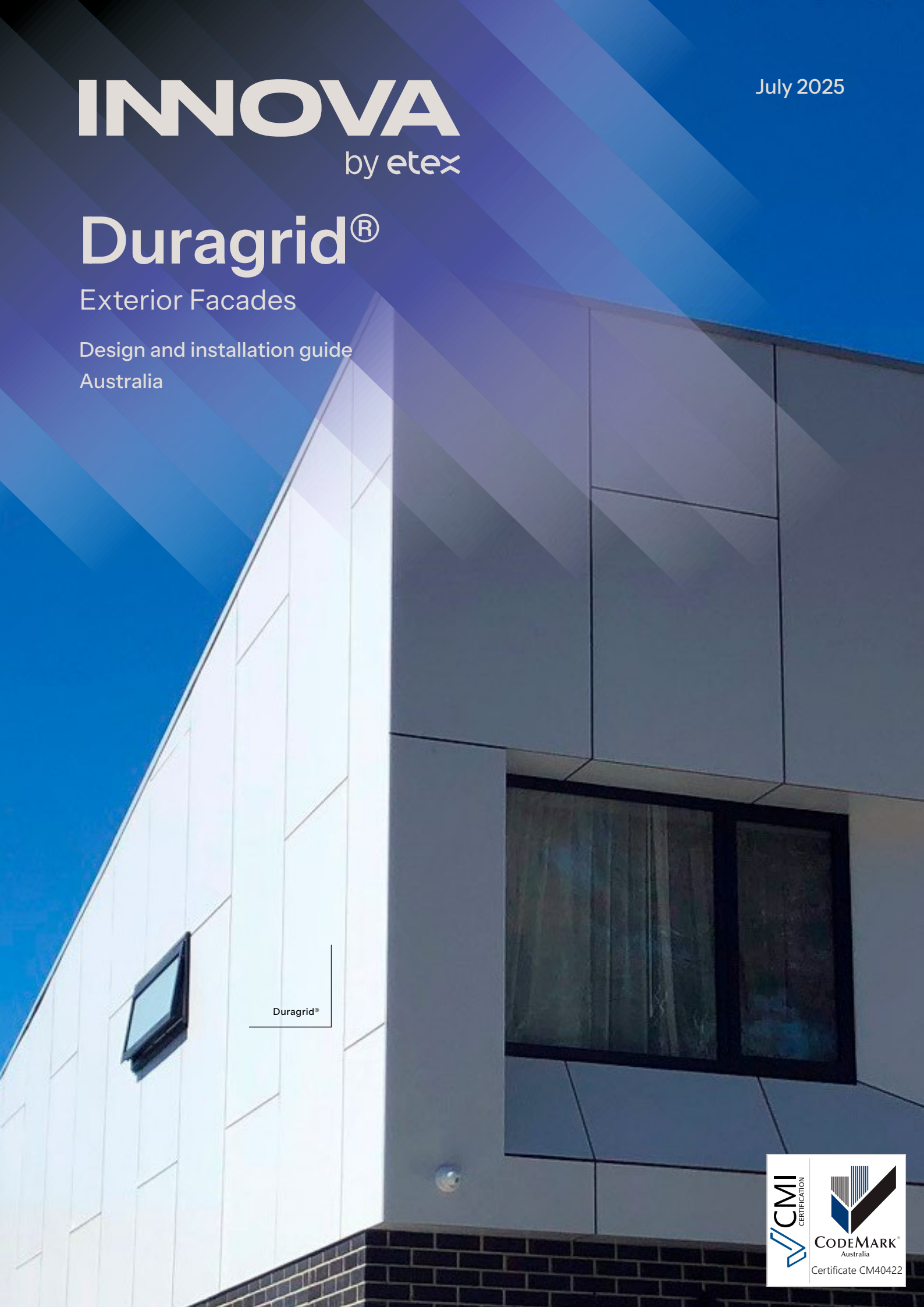
INNOVA by etex

July 2025

Duragrid®

Exterior Facades

Design and installation guide
Australia



CMI CERTIFICATION
CODEMARK Australia
Certificate CM40422

Backed by Etex, the global leader in fibre cement, Innova is bringing the change the industry needs. So now architects, builders, and homeowners can make the changes they want.

We'll never stop innovating our stylish fibre cement range. We'll never stop finding efficiencies and passing on the savings.

Change is what defines us and propels us forward. Change is the foundation we're built on.

Innova. Built on change.

Contents

Disclaimer

Innova products and systems designed by Etex Australia Pty Ltd are produced in accordance with the Building Code of Australia and relevant Australian Standards at the time of publication. Information in this document is to be used as a guide and is subject to project approval as many aspects of construction are not comprehensively covered. It is the responsibility of the designer to confirm Innova products and systems are suitable and meet the requirements for the intended application. Etex Australia Pty Ltd will not be held responsible for any claims resulting from installation not in accordance with the manufacturer's technical literature or relevant Standards.

Innova regularly updates technical literature; to ensure this document is current with the latest information, visit innovafibrecement.com.au.

Warranty

Duragrid® is warranted for a period of 25 years.

Please refer innovafibrecement.com.au for detailed warranty information.

About Innova

Innova is a commercial brand of Etex, a global building material manufacturer and pioneer in lightweight construction. Etex wants to inspire people around the world to build living spaces that are ever more safe, sustainable, smart, and beautiful. Founded in 1905 in Belgium, Etex are a family-owned company with more than 13,500 employees across 160 sites and 45 countries.

Innova are the fibre cement specialists, and distribute external cladding systems, interior lining and flooring substrate products specifically designed for the residential and commercial markets in Australia and New Zealand

With a deep understanding of the local market needs, the Innova range of fibre cement products provide architects, designers, builders and homeowners with a range of traditional and contemporary solutions to create spaces that work for their project.

Innova are constantly looking for ways to evolve and innovate their product offering, adapting to changes in the market.

Innova - built on change, backed by Etex.

1. Working Safely

1.1 Working Safely with Innova Fibre Cement

WARNING: P2 OR HIGHER-GRADE RESPIRATOR MUST BE WORN AND PRODUCT CUT OUTDOORS.

Innova fibre cement is manufactured from finely ground sand (silica), cellulose fibres, Portland cement and additives. In the product's manufactured state, it does not release airborne dust. Inhalation of Respirable Crystalline Silica (RCS) is hazardous and can cause damage to lungs, respiratory system, and cancer when users are exposed to dust over prolonged periods without adequate controls in place.

The risks associated with RCS inhalation arise during installation activities where mechanical methods are used for cutting, rebating, drilling, routing, crushing, sanding and cleaning up, disposing of, or relocating dust.

Before, during and after installation, it is important to be aware of activities that generate and lead to dust becoming airborne. Innova recommends following the Innova Working Safely Guidelines listed below in addition to site-specific safety procedures, Safe Work Australia guidelines and state or territory guidelines.

USERS ARE RESPONSIBLE FOR ADHERING TO GUIDELINES, RECOMMENDATIONS, SAFETY DATA SHEETS, INSTALLATION GUIDES, FEDERAL AND LOCAL REGULATIONS TO AVOID SERIOUS HEALTH IMPACTS.

Control the risks by utilising engineering controls (i.e. tools/equipment), administrative controls (i.e. workspace/safe work method statement) and correct PPE (i.e. respirator/eye wear).

1.2 Innova Working Safely Guidelines

Documentation

Read the current Safety Data Sheet and Working Safely documents available at innovafibrecement.com.au.

ALWAYS wear a properly fitted P2 or higher-grade respirator when cutting, drilling, rebating, sanding.

ALWAYS use on-tool dust extraction when using power tools; M or H-Class vacuum fitted with a HEPA filter.

ALWAYS alternate cutting activities with others to reduce exposure time.

ALWAYS follow the tool manufacturer's guidelines for correct and safe operation.

AVOID using power tools to cut or shape fibre cement products indoors.

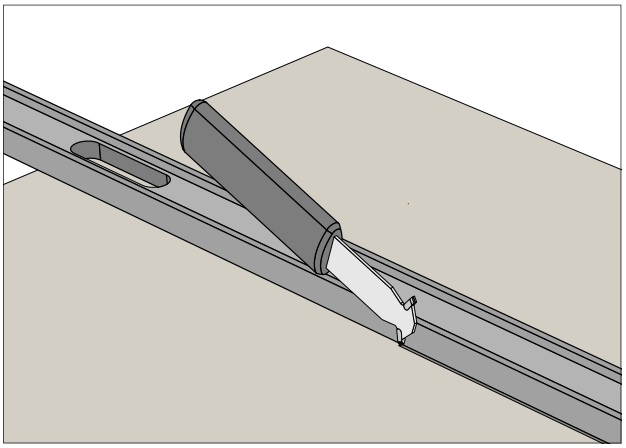
DO NOT dry sweep. Use wet suppression then sweep or H or M-Class vacuum.

NEVER use a saw blade that is not designed to cut fibre cement.

DO NOT continue activities if you are concerned about exposure levels or cannot comply with the above guidelines.

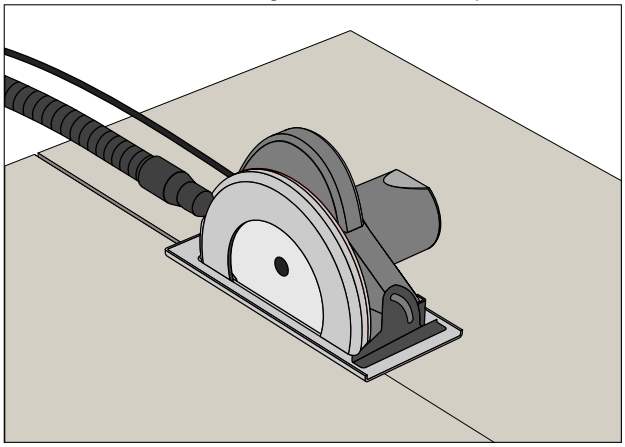
Score and Snap Knife

Score the face of the product using a straight edge and repeat until adequate depth is achieved for a clean break when pulling upwards. Smooth rough edges with a rasp.



Power Saw

Circular, compound mitre and track saws with dust extraction provide accurate and clean cuts. Ensure saw is fitted with a PCD 4 or 6 tooth fibre cement blade. Always follow the manufacturers guidelines for safe operation.



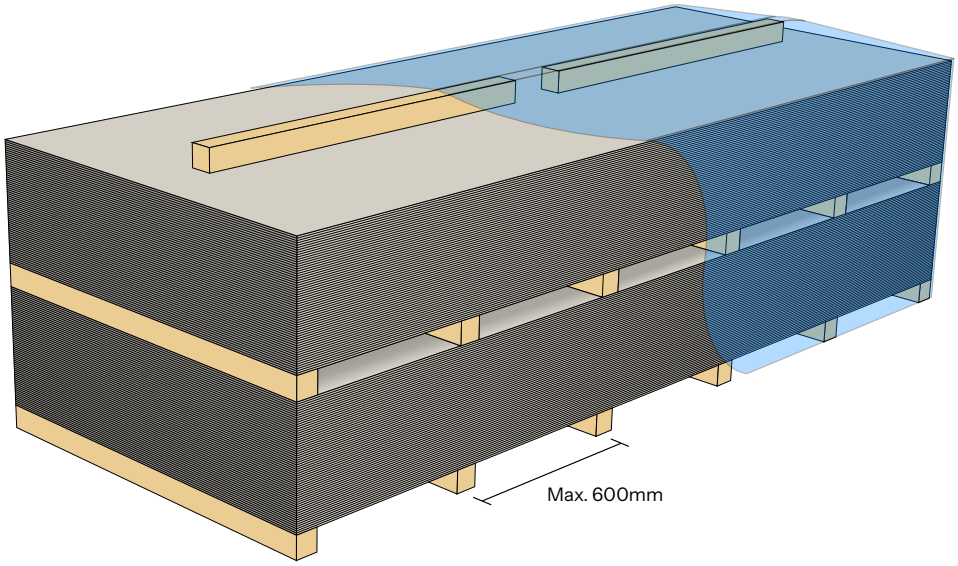
2. Storage and Handling

2.1 Storage

Duragrid® must be stored flat on pallets or level gluts at a maximum of 600mm, inside and undercover in dry conditions, protected from weather and potential influence of other trades.

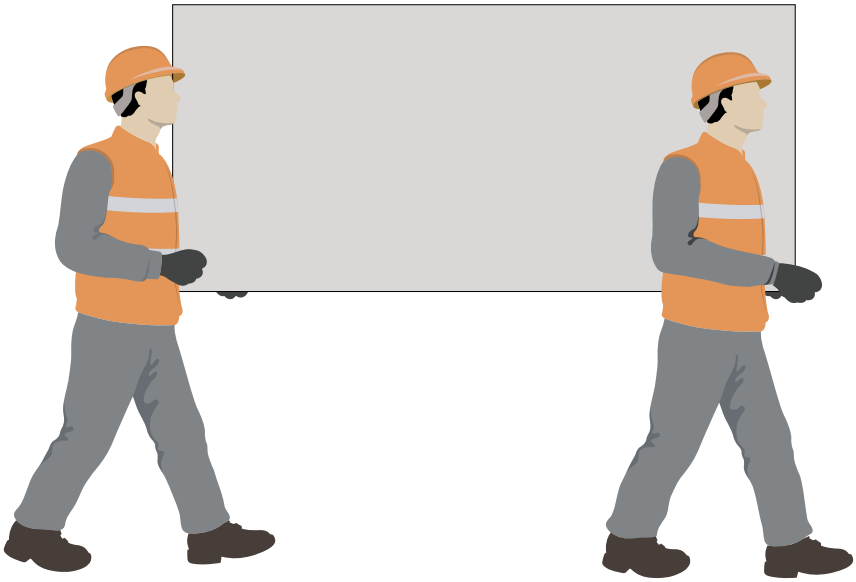
If outdoor storage is unavoidable, extra care and attention is needed to protect the product from rain and direct sun.

Protect the packs with a solid color waterproof cover such as a tarpaulin. This cover must be pitched in the center to allow for moisture to run off and avoid water pooling.



2.2 Handling

Duragrid® must be dry prior to fixing or finishing. Care should be taken to avoid damage to the ends, edges and surfaces. Panels must be carried on edge to avoid excessive bending. Coordination of installation is important to avoid damage from adjacent trades or activities. Damaged Duragrid® sheets must be replaced.



2.3 Inspection

Check sheets and components before starting installation, if there are signs of damage or defects, do not install and contact Innova for guidance.

3. Design and Construction

3.1 Considerations

It is recommended for project specific designs be undertaken by a qualified consultant.

All aspects of design and construction is required to align with all relevant provisions of the National Construction Code, state or territory specific regulations and Australian Standards.

