DuraPlan
— SYSTEMS LTD —

Duralam Linings

Construction Manual

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Contents

Please note: This manual is intended as a guide, providing suggested construction details for installing Duraplan compact laminate prefinished wall linings. It is provided as a reference only, recognising that experienced architects and qualified builders may have their own preferences and methodologies for installing prefinished linings. The details, comments, and advice contained here are suggestive in nature, and the specific circumstances of each project and installation must be carefully considered.

01
Pre-Installation Checks

1. Pre-Installation Checks

a. Material Verification
- Confirm correct panel thickness (3mm or 6mm) and colour/finish against approved samples.
- Inspect panels for flatness, edge damage, or surface defects before cutting or installation.

b. Site Environment
- Ensure area is dry, clean, and weather-protected — compact laminate will expand/contract slightly with temperature and humidity.
- Temperature ideally between 18–25°C during install.
- Allow panels to acclimatise for 24–48 hours on site before fixing.

c. Substrate & Frame Readiness
- Verify that framing or substrate (timber, aluminium, or steel) is:
  - Straight, true, and rigid within tolerance (±2 mm over 2 m).
  - Free of contaminants (dust, oil, moisture).
  - Properly fixed and aligned according to shop drawings.
- Check set-out and reference lines to ensure accurate panel layout.

2. Fixing System and Detailing

a. Fixing Method Confirmation
- Verify correct system:
  - Concealed clip system, screw fix, or adhesive bond.
- Ensure compatible fasteners and adhesives approved by the panel manufacturer.

b. Fixing Spacing & Movement Allowance
- For 3 mm: closer fixings (approx. 300 mm centres) due to lower stiffness.
- For 6 mm: can span slightly more, but still requires even support.
- Always allow for thermal expansion (approx. 2–3 mm/m) — use oversized holes or slotted fixings.
- Never rigidly fix all points; allow the panel to move.

c. Edge Sealing / Detailing
- Ensure edges are sealed or capped where exposed to moisture or cleaning chemicals.
- Maintain minimum 10 mm clearance from wet floors or horizontal surfaces to avoid capillary moisture absorption.
- Avoid sharp internal corners — use radiused or relieved corners to prevent stress cracking.

01
Pre-Installation Checks

3. Installation Execution Checks

- Handle panels with clean gloves to avoid surface contamination.
- Use suction cups or padded carriers — avoid sliding panels across each other.
- Confirm correct orientation of decorative face (especially if directional grain).
- Maintain consistent joint width and alignment across the installation.
- Use spacers during install to maintain joint accuracy and movement gaps.

4. Adhesive and Mechanical Fixing QA

- If using adhesive:
  - Check manufacturer's open time, cure time, and humidity tolerance.
  - Ensure full coverage but avoid bleed-through at joints.
  - Use approved contact adhesives or structural silicones as per spec.
- If using screws or rivets:
  - Verify correct head type and torque setting (not over-tightened).
  - Use non-corrosive materials (e.g., stainless steel).

5. Post-Installation & Finishing Checks

- Inspect for:
  - Surface scratches, edge chips, or adhesive residue.
  - Consistent panel alignment and joint spacing.
  - Secure fixings with no movement or drumming.
- Remove all protective films only once all trades are clear.
- Clean with manufacturer-approved non-abrasive cleaner.

6. Documentation and Sign-Off

- Verify installation matches approved shop drawings and manufacturer guidelines (e.g., Laminex, Greenlam, or Trespa specs).
- Complete a checklist including:
  - Material verification
  - Site condition photos
  - Fixing method confirmation
  - Alignment and finish inspection
- Obtain installer and supervisor sign-off before handover.

01
Pre-Installation Checks

Installation Planning and Preparation

To ensure a successful and durable installation of 3mm or 6mm compact laminate panels, the following key checks and controls must be in place:

- Joinery & Adhesives:
- Confirm that all joiners, adhesives, and fixing systems are correct, compatible with compact laminate, and approved for the intended application.
- Installation Plan:
- Establish a clear, sequenced installation plan that outlines panel order, fixing method, and coordination with other trades to avoid rework or damage.
- Thermal Movement & Expansion Joints:
- Allow appropriate expansion joints and clearances to accommodate panel movement caused by temperature and humidity changes. Fixings should permit expansion rather than restrain it.
- Temporary Propping & Support:
- Ensure panels are adequately supported and solidly propped during installation and curing to prevent stress, bowing, or surface distortion before final fixings or adhesives have set.

02
Product Details - Characteristics

About the Product

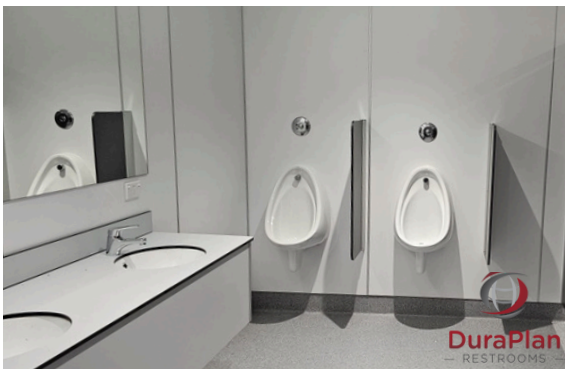
Compact laminate is a very versatile and durable panel product that can be used in a variety of applications, particularly for interior surfaces where strength, resistance to wear, resistance to impact, and hygiene are important. Compact laminate is a high-pressure laminate (HPL) made from layers of kraft paper which are impregnated with resins and bonded together under high pressure and temperature.

- **Strength and Durability** – Compact laminate is renowned for its exceptional strength and durability. It can withstand heavy loads and is resistant to impact, scratches, and abrasion.
- **Water and Moisture Resistance** – Highly resistant to water and moisture, compact laminate is suitable for use in wet environments such as bathrooms, kitchens, and swimming pool surrounds.
- **Chemical Resistance** – Compact laminate resists a wide range of chemicals, making it an ideal choice for laboratories, medical facilities, and industrial settings.
- **Decorative Options** – Available in a broad array of colours, patterns, and textures, compact laminate allows for aesthetic customization. It can mimic the appearance of natural materials such as wood or stone.
- **Hygienic Properties** – Surfaces are easy to clean and maintain, and do not support bacterial growth, making compact laminate suitable for healthcare and food preparation areas.
- **Fire Resistance** – Depending on the specific product and composition, compact laminate offers good fire resistance properties. Duralam has a class 3 fire rating certificate tested by Branz.

02
Product Details - Applications

Duralam compact laminate is a versatile material used in a variety of applications due to its durability, aesthetic appeal, and functional properties. Here are some of its wide-ranging applications:

- Bathroom, shower wall, and ceiling linings
- Laundry and kitchen splashbacks
- Commercial, industrial, and healthcare spaces
- Schools
- Corporate
- Healthcare
- Sports and Rec
- Commercial
- Hospitality
- Public Facilities



03
Building Regulations & NZBC Compliance

The New Zealand Building Code (NZBC)

The Duraplan DuraLam wall lining system, when designed, installed according to the specifications, and maintained as outlined in the construction manual and system guidelines, will fulfil and/or support compliance with the relevant NZBC clauses.

B1 Structure Clause:

- Performance B1.3.1, B1.3.2, and B1.3.4 – The DuraLam system meets the requirements for loads arising from self-weight and impact.
- Maintain documentation proving that the compact laminate and its installation comply with durability requirements. This includes certificates, installation manuals, and maintenance records.
- Regular maintenance, as per the manufacturer's recommendations, is essential. Proper care ensures the laminate remains in good condition and continues to meet durability standards.
- Compact laminate is expected to exceed a lifespan of 15 years or more under normal standard conditions.

B2 Durability Clause:

- Performance B2.3.1 (b) – 15 Years and B2.3.1 (c) – 5 Years – The DuraLam Wall Panel System complies with these durability requirements, ensuring it meets the standards for both the 15-year and 5-year performance criteria outlined in the NZBC.

Maintenance and Cleaning:

- To clean the surface, use a damp cloth or a melamine sponge. Mild soap or detergent may be used if necessary.
- For stubborn stains (e.g., coffee or tea), a mild household cleaner or detergent and a soft bristle brush can be used, repeating as needed.
- All joiners and aluminium mouldings should be cleaned regularly, particularly in areas prone to moisture accumulation. Routine maintenance helps preserve the condition of these components and ensures that surfaces and joints remain impervious to moisture.

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Building Regulations & NZBC Compliance

C2 Prevention of Fire – Performance C3.4: Surface Materials

The DuraLam system is deemed suitable for use as a surface material, having been tested and evaluated in accordance with NZBC Verification Method C/VM2, as per below, and AS 5637.1:2015. The tested sample achieved a Group 3 classification.

- See next page in this report for reference - Figure 1.

E3 Internal Moisture Clause – Performance E3.3.4, E3.3.5, and E3.3.6

The DuraLam Wall Panel System complies with, or contributes to the compliance of, these performance requirements:

- E3.3.4 & E3.3.5 – DuraLam linings have been tested under EN 438-2:2016-02, demonstrating resistance and imperviousness to water, moisture, and vapour. The hard surface is easy to clean and maintain, preserving visual appearance.
- E3.3.6 – When installed according to the provided technical details, DuraLam meets the requirement that surfaces likely to be splashed must prevent water from penetrating behind linings or into concealed spaces. Detailed construction guidelines are provided in the technical guide.

- See technical details in report below and request copy of EN 438-4:2016

Additionally, the DuraWall system is suitable for installation adjacent to appliances and facilities, meeting the requirements specified by NZBC Acceptable Solution G3/AS1:

- Paragraph 1.6 – Wall linings in domestic facilities.
- Paragraph 2.1.5 – Wall linings in commercial and industrial facilities.

https://www.building.govt.nz/assets/Uploads/building-code-compliance/g-services-and-facilities/g3-food-preparation-and-prevention-of-contamination/asvm/g3-food-preparation-prevention-contamination-1st-edition-amendment2.pdf

03
Building Regulations & NZBC Compliance

Figure 1*

FH18049-01-1-C1
GROUP NUMBER CLASSIFICATION

BRANZ

This is to certify that the specimens described below were tested in accordance with ISO 5660 by BRANZ for determination of Group Number classification.

Test Sponsor

Duraplan Systems Ltd
6 Springs Flat Road
Whangarei 0112
New Zealand

Date of tests

7th November & 19th December 2023

Reference BRANZ Test Report

FH18049-01-1 – 24 January 2024

Test specimens as described by the client:

DuraLam Antibacterial Compact Laminate

Compact Laminate in nominally 3 mm and 6 mm thicknesses in Designer White, Classic Grey and Silver, supplied adhered to 10 mm plasterboard by the test sponsor.

Specimen ID	Mass (g)	Thickness (mm)	Apparent Density (kg/m³)	Colour	Indicative Group Number
FH18049-1-50-1	175.6	15.8	1111	White	Group 3
FH18049-2-50-1	180.4	16.2	1114	Silver	Group 3
FH18049-3-50-1	137.0	13.2	1038	White	Group 3
FH18049-4-50-1,2,3	137.1*	13.2*	1039*	Silver	Group 3

Notes: *mean values for replicate test samples.

Group Number Classification in accordance with the New Zealand Building Code and NCC Australia The specimens were deemed suitable for testing and calculations were carried out in accordance with NZBC Verification Method C/VM2 Appendix A and AS 5637.1:2015. Classification for the sample as described above is given in the table below.

