

Technical Manual

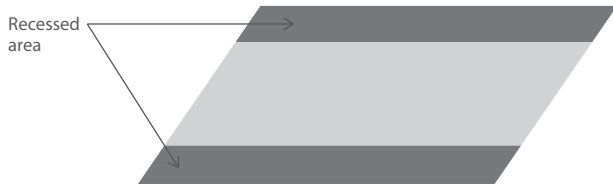


PRIMA drywall

1. Components

PRIMALiner™

PRIMALiner™ board with thickness 4.5, 6.0, 9.0 & 12mm with 2 sided recessed at along edge board area.

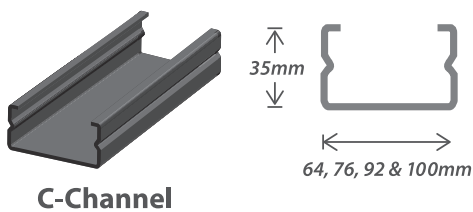


Board	Length, mm	Width, mm
PRIMALiner™ 4.5	3050	1220
	2440	1220
PRIMALiner™ 6.0	2440	1220
PRIMALiner™ 9.0	2440	1220
PRIMALiner™ 12.0	2440	1220

Table 1: PRIMALiner™ Standard Sizes

C-STUD

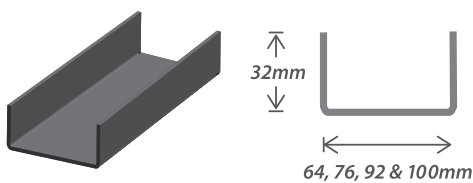
Designated rolled steel C-section with 64, 76, 92, 100 mm width and 35mm depth for supporting vertical structure of frame and nogging. It is manufactured from GI steel or Zinalume finishing with minimum 0.55mm base metal thickness (BMT).



C-Channel

U-STUD

Designated rolled steel U-section with 64, 76, 92, 100 mm width and 32mm depth for supporting horizontal; bottom and top of frame. It is manufactured from GI steel or Zinalume with minimum 0.55mm base metal thickness (BMT).



U-Channel



Fasteners And Anchors

Fasteners should have a minimum Class 1 finish. The table below shows the recommended fasteners to be used to construct the **PRIMA**drywall

Fastener Type	Fastener Photo	Usage Area
PRIMA fastener - Needle Point Countersunk self-embedding head needle point, No. 6 x19mm long.		PRIMA liner™ 4.5mm to stud
PRIMA fastener - Wing Tek 22mm C1 Self-embedding head wing tek screw, #8 x 7/8" (22mm), Class 1		PRIMA liner™ 6.0mm to stud.
PRIMA fastener - Wing Tek 28mm C1 Self-embedding head wing tek screw, #8 x 1 1/8" (28mm), Class 1		PRIMA liner™ 9.0mm or 12.0mm to stud.
PRIMA fastener - Wing Tek 32mm C1 Self-embedding head wing tek screw, #8 x 1 1/4" (32mm), Class 1		PRIMA liner™ 12mm + 6.0mm fibre cement strip to stud.
PRIMA fastener - Wafer Head 13mm C1 Philip wafer head self-drilling screw, (#6 x 1/2", 13mm), Class 1		Stud to stud, steel door or window frame to stud.

Table 2: Fasteners for **PRIMA**drywall



Attaching Wall Tracks to Structure

Power Actuated

Expansion Pin

Expansion Bolt

Figure 1: Fastening System for steel stud to masonry wall / slab.

Anchor Type	Photo	Description	Type of Board
Hilti HLD Light Duty Anchor (Polyamide PA6)		HLD 2 anchoring principle A (panel thickness, h=4mm)	PRIMA liner™4.5mm
MKT Hollow Wall Anchor		M 4/38	PRIMA liner™4.5mm
Hilti HHD S Cavity Anchor (galvanized carbon steel)		HHD S M4/4	PRIMA liner™4.5mm
		HHD S M4/6	PRIMA liner™6.0mm
		HHD S M6/9	PRIMA liner™9.0mm
		HHD S M6/12	PRIMA liner™12.0mm

Table 3: Type of Anchors for different board thickness.

Fasteners Covering Joint Compound

Use only **PRIMA**jointingcompound with 10% Cement mixing ratio to conceal the fasteners head for aesthetic appearance. The jointing compound must be applied according to the **PRIMA**jointing compound TDS.