The designer should determine the wind pressure for the project and specify the layout, spacing and fixing of the battens or top hats to the structure.

In all areas, care should be taken in the design detailing, especially around all openings, corners and other junctions, to ensure weather resistance of the total system.

Before cladding and the supporting substructure are installed and fixed, take care that all flashing and waterproofing elements are complete, including all wall wrap and damp-proof coursing.

3.2 General Framing

Frames must be straight and plumb within 3mm in any given 3000mm length of framing, Duragrid® will not straighten the primary frame.

Buildings in high wind zones will require specific design to be undertaken.

The deflection of the supporting structure should be limited span/250 for Serviceability Wind Load or as limited by AS/NZS 1170.2 Structural design actions Wind actions.

For timber frame walls exceeding 12 meters in length, it is advisable to include construction joints to account for movements caused by timber shrinkage or deflections due to loadings and other factors.

3.3 Timber Framing

Use of a timber frame must be in accordance with AS 1684 – residential timber-framed construction or AS 1720.1 Timber structures, and the framing manufacturers' specifications.

Timber framing must be dry prior to installation. If sheets is fixed to framing containing above 20% moisture content, problems may occur later due to excessive timber shrinkage. It is strongly recommended that kiln dried framing is used.

3.4 Steel Framing

Use of a steel frame must be in accordance with NASH Standard Residential and Low-rise Steel Framing Part 1: Design Criteria; and the framing manufacturer's specifications.

Framing members must have a Base Metal Thickness (BMT) between 0.55 to 1.6mm. The steel framing must have the appropriate level of durability required to prevent corrosion.

3.5 Thermal Break

NCC Vol. 1 Section J3D6 and Vol. 2 Section 13.2.5 for both residential and commercial buildings require a minimum R0.2 thermal break be installed behind external cladding where the cladding and internal lining are fixed directly to the same steel frame. Thermal breaks are not required when using a cavity cladding system.

3.6 Control Joints

It is recommended that the designer consider the need for control joints in the following cases:

- Mid floor joint.
- Where Duragrid® crosses a building control joint.
- Where there is a likelihood of movement within the sub frame.
- At a change in the structural substrate; e.g. masonry to steel.

Control joints in the primary frame must be reflected through Duragrid®.

3.7 Joint Positioning

Plan the location of vertical and horizontal joints before installation begins to follow the project facade and framing design.

Coordinate the joint locations with key structure elements such as windows, doors, entrance ways and architectural features. Alternatively, to achieve symmetry, work your joint positioning from the centerline out to the wall edge.

3.8 Moisture Management

Designers, specifiers and builders are responsible for managing moisture related risks through all phases of the construction project from design to completion.

The wall design and components must be appropriate for the intended application. The designer must consider any unique project requirements, considering both the interior and exterior sides of the wall. Special consideration should be given to buildings that are in extreme climates, proximity to bodies of water or at risk of wind-driven rain.

To reduce the risk of moisture related issues, Duragrid® must be installed after windows, doors, meter boxes and pipe penetrations.

In addition, all wall openings, including penetrations, junctions, connections, windows and doors, must incorporate appropriate flashing for weatherproofing. All other components and associated installation methods must be designed to manage moisture in walls and should comply with the relevant standards and the NCC.

3.9 Flashings

NCC Vol.1 F3V1 and Vol.2 H2V1 require the installation of flashings to building elements and critical junctions.

3.10 Alpine Regions

Duragrid® should not be used in environments where it will be in direct contact with snow or ice for prolonged periods. External walls in alpine regions must be protected where snow drifts over winter are expected.

When used in freeze/thaw conditions, Duragrid® must be painted immediately after installation.

3.11 Ground Clearances

Duragrid® must be installed so that the bottom edge is in line with NCC requirements. Duragrid® must not come into contact with standing water.

3.12 Termite Protection

NCC Vol. 2, Table 3.4.2 prescribes acceptable termite management systems and components for termite barriers. Where the exposed slab edge is used as part of the termite management system, a minimum of 75mm of the exposed slab edge must be visible to allow early detection of termite entry.

3.13 Slabs and Footings

The building's foundation and slab must meet the standards outlined in AS 2870 'Residential slabs and footings - Construction' and the requirements of the NCC.

4. Product Information

4.1 Introduction

Duragrid® is an expressed join cladding system that utilises factory sealed 9mm fibre cement sheet and timber battens or steel top hats creating a drained cavity that enhances thermal properties, achieving a higher R value. Duragrid® is suitable for both residential and commercial applications utilising timber and steel framed construction.

Duragrid® panels are designed to be installed vertically and horizontally in square or staggered patterns.

The material properties of Duragrid® provides tangible benefits and is suitable for:

- All building classes.
- All climate zones.
- Use as a light weight cladding system.
- Finishing in a variety of decorative finishes.
- Withstanding high wind pressures.
- Coastal areas.
- Non-combustible.

4.2 Durability

Innova Fibre Cement products have proven their resistance to heat and moisture exposure by complying with AS/NZS 2908.2 Cellulose-cement products Part 2: Flat sheets:

- Water permeability (Clause 6.2).
- Warm water (Clause 6.4).
- Heat rain (Clause 6.5).
- Soak dry (Clause 6.6).

4.3 Quality

Duragrid® is produced under ISO9001:2015 Certification for Quality Management Systems.

4.4 Product Conformance

Duragrid® is manufactured from Portland cement, finely ground sand, cellulose fibres and water. The sheets are cured in a high-pressure steam autoclave to create a durable, dimensionally stable product.

Innova fibre cement products are manufactured to conform to the requirements of AS/NZS 2908 Cellulose-Cement Products, Part 2: Flat Sheets.

Duragrid® is classified as Type A, Category 3.

4.5 Compliance

Codemark

The CodeMark Certification Scheme, administered by the Australian Building Codes Board, is a voluntary third-party certification program that validates compliance of new or innovative building products with the National Construction Code (NCC) requirements for specified applications in Australia.

Duragrid® is CodeMark certified (CM40422), meeting all relevant Building Code of Australia (BCA) requirements. The certificate is available at innovafibrecement.com.au.

Deemed to Comply

The NT Deemed to Comply Manual (DTCM) is referenced in the NCC Volume 2 Part H7D1 - Deemed to Satisfy Provisions as an acceptable construction manual for high wind areas.

For a complete list of products that are 'Deemed to Comply' please refer to www.ntlis.nt.gov.au/deemedtocomply

4.6 Fire Resistance

Non-Combustibility

Duragrid® has been tested to AS 1530.1 Methods for fire tests on building materials, components and structures, Part 1: Combustibility and is deemed non-combustible.

Duragrid® is suitable for use where non-combustible materials are required in accordance with the National Construction Code (NCC) Vol 1 Clause C2D10 & Vol 2 Clause H3D2.

The project specifier or certifier is responsible for ensuring that the materials, accessories and components are suitable and compliant for the specific building.

Fire Hazard Properties

Innova fibre cement products have been tested in accordance with AS/NZS 1530.3 Methods for fire tests on building materials, components and structures, Part 3: Simultaneous determination of ignitability, flame propagation, heat release and smoke release.

The indices for Fire Hazard Properties are as follows:

- Ignitability Index: 0
- Spread of Flame Index: 0
- Heat Evolved Index: 0
- Smoke Developed Index: 0 – 1

Heat and Smoke Release

Innova fibre cement products, tested per AS/NZS 3837 for heat and smoke release rates using an oxygen consumption calorimeter, have achieved a Group 1 classification under AS 5637.1, Determination of Fire Hazard Properties, Part 1: Wall and Ceiling Linings.

Boundary Walls

Duragrid®,in conjunction with Siniat external wall systems, are suitable for use on external walls with an FRL requirement of 60/60/60 & 90/90/90 on timber and steel framed walls.

For further guidance, refer to Siniat Blueprint, Section 4.1 - External Steel Stud Walls and 4.3 – External Timber Framed Walls at siniat.com.au/en-au/downloads.

Bushfire Applications

Duragrid® may be used as an external wall cladding to achieve up to BAL 40 when installed in accordance with this guide.

When Duragrid® is installed in conjunction with FRL 30/30/30 Siniat external wall systems, the requirements of AS 3959 and AS 1530.4 to achieve BAL FZ are satisfied.

For further guidance, refer to Siniat Blueprint, Section 4.1 - External Steel Stud Walls and 4.3 – External Timber Framed Walls at siniat.com.au/en-au/downloads.

4.7 Energy Efficiency

Thermal Conductivity

Thermal heat transfer into and out of the building envelope will affect the running cost of the building. Careful consideration of thermal heat transfer needs to be considered by the designer.

At equilibrium moisture content, the approximate thermal conductivity of Duragrid® is 0.23W/mK.

Insulation

Duragrid® will require insulation to be installed in some regions that have thermal loss regulations. Insulation should be installed in accordance with the manufacturer's instructions.

Table 1: Duragrid® Total R Values

Frame Type	System	Added insulation	Season	
			Summer	Winter
Timber	19mm Timber Durabatten	R2.7, 90mm	2.67	2.82
	Metal Durabatten		2.67	2.83
Steel	19mm Timber Durabatten		1.91	2.00
	Metal Durabatten		1.92	2.04

Total R Values (m2K/W) incorporate thermal bridging in accordance with AS/NZ 4859.1 Materials for the thermal insulation of buildings.

4.8 Weather Resistance

Duragrid® conforms to the NCC (Vol 1, Part H2 Damp and weatherproofing and Vol 2, Part F3 Roof and wall cladding) for exterior wall applications verified to AS/NZS 4284 Testing of Building Facades.

4.9 Weather Barrier

Wall Wrap

To weatherproof external walls, select a wall wrap compliant with AS/NZS 4200.1 and tailored to the NCC's eight climate zones: high vapour permeable wraps (Class 3 or 4) for humid, high-rainfall zones (1–2, e.g., Darwin, Brisbane); low vapor-permeable wraps (Class 1 or 2) for drier, temperate zones (5–7, e.g. Sydney, Melbourne); and high water-resistant wraps for alpine Zone 8 (e.g. Thredbo). Install to AS 4200.2 including taping of all joins, edges and penetrations, and the manufacturer's guidelines.

Rigid Air Barrier

For higher wind pressures, Durabarrier® is a robust, vapour permeable rigid air barrier, capable of withstanding high wind pressures - refer to Durabarrier® Design & Installation Guide for more information.

Wall Wrap Classification & Climate Zones

Climate Zone	Vapour Control Category
1	Vapour Barrier (Class 1 or 2)
2-8	Vapour Permeable (Class 3 or 4)

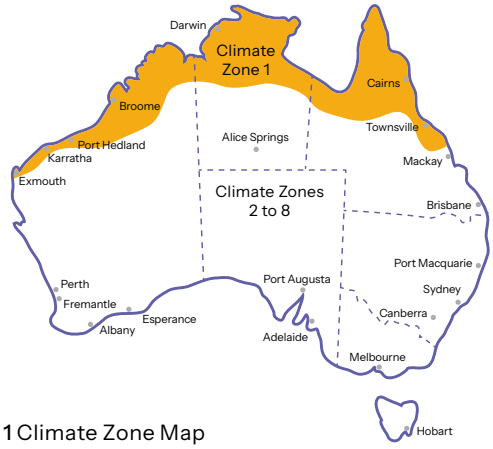


Figure 1 Climate Zone Map

4.10 Cavity Systems

The Duragrid® utilises a cavity system to support moisture management and thermal performance when paired with insulation and wall wraps tailored to NCC's eight climate zones, preventing moisture ingress by allowing water to escape through drainage holes while promoting airflow to reduce condensation risks.

Designers, specifiers, or builders must select a cavity system suited to the building's specific requirements; considering factors such as design complexity, climate zone, rainfall, and construction type (e.g., timber or steel frames). The Duragrid® Design and Installation Guide provides detailed designs for drained cavity systems, incorporating wall wrap compliant with AS/NZS 4200.1 as a drainage plane and air barrier, with a minimum cavity depth of 19mm.

To ensure compliance and durability, install the Duragrid® system and wall wrap to AS 4200.2 and the manufacturer's guidelines, including taping of all joins, edges and penetrations, maintaining unobstructed drainage holes and ventilation openings.

Refer to the ABCB website (ncc.abcb.gov.au) further details and climate zone specifications that align with site specific energy efficiency and condensation requirements.

4.11 Durabatten

Overview

Timber Durabattens shall be installed vertically on-stud (fixed directly to stud) or off-stud (batten fixed to noggings).

Off stud fixing is restricted to low wind areas with noggings spaced at maximum 800mm centres.

Metal Durabattens shall be installed vertically at maximum 600mm centres and fixed off-stud.

Refer to Tables 2-5 for detailed information on Durabatten and fastener spacing requirements.

Layout

At the base of the battens, an Innova 19mm PVC cavity closer is installed to facilitate airflow, drainage and vermin protection.

Depending on the design and wind load, Duragrid® is attached either through the Durabatten to the structural framing or fixed directly to the Durabatten - refer to Tables 2-5.

Unless otherwise noted, 2 fasteners shall be used at every batten fastening location.

Durabattens must be discontinuous across horizontal construction joints.

Corners, joints, junctions, and penetrations such as window and door openings, require specific treatments with typical details outlined in this guide.

Where additional support is needed for flashings or similar components, a short spacer batten can be used. Install with a minimum 5° slope from the horizontal to ensure adequate moisture drainage.

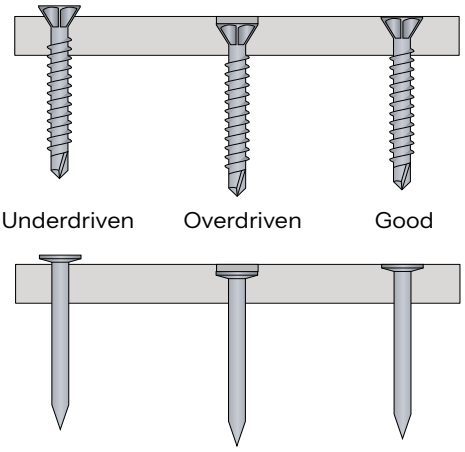


Figure 2: Fastener Positioning

4.12 Fasteners

For all fixing and layout configurations, apply a continuous bead of polyurethane sealant adhesive to the face of metal top hats or timber battens to bond the back of the Duragrid® sheet. For fixing and layout details, refer to Sections 7 and 8.

Fasteners must have the appropriate level of durability and be compatible with all other materials required for the intended project. Contact the fastener manufacturer for further information.

Countersinking refers to screw fixing only. Nails shall be driven flush with the surface, except for brad and bullet head nails which shall be driven a maximum 1mm below the surface and finished appropriately.

Pre-countersinking is required so that the fastener is sufficiently under the surface, ready for filling with an appropriate filler and sanded smooth. Patch priming and may be required prior to finishing and must be carried out in accordance with coating manufacturer's specifications.