Building Code Document	Classification
NZBC Verification Method C/VM2 Appendix A	Group Number 3
NCC 2022 Volume One Specification S7C4 determined in accordance with AS 5637.1:2015	Group Number 3

Issued by

L. M. Grant
Associate Fire Testing Engineer
BRANZ

Issue Date
24 January 2024

Reviewed and authorised for release by

E. Soja
Senior Fire Safety Engineer
BRANZ

Regulatory authorities are advised to examine test reports before approving any product.

All tests and procedures reported herein, unless indicated, have been performed in accordance with the laboratory's scope of accreditation

03
Building Regulations & NZBC Compliance

Figure 2

Property	Variant	Results	Requirements according to EN 438-4:2016-02 Table 3* Laminate CGS	Laminate CGF
Resistance to surface wear (EN 438-2:2016-02, p. 10)		*revolutions until IP (min)*	*≥ 150*	*≥ 150*
	2	**> 400**	**fulfilled**	fulfilled
Resistance to immersion in boiling water (EN 438-2:2016-02, p. 12)		*mass increase: % (max): 2 mm ≤ t < 5 mm*	*5,0*	*7,0*
		t ≥ 5 mm	***2,0***	***3,0***
		thickness increase: % (max): 2 mm ≤ t < 5 mm	*6,0*	*9,0*
		t ≥ 5 mm	***2,0***	***6,0***
		Appearance gloss finish	*≥ Grade 3*	*≥ Grade 3*
		other finishes/	*≥ Grade 4*	*≥ Grade 4*
		edge rating (min):	*≥ Grade 3*	*≥ Grade 3*
	2	**mass increase: 0,5 %** **thickness increase: 0,9 %** **Appearance: Grade 5 / 5**	**fulfilled**	fulfilled
Resistance to water vapour (EN 438-2:2016-02, p. 14)		*Surface gloss finish /*	*≥ Grade 3*	*≥ Grade 3*
		other finishes	*≥ Grade 4*	*≥ Grade 4*
	2	**Grade 4**	**fulfilled**	fulfilled
Resistance to dry heat (160 °C) (EN 438-2:2016-02, p. 16)		*Surface gloss finish/*	*≥ Grade 3*	*≥ Grade 3*
		other finishes	*≥ Grade 4*	*≥ Grade 4*
	2	**Grade 5**	**fulfilled**	fulfilled
Dimensional stability at elevated temperature (EN 438-2:2016-02, p. 17)		*cumulative dimensional change*		
		2 mm ≤ t < 5 mm: longitudinal L: % (max)	*0,40*	*0,40*
		transversal T: % (max)	*0,80*	*0,80*
		t ≥ 5 mm: *longitudinal L: % (max)*	***0,30***	***0,30***
		transversal T: % (max)	***0,60***	***0,60***
	2	**L: 0,10 %**	**fulfilled**	fulfilled
		T: 0,30 %	**fulfilled**	fulfilled
Resistance to wet heat (100 °C) (EN 438-2:2016-02, p. 18)		*Surface gloss finish /*	*≥ Grade 3*	*≥ Grade 3*
		other finishes	*≥ Grade 4*	*≥ Grade 4*
	2	**Grade 5**	**fulfilled**	fulfilled
Resistance to impact with a large diameter ball (EN 438-2:2016-02, p.21)		*Drop height [mm]*		
		2 mm ≤ t < 6 mm	*≥ 1400*	*≥ 1400*
		t ≥ 6 mm	***≥ 1800***	***≥ 1800***
	2	**> 1800**	**fulfilled**	fulfilled
		smooth surface /	*≥ Grade 2*	*≥ Grade 2*
		structured surface	*≥ Grade 3*	*≥ Grade 3*

03
Building Regulations & NZBC Compliance

Figure 2

Property	Variant	Results	Requirements according to EN 438-4:2016-02 Table 3*	
			Laminate	
			CGS	CGF
Resistance to scratching (EN 438-2:2016-02, p. 25)	2	Grade 4	**fulfilled**	fulfilled
Resistance to staining (EN 438-2:2016-02, p. 26)		*Appearance Group 1 and 2/ Group 3*	*5 and 5 / 4 - 4 - 4*	*5 and 5 / 4 - 4 - 4*
	2	5 and 5 / 5 - 5 - 5	**fulfilled**	fulfilled
Light fastness (EN 438-2:2016-02, p. 27)		*Contrast Grey scale*	*4 – 5*	*4 – 5*
	2	4 - 5	**fulfilled**	fulfilled
Modulus of elasticity (EN ISO 178:2019)		*MPa (min) parallel to long side of panel parallel to short side of panel*	*≥ 9000/ ≥ 9000*	*≥ 9000/ ≥ 9000*
	2	11554 MPa / 9686 MPa	**fulfilled**	fulfilled
Bending strength (EN ISO 178:2019)		*MPa (min) parallel to long side of panel/ parallel to short side of panel*	*≥ 80 / ≥ 80*	*≥ 80 / ≥ 80*
	2	108,4 MPa / 90,7 MPa	**fulfilled**	fulfilled
Density (EN 323:1993)		*g/cm3*	*≥ 1,35*	*≥ 1,35*
	2	1,36	**fulfilled**	fulfilled

* Statements on conformity assessment/classification were made on the basis of the measurement results obtained. Measurement uncertainties were not included in the assessment (ILAC G8 03/2009 "Guidelines on the Reporting of Compliance with Specification" Section 2.7).

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Construction Details

Release of compact laminate from the wall - post installation

There are a few reasons why 3mm or 6mm compact laminate panels might pop off from the wall at the base over time:

- **Improper Adhesive or Fixings:** If the adhesive or fixings used to attach the laminate to the wall weren't strong enough or properly applied, the laminate could slowly detach. Over time, vibrations, temperature fluctuations, or even minor shifts in the wall could cause the bond to weaken.

- **Expansion and Contraction:** Compact laminate can expand and contract with temperature and humidity changes. If there's insufficient allowance for this expansion (especially near the base), the laminate could push against the wall, causing it to lift or pop off.

- **Wall Surface Issues:** If the wall wasn't perfectly flat or smooth, the laminate might not have adhered properly in the first place. Over time, the stress of being poorly adhered to an uneven surface could cause it to loosen or detach at certain points, especially at the base where pressure tends to accumulate.

- **Moisture or Water Exposure:** If the laminate is installed in an area prone to moisture (like bathrooms or kitchens), this could weaken the adhesive or cause the laminate material to expand or warp. This could create gaps or force the panel off the wall.

- **Improper Installation:** If the laminate was installed without enough support along the edges or base, gravity could eventually cause it to pull away from the wall, particularly if it's installed as a large, unsupported panel.

- **Aging of Materials:** Over time, adhesives and fixings can degrade, especially if exposed to changing environmental conditions (temperature, humidity, etc.). This could cause the panel to slowly detach at the base.

Ensuring proper installation techniques, using the right adhesive, and considering the wall's condition can help prevent this issue from occurring.

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Construction Details

Does compact laminate expand and contract when installed on walls?

Yes, compact laminate can expand and contract, even when installed on walls. Like most materials, compact laminate is affected by changes in temperature and humidity. While it's generally more stable than wood or MDF, it still has some degree of expansion and contraction. This is particularly noticeable in environments with significant temperature or humidity fluctuations, like bathrooms, kitchens, or areas near windows.

When compact laminate expands or contracts, it can potentially cause issues like gaps or buckling if the material is installed without leaving enough room for this natural movement. To mitigate this, installers often leave a small gap around the edges of the laminate (including at the base) to allow for any expansion or contraction. Properly selecting adhesives that can accommodate this movement and ensuring the wall is level and smooth also help prevent problems over time.

If compact laminate is fixed too tightly to the wall without considering these factors, the material might push or pull away from the surface as it expands and contracts. So, it's essential to account for these movement allowances during installation.

04
Construction Details

DuraLam Wet Area Installation Guide - Figure 3

STEP 1

- Floor vinyl or painted wall coating system up the wall, fix vent strip on the wall at 185mm from floor (FFL)

STEP 2

- Cove floor vinyl or floor coating system 260mm up the wall, fix vent strip on to the wall at 185mm from the floor.

STEP 3

- Staple fix building paper on to studs overlapping the vent strip.

STEP 4

- Fix 18 x 40mm treated battens vertically, the full length of the sheet, fix every 400mm at 600mm centres
- Ensure walls are flush-packing and/or planning may be required
- The back of the batten will need to be checked out at the base to allow for the vent strip and vinyl

STEP 5

- Fix in place, first piece of aluminium extrusion profile.

STEP 6

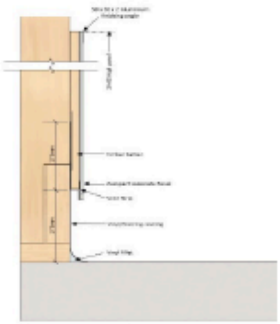
- Dry Fit each sheet to ensure it fits prior to fixing adhesive.
- Compact Laminate can be cut using fine tipped Tungsten tooling.

STEP 7

- Wipe down each batten to ensure free from dust and debris, maybe required to apply activator/cleaner to ensure maximum bond.

STEP 8

- Apply full height stripe of double-sided tape on the side/edge of each batten.



STEP 9

Apply a continuous 15-20mm bead of adhesive - Ensure bead is clear of the edge of the tape, as it may prevent the panel from bonding to the tape.

STEP 10

- Ensure to apply continuous bead of sealant behind the aluminium at the internal corner junction.

STEP 11

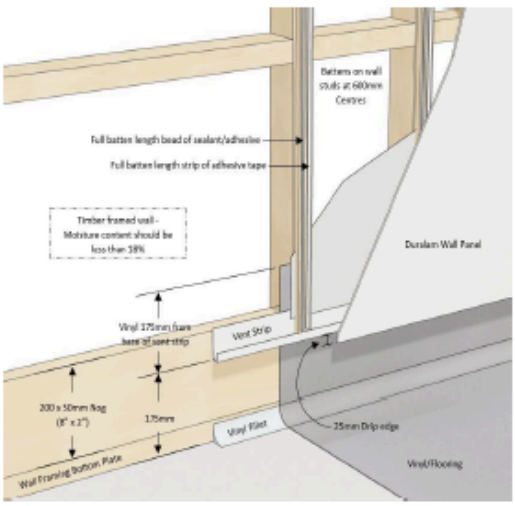
- Wipe down the back of the panel where it will be in contact with the tape and adhesive: use activator on a clean cloth and ensure to replace the cloth as necessary

STEP 12

- Fit sheet - ensure straight and flush positioning on the wall and allow a 2-3mm expansion clearance between profiles and panel edge. Apply pressure on the panel so that the double-sided tape bonds and holds the sheet while the glue sets. Cater for minimum 2mm expansion in join

