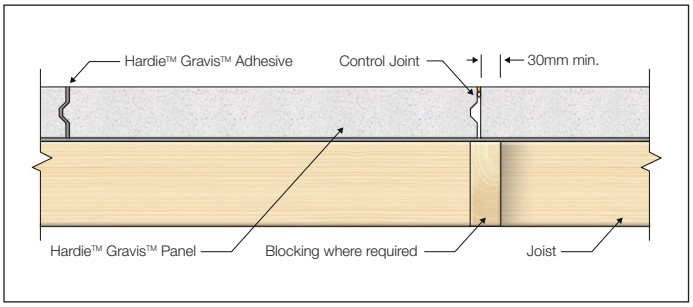


FIGURE 1 TYPICAL CONTROL JOINT

PANEL LAYOUT

Hardie™ Gravis™ Panel must be installed flat over either timber or steel framing. Ensure that butt joints between adjacent panels maintain a minimum offset of one joist bay, unless the entire floor area can be spanned using full-length panels. The short edges of every panel must be fully supported by a joist or trimmer.

Panels must be mechanically fastened to all intermediate joists as illustrated in Figure 1 of this guide. Each panel must have a minimum width of 270mm and a length sufficient to achieve two continuous spans, meaning the panel should be supported across three joists. Where necessary, additional trimmers may be installed to reduce the required panel length.

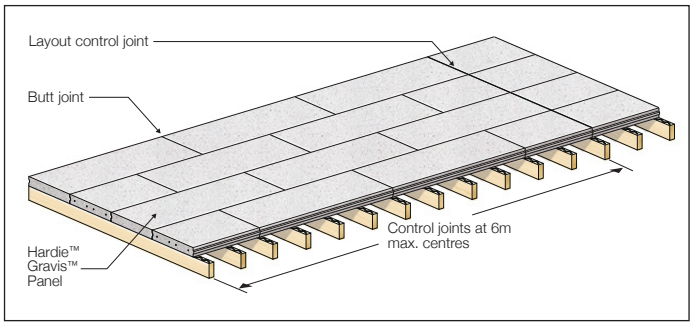


FIGURE 5 TYPICAL FLOORING PANEL LAYOUT

WET AREA CONSTRUCTION

To achieve a warranted and fully waterproof deck or wet area flooring, a compatible and properly installed third party waterproofing system must be applied over the Hardie™ Gravis™ Panel.

LOADING

Hardie™ Gravis™ Panel is engineered to meet structural performance requirements for domestic and residential use in self-contained dwellings, classified as Category A1 in Table 3.1 of AS/NZS 1170.1 “Structural Design Actions – Permanent, Imposed and Other Actions.” These panels are designed to support a concentrated load of 1.8 kN and a uniformly distributed load (UDL) of 2 kPa.

Additional joists or supports should be incorporated when the floor is subject to concentrated loadings, such as loadbearing walls, to reduce stress on the panels (limited to 1.0MPa).

FASTENERS

Fastener Durability

All fasteners must be Class 3 or 4, have the appropriate level of durability and be fully compatible with all other materials required for the intended project.

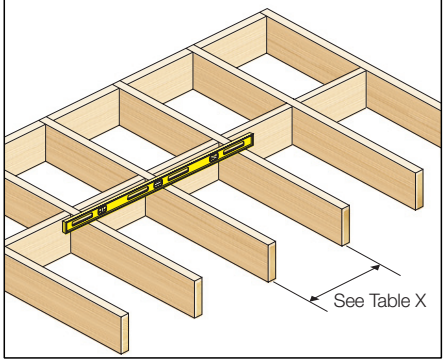
TABLE 8

Fastener Requirements for fixing Hardie™ Gravis™ Panel to Joists		
Joist Material	Screw	Length (mm)
Timber Frame	14-10 MP Bugle Head type 17 Screws or equivalent	100
Steel Frame (1.2mm BMT max.)	14-10 Hex Head Self-tapping Screw or equivalent	95

6 Flooring Installation Steps

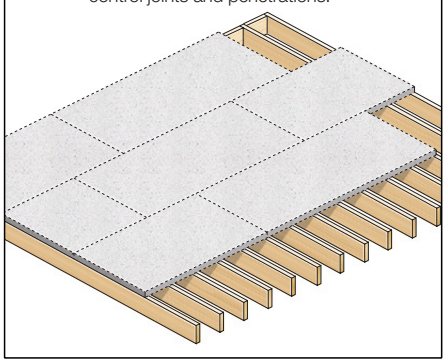
STEP 1

Level Frame
Set the frame, ensuring it is level.



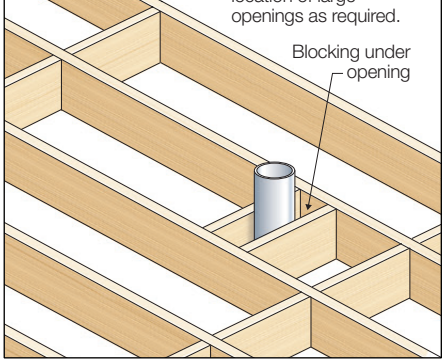
STEP 2

Panel Layout
Plan the panels layout and location of the control joints and penetrations.



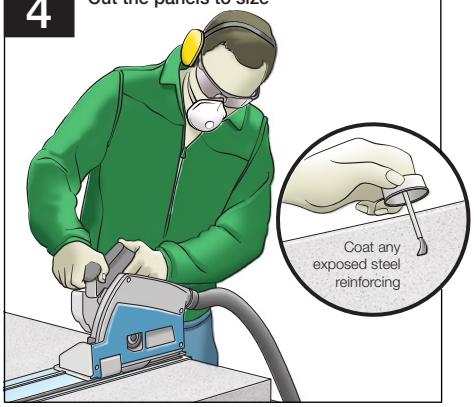
STEP 3

Blocking of the frame
Install blockings in the location of large openings as required.



STEP 4

Cut the panels to size



STEP 5

Apply Adhesive to frame

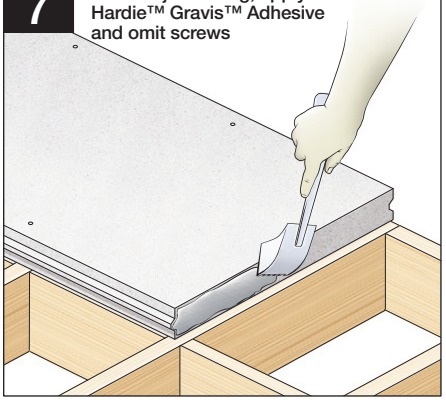
Apply a suitable continuous bead of construction adhesive to all framing members

STEP 6

Install the First Panel
See Table 8 for fixing details.

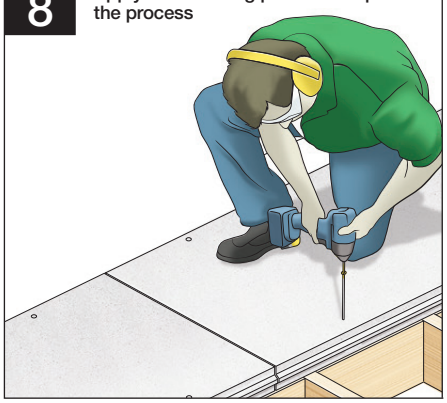
STEP 7

For butt joint fixing, apply twobeads of Hardie™ Gravis™ Adhesive and omit screws



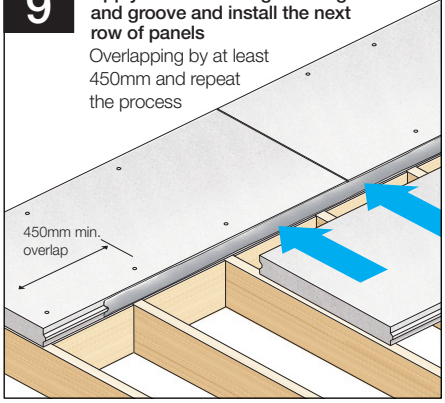
STEP 8

Apply the following panel and repeat the process



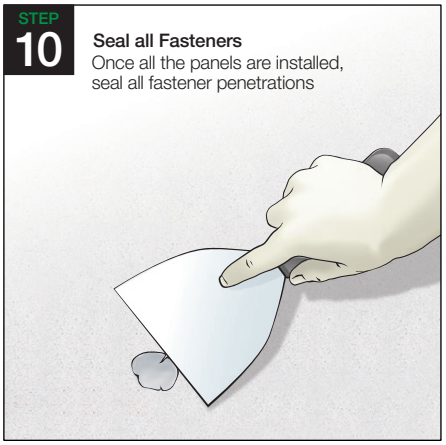
STEP 9

Apply adhesive along the tongue and groove and install the next row of panels
Overlapping by at least 450mm and repeat the process



STEP 10

Seal all Fasteners
Once all the panels are installed, seal all fastener penetrations