Flush Joint Compound

Use only **PRIMA**jointingcompound with 10% Cement mixing ratio to conceal the board jointing recessed to provide a flat surface and seamless joint for coating. The jointing compound must be applied according to the **PRIMA**jointingcompound TDS.

Fibre Mesh Tape

PRIMAfibre mesh tape must be used as reinforcement tape at board's jointing area.



2. Wall Installation

2.1 Steel Stud Framing

2.1.1 Panel Stud Installation:

- Ensure floor is reasonably flat and level. Set of the wall position as indicated in the construction drawings.
- Top (ceiling), bottom (floor) and masonry wall tracks are to be anchored to the floor slab at maximum spacing of 610mm centers. Refer to Figure 2 for guideline for stud framing installation sequence.
- C- stud then slot in vertically to the maximum stud spacing of 610mm center. Figure 3 for frame & board installation layout.
- Once all the C studs are well aligned, tighten it with wafer head screw (**PRIMAfastener**- Wafer Head 13mm C1) at U stud (top and bottom).
- Manually cut the nogging length as required (normally at 610mm max, follow the C-stud spacing) and install horizontally at maximum spacing of 1220mm center. Refer to Figure 4 for nogging installation details.
- Check steel frame straightness. For best result, straightness should be within 3mm over 3000mm length in any direction.

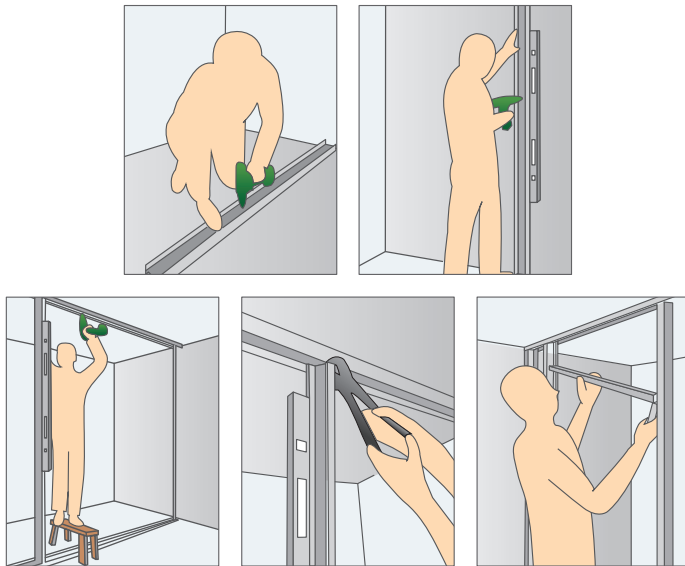


Figure 2: Guideline for Stud Framing Installation Sequence.