Screw countersinking depth for Duragrid® - maximum 1mm below the surface.

When using screws to fasten fibre cement, use a cordless drill driver with torque settings only.

Fasteners must not be under or overdriven.

4.13 Structural Design

Weatherproofing Requirements

- Weatherproofing in N1, N2, N3, N4, C1, C2; use AS/NZS 4200.1 vapour permeable wall wrap or Durabarrier® rigid air barrier system.
- Weatherproofing in N5, N6, C3; use Durabarrier® rigid air barrier system.

Duragrid® Requirements

- When screw fixing, Duragrid® sheets shall be pre-drilled and countersunk with the Innova countersinking tool.
- All vertical sheet edges must be supported by Timber or Metal Durabatten.
- Timber Durabatten (75x19mm H5 Treated Ply) cannot be substituted.
- Metal Durabatten (70x19x0.75BMT G300 and 70x35x0.75BMT G300) cannot be substituted.
- All Duragrid® sheet fasteners shall be placed minimum 15mm for nails, 18mm for screws from sheet vertical edges and 50mm from sheet corners.

Frame, Batten and Fastener Requirements

The construction details in Section 8 show a typical configuration using Timber Durabattens with brad nails for timber framed walls. The four figures below show alternative fixing configurations for Timber or Metal Durabattens and fasteners on timber or steel frames. Apply the principles of structural fixity and weathertightness demonstrated below to all details in Section 8 of this document.

- Timber Durabattens must be installed vertically on-stud (fixed directly to studs) or off-stud (fixed to noggings at max. 800 mm centres), with off-stud fixing limited to N1–N3 wind classes.
- Metal Durabattens must be installed vertically at max. 600 mm centres, fixed off-stud.
- Refer to Tables 2-5 for detailed information on Durabatten and fastener spacing requirements.

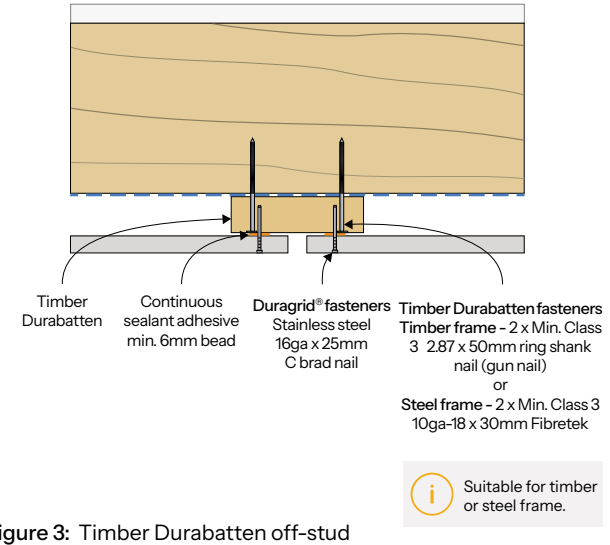


Figure 3: Timber Durabatten off-stud
(Refer to Table 2 for detailed information)

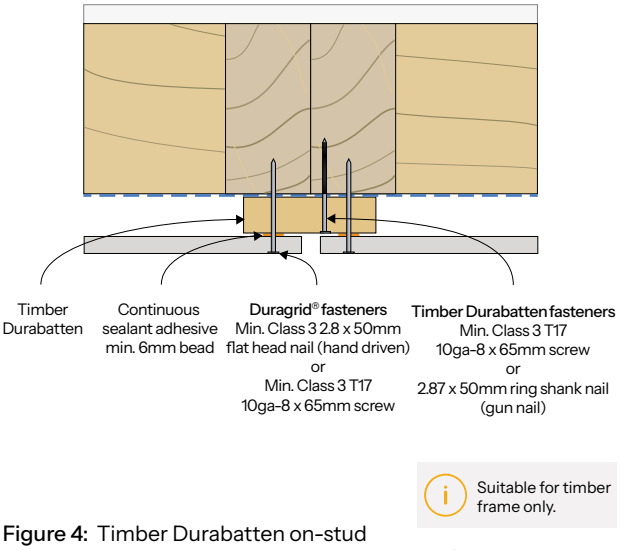


Figure 4: Timber Durabatten on-stud
(Refer to Table 3 detailed information)

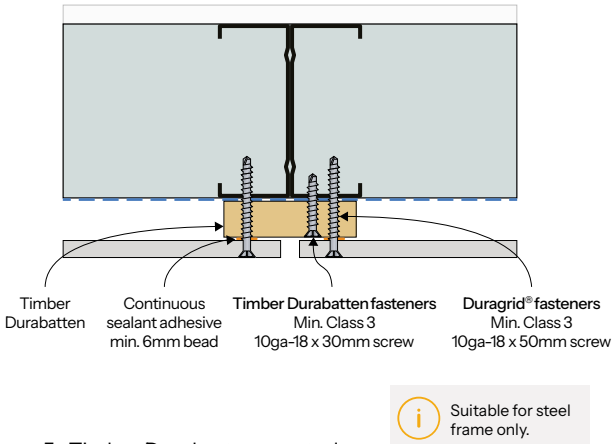


Figure 5: Timber Durabatten on-stud
(Refer to Table 3 for detailed information)

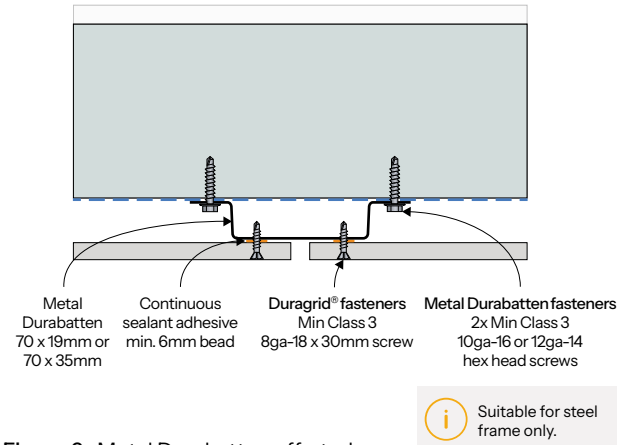


Figure 6: Metal Durabatten off-stud
(Refer to Table 4 & 5 detailed information)

4.13 Structural Design

Table 2: Timber Durabatten Off-stud - 16ga C Brad Nails

Wind Classification AS4055	Max. Design Ultimate Limit State Wind pressure AS/NZS 1170.2 (kPa)		Timber Durabatten fasteners		Maximum span 70x19 Timber Durabatten (mm)	Within 1200mm of corners (mm)		General Areas of Walls (mm)		
	Within 1200mm of corners	General wall area	Timber Frame - AS1684 or AS 1720.1	Steel Frame - NASH Standard		Timber Durabatten spacing	Fastener spacing	Timber Durabatten spacing	Fastener spacing	Duragrid® sheet fasteners
N1w	-0.94	-0.53, +0.62	2 x Class 3 2.8x50mm ring shank nail	2 x Class 3 10ga-18x30mm CS screw	800	600	200	600	200	Stainless Steel 16ga x 25mm C Brad Nails
N2w	-1.3	-0.74, +0.86			800	600	200	600	200	
N3w	-2.03	-1.16, +1.35			800	450	200	600	200	

Notes:
1. Weatherproofing in N1, N2, N3; use AS/NZS 4200.1 vapour permeable wall wrap or Durabarrier® rigid air barrier system.
2. All sheet vertical edges must be supported on 75x19mm Timber Durabatten.
3. Durabatten max. 800mm span fixed to framing with 2x 2.87 x 50mm D-head ring-shank nails or 2 x 10ga-18 x 30mm CS screw at each location.
4. Continuous 6-8mm bead of adhesive between Durabatten and Duragrid®.
5. Durabatten fixing lengths shall be increased by 6mm when used in conjunction with Durabarrier® rigid air barrier system.
6. Timber Durabatten (75x19mm H5 Treated Ply) cannot be substituted.

Table 3: Timber Durabatten On-stud

Wind Classification AS4055	Max. Design Ultimate Limit State (ULS) Wind pressure AS/NZS 1170.2 (kPa)		Within 1200mm of corners (mm)		General Areas of Walls (mm)		Duragrid® sheet fasteners	
	Within 1200mm of corners	General wall area	Stud spacing	Fastener spacing	Stud spacing	Fastener spacing	Timber Frame - AS1684 or AS 1720.1	Steel Frame - NASH Standard
N1w	-0.94	-0.53, +0.62	600	200	600	200	Class 3 2.8 x 65mm flat head nail OR Class 3 10ga-8x65mm screw (7)	Min. Class 3 10ga-18x50mm screw
N2w	-1.3	-0.74, +0.86	600	200	600	200		
N3w	-2.03	-1.16, +1.35	600	200	600	200		
N4w	-3.01	-1.72, +2.01	450	200	600	600		
N5w	-4.44	-2.53, +2.96	450 (Timber) 300 (Steel)	200	450	200		
N6w	-5.99	-3.42, +3.99	300	100	450	200		
C1w	-2.70	-1.80, +1.80	450	200	450	200		
C2w	-4.02	-2.68, +2.68	300	200	450	200		
C3w	-5.91	-3.94, +3,94	300	100	300	200	Class 3 10ga-8x65mm (7)	

Notes:
1. For Weatherproofing in N1, N2, N3, N4, C1, C2, use either AS/NZS 4200.1 vapour permeable moisture barrier; or Durabarrier® rigid air barrier system.
2. For Weatherproofing in N5, N6, C3, C4, use Durabarrier® rigid air barrier system.
3. All sheet edges must be supported on structural framing (noggings are typically not suitable structural framing).
4. Fixings shall be minimum 15mm from sheet edges & 50mm from sheet corners.
5. All fixing lengths shall be increased by 6mm when used in conjunction with Durabarrier® rigid air barrier system.
6. Steel Framing in shall be; min. 0.55mm BMT G550 for N1 to N3; min. 0.75mm BMT G550 for N4-N6 & C1 to C4.
7. Screw fixings to timber framing shall be pre-drilled and countersunk with the Innova countersinking tool.

4.13 Structural Design

Table 4: Metal Durabatten Top Hat 70x19x0.75BMT G300

Wind Classification AS4055	Max. Design Ultimate Limit State (ULS) Wind pressure AS/NZS 1170.2 (kPa)		Maximum span 70x19x0.75 Durabatten (mm)	Within 1200mm of corners (mm)		General Areas of Walls (mm)	
	Within 1200mm of corners	General wall area		Max. Durabatten spacing	Fastener spacing	Max. Durabatten spacing	Fastener spacing
N1w	-0.94	-0.53, +0.62	900	600	200	600	200
N2w	-1.3	-0.74, +0.86	900	600	200	600	200
N3w	-2.03	-1.16, +1.35	850	450	200	600	200
N4w	-3.01	-1.72, +2.01	750	450	190	450	200
N5w	-4.44	-2.53, +2.96	750	300	200	450	200
N6w	-5.99	-3.42, +3.99	650	300	100	450	150

Notes:
1. For Weatherproofing in N1, N2, N3, N4 use either AS/NZS 4200.1 vapour permeable moisture barrier; or Durabarrier® rigid air barrier system.
2. For Weatherproofing in N5, N6 use Durabarrier® rigid air barrier system.
3. All fixing lengths shall be increased by 6mm when used in conjunction with Durabarrier® rigid air barrier system.
4. All supporting structure must be designed as structural framing to resist out-of-plane wind pressures.
5. Cladding fixings into battens shall be, 8ga-18 x 30mm countersunk screws, min. 18mm from sheet edges & 50mm from sheet corners (75mm from joints with the horizontal backing strip).
6. All cladding fixings shall be pre-drilled and countersunk with the Innova countersinking tool.
7. It is the project engineer's responsibility to specify the connection of top hats to the supporting structure.
8. Steel Framing for N1-N3 shall be min. 0.75mm BMT G550, with batten fixings 10ga-16 x 25mm hex head screws, 2 fasteners per fixing location.
9. Steel Framing for N4-N6 shall be min. 1.0mm BMT G550, with batten fixings 12ga-14 x 25mm hex head screws, 2 fasteners per fixing location.
10. In N1 to N4 top hats may be supported on 2 framing members (single-span).
11. In N5 to N6 top hats shall be supported on a minimum of 3 framing members (double-span).
12. Top hats shall be min. 70 x 19 x 0.75BMT, G300.

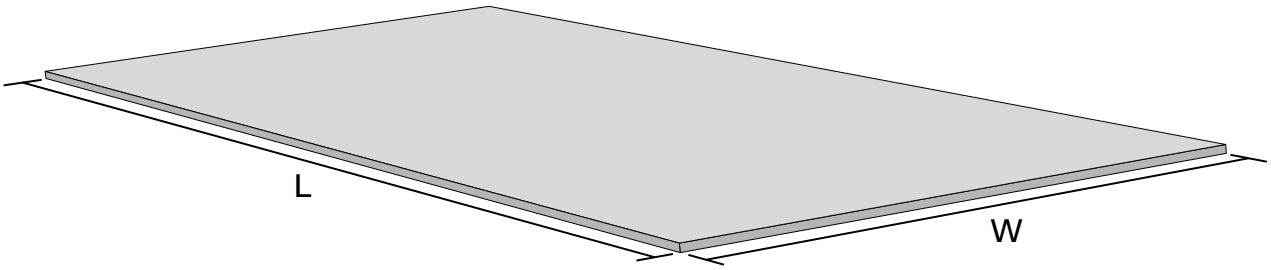
Table 5: Metal Durabatten Top Hat 70x35x0.75BMT G300

Wind Classification AS4055	Max. Design Ultimate Limit State (ULS) Wind pressure AS/NZS 1170.2 (kPa)		Maximum span 70x35x0.75 Durabatten (mm)	Within 1200mm of corners (mm)		General Areas of Walls (mm)	
	Within 1200mm of corners	General wall area		Max. Durabatten spacing	Fastener spacing	Max. Durabatten spacing	Fastener spacing
N1w	-0.94	-0.53, +0.62	900	600	200	600	200
N2w	-1.3	-0.74, +0.86	900	600	200	600	200
N3w	-2.03	-1.16, +1.35	900	600	200	600	200
N4w	-3.01	-1.72, +2.01	900	600	140	600	200
N5w	-4.44	-2.53, +2.96	850	450	125	600	165
N6w	-5.99	-3.42, +3.99	650	450	100	450	150
C1w	-2.70	-1.80, +1.80	900	450	200	450	200
C2w	-4.02	-2.68, +2.68	900	300	200	450	200
C3w	-5.91	-3.94, +3,94	900	300	100	300	200

Notes:
1. For Weatherproofing in N1, N2, N3, N4, C1, C2, use either AS/NZS 4200.1 vapour permeable moisture barrier; or Durabarrier® rigid air barrier system.
2. For Weatherproofing in N5, N6, C3, C4, use Durabarrier® rigid air barrier system.
3. All fixing lengths shall be increased by 6mm when used in conjunction with Durabarrier Rigid Air Barrier System.
4. All supporting structure must be designed as structural framing to resist out-of-plane wind pressures.
5. Cladding fixings into battens shall be, 8ga-18 x 30mm countersunk screws, min. 15mm from sheet edges & 50mm from sheet corners (75mm from joints with the horizontal backing strip).
6. All cladding fixings shall be pre-drilled and countersunk with Innova countersinking tool.
7. It is the project engineer's responsibility to specify the connection of top hats to the supporting structure.
8. Steel Framing for N1-N3 shall be min. 0.75mm BMT G550, with batten fixings 10ga-16 x 25mm hex head screws, 2 fasteners per fixing location.
9. Steel Framing for N4-N6 & C1-C4 shall be min. 1.0mm BMT G550, with batten fixings 12ga-14 x 25mm hex head screws, 2 fasteners per fixing location.
10. In N1 to N4 top hats may be supported on 2 framing members (single-span).
11. In N5 to N6 top hats shall be supported on a minimum of 3 framing members (double-span).
12. Top hats shall be min. 70x35x0.75BMT, G300.