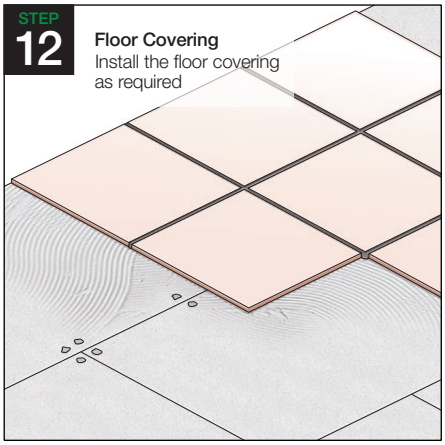


STEP 11

Clean the Surface
Clean the floor and make any repairs as required

STEP 12

Floor Covering
Install the floor covering as required



7 Construction Details

FIXING DETAILS

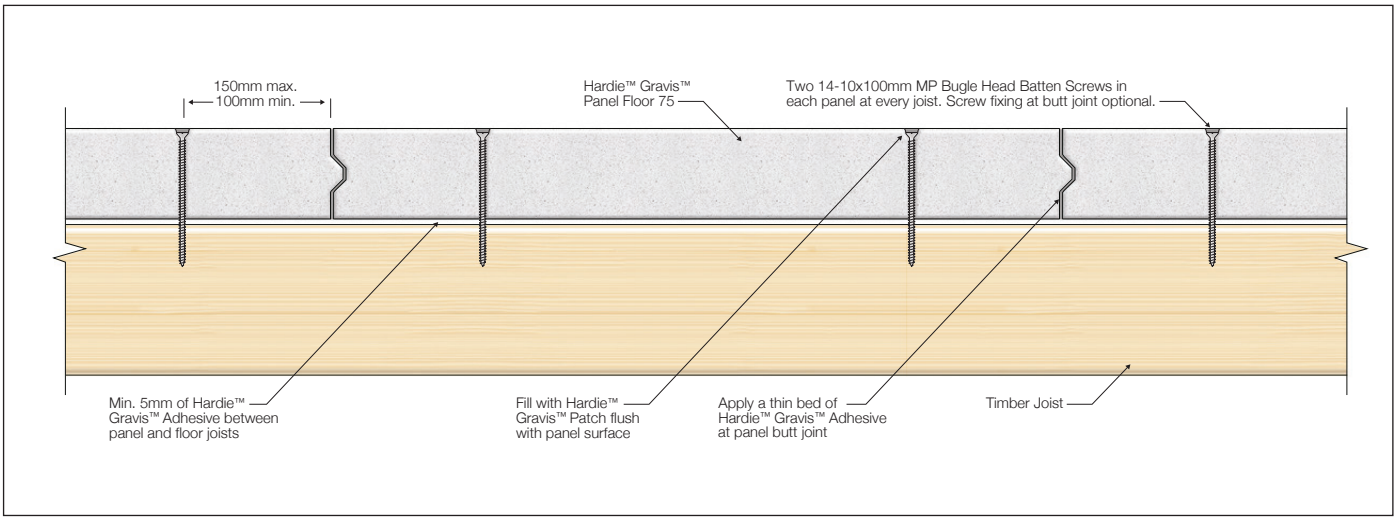


FIGURE 1 HARDIE™ GRAVIS™ PANEL FLOOR 75 FIXING DETAIL

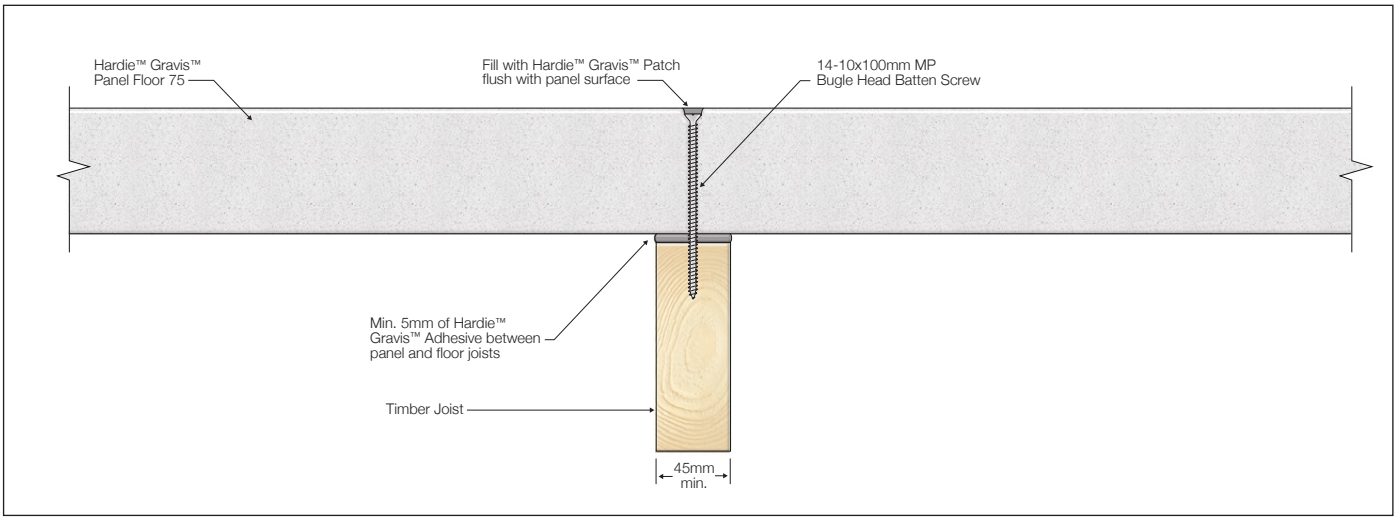


FIGURE 2 FIXING TO TIMBER JOISTS

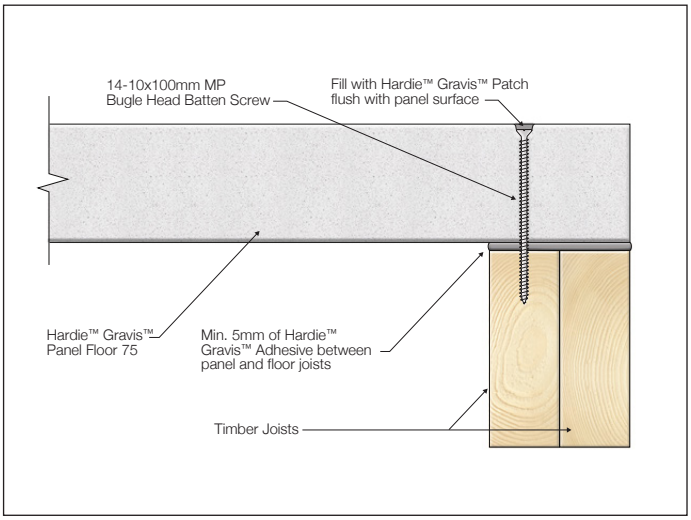


FIGURE 3 FIXING AT END PANELS TO TIMBER JOISTS

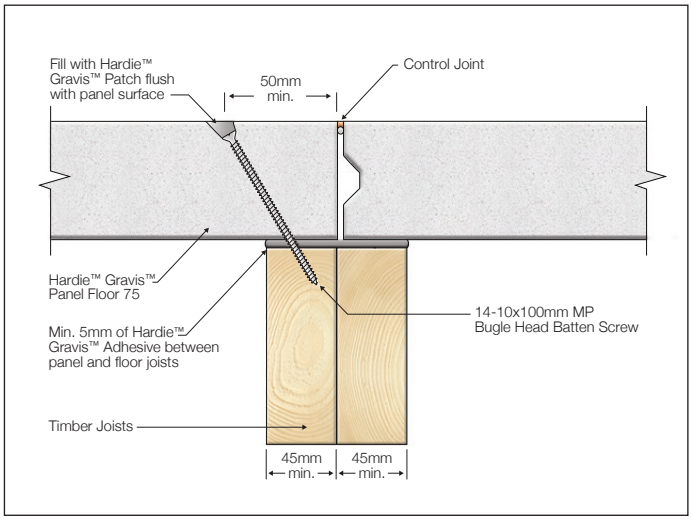


FIGURE 4 FIXING AT END PANELS TO TIMBER JOISTS

CONTROL JOINTS

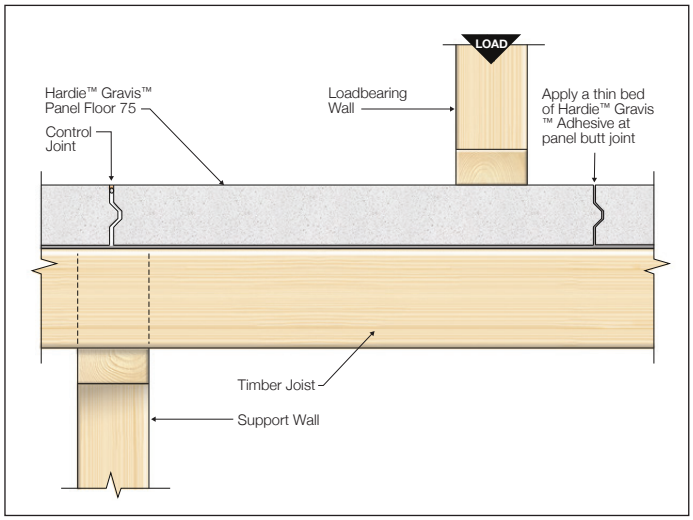