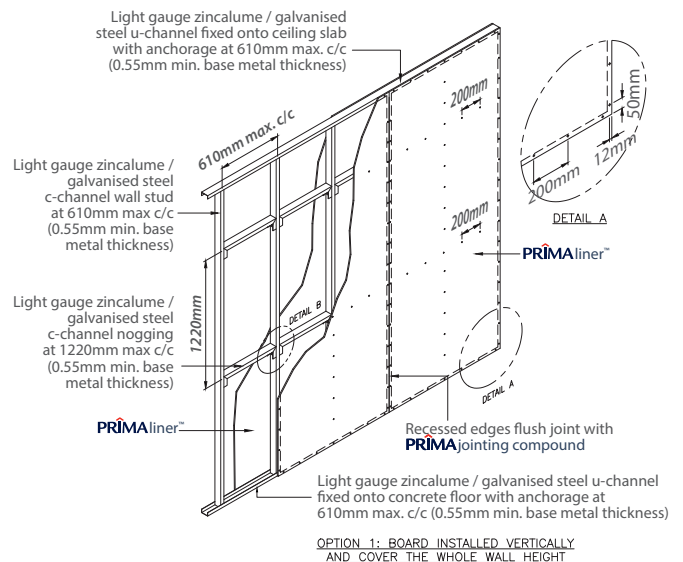


Figure 3a: Frame and Board Installation Layout

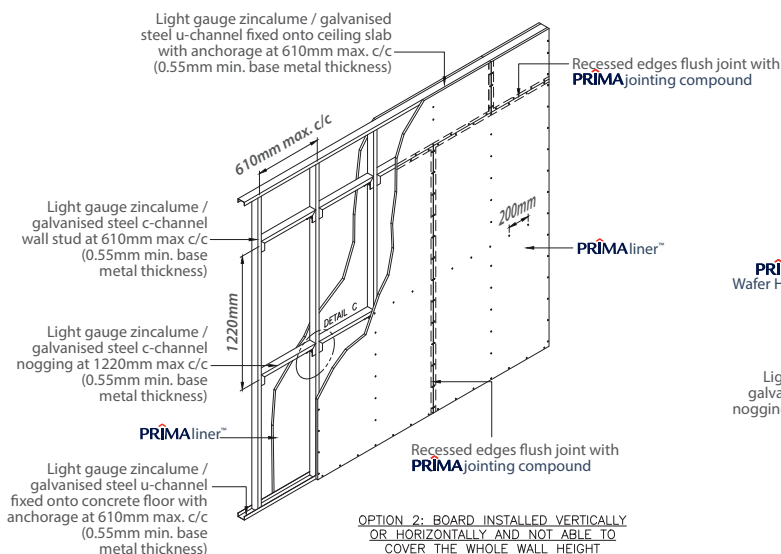


Figure 3b: Frame & Board Installation Layout

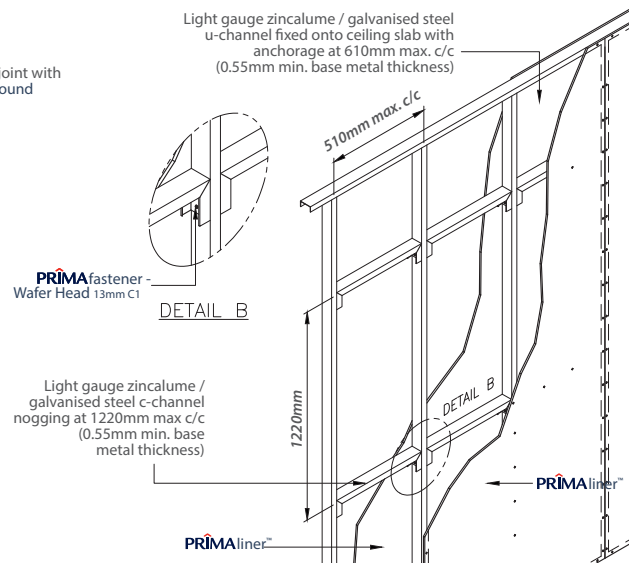
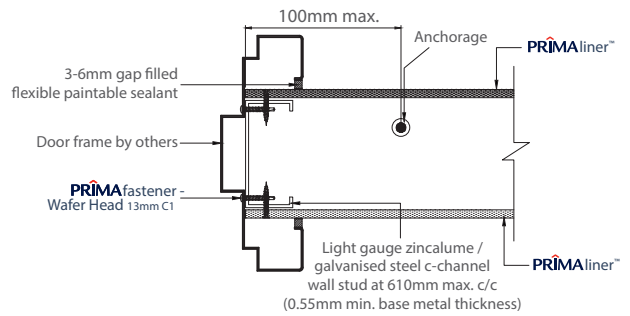


Figure 4: Nogging Installation Method



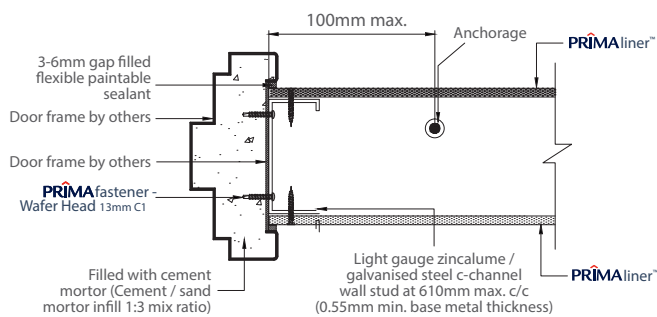
2.1.2 Door Stud & Frame Installation:

- Use U stud for horizontal (top) and C stud for vertical (left & right) door stud frame.
- Attach the door frame where the door frame depth is divided equally between the wall thicknesses. Contractors are recommended to use drywall door frame depth (wall thickness +20) mm for the selected **PRIMA**drywall. Refer to Figure 5 for typical door frame installation details for steel and wood door frame.
- Fasten with wafer head self-drilling screw (**PRIMA**fastener- Wafer Head 13mm C1) for door frame to stud (bottom, center and top of the door frame, both left and right).
- Cover the door frame gap with flexible paintable sealant.
- Other door frame also can be used but must install as per door frame manufacturer's recommendation.
- Ensure the door stud frame is leveled before fasteners are tightened.