STEP 13

- Fix next profile and continue



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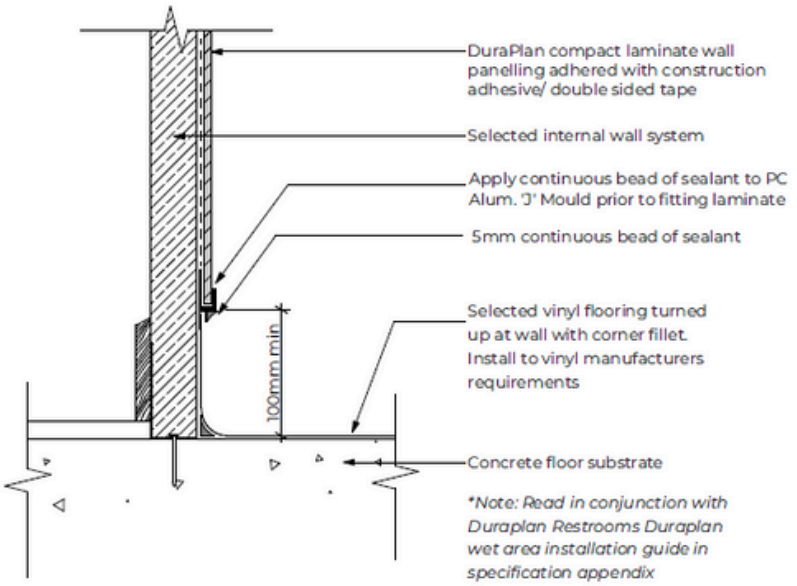
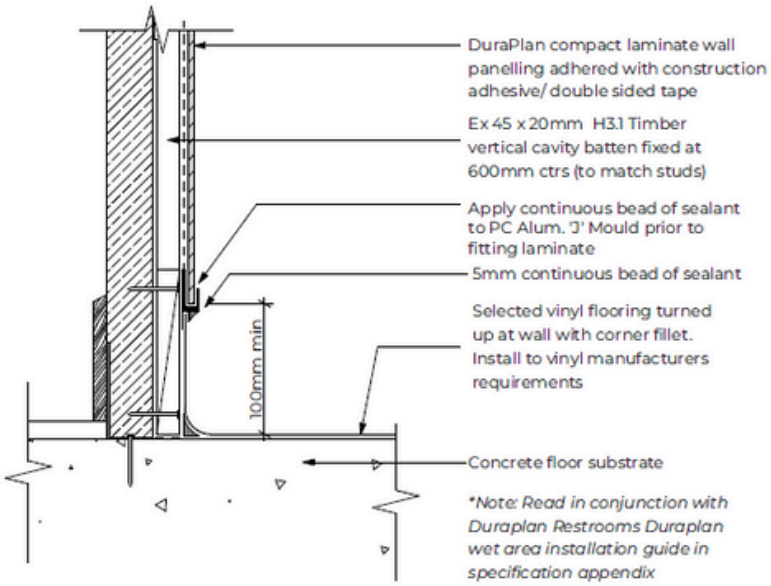
Construction Details

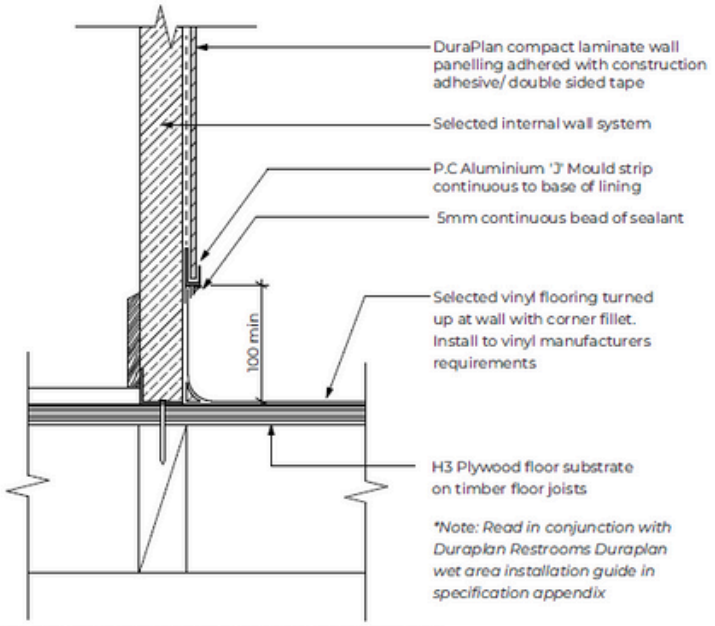


VINYL FLOORING TO WALL JUNCTION - CONCRETE SUBSTRATE

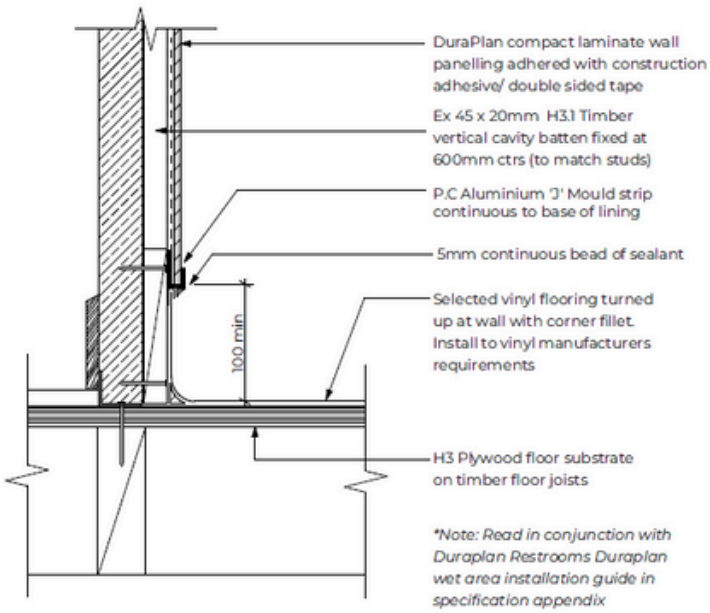


VINYL FLOORING TO WALL JUNCTION - CONCRETE SUBSTRATE (DRY CAVITY)

04
Construction Details



VINYL FLOORING TO WALL JUNCTION - TIMBER SUBSTRATE



VINYL FLOORING TO WALL JUNCTION - TIMBER SUBSTRATE (DRY CAVITY)

04
Construction Details

DuraLam Direct Fix Installation Guide - Figure 4

STEP 1

- Ensure 200 x 50mm Solid Fixing is at the base of the framing for backing for the vinyl (as per detail).

STEP 2

- Floor Vinyl to be laid and coved up 250mm

STEP 3

- Begin by attaching the first piece of aluminium extrusion.

STEP 4

- Each sheet should be dry fitted to ensure it fits, prior to pealing off plastic and applying adhesive and tape. Panels can be cut using fine tipped Tungsten tooling.

STEP 5

- Wipe down surface where the sheet is to be fitted to with activator to ensure free from dust and to ensure maximum bond.

STEP 6

- Apply full height stripe of double-sided tape on the side/edge of each batten

STEP 7

- Apply a continuous 5mm bead of adhesive : Ensure bead is clear of the edge of the tape, as it may prevent the panel from bonding to the tape.

STEP 8

- Ensure to apply continuous bead of sealant behind the aluminium at the internal corner junction.

STEP 9

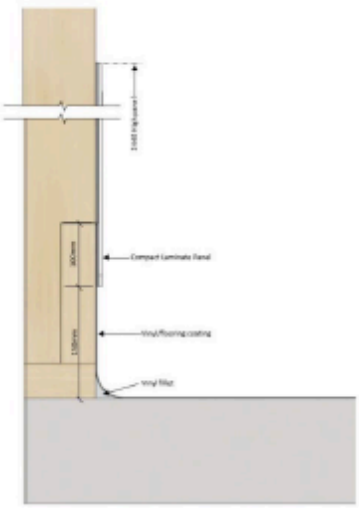
- Wipe down the back of the panel where it will be in contact with the tape and adhesive : use activator on a clean cloth and ensure to replace the cloth as necessary

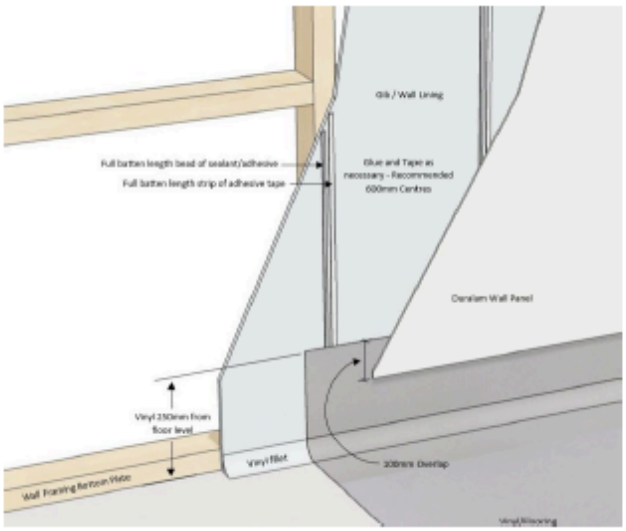
STEP 10

- Fit sheet – ensure straight and flush positioning on the wall and allow a 2-3mm expansion clearance between profiles and panel edge. Apply pressure on the panel so that the double-sided tape bonds and holds the sheet while the glue sets

STEP 11

- Fix next profile and continue





04
Construction Details

Installation of jointers using aluminium

Application:

- Suitable for both wet and dry areas.
- Can be installed on fully lined walls/ceilings (plasterboard) or directly onto timber studs.

Step 1: Prepare Panels and Jointers

1. Use a circular drop saw with an aluminium-compatible blade to cut compact laminate jointers.
2. Mark out penetration points (e.g., pipes, outlets) on the protective film and cut.
3. Peel back approximately 50 mm of protective film from the edge of the first panel.

Step 2: Fix Jointers

- Timber jointers: Nail in place with galvanised flat head nails at 300 mm centres.
- Aluminium jointers: Attach using screws, glue, or tape, with countersunk screws at 300 mm centres.
- Wet areas: Apply a continuous bead of silicone into the jointer recess before inserting the panel.

Step 3: Insert Panels

1. Insert the first panel into the jointer.
2. If insertion is difficult, lightly sand the back of the panel and reseal according to manufacturer instructions.
3. Continue by inserting each new panel into the jointer of the previous panel.
4. As you progress, screw, glue, or tape the jointers to studs or substrate.