FIGURE 5 CONTROL JOINT LOCATION FOR LOAD BEARING WALL

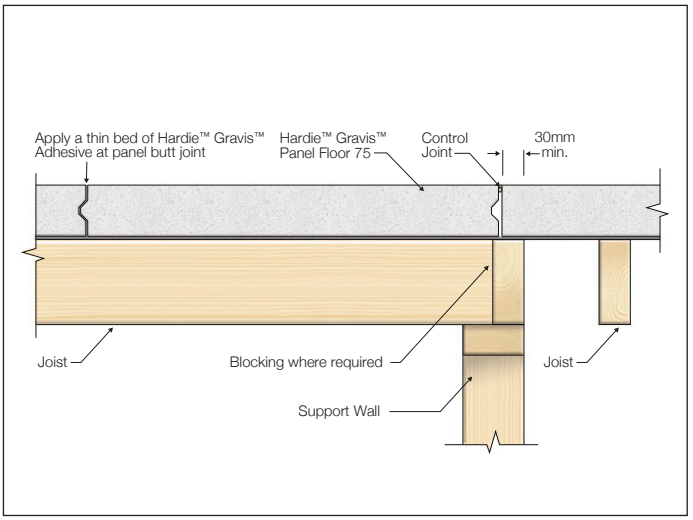


FIGURE 6 CONTROL JOINT LOCATION FOR CHANGE IN JOIST ORIENTATION

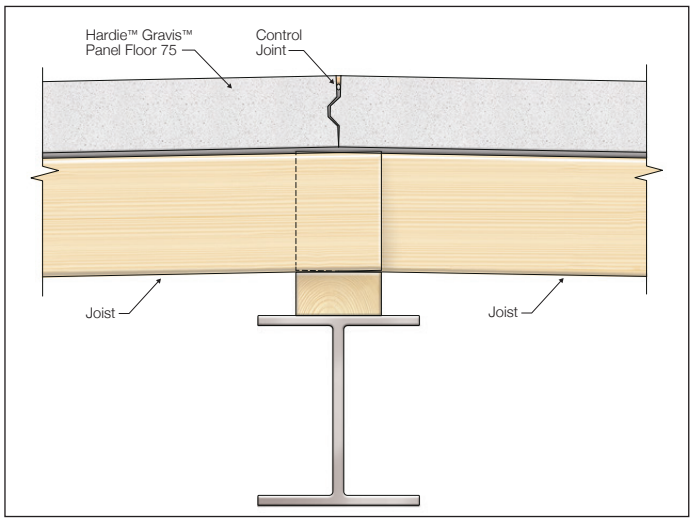


FIGURE 7 CONTROL JOINT LOCATION FOR BEARER OR SUPPORT WALL

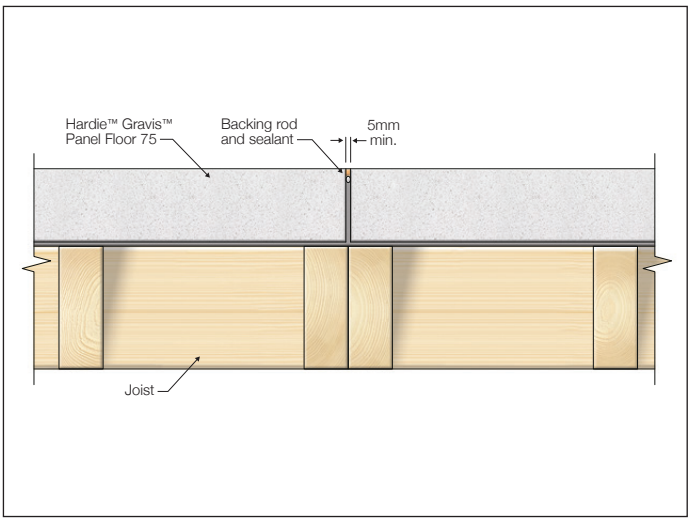


FIGURE 8 UNKEYED CONTROL JOINT

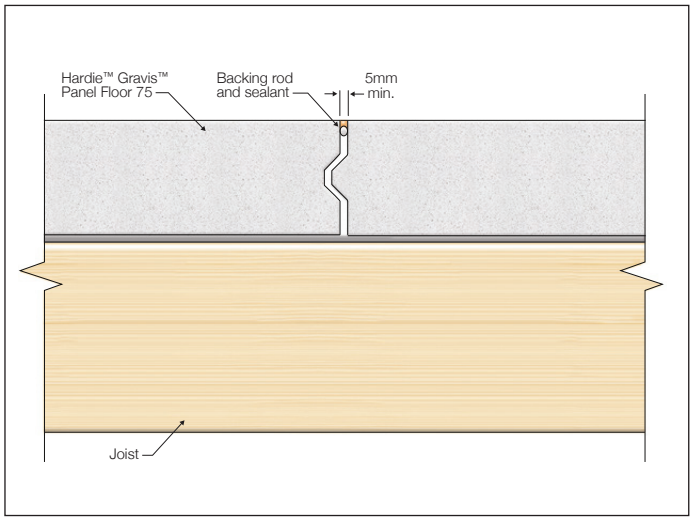


FIGURE 9 KEYED CONTROL JOINT

WALL JUNCTIONS

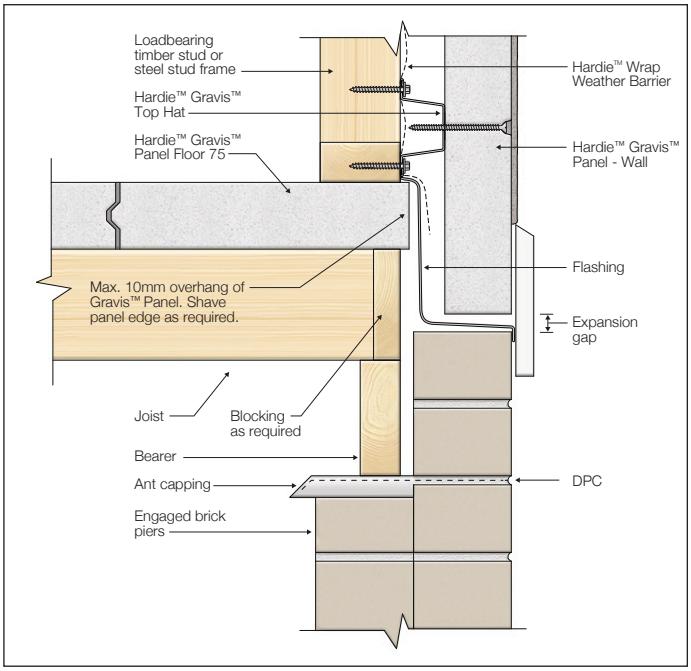


FIGURE 10 EDGE BLOCKING DETAIL BETWEEN JOISTS HARDIE™ GRAVIS™ LOW RISE EXTERNAL WALL SYSTEM

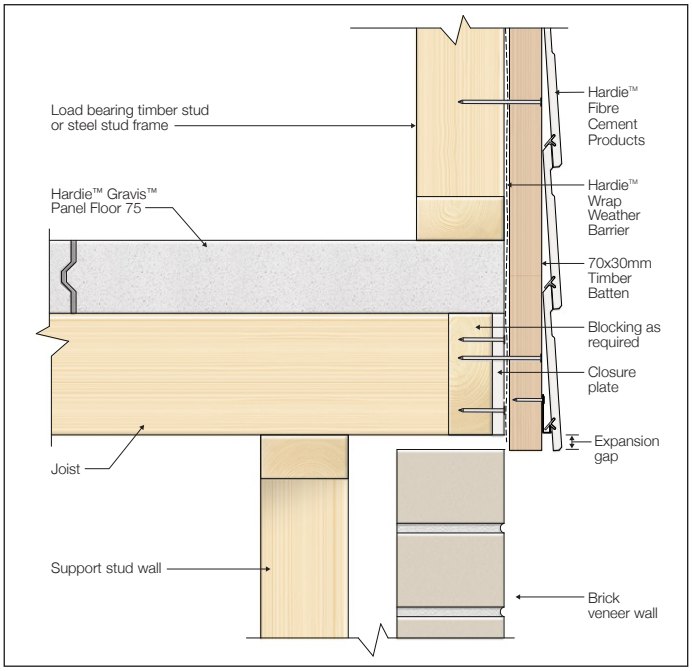


FIGURE 11 FLOOR WITH CANTILEVERED JOIST