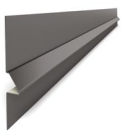
5. Products & Accessories

5.1 Duragrid®



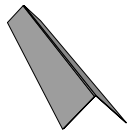
Product	Width (W)	Length (L)	Thickness	Coverage	Mass	Weight	Pack Size	Product Code
Duragrid®	590mm	2390mm	9mm	1.41m²	12.4kg/m²	17.48kg	40	4092588
	890mm	1790mm		1.59m²		19.7kg		4092586
	1190mm	1190mm		1.41m²		17.48kg		4092585
	1190mm	2990mm		2.84m²		35.26kg		4092589

5.2 Accessories Supplied by Innova

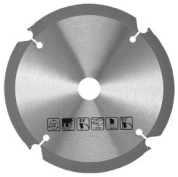
Product	Description	Size	Product Code
	Timber Durabatten H5 treated ply	19 x 75 x 2700mm	4092848
	Metal Durabatten 0.75BMT top hat	19 x 70 x 3000mm	311584
		35 x 70 x 3000mm	311655
	uPVC 19mm Cavity Closer	2700mm	4092846
	Sikaflex® 11FC+ sealant adhesive	300g	4092847
	Countersinking tool		4092903
	Horizontal backing strip	1190mm	298168
		2390mm	298169
		2990mm	298170
	Aluminium internal corner	12 x 3000mm	4092821
	Aluminium external corner	12 x 3000mm	4092817

5. Products & Accessories

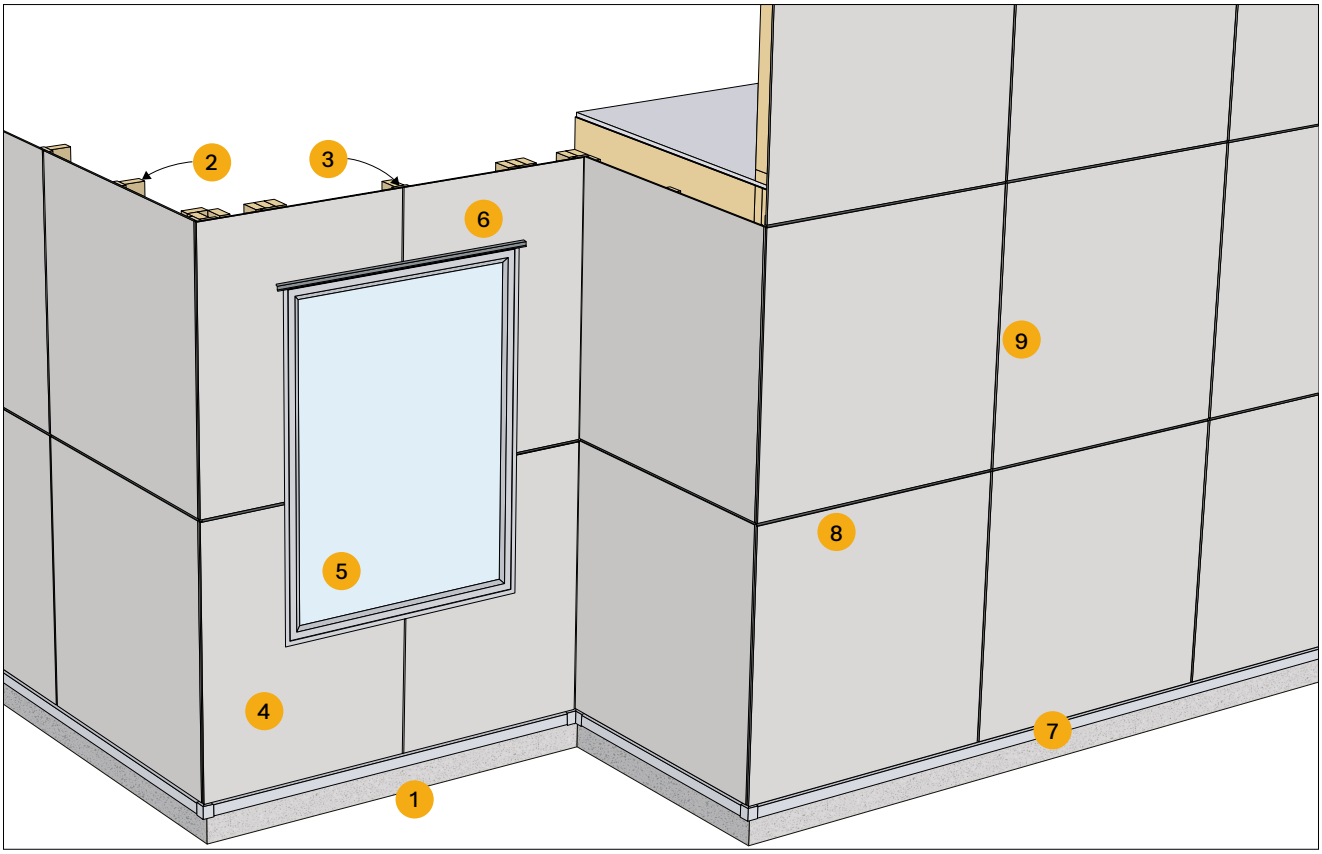
5.2 Accessories Supplied by Innova

Product	Description	Size	Product Code
	External corner flashing	60 x 60 x 3000mm	311580
	Internal corner flashing	60 x 60 x 3000mm	311579
	Effects® base trim	3950mm	4094245
	Effects® straight joiner	57mm	4094246
	Effects® external corner	50 x 50mm	4094247
	Effects® internal corner	50 x 50mm	4094248

5.3 Accessories by Others

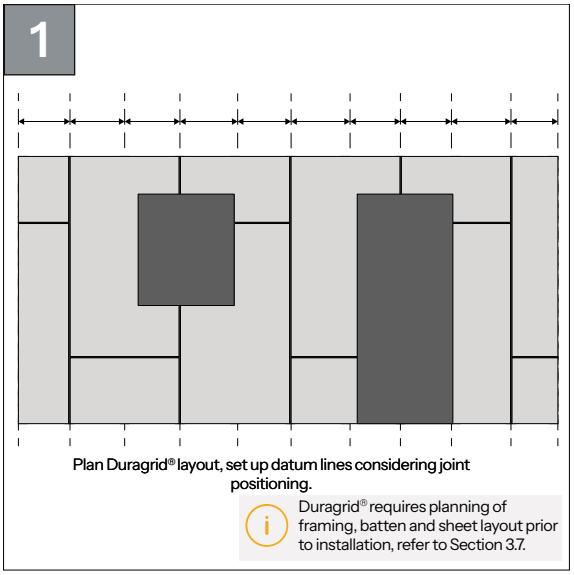
Product	Description	Size
Timber Durabatten to Frame		
	Min. Class 3 Flat head nail - *For use with Timber Frame*	2.8 x 50mm
	Min. Class 3 Ring shank gun nail - *For use with Timber Frame*	2.87 x 50mm
	Min. Class 3 Type 17 (T17) screw - *For use with Timber Frame*	10ga-8 x 65mm
	Min. Class 3 Countersunk screw - *For use with Steel Frame*	10ga-18 x 30mm
Metal Durabatten to Frame		
	Min. Class 3 Hex head screw - *For use with min. 0.75mm BMT steel frame*	10ga-16 x 25mm
	Min. Class 3 Hex head screw - *For use with min. 1.0mm BMT steel frame*	12ga-14 x 25mm
Duragrid® to Timber Durabatten		
	Min. Class 3 Flat head nail	2.8 x 50mm
	Stainless steel C Brad nail	1.6 x 25mm (16ga)
	Min. Class 3 Countersunk screw	10ga-18 x 50mm
Duragrid® to Metal Durabatten		
	Min. Class 3 Countersunk screw	8ga-18 x 30mm
Hand Operated Tools		
	Score and snap knife	
	Hand guillotine	
Power Tools		
	Fibre cement shears	
	4T or 6T PCD fibre cement blade	
	Plunge/track saw, circular saw fitted with dust extraction port	
	Class M or H vacuum	

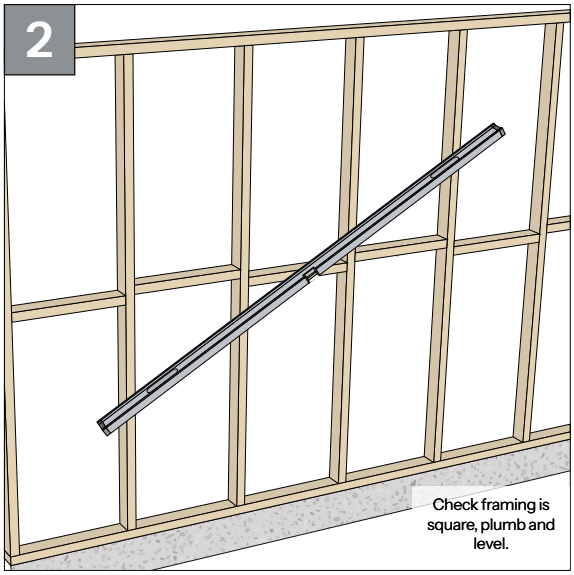
6. System Overview

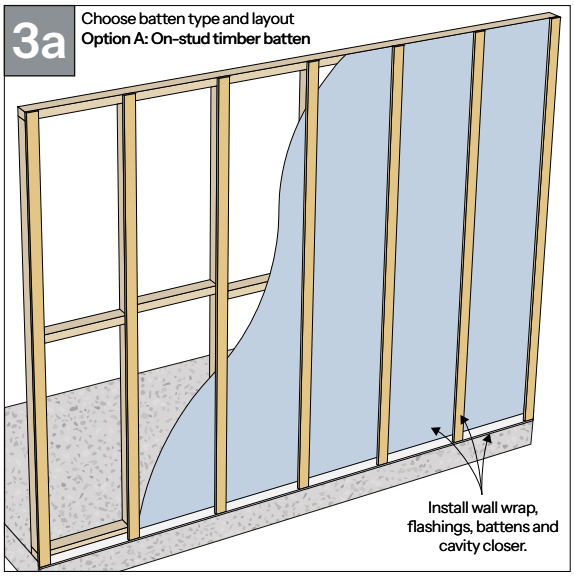


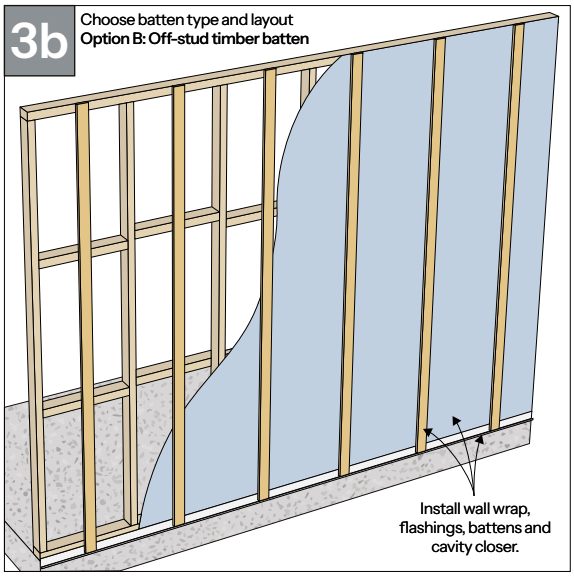
1. **Foundation** (concrete, steel or timber)
2. **Primary frame** (timber or steel)
3. **Timber batten or metal top hat**
4. **Duragrid®**
5. **Window**
6. **Head flashing**
7. **Effects® base trim (optional)**
8. **Horizontal backing strip**
9. **Vertical expressed join**