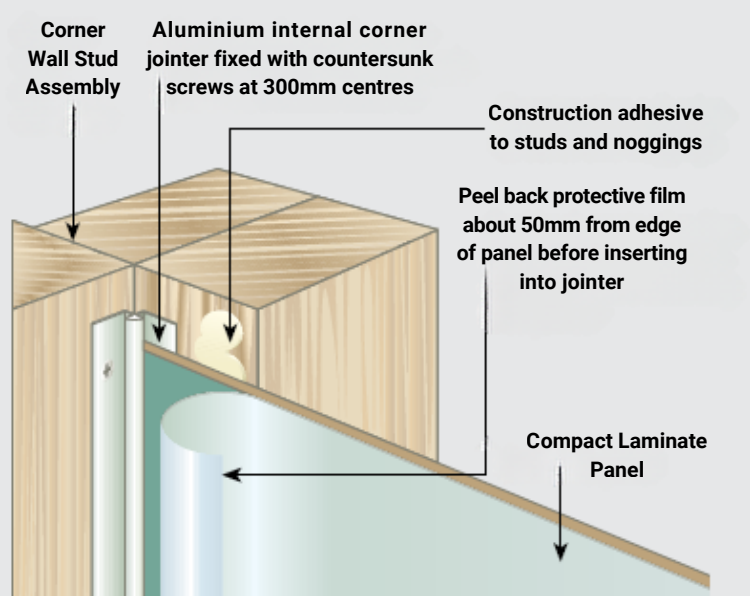
Step 4: Finishing

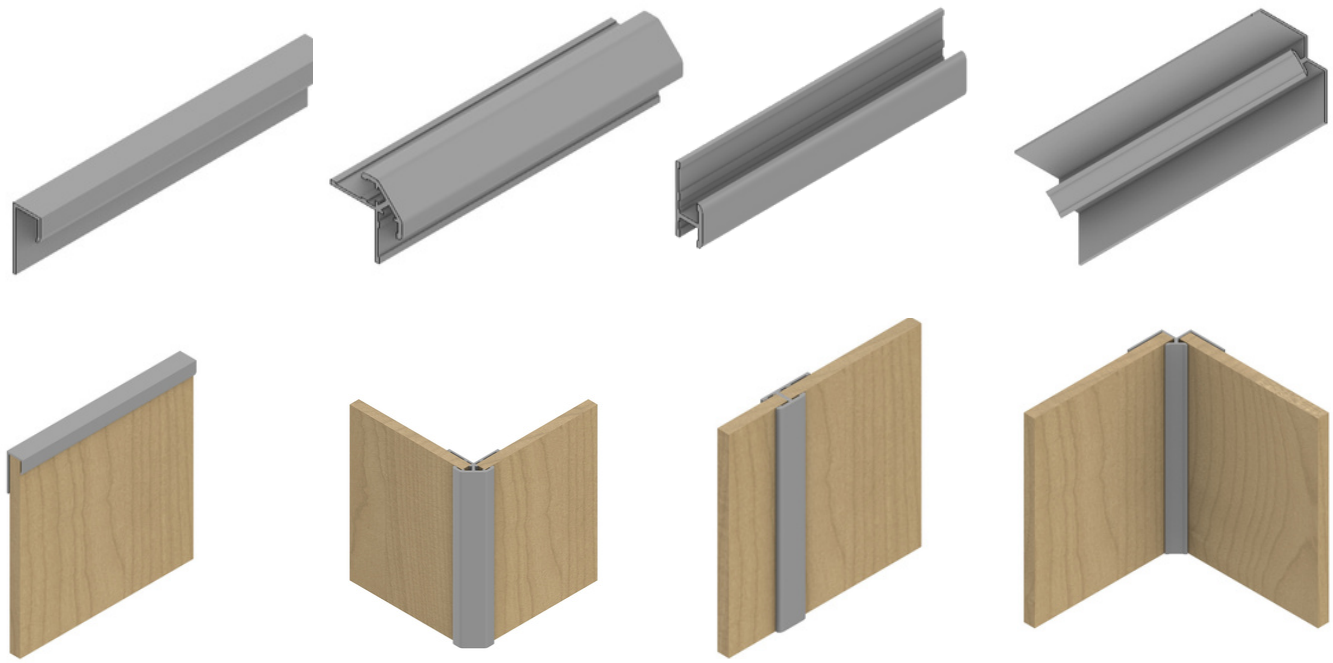
- Check for adhesive or silicone spillage and clean off immediately.
- Ensure all panels are aligned and jointers are securely fixed.

Fitting Joiners
Fitting Panels pt. 1
Packing & Dry Fiting
Fitting Panels pt. 2

04
Construction Details

Installation of Aluminium Jointers Using Aluminium





04
Construction Details

Starting Installation of Compact Laminate Wall Linings

Step 1: Prepare the Substrate

- Apply construction adhesive and/or double-sided tape to the framing or substrate according to the manufacturer's instructions.
- Follow all adhesive manufacturer recommendations for application thickness, coverage, and curing times.

Step 2: Position the First Panel

- Peel back approximately 50 mm of protective film from the panel edges to expose the adhesive contact area. Leave the remainder of the protective film in place until installation is complete.
- Fix stop nails against the trailing edge of the panel to maintain the correct gap between sheets.

Step 3: Temporary Bracing (Adhesive-Only Fix) - this option is not recommended for full sized panels

- If using adhesive only, temporarily brace the panel edges against the studs using blocks fixed to framing with small-diameter nails.
- If using a combination of adhesive and tape, temporary bracing is not required, as the tape will hold the panel in place while the adhesive cures.

Step 4: Continue Panel Installation

- Continue installing panels sequentially, inserting each panel into the joiner of the previous panel (if applicable) and securing it to the substrate.
- Carefully remove stop nails as the installation progresses.
- Clean any adhesive that squeezes out between panels immediately.

Step 5: Finishing

- Once the adhesive has fully cured, remove temporary blocking.
- Leave the protective film on the panels until the entire installation is complete to prevent scratches and damage.

05
Product Advantages

Advantages of Prefinished Linings

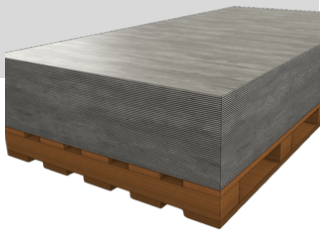
Unlike traditional lining sheets, prefinished linings are already prepared for installation, saving you both time and effort as there is no need for any additional finishing after installation such as on-site skimming and painting.

Some of the benefits of prefinished linings include:

- **Time Saving** – as prefinished linings arrive ready for installation, the on-site time is significantly reduced compared to traditional lining sheets.
- **Consistency** – they are manufactured in a controlled environment, guaranteeing consistency and a high-quality finish.
- **Reduced Mess** – mess and dust during the installation process is significantly reduced as there is no need for onsite sanding, staining, or painting.
- **Durability** – factory-applied finishes are often more durable and long-lasting than onsite finishes.
- **Aesthetic Options** – the variety of finishes, colours, and styles available allows you to choose the one that best suits your interior design.

06
Durability

The durability of compact laminates for internal use shall be demonstrated by testing the following properties: immersion in boiling water in accordance with EN 438-2:2016-02, Test method 12, and density in accordance with EN ISO 1183-1:2004, Test method A.



Limitations

- Compact laminate panels must not be submerged or continuously immersed in water.
- Prolonged exposure to direct sunlight may cause slight fading over time.
- Compact laminate is not suitable for use as a bracing panel element.
- In locations exposed to weather or external elements, only exterior-grade compact laminate should be used.

Handling & Storage

- Compact laminate must be stored in dry conditions and handled in accordance with this document. While these recommendations are general, variations may be required for specific situations.
- Store sheets flat on evenly spaced bearers/gluts that extend across the full width of the sheet.
- When stacking multiple sheets, align the gluts vertically, one directly above the other.
- Take care to protect the decorative surface at all times.
- To prevent surface damage, lift sheets rather than dragging them off the stack.
- Keep the protective film on the sheets until they are ready for installation or use.

06
Durability

Cleaning

- The recommended cleaning products are warm soapy water, Sunlight Liquid, and Multipurpose Spray and Wipe.
- Adhere to the cleaner manufacturer's instructions when using cleaning products.
- A soft cloth is recommended.
- Do not use scouring pads, cream cleaners, or abrasive cloths such as steel wool as these may cause damage to the surface finish.
- An electrostatic dusting cloth easily removes dust from the surface.

Cutting

Cutting compact laminate can be challenging, but with the right techniques, you can maximize the performance of your cutting blade. Here are some tips:

- Circular saw blades are generally suitable for cutting compact laminate, while blades of less that 2mm are not suitable.
- Break-out on the underside of compact grade sheets can be reduced by various methods:
  - Using a pre-scoring blade on the underside.
  - Using a baseboard of plywood or hardboard beneath the sheet.
  - Altering the exit angle of the saw blade by adjusting the height setting.
- The quality of the saw cut when sawing compact grade laminates with two decorative faces is controlled by the feed speed. For optimal results, use a speed between 0.03 and 0.05mm per saw tooth. An effective way to prevent chipping of the lower decorative layer is by adjusting the exit angle.

Click Links Below for How To Videos:

Edge Scribe Preparing & Marking Preparing, Marking, and Cutting Rail Saw Utility Penetrations Compact Laminate pt. 1 Compact Laminate pt. 2

06
Durability

Tips for Cutting Compact Laminate

1. Choose the Right Blade
    - Use a fine-tooth, carbide-tipped blade made for laminate.
    - 60–80 teeth is ideal for a smooth finish.2

1. Set the Right Speed
    - Adjust to your saw's capabilities.
    - Slower speeds often produce cleaner cuts; high speeds can cause chipping
    - Use a Guide
    - Employ a straight edge or guide to keep cuts straight and prevent blade wander.
2. Support the Material
    - Support both sides of the cut to reduce flexing and avoid uneven edges.
3. Cut Face Down
    - Always cut with the visible (decorative) side facing down to prevent chipping.
4. Apply Masking Tape
    - Tape over the cut line to protect the surface and reduce chipping.
5. Make Scoring Cuts
    - For thicker laminates, lightly score along the cut line with a utility knife before sawing.
6. Use a Zero-Clearance Insert
    - On a table saw, this helps support the material and minimise tear-out.
7. Keep Blades Sharp
    - Replace dull blades promptly for cleaner cuts and less heat build-up.
8. Do Test Cuts
    - Practice on scrap pieces to fine-tune your technique before the final cut.

07
Planning and Installation

Planning and Layout

- Remember that walls, ceilings, and floors are not always flat or square, so planning is essential.
- It is generally advisable to start with a full compact laminate sheet at the centre of the wall or ceiling and work outwards to each side.
- Position part sheets at room corners wherever possible.
- Ensure sheet joints and jointers (where used) align with the centre of studs or supports when fixing directly to timber framing.
- Prepare and check a complete joint sequence layout before installation begins.

Timber Framing

Framing and Support Requirements

- Ensure all timber supports (nogs, dwangs, battens, studs) are straight, aligned, and flush.
- Stud spacing: maximum 600mm centres for 1200mm wide sheets.
- Nogs: maximum 800mm centres.
- Ceilings: use suitably sized battens at 400mm centres.
- All support surfaces to be bonded must be clean, dry, and free of dust or contaminants. Maximum timber moisture content: 18%.

Lined Wall and Ceiling Linings

- Walls and ceilings lined with plasterboard or similar materials are suitable for direct fixing, provided the surface is flat, sound, and securely fixed.

Renovations

- When relining with compact laminate panels over existing walls or ceilings:
  - Painted surfaces should be thoroughly cleaned and scuffed with coarse abrasive paper to create a key for adhesion.
  - Old shower linings must be completely removed before new sheets are installed.
  - Inspect existing framing and plumbing to confirm they are sound and free from degradation.
  - Confirm that the selected adhesive does not soften old paint coatings before proceeding.

07
Planning and Installation

Concrete and Masonry Walls & Ceilings

- Do not fix sheets directly to concrete or masonry walls.
- Ensure the wall is dry and remains dry; a waterproof membrane may be required to prevent continuous moisture issues.
- Strapping and battens must include a damp-proof course between timber and concrete.
- For ceilings, use suitably sized battens at maximum 400mm centres.
- Fix strapping with nails or screws in accordance with good trade practice.