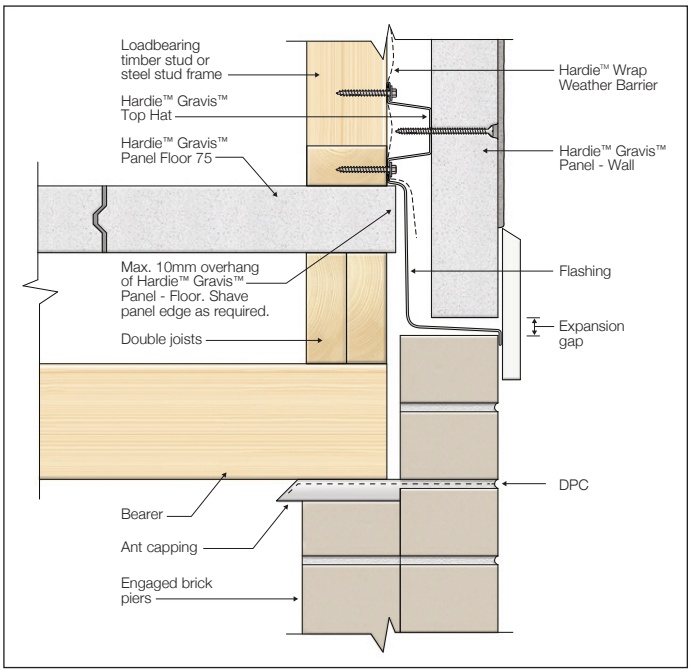


FIGURE 12 FLOOR END SUPPORT

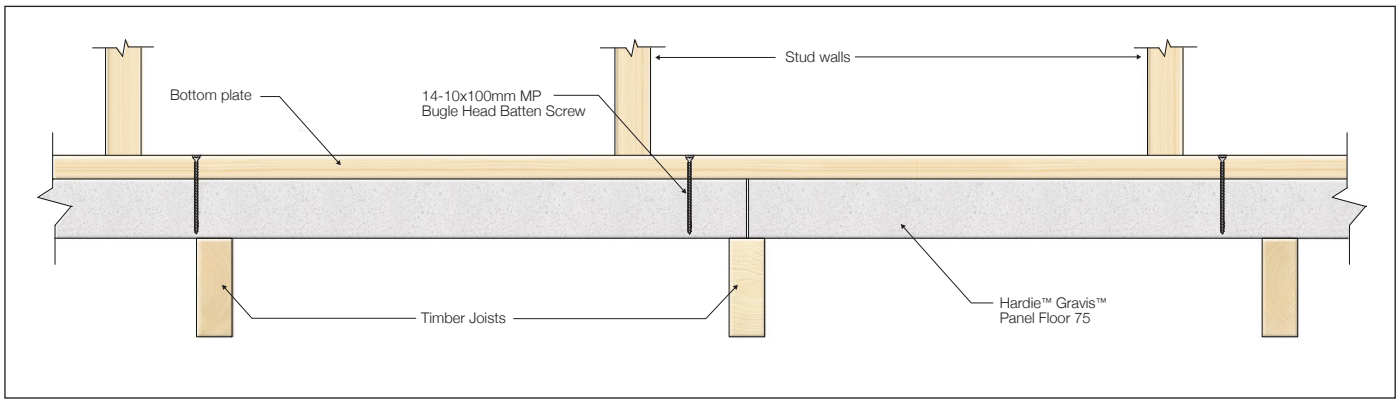


FIGURE 13 BOTTOM PLATE FIXING FROM NON-BRACING WALLS

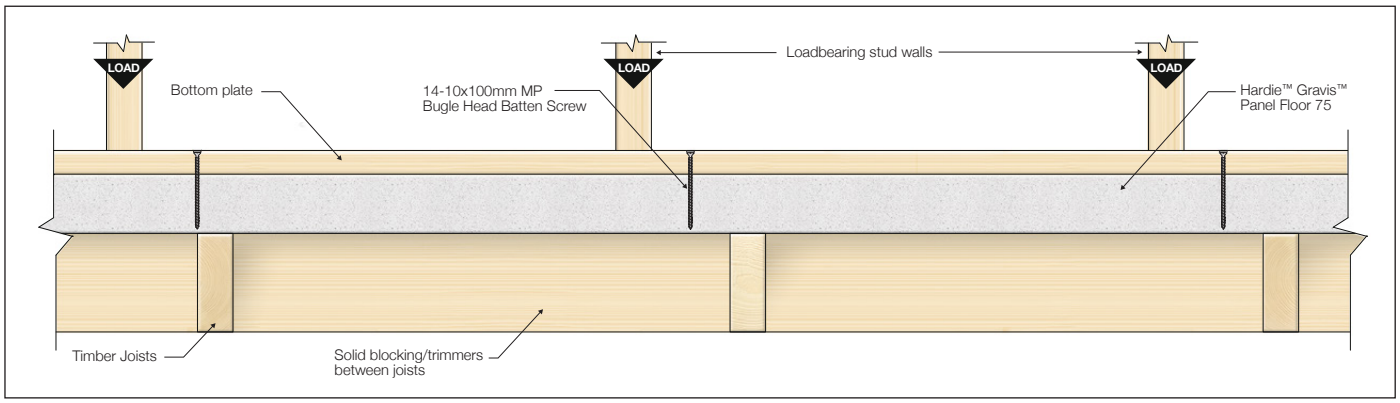


FIGURE 14 JOIST BLOCKING UNDER LOAD BEARING WALLS PERPENDICULAR TO JOISTS

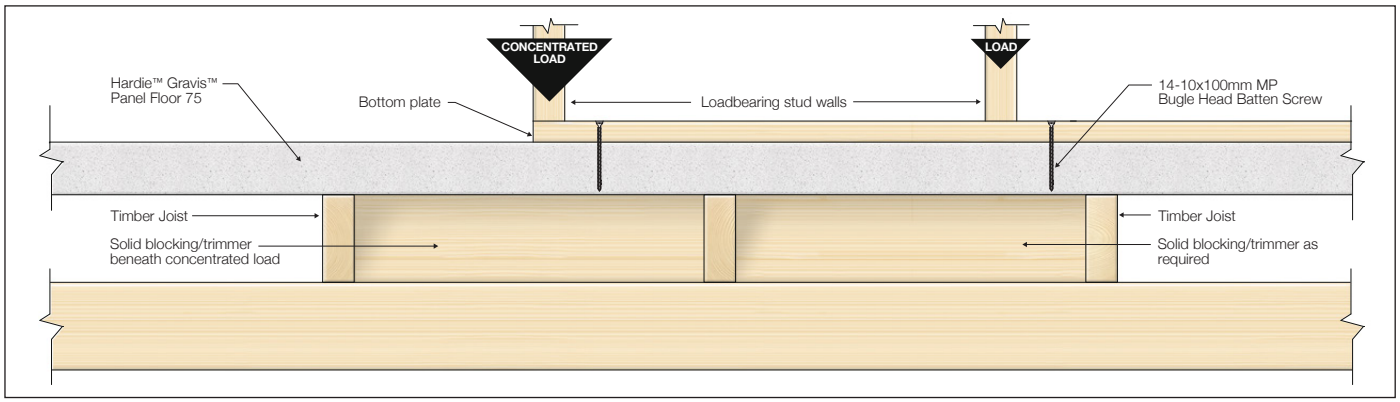


FIGURE 15 BOTTOM PLATE STIFFENING AT CONCENTRATED LOAD

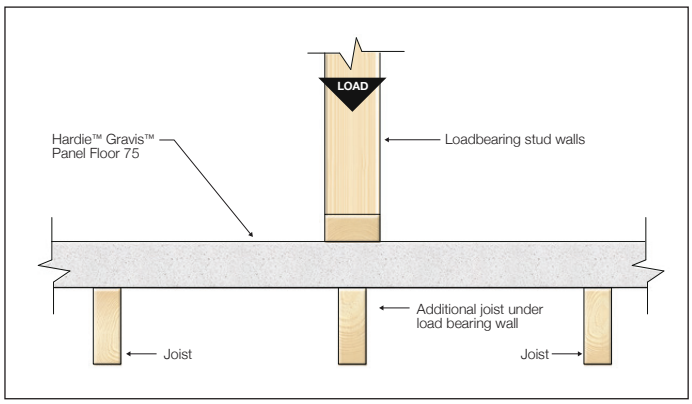


FIGURE 16 ADDITIONAL SUPPORT UNDER LOAD BEARING WALLS PARALLEL TO JOISTS

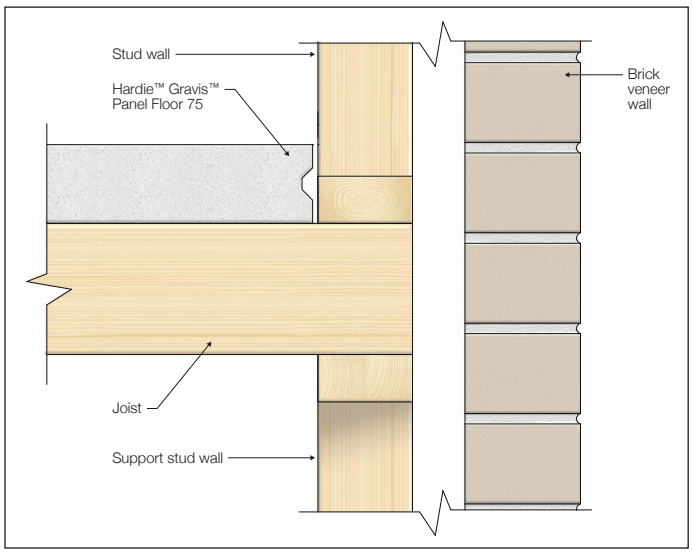


FIGURE 17 FLOOR WITH EXTERNAL LOAD BEARING WALL

