GYPROCK®
SAINT-GOBAIN

Glasroc® X

Xtra weather protection, built in.

Rigid air barrier board
for exterior wall systems

Design and Installation Guide

CSR

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Introduction

Glasroc® X Sheathing Board is a high-performance, Class 4 vapour permeable rigid air barrier board, designed for use behind facade cladding systems. It provides up to 6 months of weather protection for a building's interior prior to cladding.

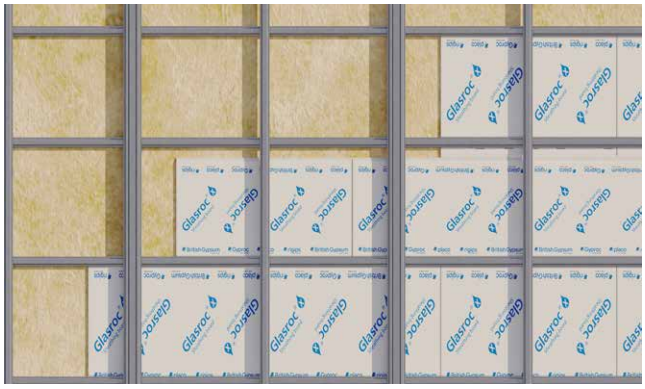
The term 'sheathe' refers to encasing something in a protective covering, and Glasroc® X does just that. As an exterior plasterboard, it creates a protective enclosure that allows work inside the building to commence without having to wait for the facade to be completed.

The 12.5mm thick Glasroc X board, reinforced with glass mat and UV resistant coating delivers strength, durability and weather resistance.

Engineered to endure high wind environments, Glasroc X withstands wind pressures up to ± 6kPa (ULS), making it ideal for commercial and multi-res construction.

Glasroc X is recommended for use in Climate Zones 2-8. Its Class 4 vapour permeability allows moisture vapour to easily escape from the building structure, providing outstanding performance in colder environments (Climate Zones 6, 7 & 8) where the condensation risk is increased.

Glasroc X can be used as part of a fire-rated wall system, achieving an FRL of up to 60/60/60 on timber and steel frames[+] and an FRL of up to -/90/90 on steel frames[+]. Glasroc X is also suitable for use in bushfire zone BAL-FZ[+++].



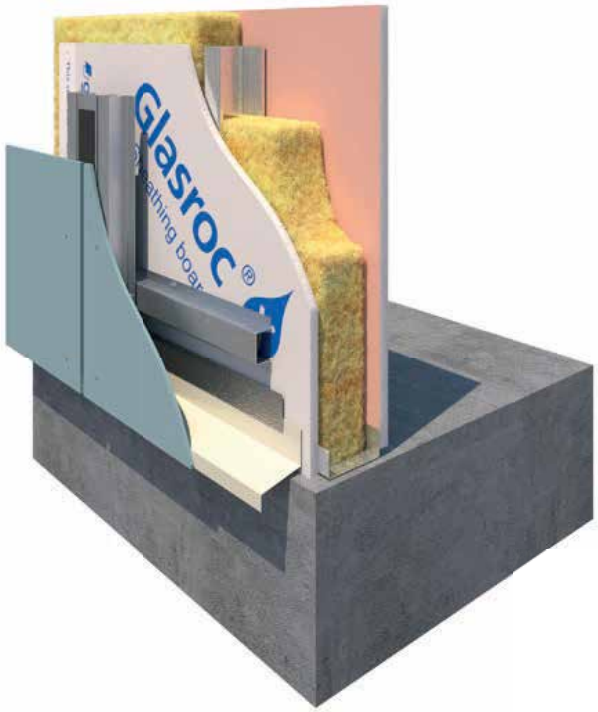
Complying with the weatherproofing requirements (NCC 2022 F3P1 & H2P2), the Glasroc X system is designed to prevent water penetration from the outside, ensuring a weathertight structure[++].

Glasroc X is made with a minimum of 30% recycled content.

Glasroc X is designed for easy handling and quick installation. Boards are simple to score, snap and screw-fix to timber or steel frames and installation is completed using jointing options like tape or sealant.

This document has been designed to provide guidance on how to handle, prepare and install Glasroc X as well as design considerations.