Sheet Check & Preconditioning

- Always check for colour match where sheets are installed on the same wall plane or where shade consistency is critical.
- For best results, order sheets as “batch matched” to minimise colour variation.
- Precondition panels by fillet stacking them in pairs and leaving them in the installation environment for at least 48 hours before fixing.

Removing Packaging & Protective Film

Each compact laminate sheet is supplied with a protective film to protect the surface during handling and installation. The film should be removed in two stages:

1. Remove approximately 50mm from all sheet edges before installation to allow for jointing and sealing.
2. Remove the remainder of the film only after installation is fully complete.

Click Links Below for How To Videos:

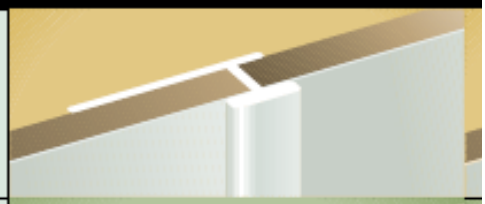
Plastic Protection

Removing Plastic on Wall Face

07
Planning and Installation

Fixing sheets

- Refer to the table.

Application type	Aluminium mouldings
Dry area	
Wet area	

Fixing onto plasterboard lining

- Ensure all bond surfaces are clean, dry, and free from dirt, dust, oils, or any other surface contaminants.
- Apply continuous full panel length of double-sided tape to the back of the panel at 400mm centres.

Click Link Below for a How To Video:

Double Sided Tape Application

07
Planning and Installation

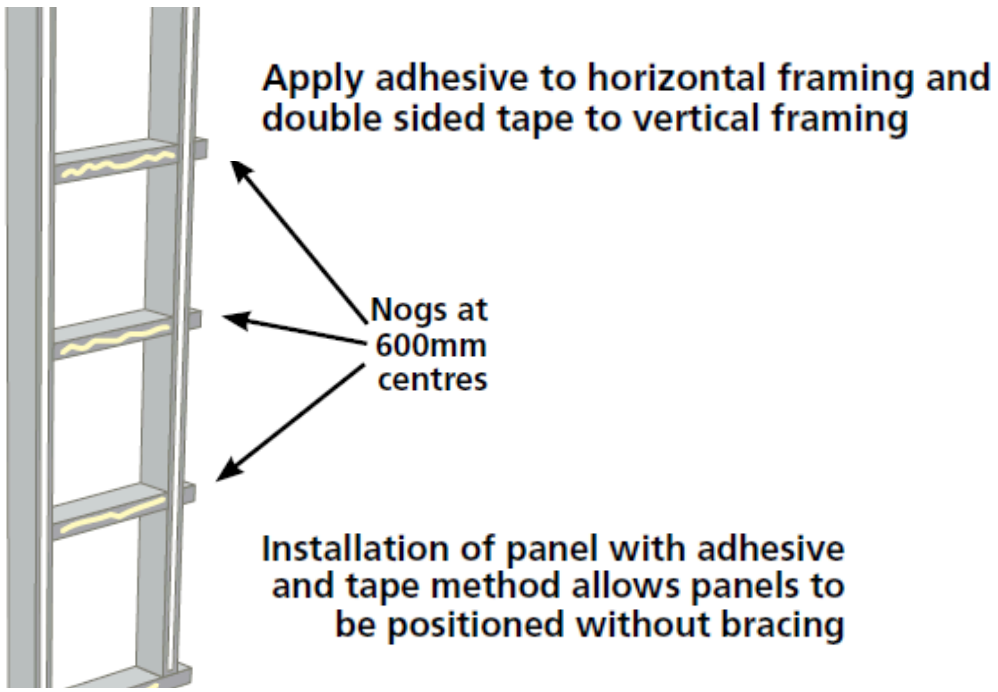
Fixing Directly onto Timber Studs

- Apply continuous, full-length beads of double-sided tape to the left or right of the centreline of each vertical stud where two panels will meet (edge stud).
- Leave sufficient space between the two strips of tape to allow for the jointer to be positioned.
- No adhesive is to be applied to these edge studs.

Click Link Below for How To Video:

Double Sided Tape Application

- Apply continuous, full panel-length beads of adhesive (minimum 10mm wide) alongside the strips of double-sided tape on each centre stud.
- Each edge stud should have a strip of double-sided tape only (no adhesive).
- Each centre stud should have both double-sided tape and adhesive to ensure full support of the panel.



07
Planning and Installation

Fixing onto Plasterboard Lining

- Apply continuous, full-length beads of adhesive (minimum 10mm diameter) to the back of the panel at 300mm centres, between the strips of double-sided adhesive tape.
- Ensure the adhesive does not encounter or interfere with the double-sided tape.
- Remove the tape backing, position the panel accurately, and apply firm, even pressure to ensure full surface contact.
-

Adhesive Application

Click Link Below for How To Video:

Fixing Directly onto Timber Studs

- Provide nogs at maximum 600mm centres (three rows of nogs when fixing directly to framing).
- Ensure all bonding surfaces are clean, dry, and free of dust, dirt, oils, or any contaminants.

- Ensure the adhesive doesn't encounter or interfere with the double sided tape.
- Remove tape backing, place the panel into the correct position, and apply pressure to ensure full contact over the entire surface area of the panel.

Fixing directly onto timber studs

- Nogs shall be at 600mm centers (three rows of nogs when direct fixing to framing).
- Ensure all bond surfaces are clean, dry, and free from dirt, dust, oils, or any other surface contaminates.

07
Planning and Installation

Fixing Directly onto Galvanised Steel Studs

1. Ensure all bonding surfaces are clean, dry, and free from dust, dirt, oils, or any other contaminants.
2. Lightly scuff the galvanised framing surface using Scotch-Brite (or similar).
3. Apply a suitable degreaser and allow it to fully flash off before applying adhesive.
4. Apply continuous, full panel–length beads of adhesive (minimum 10 mm wide) to each stud.
5. Position the panel in place and apply firm, even pressure to ensure full contact between the steel framing and the panel.
6. Use temporary timber supports to maintain pressure while the adhesive cures.

08
Product Sizing

Duraplan Wall Linings are available in following sizing:

6mm Range	3mm Range
2440x1220	2440x1220
2700x1220	2700x1220
3050x1220	3050x1220

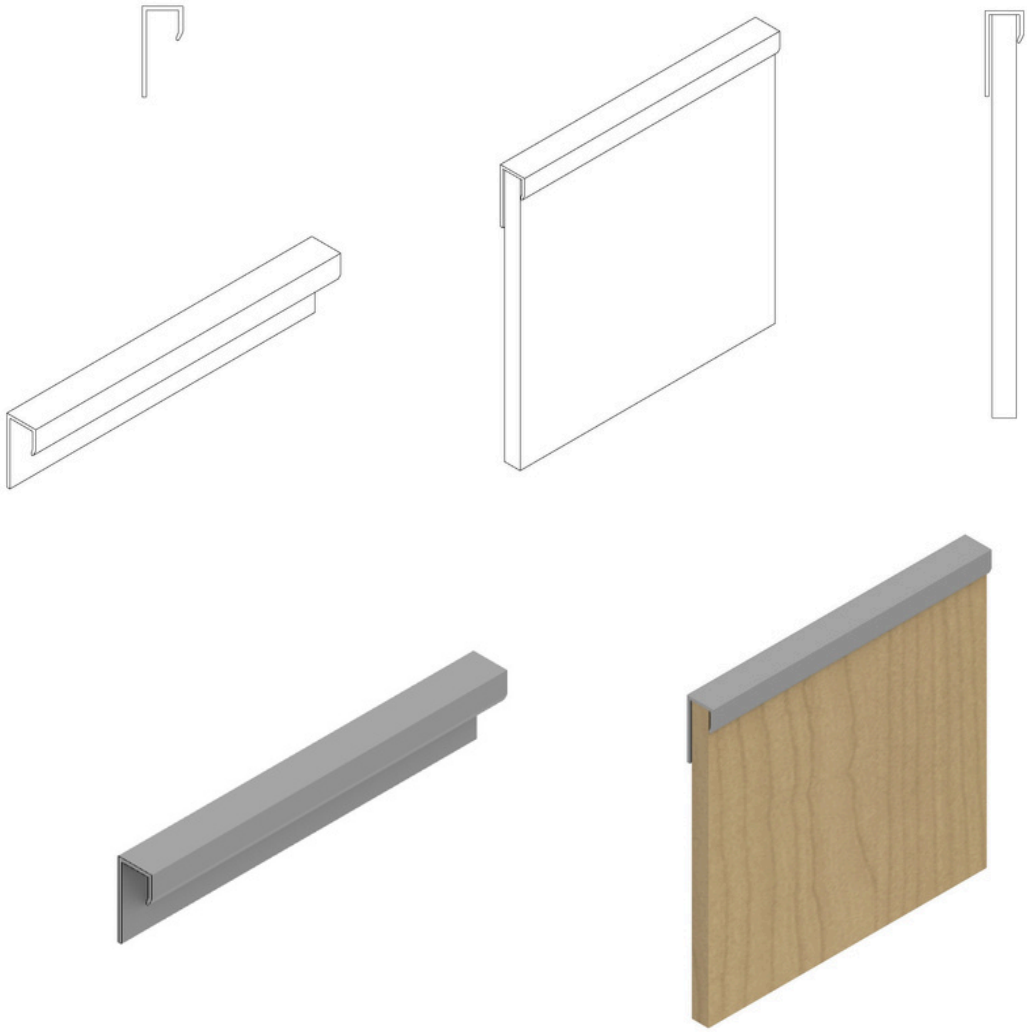
Note: Colours and sizes are subject to availability and current project commitments. To confirm stock and secure your order, please contact sales@duraplan.co.nz at your earliest convenience.

Technical Properties

- Product details and components
    - Glue
    - Tape
- Colours
    - 3mm & 6mm Stocked Range (refer to colour chart)
    - 3mm & 6mm Extended Range - 12 week lead time applies (refer to extended colour chart range)