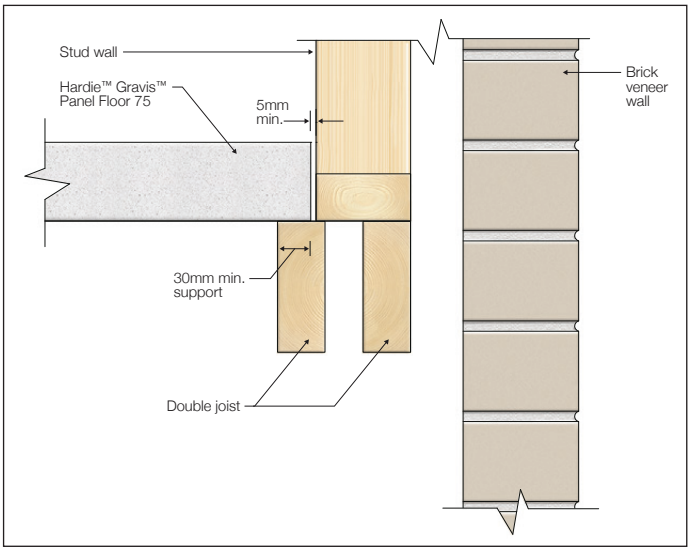


FIGURE 18 FITTED FLOOR END SUPPORT

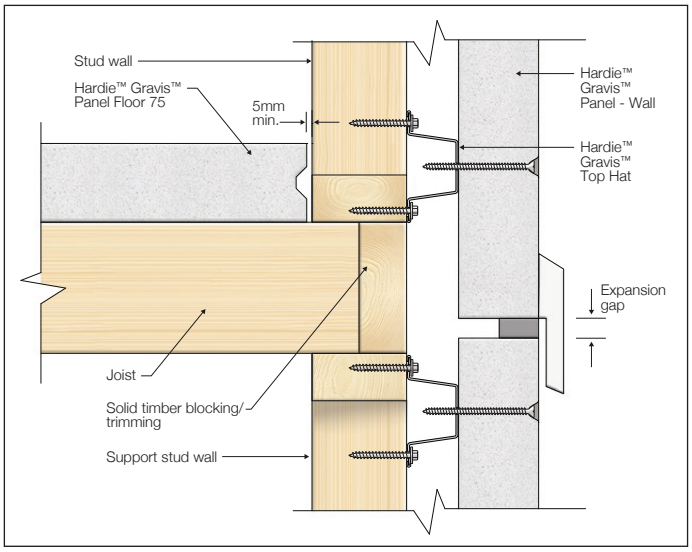


FIGURE 19 FITTED FLOOR BEARING BLOCKING

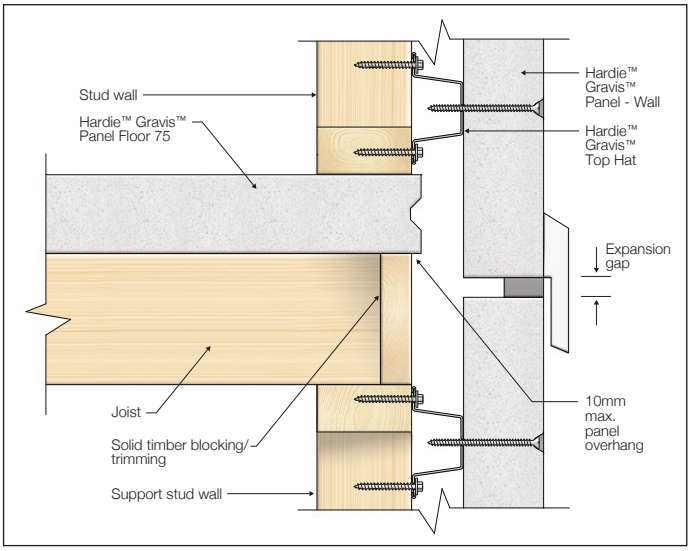


FIGURE 20 PLATFORM FLOOR WITH EXTERNAL LOADBEARING FLOOR

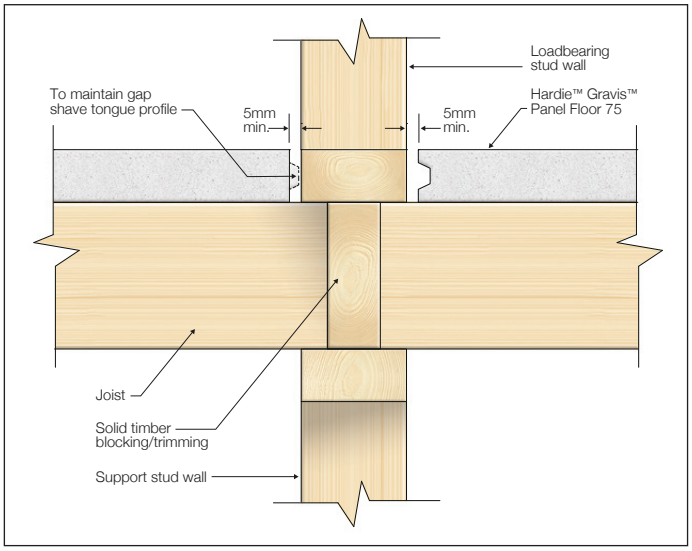


FIGURE 21 FITTED FLOOR WITH INTERNAL LOADBEARING FLOOR

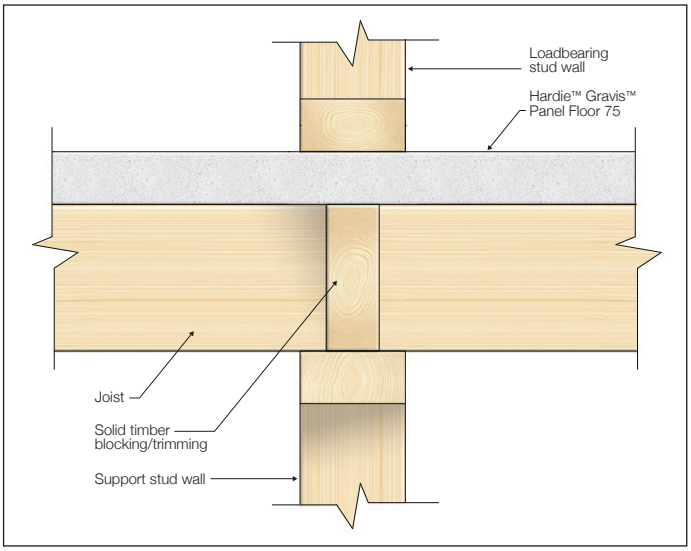


FIGURE 22 PLATFORM FLOOR WITH INTERNAL LOADBEARING WALL

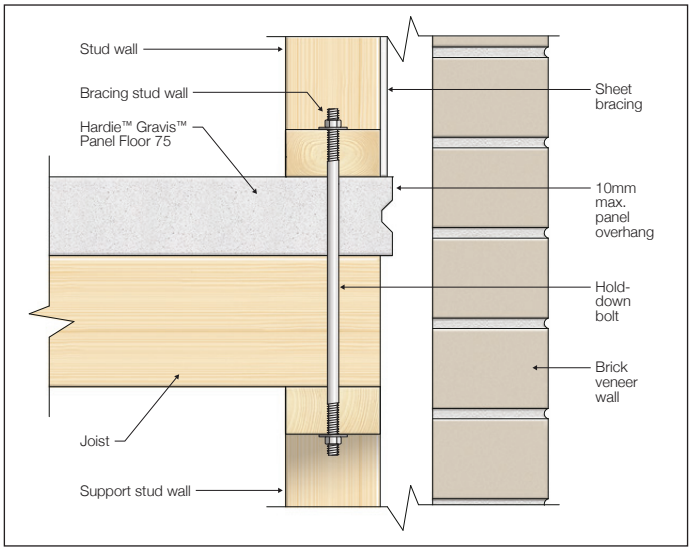


FIGURE 23 FLOOR WITH ANCHORAGE OF EXTERNAL BRACING WALL OVER SUPPORT WALL

BRACING

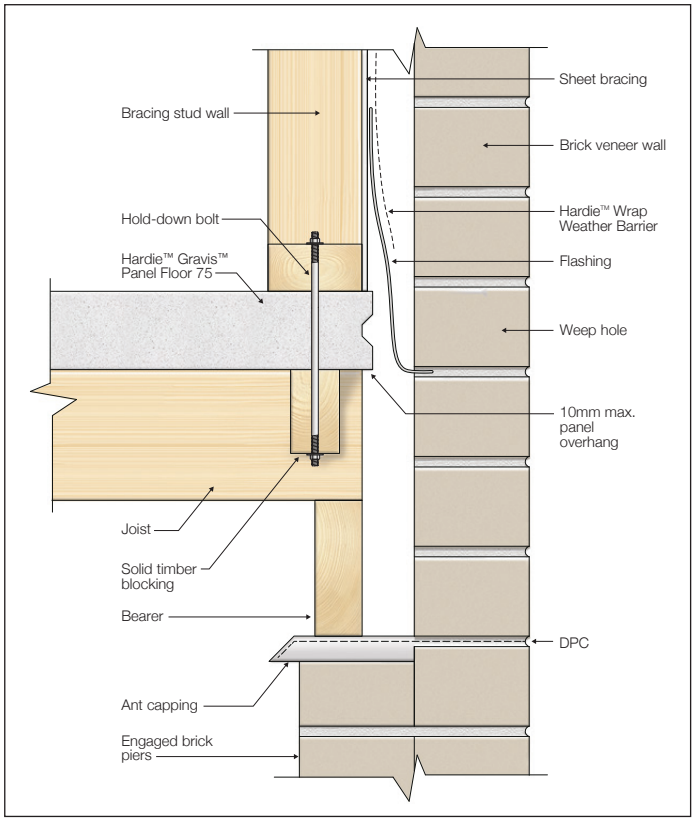