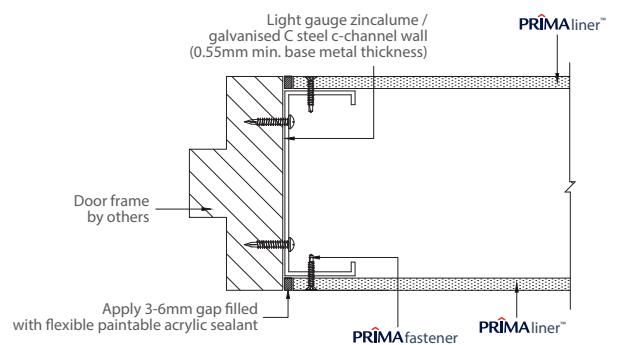
OPTION 1: DOOR JAMB DETAIL (STEEL DOOR FRAME)

Figure 5a: Typical Steel Door Frame Installation Details



OPTION 2: DOOR JAMB DETAIL (STEEL DOOR FRAME)

Figure 5b: Typical Steel Door Frame (with welded steel plate) Installation Details



OPTION 3: DOOR JAMB DETAIL (TIMBER DOOR FRAME)

Figure 5c: Typical Timber Door Frame Installation Details

2.1.3 Window Stud and Frame Installation:

- Use U stud for horizontal (top & bottom) and C stud for vertical (left & right) window stud frame. Refer to Figure 6 for typical window frame installation details.
- Install window frame as indicated in the construction drawing specified by the manufacturer (if any).
- Cover the window frame gap with flexible paintable sealant.
- Ensure the window stud frame is leveled before fasteners are tightened.

2.2 Board Installation

PRIMALiner™ must be kept in normal room condition before install. Please take note that PRIMALiner™4.5mm only can be installed in dry area and for interior application. The PRIMALiner 6.0, 9.0 & 12.0mm can be installed in dry or wet area.

2.2.1 PRIMALiner™ Board Installation

- Install PRIMALiner™boards in vertical orientation and should cover the whole wall height. Start from floor (bottom) to ceiling (top). A 6mm gap should be raised from floor using off cut packers as temporary support for sheet.
- If the full PRIMALiner™board cannot cover the wall height, then another board need to be cut to the required dimension and install at top in staggered pattern. Refer to Figure 3b for frame & board installation layout.
- Fasten the PRIMALiner™board to steel stud with fasteners. The maximum fastener to fastener distance is 200mm at the board perimeters and centers. Refer to Figure 3 for board installation layout.
- Install the stud for door or window prior to board installation as 2.1.2 and 2.1.3. Make C shape or L shape boards section to avoid cracks at the joint between the boards and the door or window edges. Ensure that the sheet edges do not coincide with the side of the door or window opening. Refer to Figure 7 for sheet layout with door and window opening.
- Install the vertical flush joints in zigzag pattern. Vertical flush joints at both partition sides shall not connected at one point in the same stud frame. Refer to Figure 8 for vertical flush joints in zigzag system between front and back wall sides.