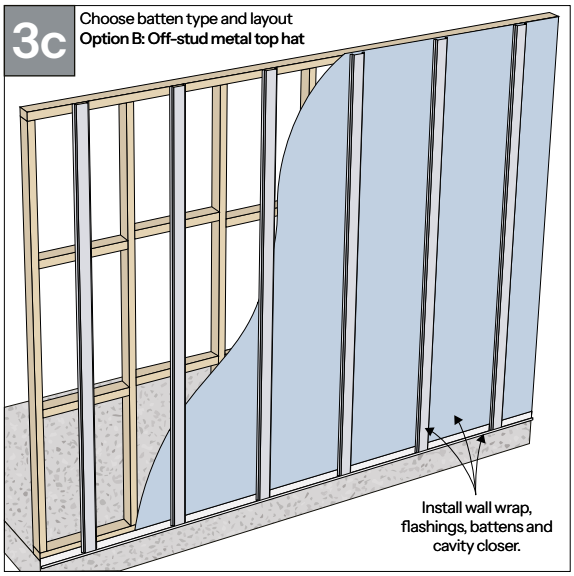
7. Installation

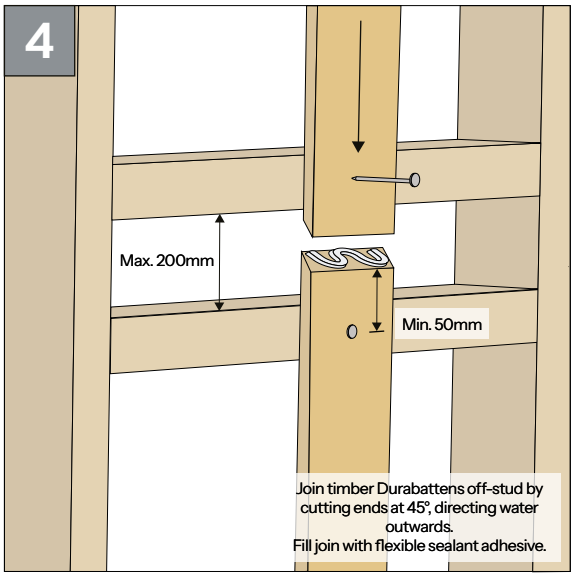




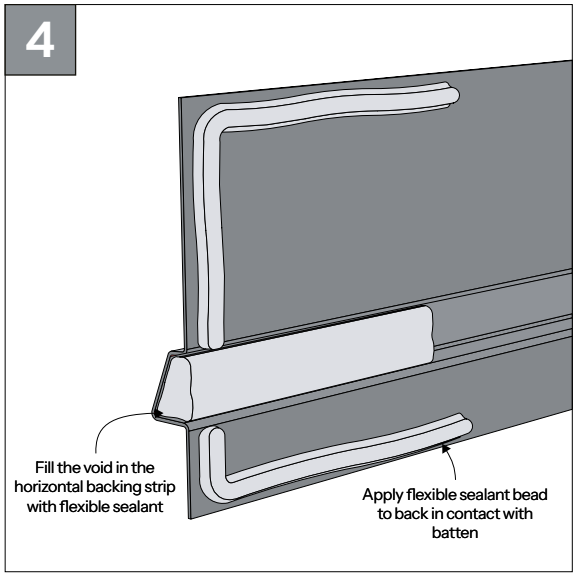


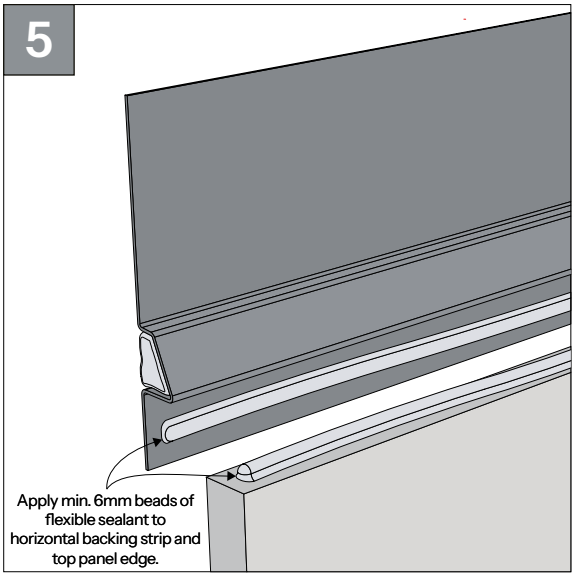


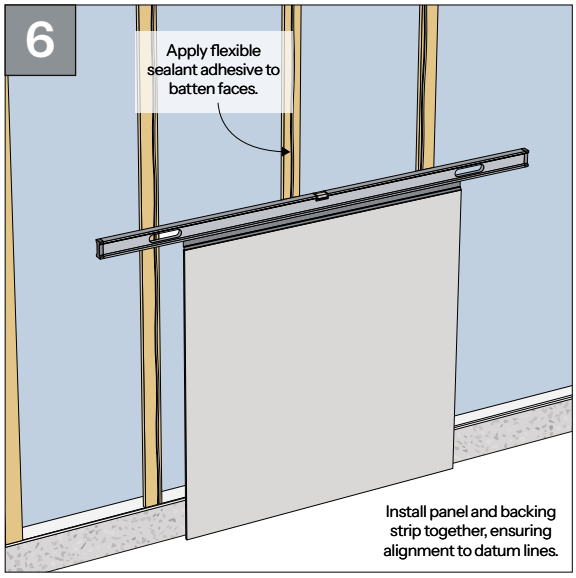


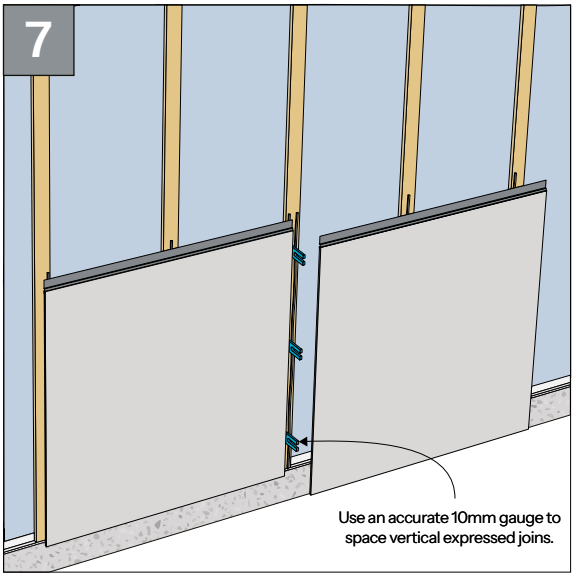


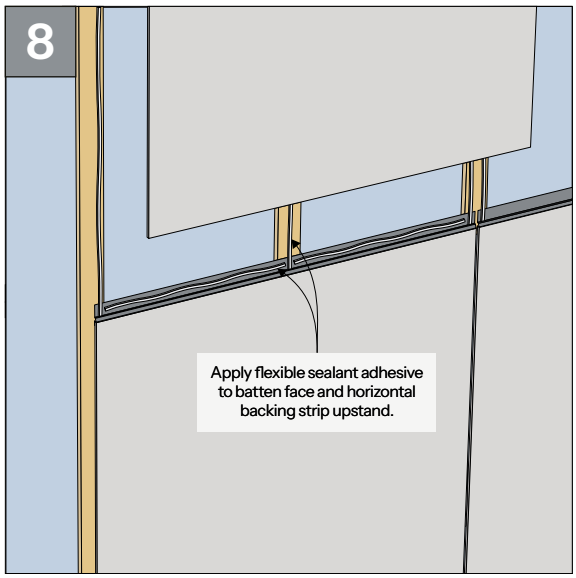
7. Installation

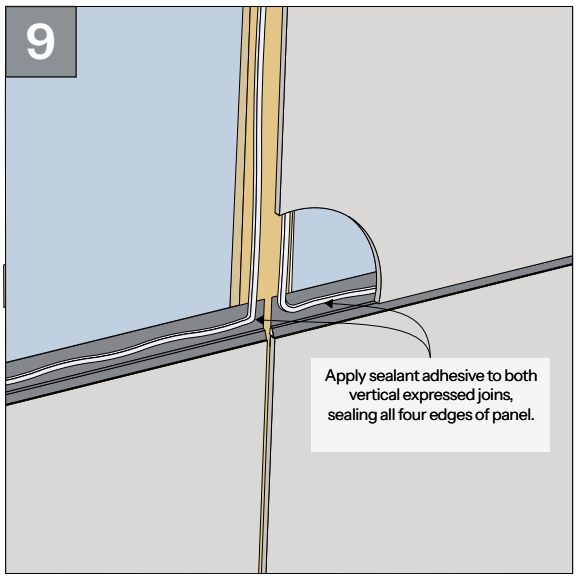












8. Construction Details

8.1 Frame & Batten Layout

The Duragrid® system offers versatile sheet layout options, using factory cut sheet sizes allowing you to customize the aesthetic of your project. It can be installed horizontally or vertically, with the flexibility to create square, stackbond or offset patterns for a tailored look.

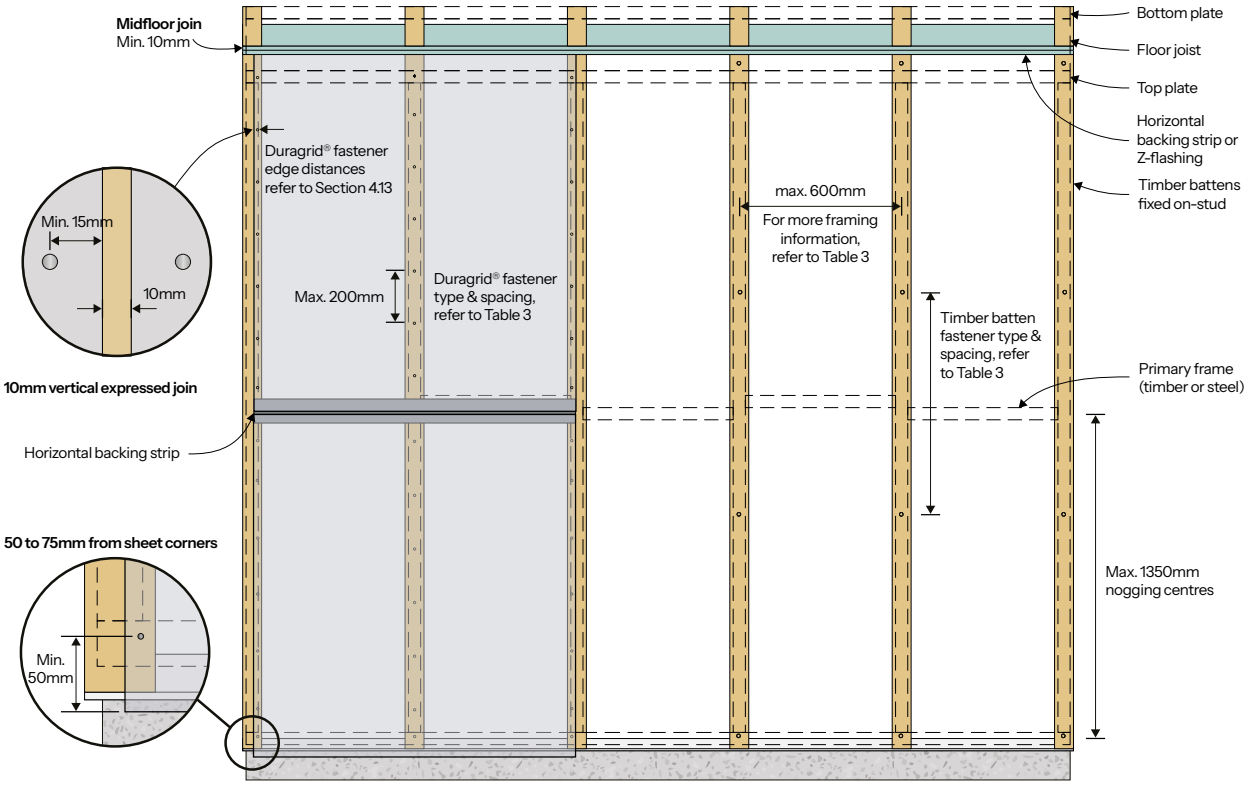


Figure 7 On-stud timber batten layout Plan

Z-Flashing required at max. 7m of continuous cladding.

Wall wrap omitted for clarity.

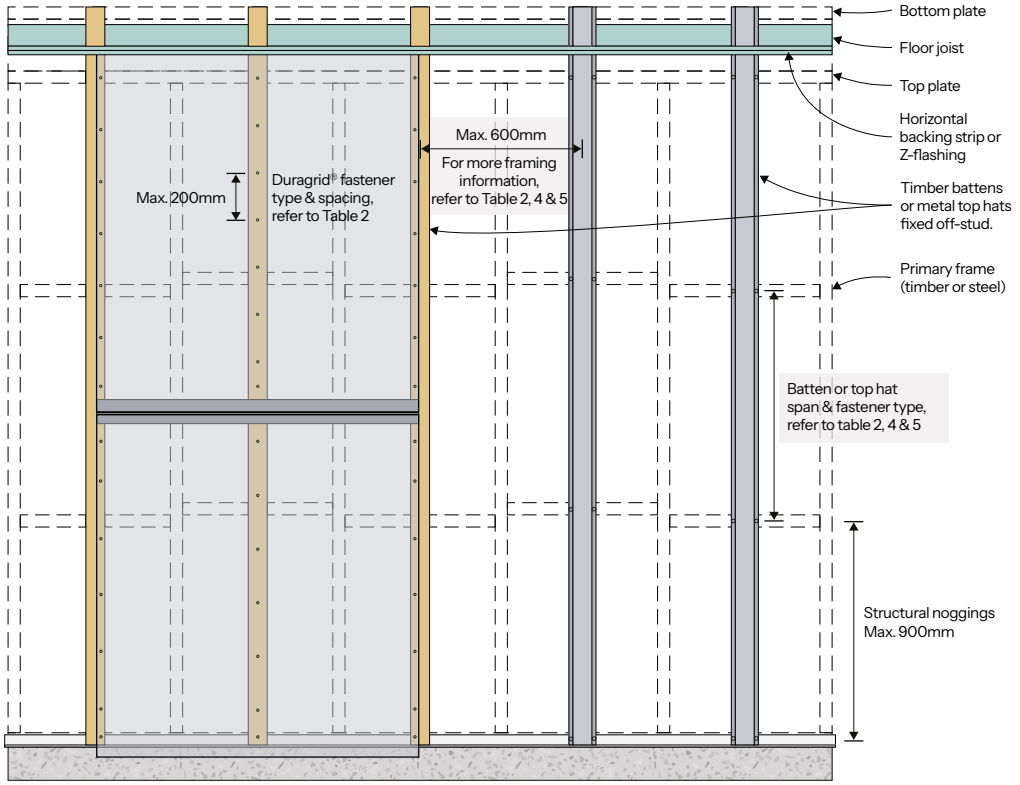
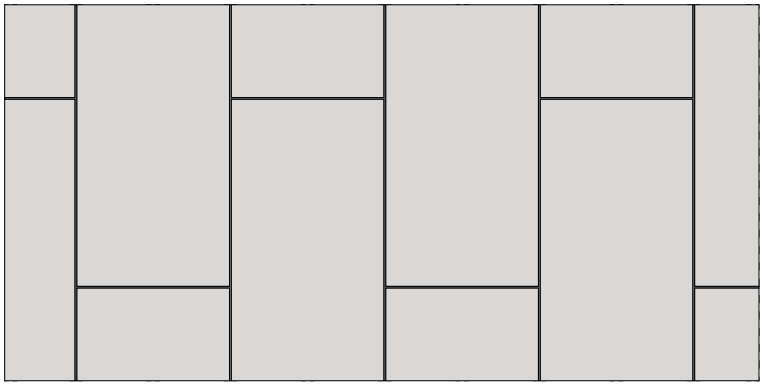


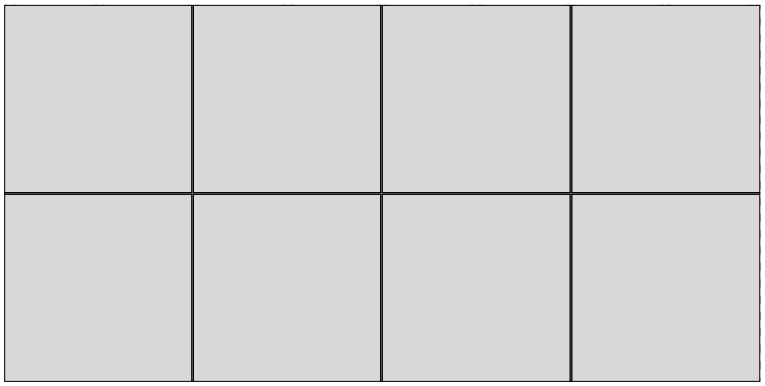
Figure 8 Off-stud timber batten or metal top hat layout Plan

8. Construction Details

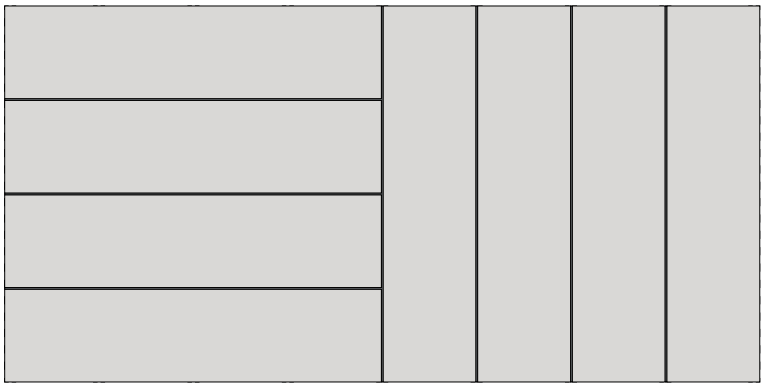
8.2 Duragrid® Layout Options



Vertical orientation | Offset pattern | 1790mm x 890mm Sheets



Square pattern | 1190mm x 1190mm Sheets



Horizontal & vertical orientation | Stackbond pattern | 2390mm x 590mm Sheets

Horizontal orientation | Offset pattern | 2990mm x 1190mm Sheets

8. Construction Details

8.3 Details

The following construction details show a typical configuration using Timber Durabattens with brad nails for timber framed walls. Section 4.13 contains alternative fixing configurations for Timber or Metal Durabattens and fasteners on timber or steel frames.