FIGURE 26 FLOOR WITH ANCHORAGE OF EXTERNAL BRACING WALL OVER BEARER

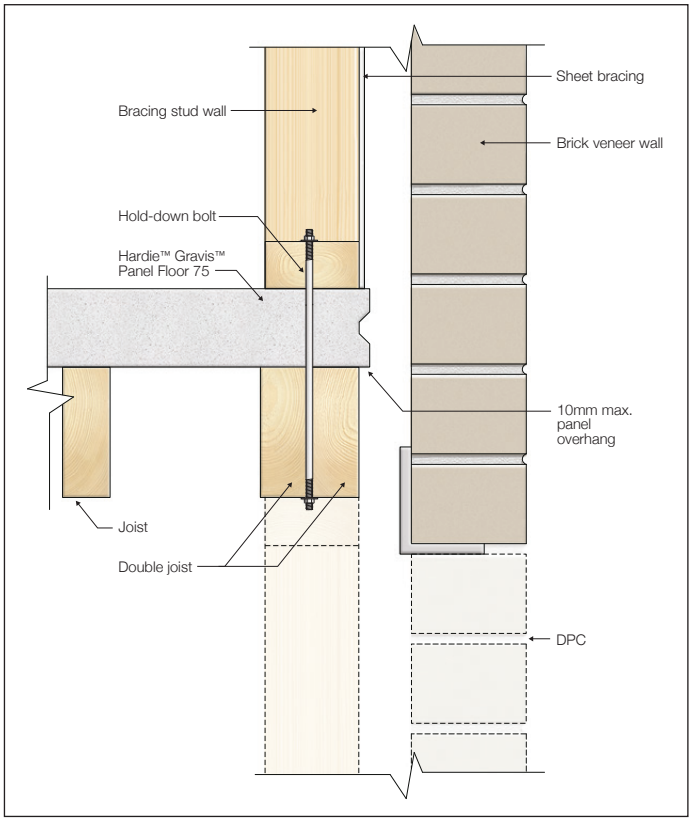


FIGURE 27 FLOOR WITH ANCHORAGE OF EXTERNAL BRACING WALL PARALLEL TO JOISTS

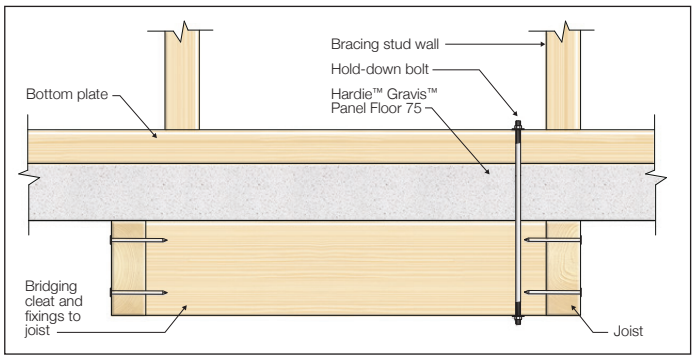


FIGURE 28 FLOOR WITH ANCHORAGE OF INTERNAL BRACING WALL PERPENDICULAR TO JOISTS

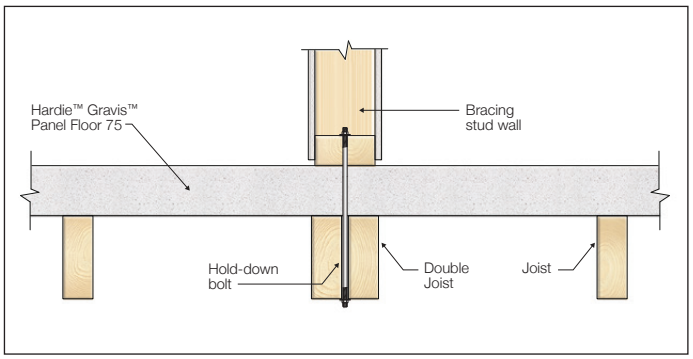


FIGURE 29 FLOOR WITH ANCHORAGE OF INTERNAL BRACING WALL PARALLEL TO JOISTS

PENETRATIONS AND NOTCHING

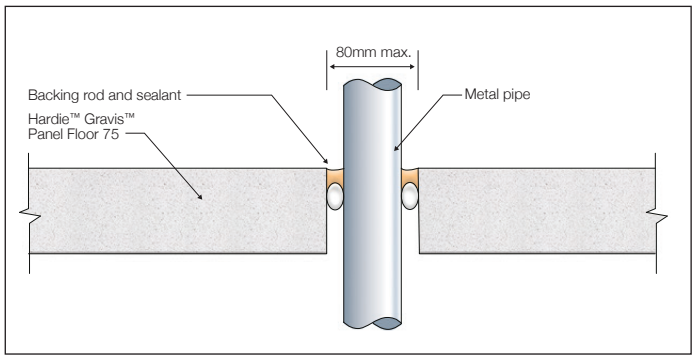


FIGURE 30 FLOOR WITH TYPICAL PENETRATION

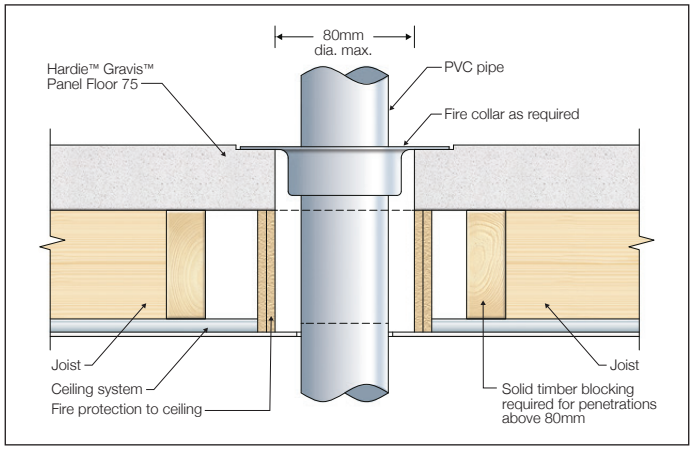


FIGURE 31 FLOOR WITH LARGE PENETRATION AND BLOCKING

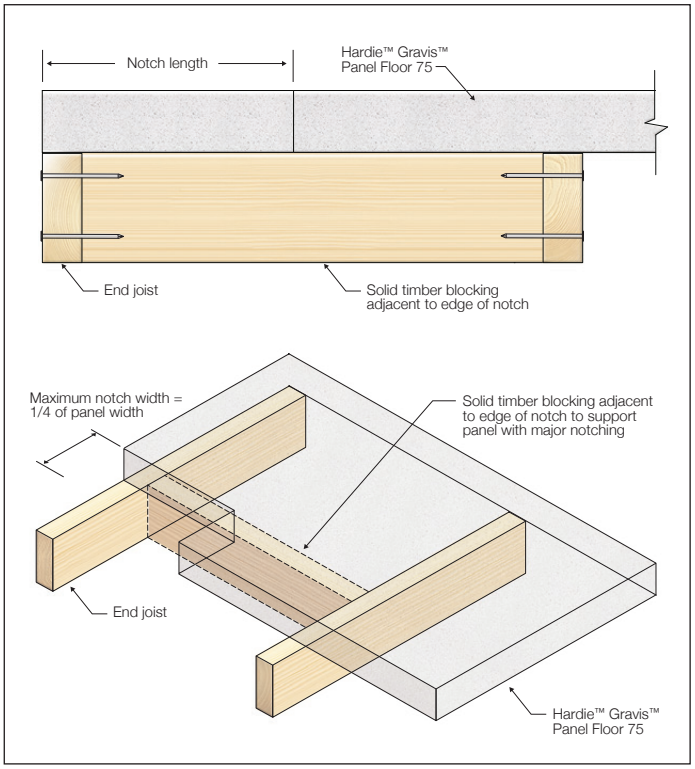