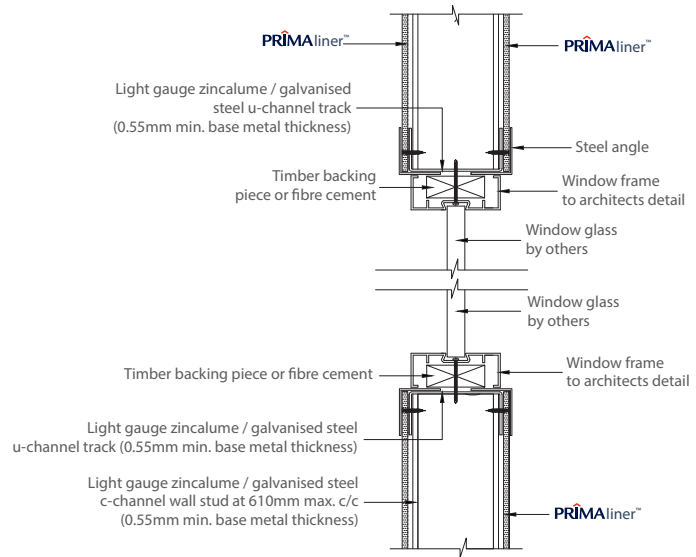


Figure 6: Typical Window Frame Installation Details

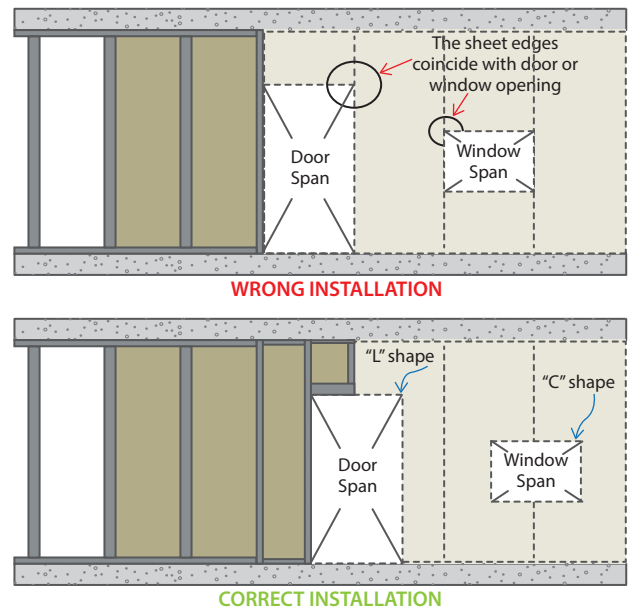


Figure 7: Sheet Layout with Door and Window Opening

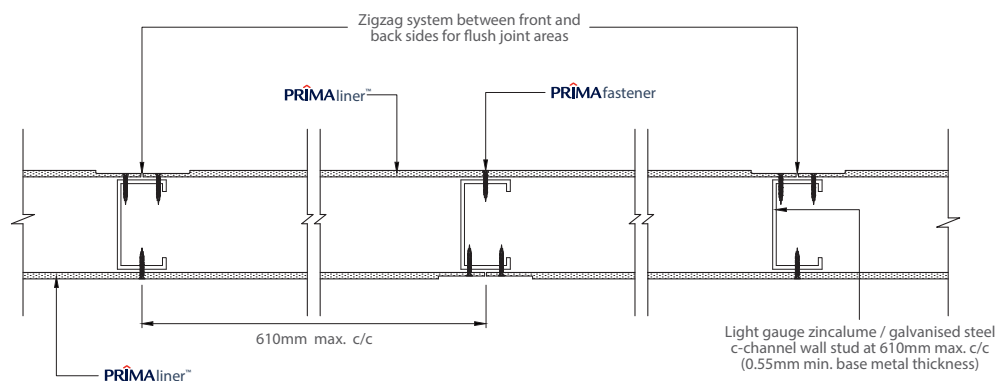


Figure 8: Vertical Flush Joints in Zigzag System between Front and Back Sides.

2.2.2 Wall Intersection To Drywall

- a. For drywall intersection either masonry wall to drywall or drywall to drywall, a 3 – 6mm gap filled with flexible paintable sealant is required.
- b. Refer to Figure 9 for concrete wall intersection to drywall.
- c. Refer to Figure 10 for corner wall intersection of drywall to drywall. Only inward corner required a 3 – 6mm gap filled with flexible paintable sealant. Refer also Figure 15 and 16 Corners details.
- d. Refer to Figure 11 for drywall to drywall intersection at the centre.