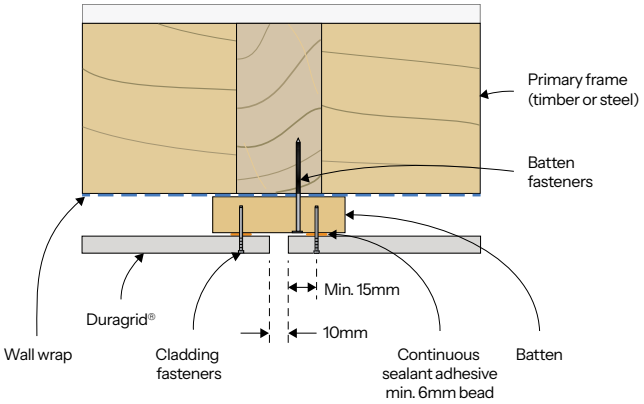


Figure 9 Vertical expressed join detail - Timber batten Plan

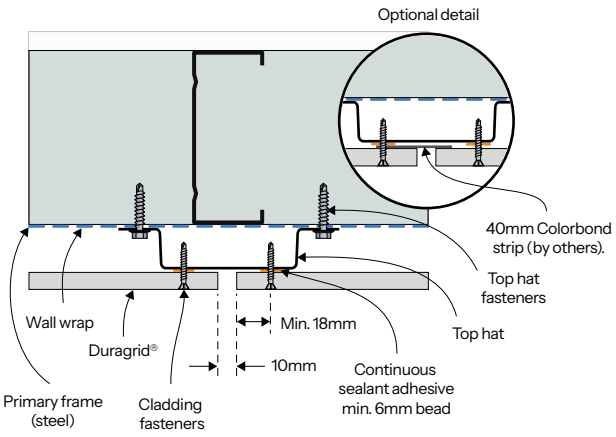


Figure 12 Vertical expressed join detail - Metal top hat Plan

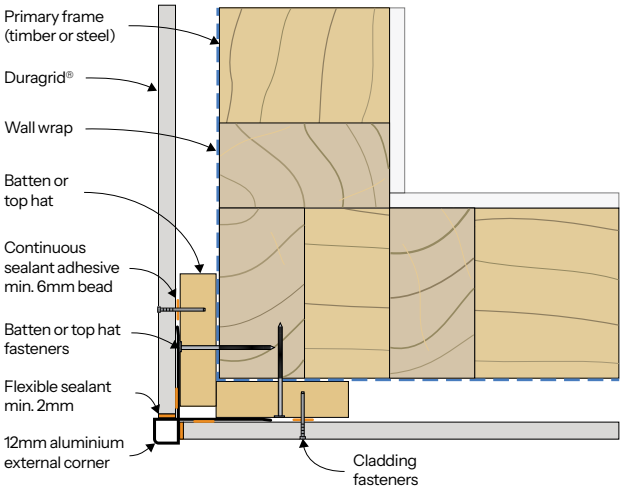


Figure 10 Aluminium external corner detail Plan

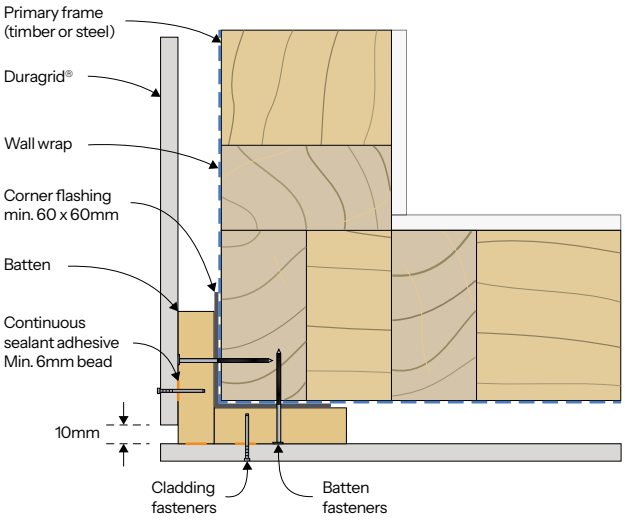


Figure 13 External corner expressed join detail - Timber batten Plan

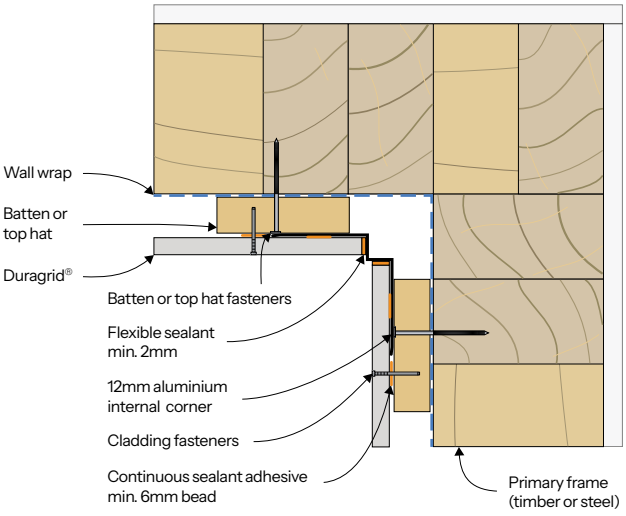


Figure 11 Aluminium Internal corner detail Plan

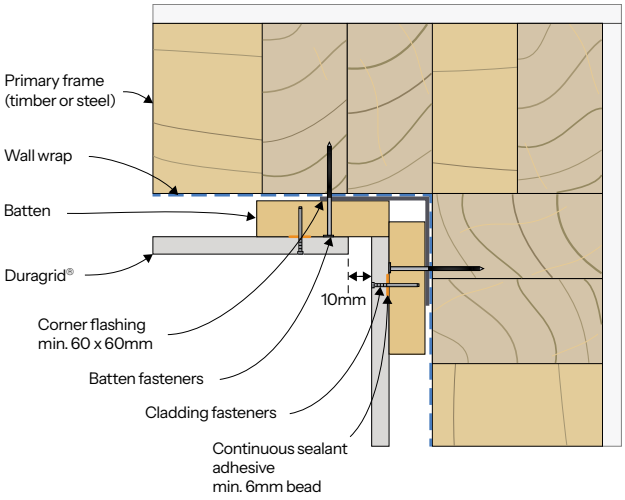


Figure 14 Internal corner expressed join detail - Timber batten Plan

8. Construction Details

8.3 Details

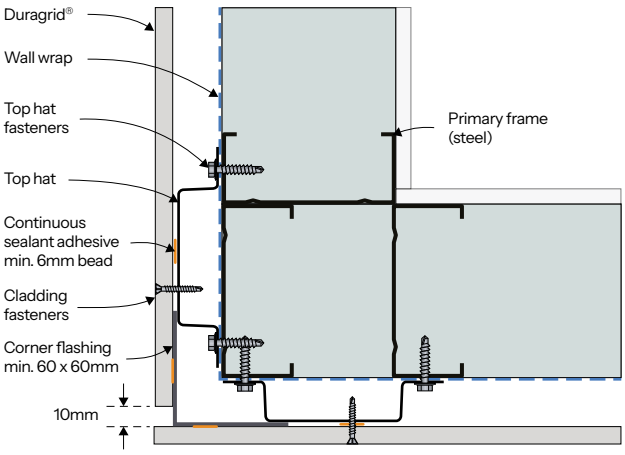


Figure 15 External corner expressed join - metal top hat detail Plan

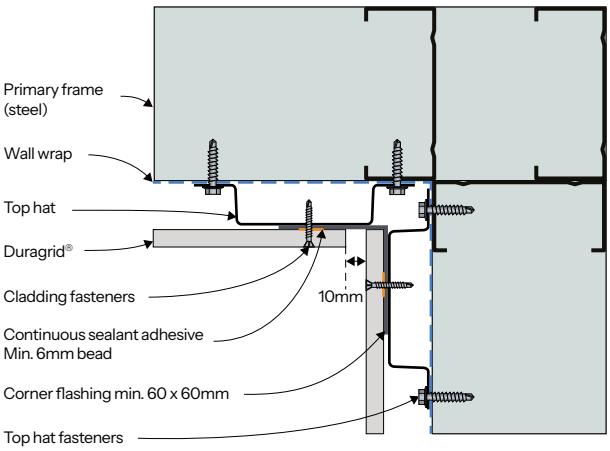


Figure 18 Internal corner expressed join detail - metal top hat detail Plan

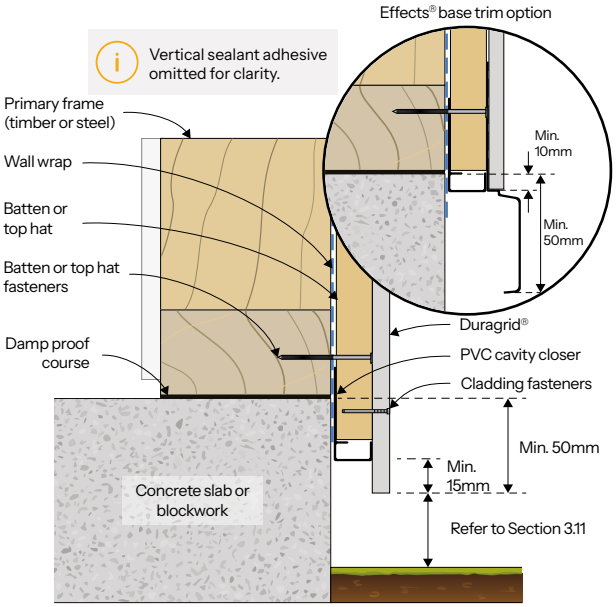


Figure 16 Slab edge detail Section

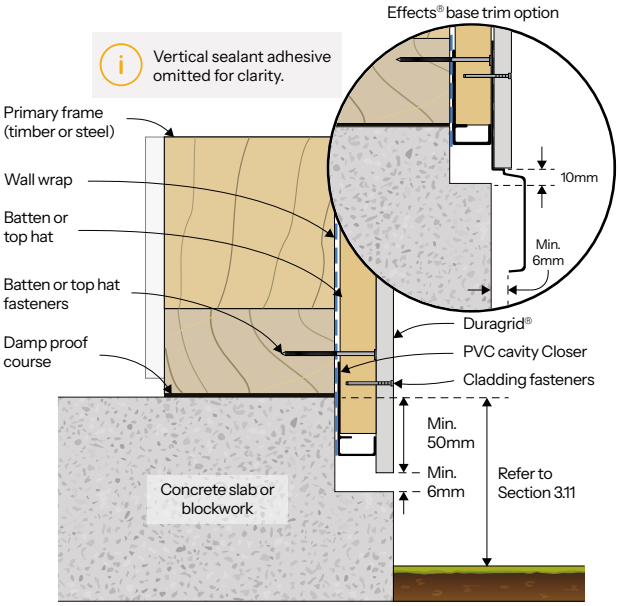


Figure 19 Rebated slab edge detail Section

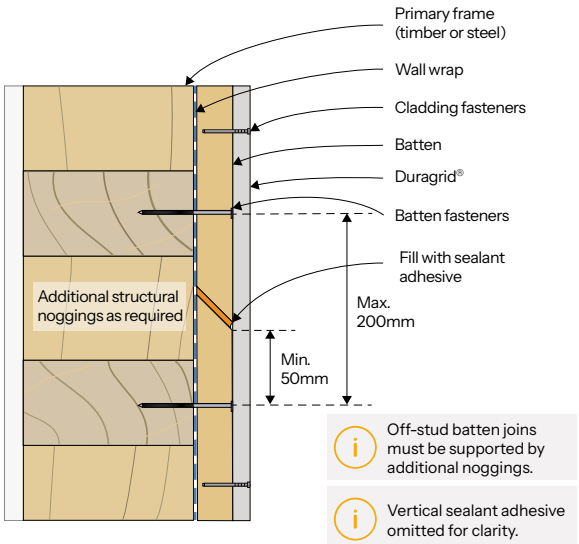


Figure 17 Timber batten join detail Section

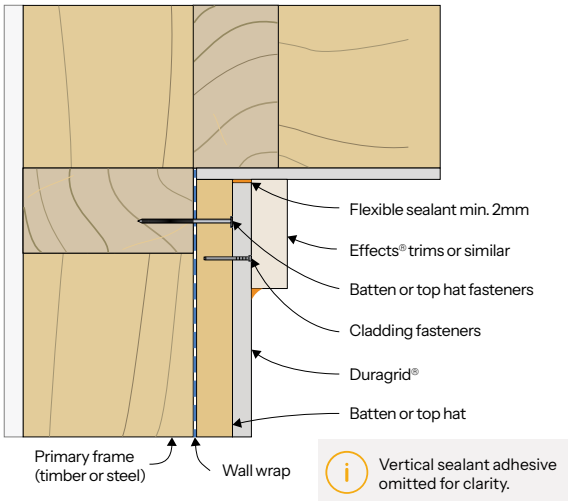


Figure 20 Soffit/wall junction detail Section

8. Construction Details

8.3 Details

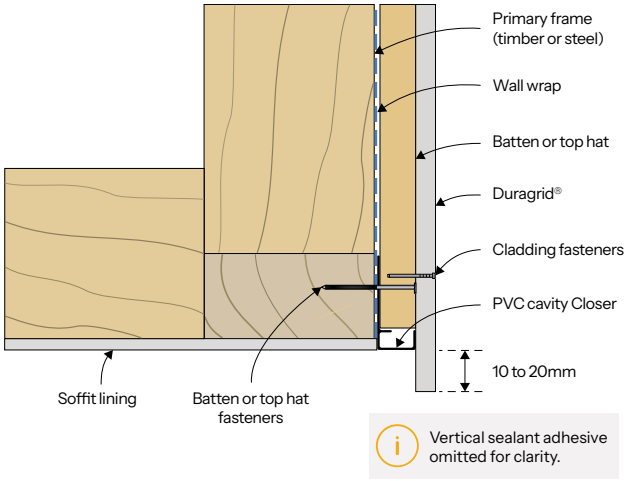


Figure 21 Cantilever wall/soffit junction detail Section

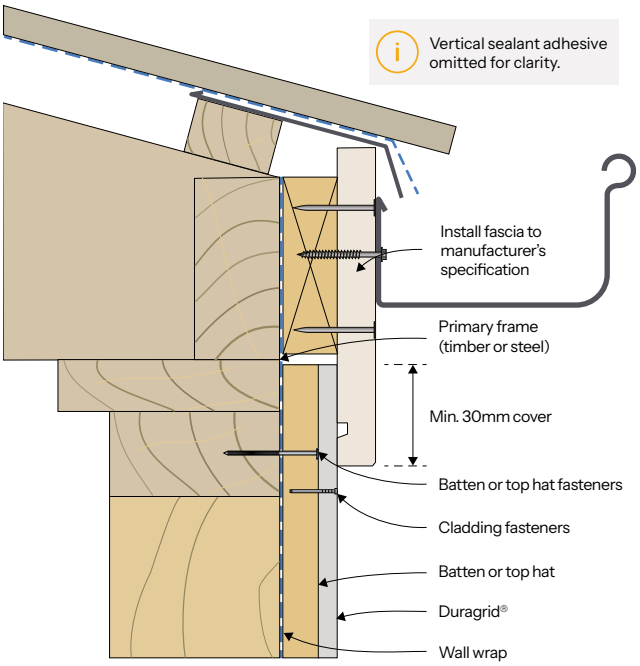


Figure 22 Wall/fascia junction detail Section

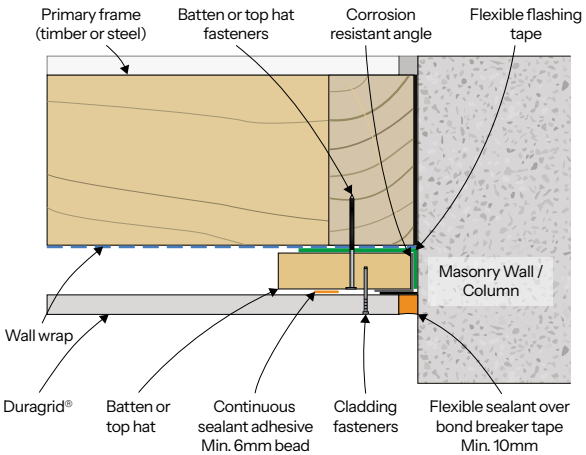
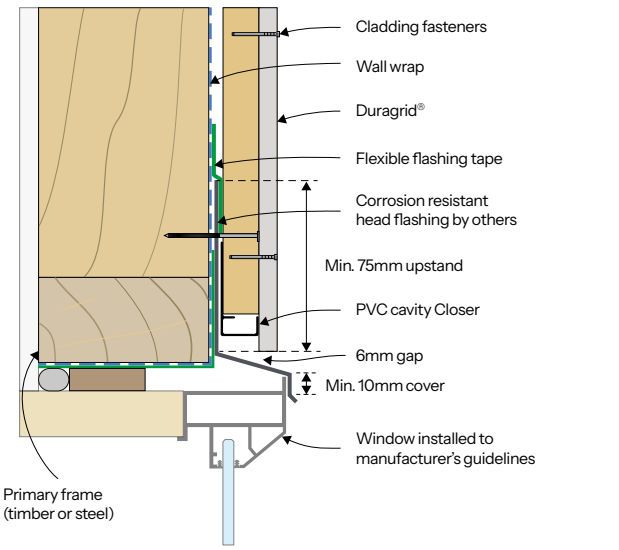