FIGURE 32 FLOOR WITH BLOCKING FOR CORNER NOTCHING

WET AREAS

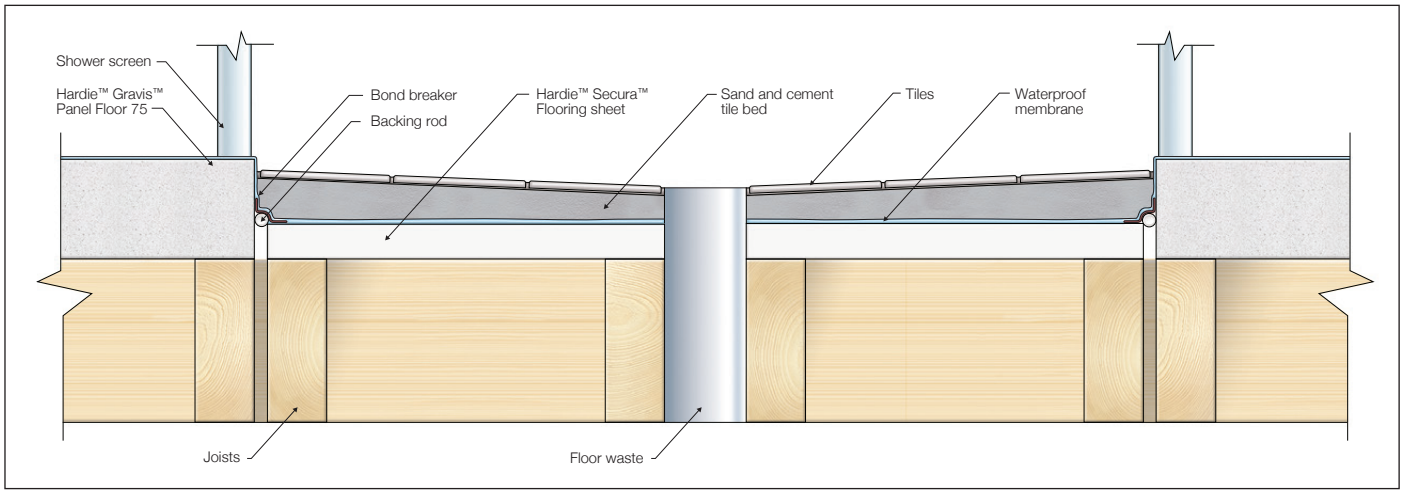


FIGURE 33 FLOOR WITH SHOWER RECESS

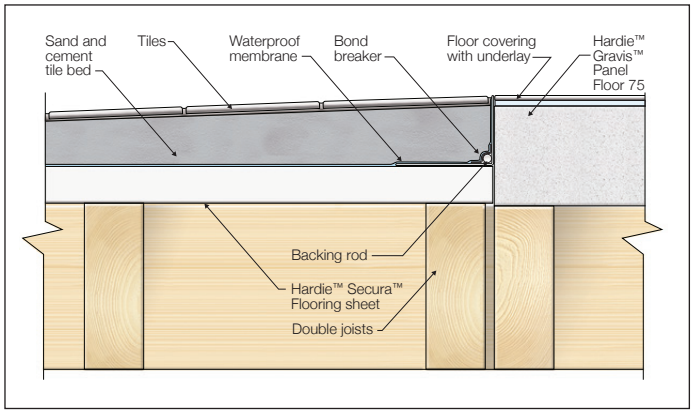


FIGURE 34 TRANSITION FROM WET AREA TO DRY AREA

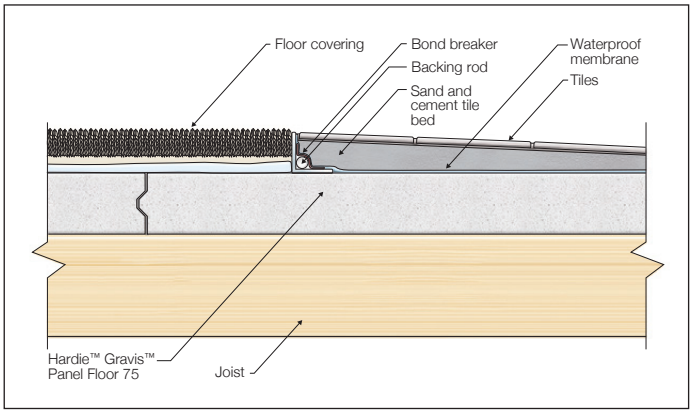


FIGURE 35 FLOOR WITH INSITU-FORMED WET AREA

BALCONIES

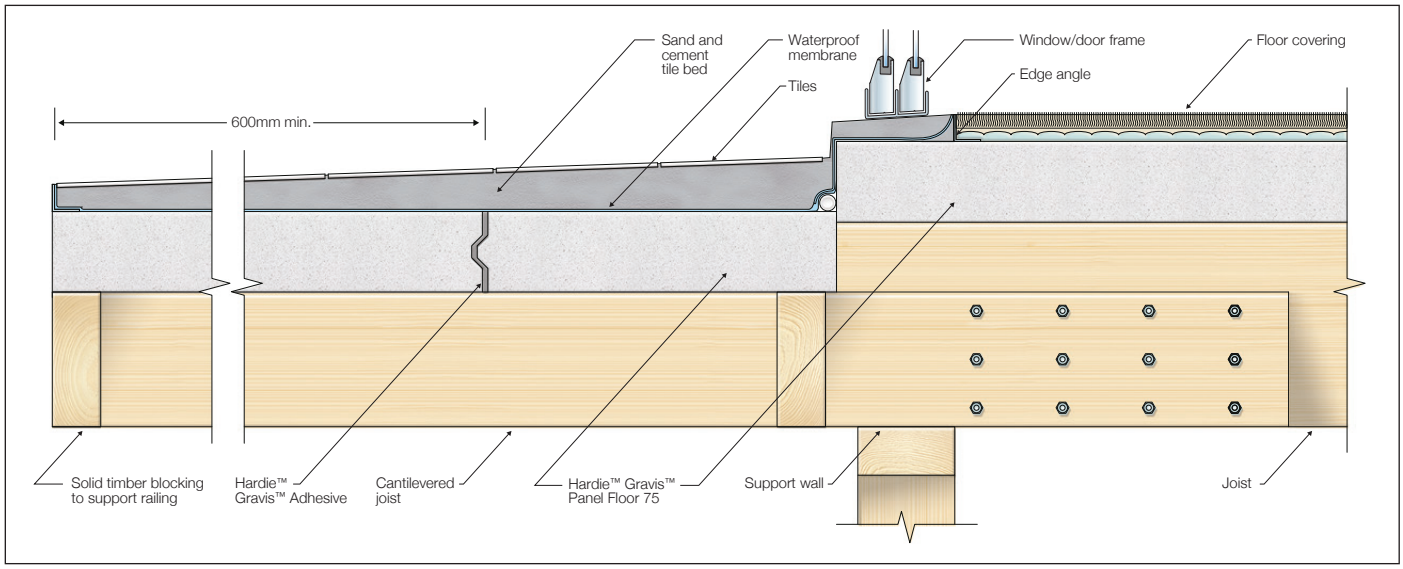


FIGURE 35 FLOOR WITH STEP DOWN BALCONY AND CANTILEVER JOISTS

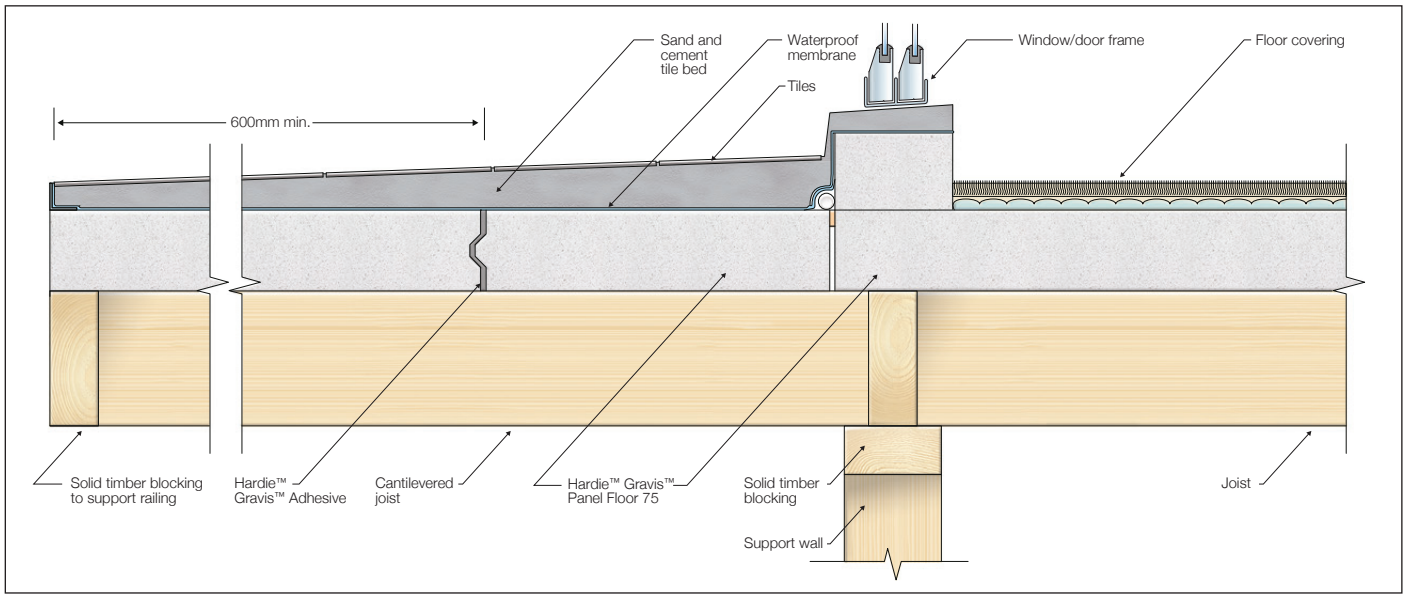


FIGURE 36 FLOOR WITH IN-LINE BALCONY AND CANTILEVER JOISTS

8 Finishes and Maintenance

FINISHES – INTERNAL APPLICATION (AAC FLOORING)