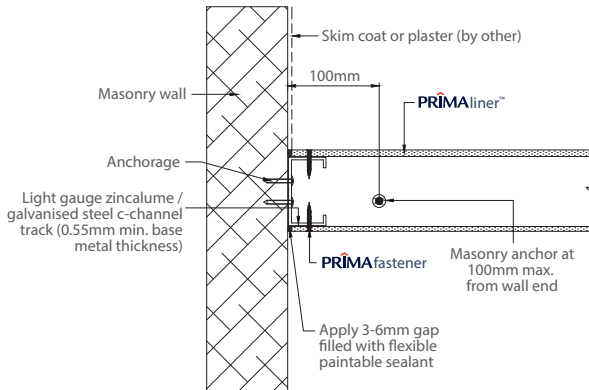


Figure 9: Concrete wall intersection to drywall

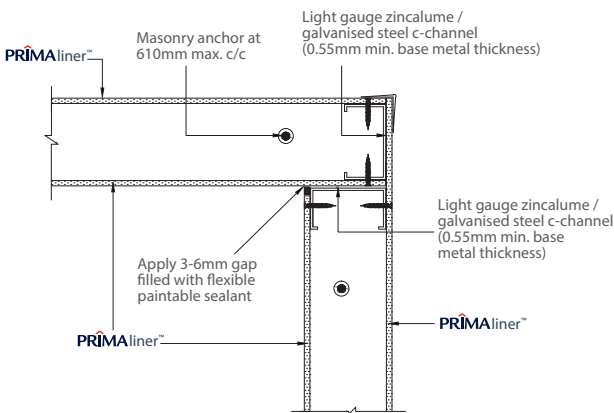


Figure 10: Corner wall intersection of drywall to drywall

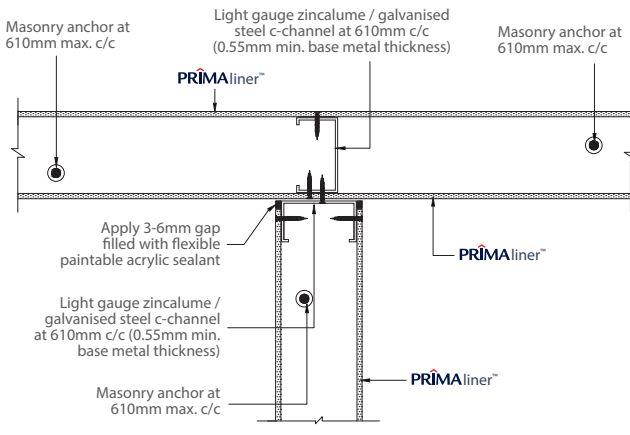


Figure 11: Drywall to drywall intersection

2.2.3 M&E Installation

- a. M&E services installation is recommended to be done prior the 2nd piece wall panel installation. Refer to Figure 12 for M&E framing layout.
- b. Electrical socket can be reinforced with either light gauge steel batten or L-angle. Refer to Figure 13 for electrical outlet in between section C-C using light gauge steel batten and electrical outlet attached to stud using L-angle.