Figure 23 Wall/column abutment detail Plan



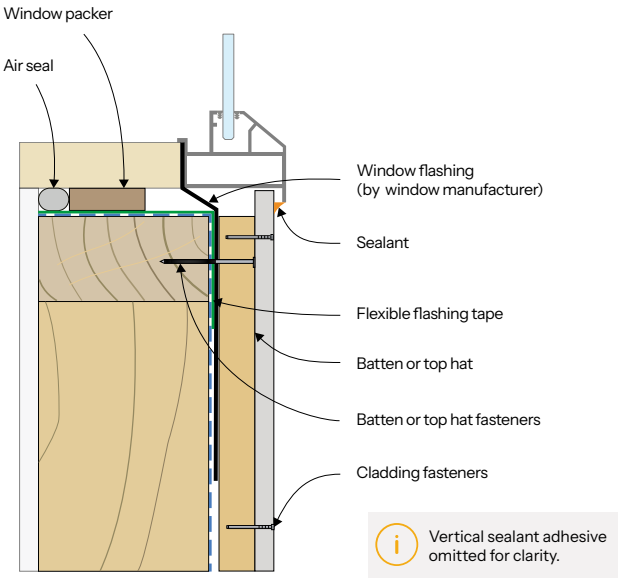


Figure 24 Window head & sill detail Section

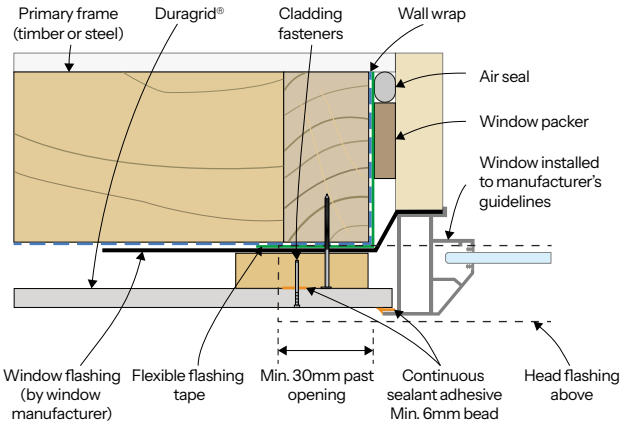


Figure 25 Window jamb detail Plan

8. Construction Details

8.3 Details

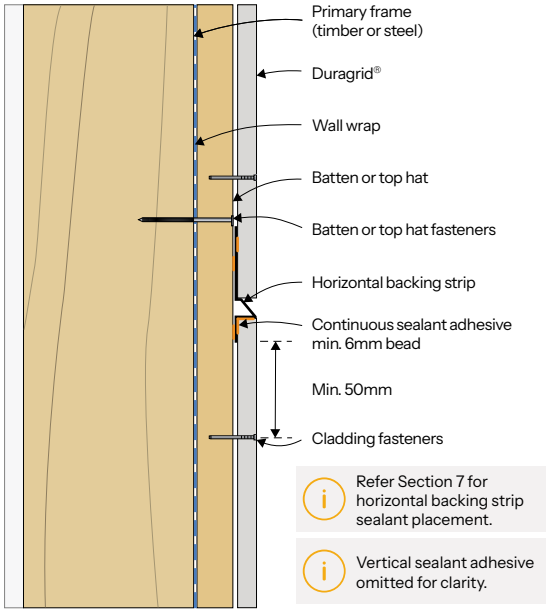


Figure 26 Horizontal join detail Section

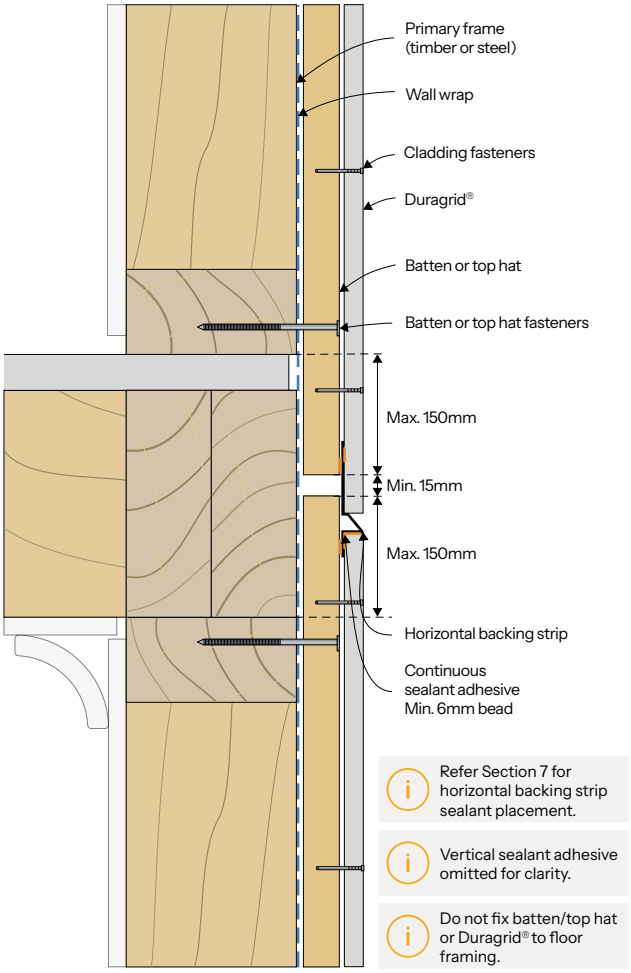


Figure 27 Midfloor join detail Section

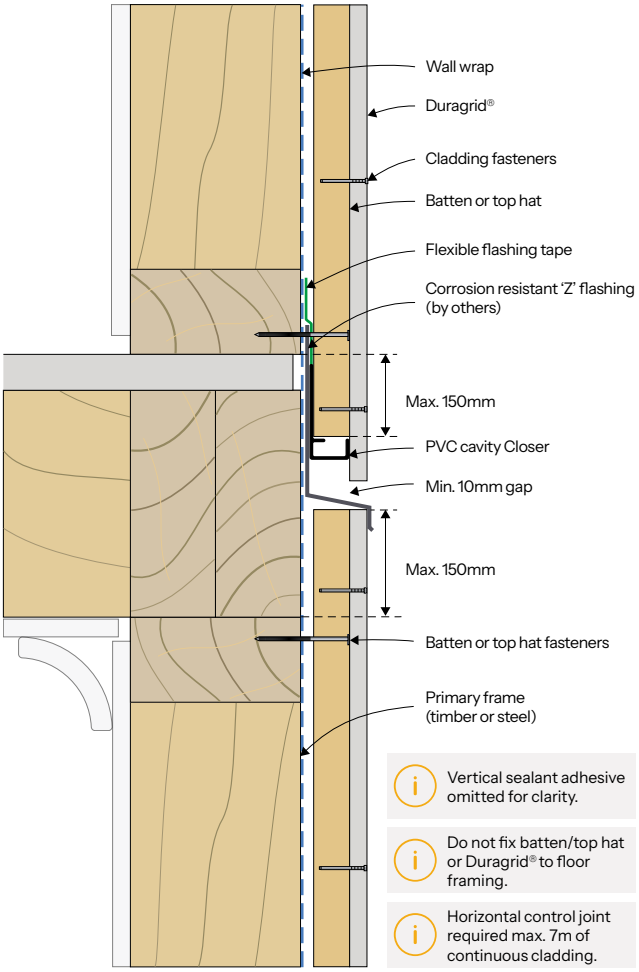


Figure 28 Midfloor join - drained detail Section

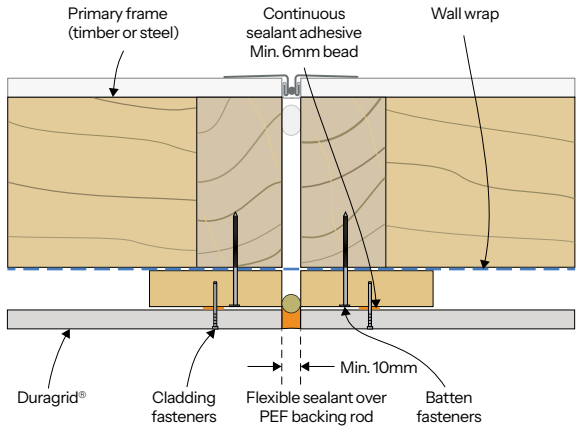


Figure 29 Vertical control joint detail Plan

8. Construction Details

8.3 Details

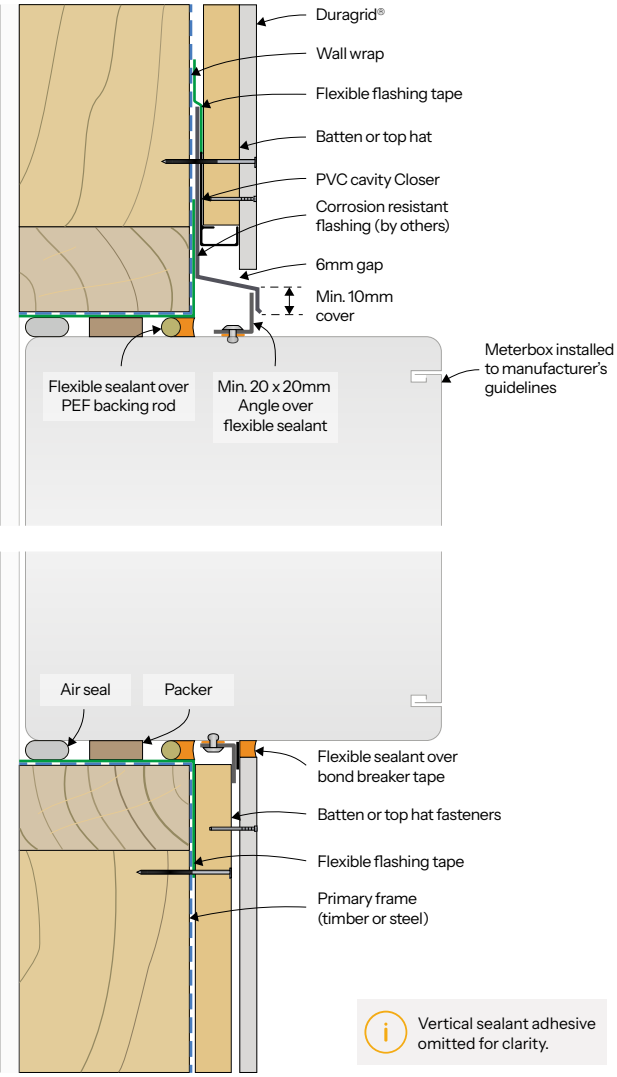


Figure 30 Meterbox head & sill detail Section

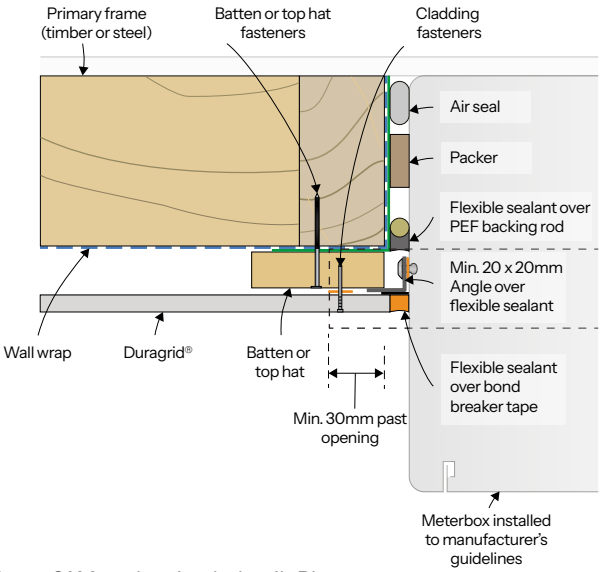


Figure 31 Meterbox jamb detail Plan

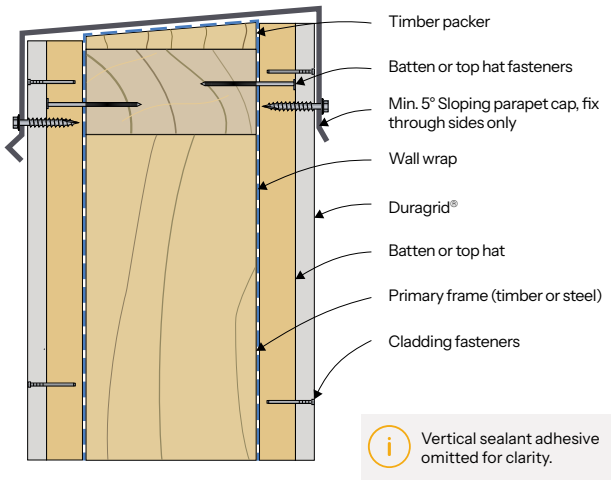


Figure 32 Parapet detail Section

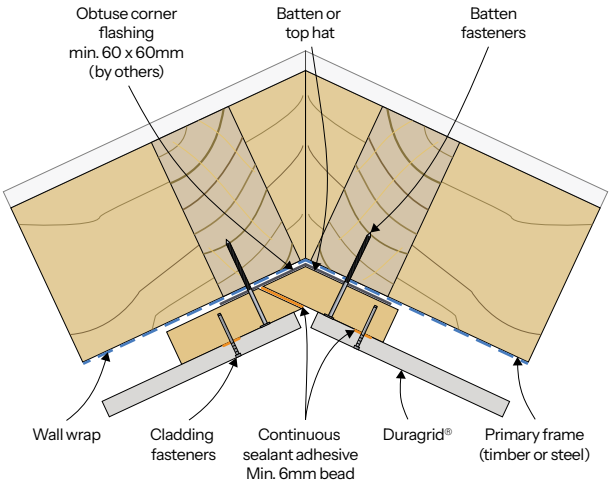


Figure 33 Obtuse corner detail Plan

8. Construction Details

8.3 Details

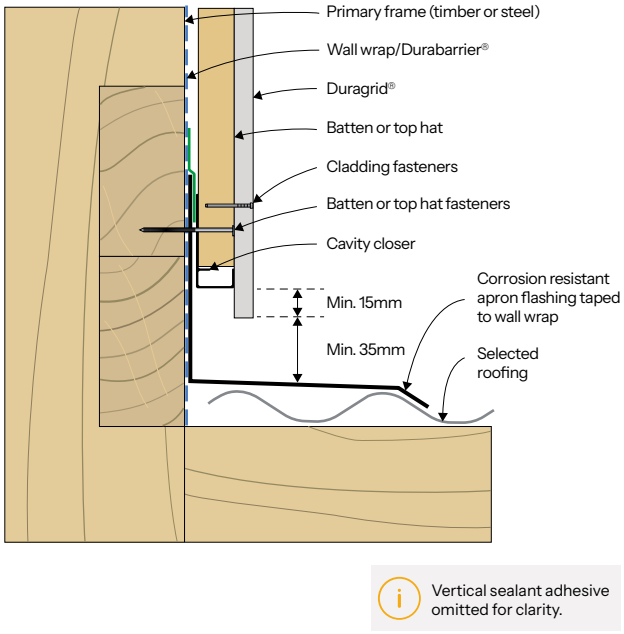


Figure 34 Parallel apron flashing detail Section

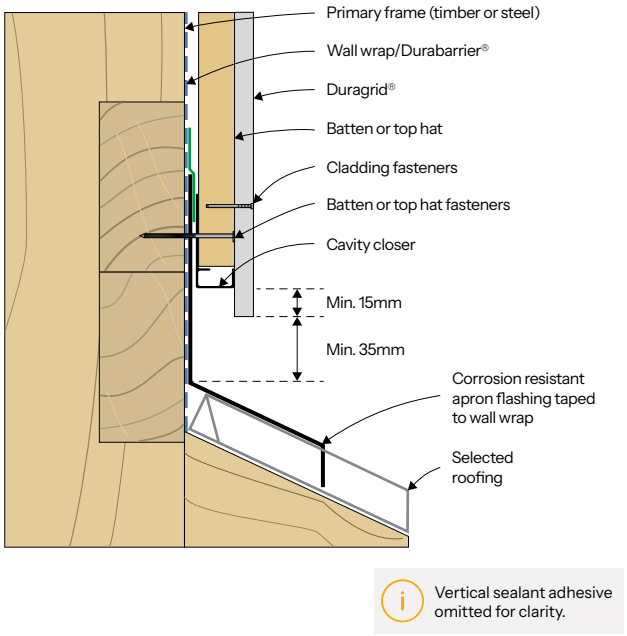


Figure 36 Transverse apron flashing detail Section

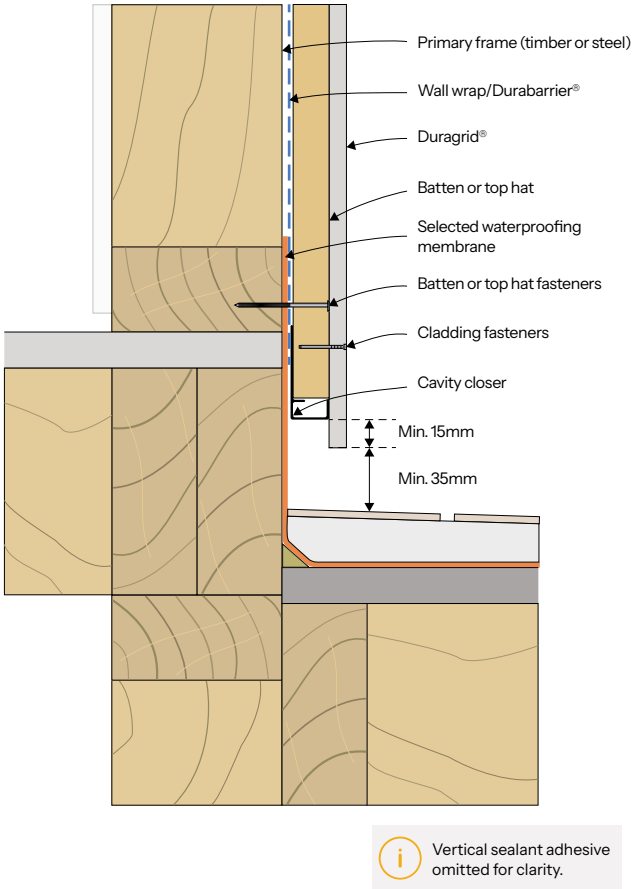


Figure 35 Enclosed Balcony Detail Section

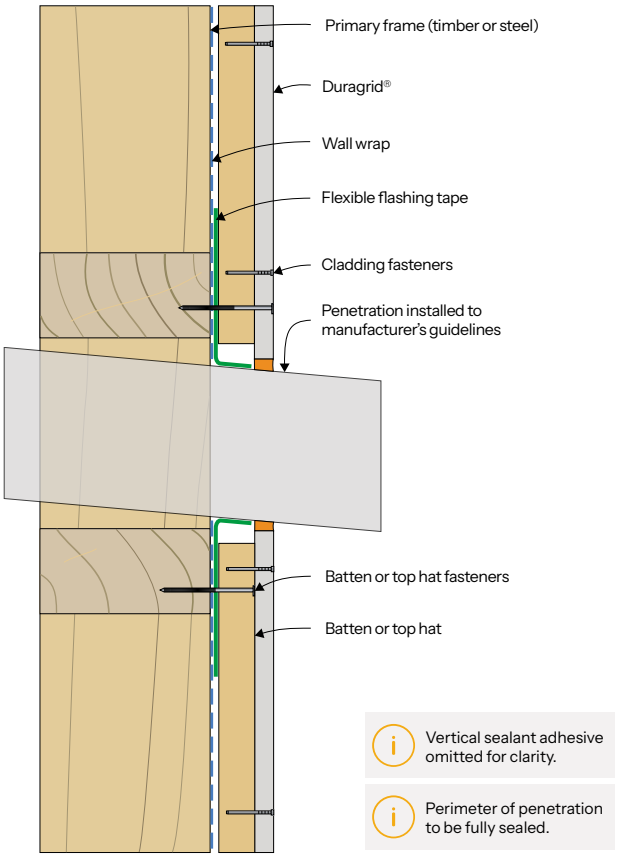
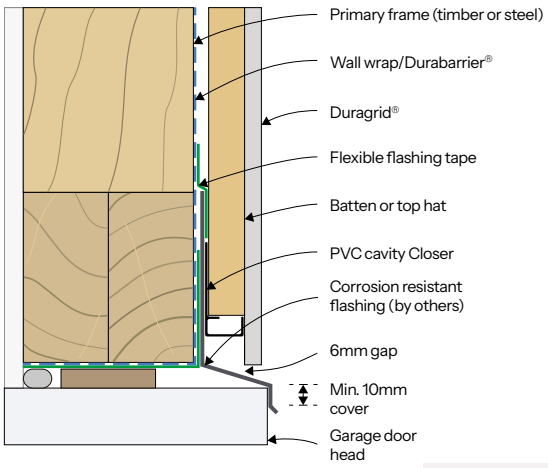


Figure 37 Penetration Detail Section

8. Construction Details

8.3 Details



Vertical sealant adhesive omitted for clarity.

Figure 38 Garage door head detail Section

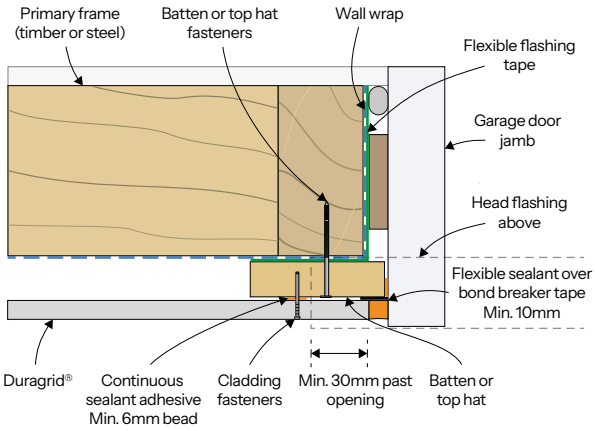


Figure 39 Garage door jamb detail Plan

9. Finishing

9.1 General

Ensure that Duragrid® is clean, sound and dry prior to applying the selected coating system.

Innova recommends the application of two coats of a quality acrylic paint over a primer in accordance with the coating manufacturer's instructions within three months following delivery to site. In coastal or corrosive environments, Duragrid® must be finished immediately after installation to minimise contamination build up on the surface.

Refer to the coating manufacturer for further information regarding specification, performance and warranty.

Low sheen paint finishes are less reflective than gloss finishes, effectively diffusing light to minimize visible surface imperfections. Select low sheen coatings for optimal results and consult the coating manufacturer to confirm suitable finish options