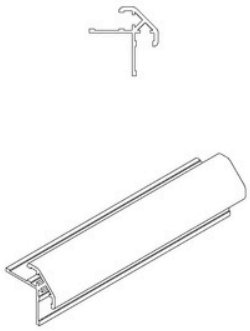
09
Duraplan Product Details

Jointers - Capping



09
Duraplan Product Details

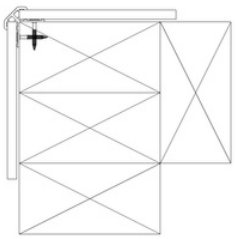
Jointers - External Corner



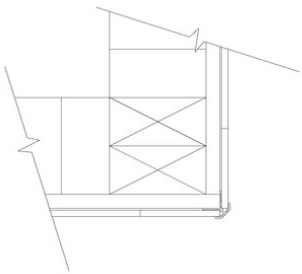
External Corner

External Corner 2

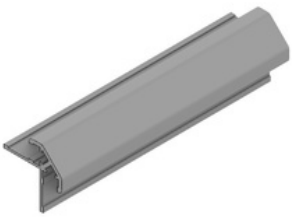
External Corner 3



Screw Fixing

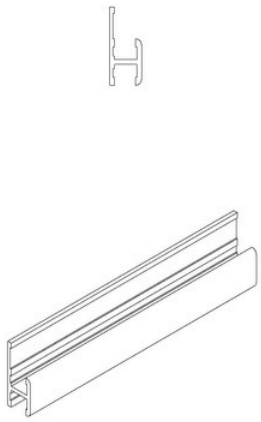


External Corner 4

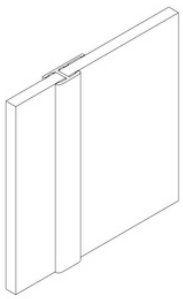


09
Duraplan Product Details

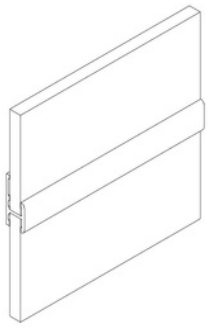
Jointers - H Joiner



H Joiner

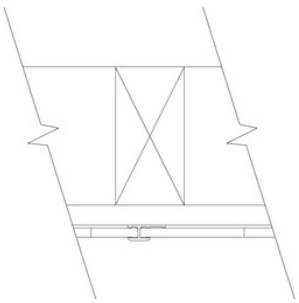


H Joiner Vertical

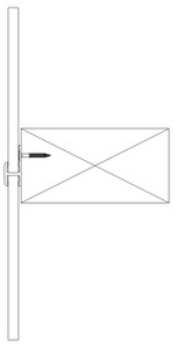


H Joiner Horizontal

H Joiner



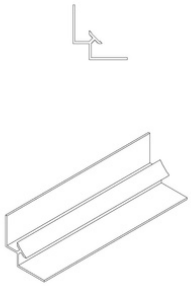
H Joiner



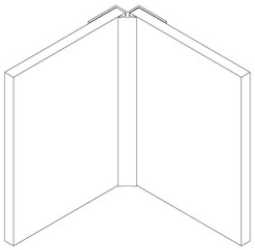
Screw Fixing

09
Duraplan Product Details

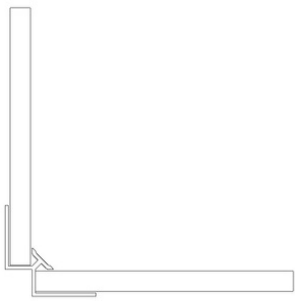
Jointers - Internal Corner



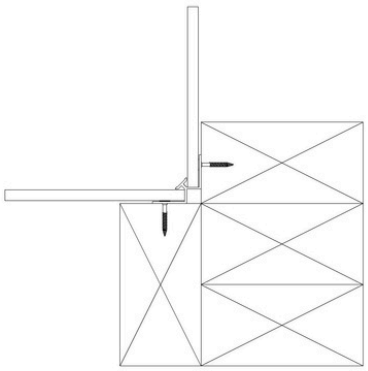
Internal Corner



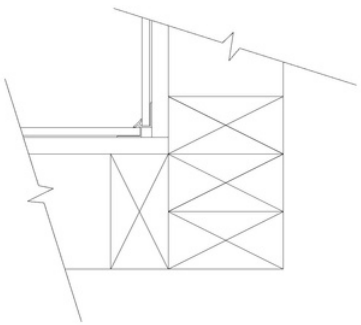
Internal Corner



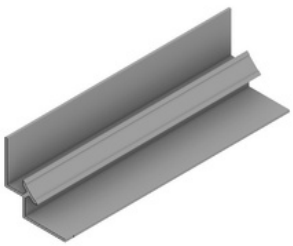
Internal Corner

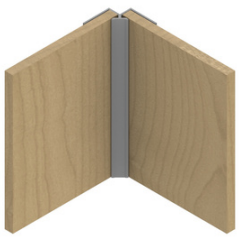


Screw Fixing



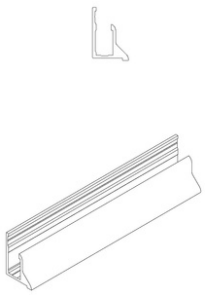
Internal Corner



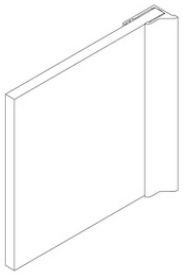


09
Duraplan Product Details

Jointers - Internal Corner

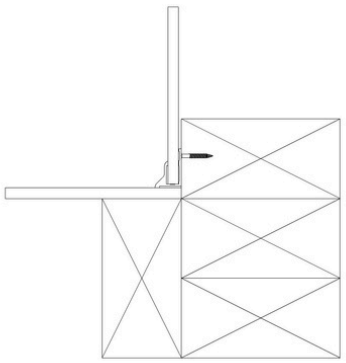


Internal Corner Cap

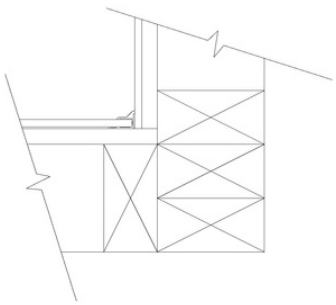


Internal Corner Cap 2

Internal Corner Cap 3



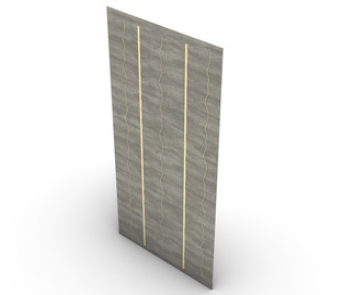
Screw Fixing



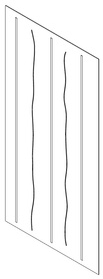
Internal Corner Cap 4

09
Duraplan Product Details

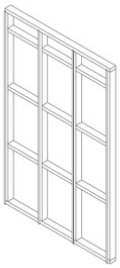
Glue and Tape - Methodology



Glue and Tape Application

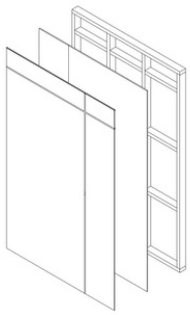


Double sided tape and glue to gib



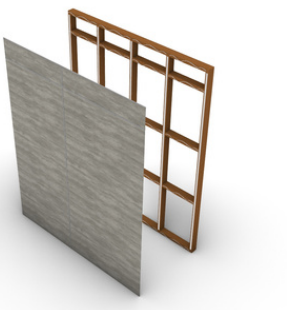
Double sided tape to framing

Double sides tape and glue to framing

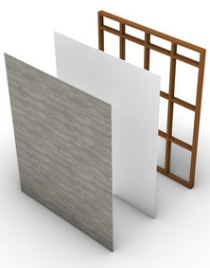


Recomended Application

Double sided tape and glue to gib render



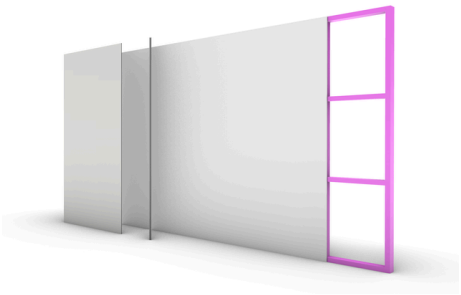
Compact to Framing



Recomended Application Perspective

09
Duraplan Product Details

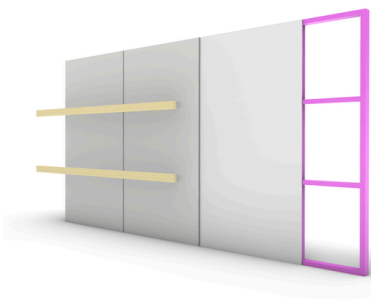
Whilst we recommend using the correct pattern of double-sided tape in combination with a fast-acting, high-bond adhesive, it is also essential to ensure that the wall boards are securely held in place while the adhesive cures.

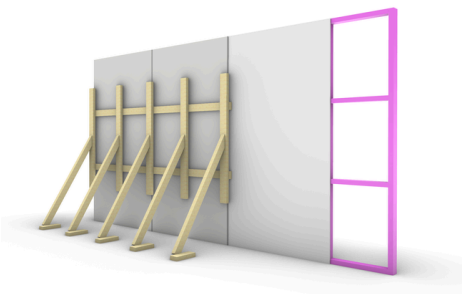


Suggestions for Propping Wall Boards

- Use Supports: Employ adjustable props, sawhorses, or wooden blocks to hold boards in place. Ensure supports are stable and securely positioned.
- Check Level: Regularly verify that boards are level, adjusting props as required.
- Nail Placement: Fix through the longer side of the H-joiners to keep fasteners concealed. A pneumatic nail gun is recommended for speed and accuracy.
- Work in Sections: For longer boards, work in manageable sections, propping and securing each as you progress.
- Allow for Movement: Maintain appropriate expansion gaps at board ends to accommodate natural material movement.
- Prioritise Safety: Confirm that all props are stable and capable of supporting the board weight to prevent accidents.

Properly propping wall boards not only ensures a secure installation but also improves the overall finish, resulting in a more professional outcome.

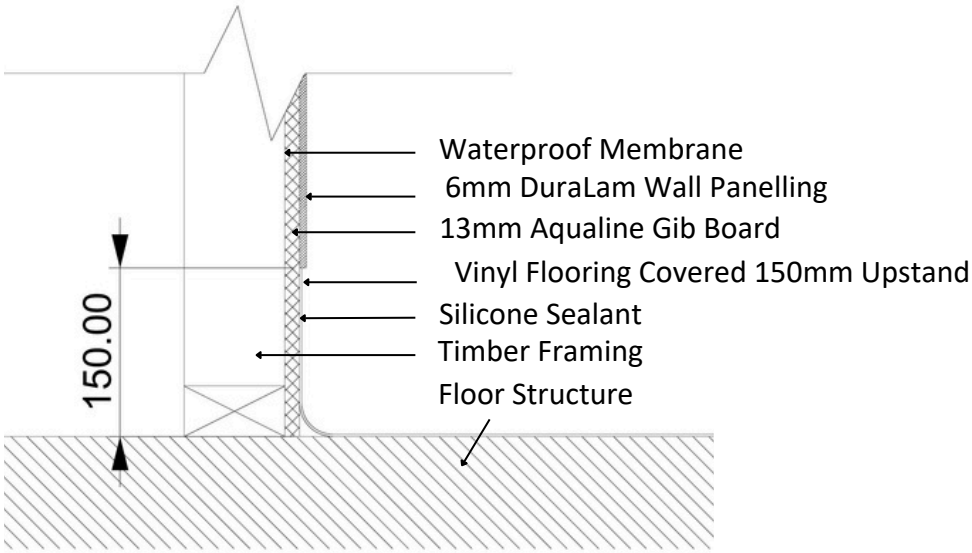




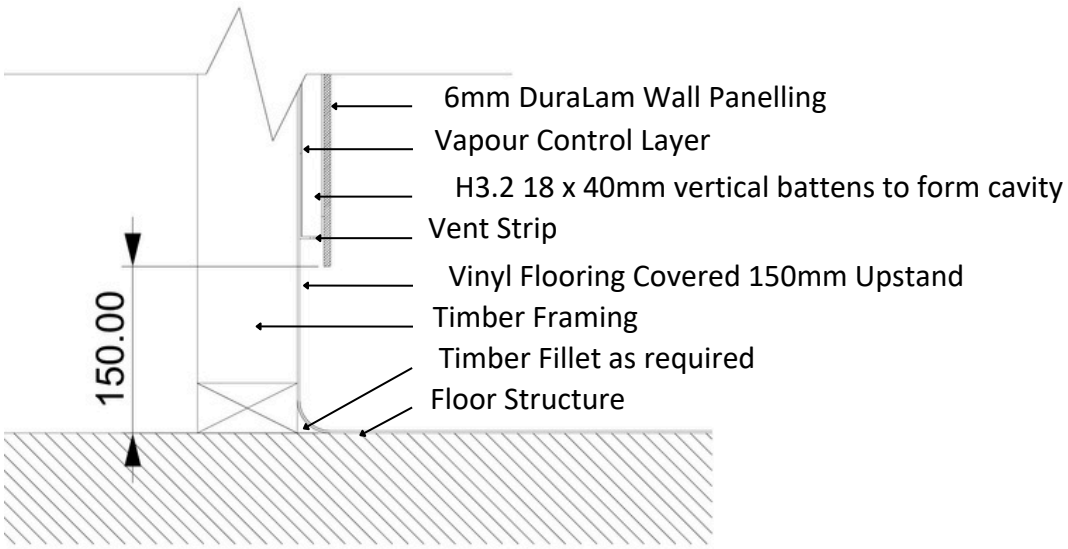
09
Duraplan Product Details

Floor Junction - Potential details

150mm Vinyl Core (Direct)