All finishing components must be fully compatible with Hardie™ Gravis™ Panel Floor and warranted for their intended use, including carpets, tiles, vinyl, timber floor coverings, adhesives, waterproofing systems, self-levelling and any other ancillary compounds required for the desired final finish.

PREPARATION

- Ensure Hardie™ Gravis™ Panel Floor is clean, dry and free of dust prior to applying any finish.
- Minor surface irregularities of up to 3mm may be levelled using the Hardie™ Gravis™ Patch and/or other AAC approved levelling compounds.
- Sanding of Hardie™ Gravis™ Panel Floor is not recommended, as it may compromise the surface integrity.
- Ensure the floor surface is structurally sound before laying any flooring system.

WET AREAS

This guide must be read in conjunction with:

- AS 3740 - Waterproofing of Domestic Wet Areas.
- AS 3958.1 - Ceramic Tile Installation.
- The National Construction Code (NCC).

Where tiles or vinyl finishes are used in wet areas:

- Install floor finishes within 3 months of AAC panel installation.
- Use only waterproofing systems and adhesives approved for use over AAC substrates and use in accordance to manufacturer's instructions.
- Ensure detailing at all junctions, penetrations, and edges is completed as per the waterproofing manufacturer's specifications.

FINISHES – EXTERNAL APPLICATION (AAC FLOORING)

All components of the external finish system must be fully compatible and warranted for use with Hardie™ Gravis™ Panel Floor, including tiles, outdoor rated membranes, adhesives, and any associated systems. This section must be read in conjunction with all relevant installation documentation for the selected membrane, tile, adhesive, or finish.

WATERPROOFING

- Only use flexible In-situ membrane (either sheet membrane or water based, AAC approved waterproofing systems that comply with AS 4654.1 – External Above Ground Waterproofing applied to Hardie™ Gravis™ Panel Floor and over tape backing rod.
- Any defects or damage to the membrane must be repaired immediately to maintain system integrity.
- A warranted third party waterproofing system must be applied within 3 months of installing Hardie™ Gravis™ Panel Floor. Keep AAC flooring dry during this period.
- All joints, junctions, edges, and penetrations must be waterproofed and detailed as per the membrane manufacturer's instructions.
- Waterproofing systems must be flexible enough to accommodate differential movement between the Hardie™ Gravis™ Panel Floor and floor coverings.
- Waterproofing should only be installed by a licensed or accredited applicator who can provide a warranty.

TILING – INTERNAL AND EXTERNAL APPLICATION (AAC FLOORING)

- Use a proprietary tile adhesive conforming to ISO 13007.1 Ceramic Tile Adhesives, installed in accordance with AS 3958.1 and the adhesive manufacturer's recommendations.
- Select a flexible adhesive suitable for AAC substrates and the intended environment (indoor, outdoor, or wet area).
- Direct Fixing:
  - Maintain 5 mm control joints between AAC panels.
  - These joints must be carried through the tile finish to act as movement joints.
- Tiling over a Mortar Bed:
  - Hardie™ Gravis™ Panel Floor control joints do not need to align with mortar bed or tile control joints.
- Begin tiling from the control joint outward to ensure cuts fall at the perimeter.
- Confirm compatibility of grout, tile adhesive, waterproofing systems, and all finish elements with Hardie™ Gravis™ Panel Floor and obtain manufacturers' warranties.

CARPET, VINYL & TIMBER FLOORING APPLICATIONS

Carpet

- Carpet and underlay systems must be compatible with AAC flooring.
- Hardie™ Gravis™ Panel Floor must be smooth, clean, and free from dust prior to installation.
- Use adhesives approved for AAC where direct stick is required.

Vinyl

- Vinyl may be installed directly over Hardie™ Gravis™ Panel Floor using:
  - A suitable levelling compound to smooth minor surface imperfections.
  - AAC compatible vinyl adhesives, following manufacturer instructions.
- For wet areas, ensure vinyl and adhesives are compatible with the selected waterproofing system.

Timber Flooring

Timber flooring is susceptible to variations in ambient moisture and temperature. Prior to installation, the timber must be acclimatised on site in accordance with the timber flooring manufacturer's recommendations to ensure it is stabilised to the internal environment.

Where the Hardie™ Gravis™ Panel substrate exhibits elevated moisture levels (greater than 6%), an appropriate moisture-control layer is required. Install a continuous membrane (such as a minimum 200 micron polyethylene sheet) over the panel surface prior to installing the timber flooring. Ensure all joints in the membrane are overlapped and taped to maintain an effective moisture barrier

- Timber, laminate, hybrid, or engineered flooring may be installed over AAC using:
  - A moisture compatible underlay (for floating floors), or
  - Approved Hardie™ Gravis™ Panel Floor adhesives (for direct stick systems).
- Ensure timber flooring systems consider thermal and moisture related movement.

MAINTENANCE

- Regularly clean the finished floor surface and maintain all joints, junctions, edges, and penetrations.
- Keep floor surfaces free of debris and organic material.
- Remove solvent spills immediately with absorbent materials to prevent damage.
- Protect all exposed waterproofed areas from impact or prolonged moisture exposure.
- Any damage to the finish, membrane, or underlying AAC system must be repaired immediately to maintain waterproofing and structural integrity.

9 Product Information

MATERIAL

Hardie™ Gravis™ Panel are a **reinforced autoclaved aerated concrete (AAC)**, a form of lightweight concrete.
AAC is made from a mix of cement, sand, lime, gypsum, water, and an expanding agent. The mix is poured into molds, then **autoclaved** for increased performance. Hardie™ Gravis™ Panel conforms to the Australian Standard for Reinforced Autoclaved Concrete (AAC), AS 5146.

Durability

The overall durability of the system can be improved by adopting Class 4 corrosion-resistant fixings, applying supplementary protective coatings to steel elements, and ensuring all exposed sealants receive the appropriate finishing coats per the manufacturer's instructions.

It is the designer's responsibility to specify corrosion-resistant screws, top-hat battens, and other steel fittings that can withstand the environmental conditions and maintain structural performance throughout the project's design life.

Guidance for durability considerations may be drawn from the ABCB Durability Guideline (2003), AS/NZS 2312:2002 for protective steel coatings, the AS 2331 corrosion-testing series, AS 3566:2002 relating to corrosion-resistant fasteners, and ISO 9223:1992, which classifies atmospheric corrosivity for metallic materials.

Resistance to Fire

Hardie™ Gravis™ Panel can be exposed to fire loading originating from either external fire sources—such as adjacent structures, boundary fires, or bushfire conditions—or internal fire sources within the building itself. In situations where the wall assembly is required to achieve a specific Fire Resistance Level (FRL), the wall must be designed, detailed, and constructed using the appropriate system components and installation methods to ensure compliance with the nominated FRL rating.

This includes verifying that all elements of the system—such as framing, lining materials, fixings, penetrations, joints, and sealants—are compatible with the certified fire-tested configuration and are installed in accordance with the manufacturer's requirements and relevant fire engineering principles. Ensuring full alignment with the tested system is essential to maintain the wall's structural adequacy, integrity, and insulation performance under fire conditions.

Resistance to Termite Attack

Termite protection requirements differ across states and territories, and as such, the construction details provided in this guide do not attempt to address all possible scenarios. It is the builder's responsibility to ensure that the design and construction of the house comply with all relevant council requirements and the National Construction Code (NCC) for termite risk management. NCC Volume 2 outlines the applicable termite management provisions and references AS 3660 as the governing standard. Because Hardie™ Gravis™ Panel is resistant to damage from termites, they are well suited to use as part of a termite management system subject to that system being suitable for the specific project and compliant with the relevant requirements of the NCC.

STORAGE AND HANDLING

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

All design and construction must comply with the appropriate requirements of the current National Construction Code (NCC) and other applicable regulations and standards.

For information and advice call 13 11 03 | jameshardie.com.au

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