Duragrid® can be painted using dark colours, however, in certain scenarios, this may result in excessive thermal movement within the wall frame that can affect internal and external linings.

Lighter shades are more effective at concealing surface imperfections and absorb less heat, thereby reducing thermal stress on the cladding and wall system.

9.2 Lighting

Unless specifically outlined in the contract specifications, imperfections that are only visible under critical light do not indicate defective materials or workmanship.

Critical lighting, also known as glancing light, occurs when sunlight or intense artificial light strikes a surface at a low angle, typically 15° or less. This low-angle illumination casts shadows from minor surface variations, highlighting imperfections that are less noticeable under diffused lighting.

Externally, critical light is common during early morning or late afternoon when the sun is low on the horizon, typically lasting 30 to 60 minutes. Internally, it may result from intense or angled artificial lighting, which accentuates imperfections on reflective surfaces.

Variations in color, texture, and finish of surfaces, including walls, ceilings, and floors, should be assessed from a standard viewing position. Follow your local state and territories 'Guide to Standards and Tolerances' for the correct viewing position for internal and external walls.

Minor discrepancies in colour and finishing of materials are not considered defects.

9.3 Maintenance

When installed as specified in this guide, Duragrid® requires no direct maintenance. To ensure long-term performance, conduct annual inspections to verify surface and structural integrity.

The designer must determine specific maintenance needs based on the project's location, climate, and environmental conditions.

The following outlines recommended routine maintenance tasks to ensure the longevity and performance of the system:

- Clean exterior surfaces every 6 to 12 months using water, mild detergent, a garden hose at low pressure, and a soft sponge.
- Conduct regular inspections to verify that fasteners securely anchor the cladding to the structure.
- Inspect flashings and sealant joints to confirm they continue to function as intended.
- Maintain guttering, downpipes, and overflows, ensuring they remain clear of debris.
- Check ground clearances are maintained.
- Trim vegetation in close proximity to or in contact with the building.
- Follow the coating manufacturer's recommendations on cleaning and recoating procedures.

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