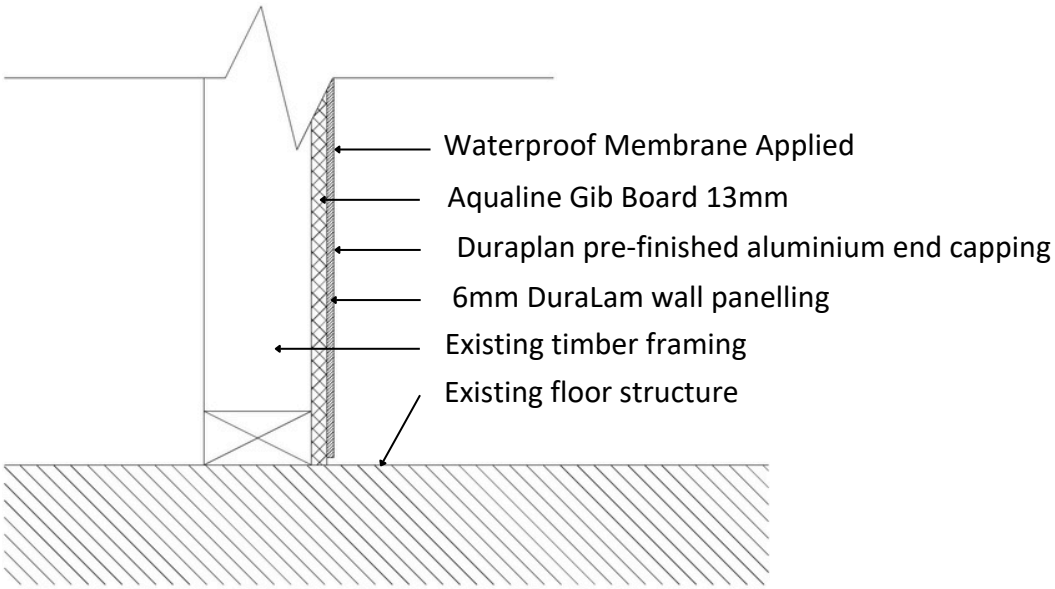


Core With Cavity Batten



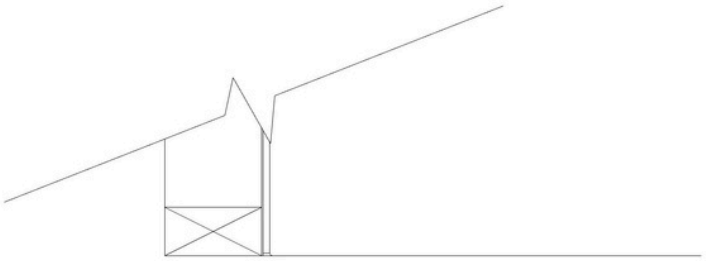
09
Duraplan Product Details

Floor Junction - Potential details

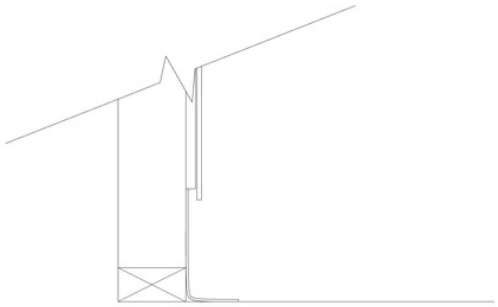


09
Duraplan Product Details

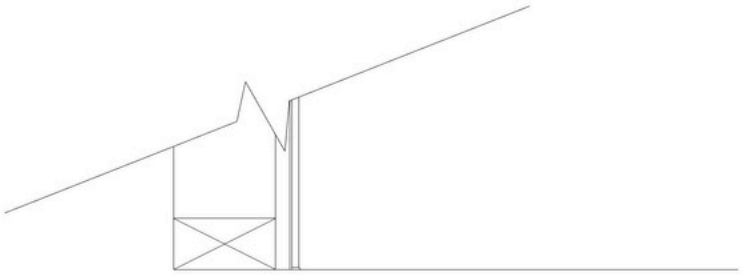
Floor Junction



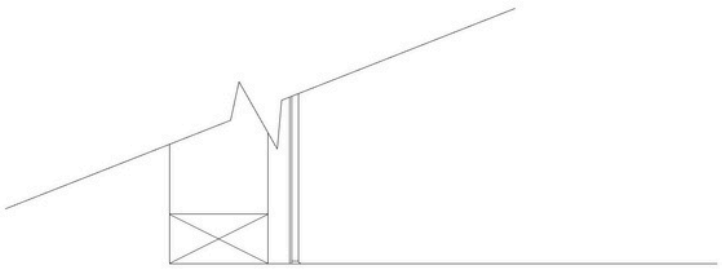
Floor Junction with Silicone



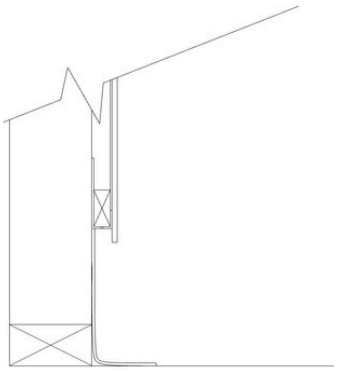
Not To Floor Junction With Gib



Floor Junction with Silicone and Gib



Floor junction with Silicone and Batten

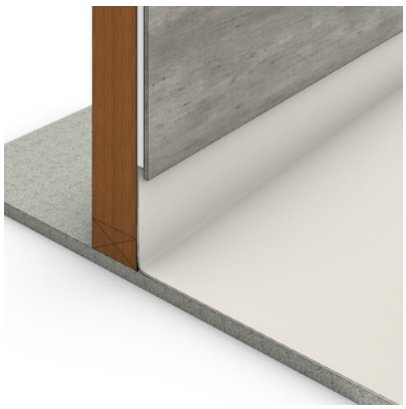


Not To Floor Junction With Batten

09
Duraplan Product Details

Floor Junction Details - Images

Floor Junction with Vinyl



Floor Junction with Gib and Vinyl

Floor Junction with Batten and Vinyl

Floor Junction with Gib

Floor Junction on Framing

Floor Junction with Batten

09
Duraplan Product Details

Floor Junction - Standard Construction Details

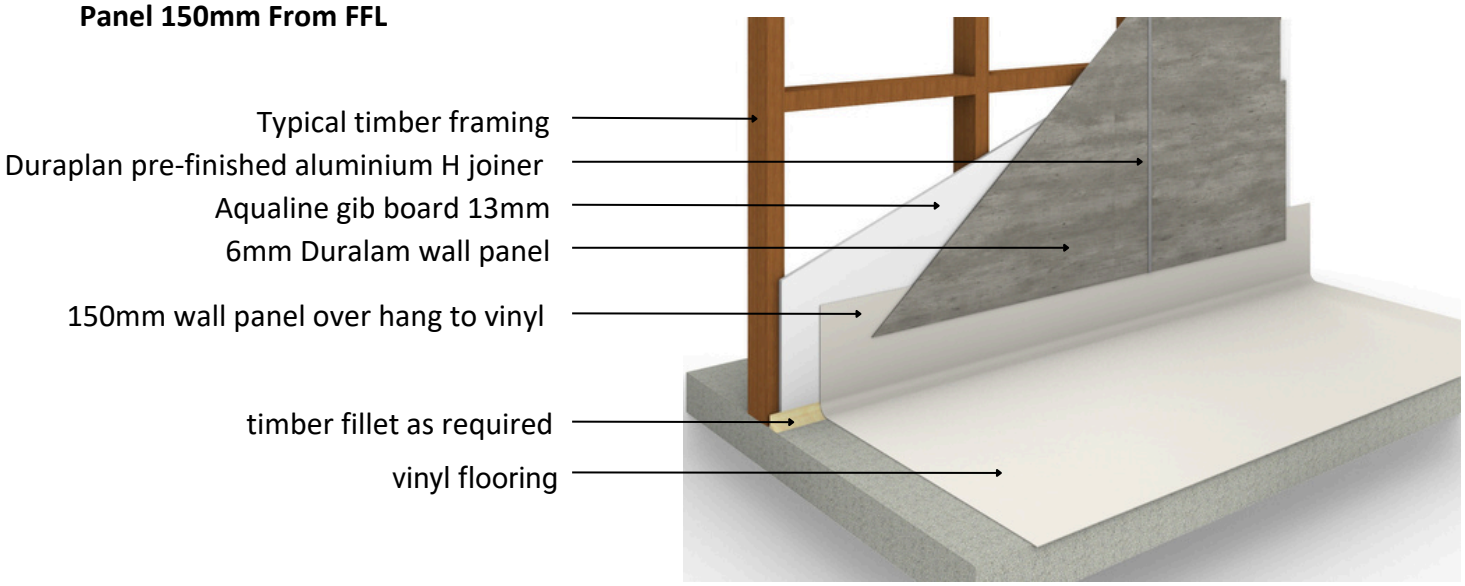
Compact Laminate To Floor

09
Duraplan Product Details

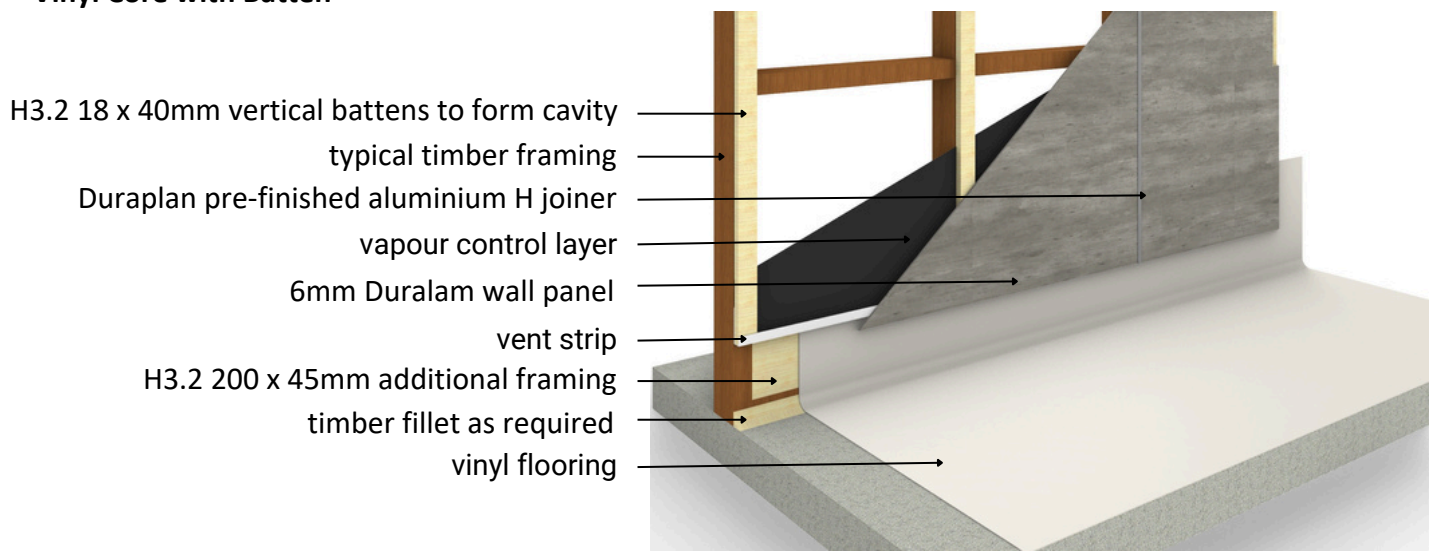
Floor Junction - Standard Construction Details