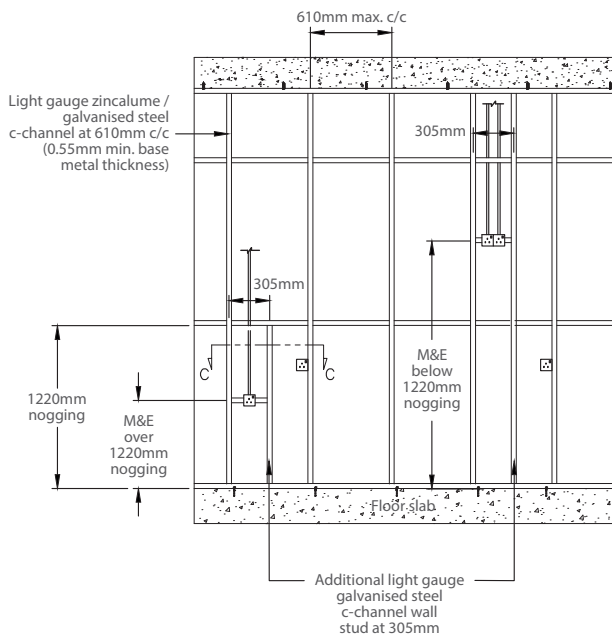


Figure 12: M&E framing layout

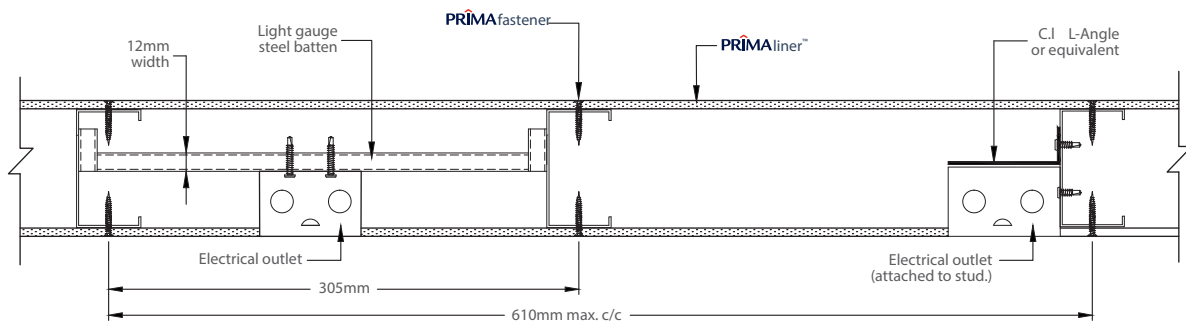


Figure 13: Electrical outlet in between section C-C and electrical outlet attached to stud

2.2.4 Flush Jointing (At Board Jointing Areas & Fasteners)

- Use damp sponge to clean the board jointing surface and ensure the board surface is free from dust.
- Embed the **PRIMA** fibre mesh tape followed up by 1st layer of PRIMA jointing compound (approximately 50 mm wide) using 100 mm scrapers. The 1st layer compound may take 2hrs to dry.
- Apply 2nd layer of **PRIMA** jointing compound (approximately 150 mm wide) using 150 mm scrapers once the 1st layer of compound dry, indicated by lighter colour appearance.
- For fastener points, apply 1st & 2nd layer of **PRIMA** jointing compound.
- Ensure the fastener points are smooth.
- When dry, lightly sand the uneven surface of the flush joint areas & fasteners using sand paper to get a smooth finish before any finishing.
- Refer to Figure 14 for flush joint detail, Figure 15 for outward flush joint corner and Figure 16 for inward flush joint corner.
- For inward joint corner, use sealant to seal the gap instead of flush jointing.