Vinyl Core

Panel 150mm From FFL



Vinyl Core with Batten

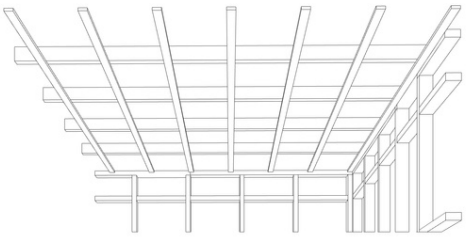


09
Duraplan Product Details

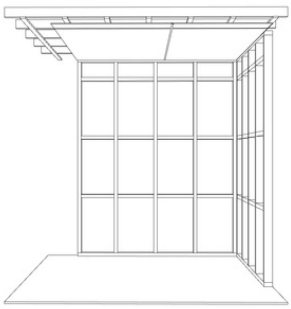
Floor Junction Perspectives - Standard Construction Details

09
Duraplan Product Details

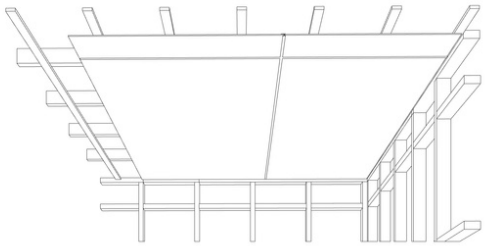
Ceiling Junction - Standard Construction Details - Drawings



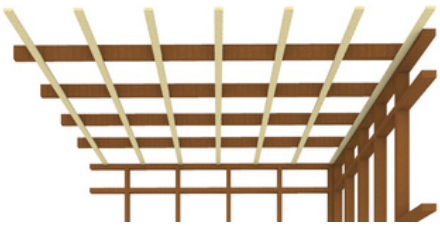
Ceiling Lining Lines



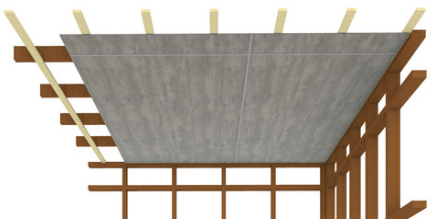
Ceiling Lining 2



Ceiling Lining 2 Lines



Ceiling Batten Lining



Ceiling Lining Batten Lines

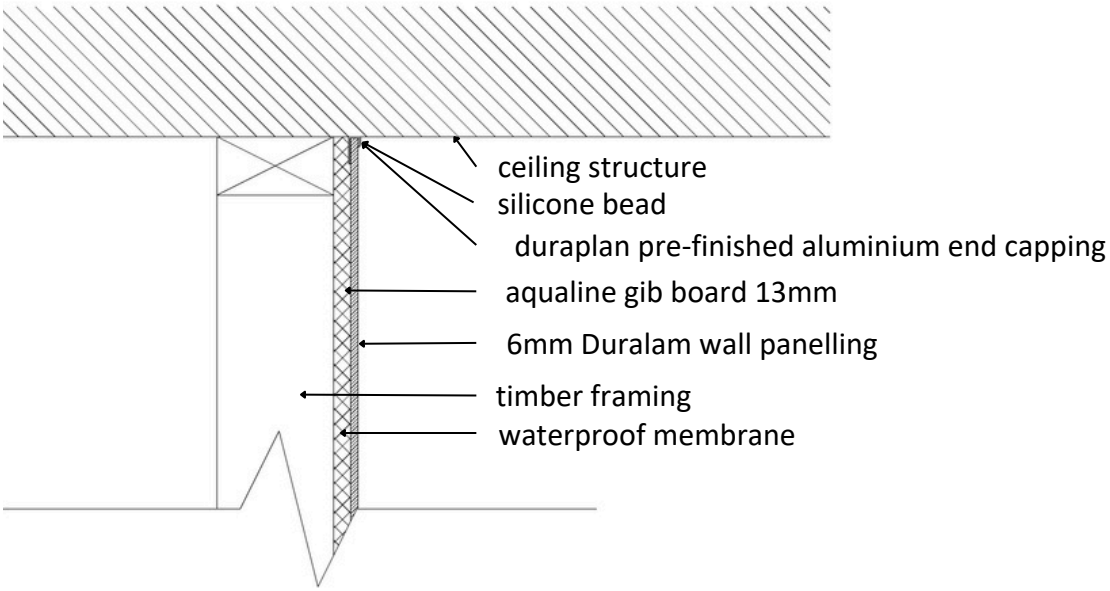
Ceiling Lining

Ceiling Corner Junction

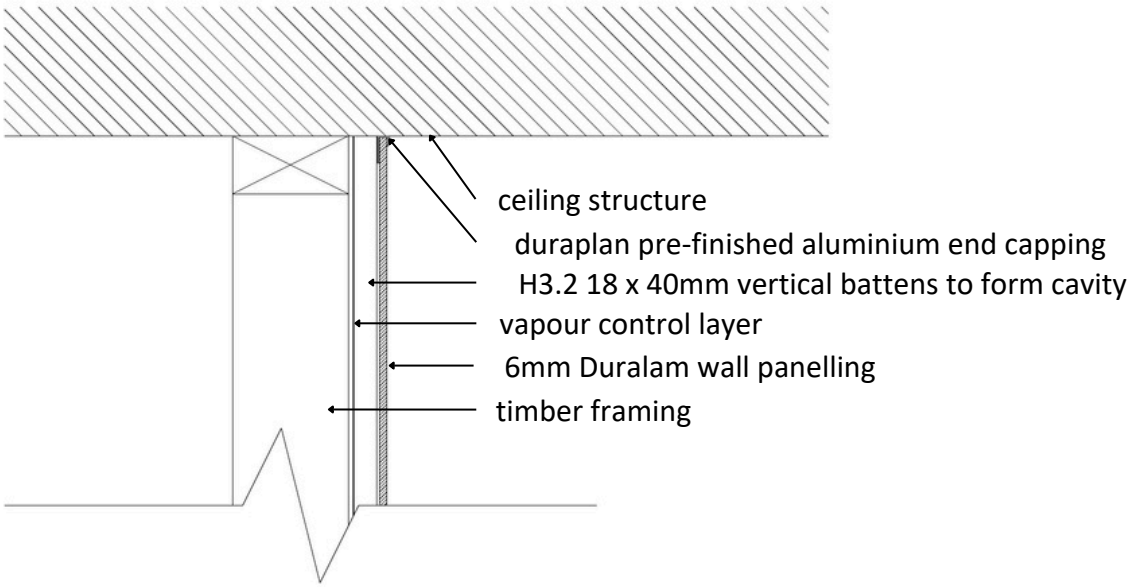
09
Duraplan Product Details

Ceiling Junction - Standard Construction Details

To Top Gib



To Top Batten



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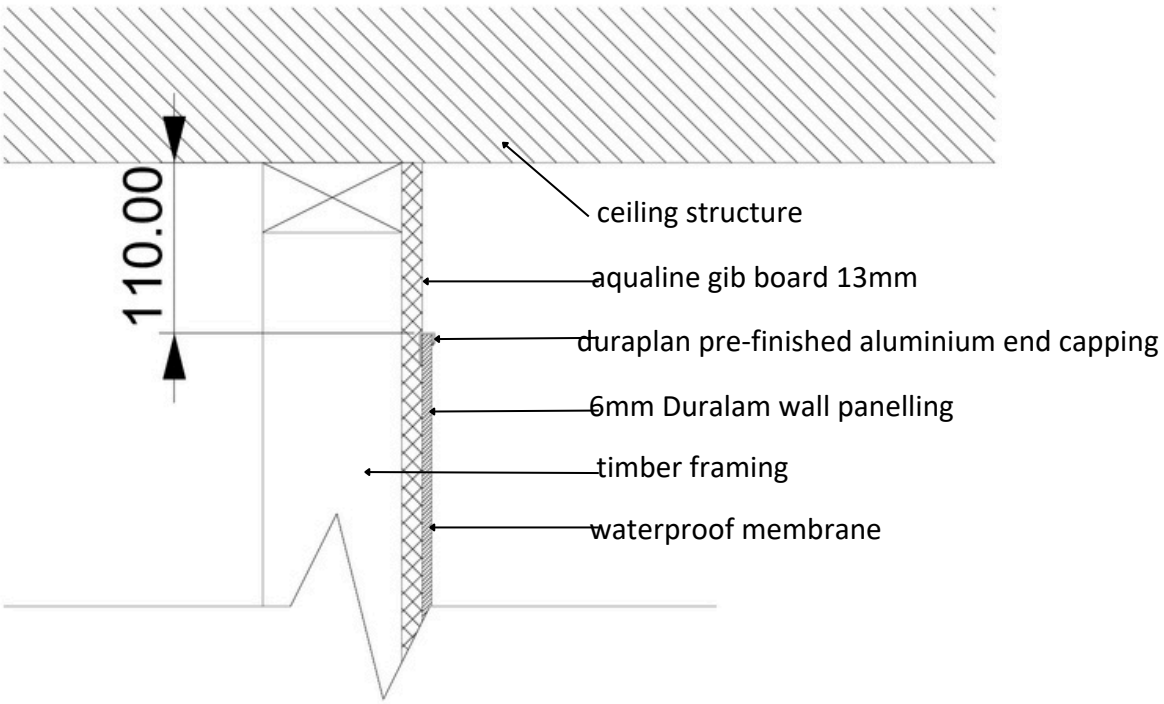
Duraplan Product Details

Ceiling Junction - Standard Construction Details



09
Duraplan Product Details

Ceiling Junction -Standard Construction Details - Images

Direct to Framing

Not To Ceiling with Gib

Gib Fixing

Batten Fixing

10
Duraplan Quality Assurance

BRANZ

BRANZ Appraised

BRANZ APPRAISAL

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ANTI-BACTERIAL
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