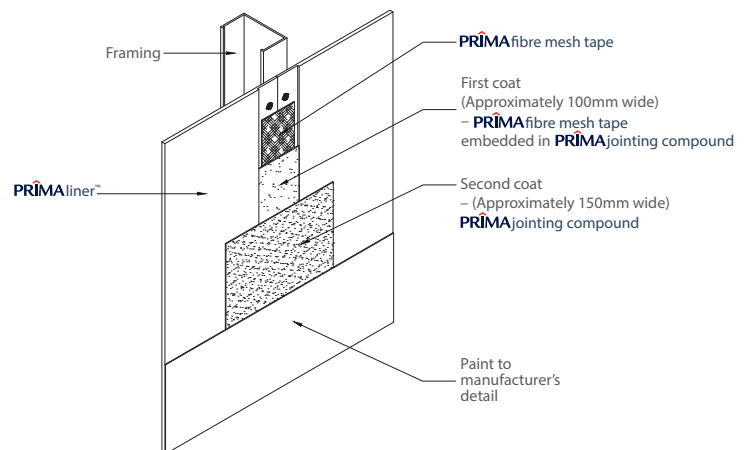


Figure 14: Flush joint detail

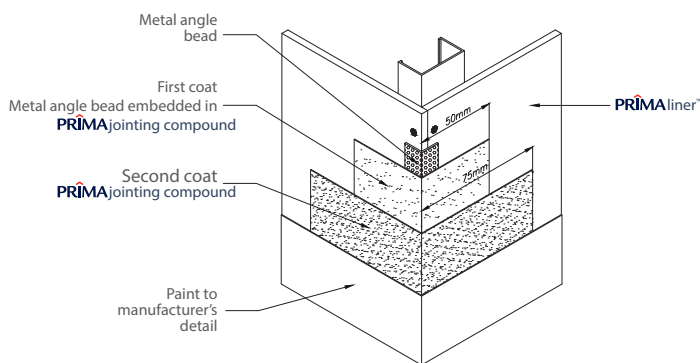


Figure 15: Outward flush joint corner

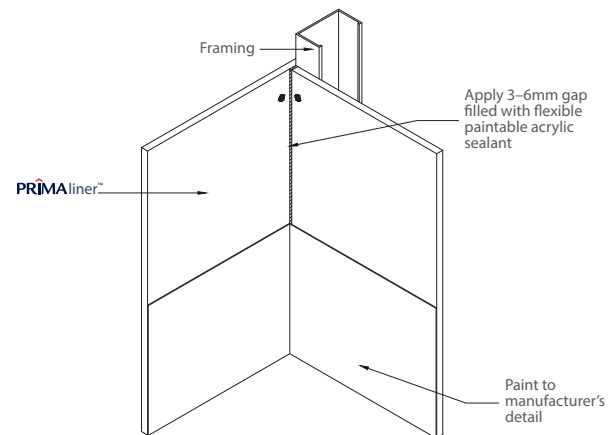


Figure 16: Inward flush joint corner

2.3 Panel Finishes

PRIMALiner™ may be finished with paint, tiles or wallpaper as required. The application and maintenance of these finishes must follow the manufacturer's recommendations.

2.3.1 Interior Painting

- a. Ensure the surfaces are clean & dry.
- b. Apply minimum of 2 coats of interior acrylic after fixing. Coating should be completed within 1 month after sheet installation.
- c. To follow the paint manufacturer's recommendation for paint suitability, mixing and application.

2.4 Others

Design Considerations

This guide represents good practice, though it is not intended as an exhaustive statement of all relevant information. It remains the responsibility of the building designer to verify that the PRIMAdrywall system is suitable for the particular requirements of any given project.

Control Joints

Control Joints in PRIMAdrywall system are required to correspond to thermal expansion between wall system with supporting structure or anywhere that significant structural movement is expected.

Vertical Control Joints

It must be provided when they are required by the structural engineer. They must have total frame separation as shown in Figure 17. Put a backing tape (any tape will do, just to prevent the sealant from directly attached to C-stud) before install the PRIMALiner™ board. Provide minimum 5mm wide gap between sheets and seal with paintable polyurethane sealant. Do not apply PRIMAjointingcompound at the control joint. Refer Table 4 below for the recommended Control or Expansion Joint spacing for drywall with Tiled and Untiled.

Recommended expansion joints spacing

Untiled walls	9.0m
Tiled walls	4.8m

Table 4: Recommended Control or Expansion Joint Spacing (Tiled & Untiled)

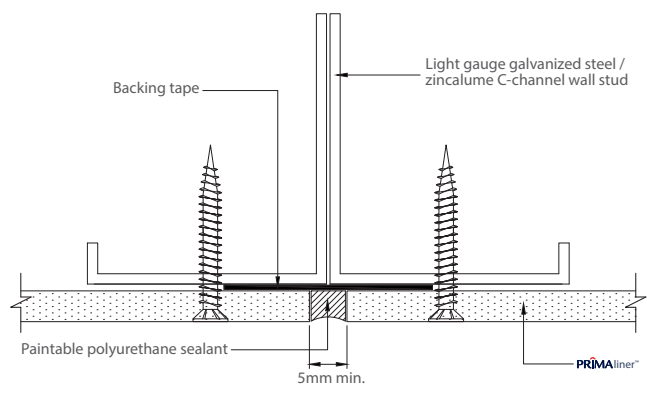


Figure 17: Vertical Control joint

Glancing Light

The glancing light might be visible in PRIMAdrywall at flush jointing area, especially where paint finishes have a high gloss level. Work closely with your contractor or designer to minimize this effect. Wall joint should run in direction of the light source. Where glancing light is an issue, the glancing light can be reduced by using curtains or blinds, artificial light shading devices or use of light matt finish paint.



Termite Resistant

Fire Resistant

Water Resistant

Weather Resistant

Environmentally Friendly

Superior Paint Adhesion

High Workability

Aesthetically Pleasing

50 Years Durability

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Hume Cemboard Industries Sdn Bhd ("the Company") warrants that it will at all times ensure that the products referred to herein ("the Products") shall be supplied by it to the purchaser free of any manufacturing defects and defective materials used in their manufacture.

In the event and if contrary to this assertion the Products prove to be defective, whether as a result of manufacturing defects or arising from the Company's use of defective materials, the Company will supply replacement Products. The Company shall, however, have the option and may choose to reimburse the purchaser the purchase price of the Products instead. The Company shall not be liable for any economic or consequential losses arising from any use of defective Products.

This warranty shall be void unless the purchaser has, in its handling and installation of the Products, complied with the recommendations contained in this brochure and other good building practices expected of a reasonable purchaser.

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