For more information on Glasroc X please refer to the Product Data Sheet (PDS) and Safety Data Sheet (SDS) or visit www.gyprock.com.au



Glasroc X Specifications

Feature	Description
Thickness (mm)	12.5
Size (mm) W x L	1200 x 3000 1200 x 2400*
Weight (nominal)	10.9 kg/m^2
Edge Profile	Recessed edge
Board Colour	White face glass mat liner with Glasroc X branding. White reverse side glass mat liner
Vapour Control Classification (AS 4200.1- ASTM E96)	Class 4 vapour permeable
Water Control Classification (AS/NZS4201.4)	Water barrier
Mould Resistance (ASTM G21)	Scored 0 = No mould growth
Max Design Wind Pressure	± 6.0kPa (ULS)
Thermal Resistance	0.05 m^{2}K/W
Fire Resistance Level (FRL)	Up to 60/60/60 for timber and steel frames+ Up to -/90/90 for steel frames+
Combustibility	Plasterboard may be used wherever a non-combustible material is required
VOC Level (as per GBCA limits)	0.061 mg/m^2/hr
Total Recycled Content	Minimum of 30%

*Available as a special order – minimum order quantity and lead times may apply
+ When used with Gyprock Fyrchek as an internal lining
++ When used with Cemintel cavity-fixed cladding including Territory, Surround, Barestone and ExpressPanel; and Hebel PowerPanel High Rise Facade Wall System and Hebel PowerPanel 50 High Rise Facade Wall System.
+++ For fire-rated wall systems of FRL 30/30/30, they are deemed to achieve BAL-FZ rating as per AS 3959.

Key Features & Benefits

12.5mm thick, exterior board with glass mat reinforcement

Class 4 vapour permeable rigid air barrier board suitable for Climate Zones 2 to 8

Up to 6 months weather protection

Exceptional weathertightness performance++

Moisture and mould resistant

Up to FRL 60/60/60 for timber and steel frames+
Up to FRL -/90/90 for steel frames+

Withstands wind pressures up to ± 6kPa (ULS)

Designed for steel and timber frame buildings

Suitable for commercial and multi-res buildings

Suitable for non-combustible construction

Allow internal fit-outs to commence, reducing the construction cycle

Superior strength and durability

Easy to handle and install

Simply 'score and snap'

Minimum of 30% recycled content

Product and Accessories

Glasroc X	Product Code	Description	Thickness (mm)	Width (mm)	Length (mm)	Nominal Weight (kg/m²)	Weight per Sheet (kg)	Edge Profile
	**487812**	Glasroc X Sheathing Board	12.5	1200	3000	10.9	39.2	Recessed
	488915	Glasroc X Sheathing Board	12.5	1200	2400*	10.9	31.4	Recessed

*Available as a special order – minimum order quantity and lead times may apply.

Fasteners	Product Code	Description	Pack Size
	**487843**	Glasroc X collated screw for steel frame. Type S #6 x 25mm drill point, fine thread. Class 4 corrosion resistant screw.	1000/pk
	**487842**	Glasroc X collated screw for timber frame. Type W #6 x 32mm needle point, coarse thread. Class 4 corrosion resistant screw.	1000/pk

Jointing Tape	Product Code	Description	Pack Size
	**490511**	Glasroc X sealing tape 60mm x 25m	EA

Sealant	Product Code	Description	Pack Size
	**11378**	Sikaflex PRO sealant grey 310ml (for non fire rated system)	EA
	**489322**	Sikaflex 400 Fire sealant grey 600ml (for fire rated system)	EA

Other accessories	Product Code	Description	Pack Size
	**13172**	Sealant Bond Breaker Tape 3mm x 48mm x 25m	EA
	**11177**	Backing rod (for sealant backing) 10mm diameter x 50m	EA
		Flashings and Cappings	Supplied by others

Handling, Storage and Cutting

Handling

Glasroc X should be treated with care during handling to avoid sagging and/or damage to the ends, edges and board surfaces. Glasroc X should be carried horizontally on its edge, at either end, by at least two people. It is important to keep Glasroc X away from potential weather and moisture exposure before installation. Glasroc X must be installed in dry condition.

Storage

Glasroc X should be kept dry, preferably stored inside. Boards must be stored on a firm, flat and level surface. Avoid products sagging by storing horizontally, supported on a level platform or full-width support members spaced at max. 600mm centres. If the boards are temporarily stored outside they must be sufficiently supported off the ground, and protected from the weather.

Cutting

Glasroc X can be cut by scoring the face with a knife and snapping the board back away from the scored face. It is recommended to use a plasterboard saw blade to cut boards to ensure smooth cut-edges for optimal fixing and sealing performance.

All cut edges must be sealed by tape or sealant as per recommended installation details in this guide.

When using power and hand tools to cut boards, use with care and in accordance with the manufacturers' recommendations.

Damaged Board

To maintain performance requirements, boards damaged prior to installation should not be used. When damaged on the frame, remove and replace with a new board.

System Overview

Air Barrier

Air barriers are an integral component of a pressure equalised facade system. Pressure equalised systems consist of cladding or rainscreen installed with a ventilated cavity and allows for an effective method of weatherproofing buildings.

Equivalent air pressure within the cavity to the exterior, introduced by appropriate vents and cavity baffles, can lower the pressure differential across the cladding, which in turn can drive water through an opening in the rainscreen cladding and bridge the cavity. A low-pressure differential means less chance of water crossing the cavity to reach other building elements (ie. rigid air barrier and framing). The cavity then serves as a channel to return water to the outside of the building and permit air flow to promote drying.

Glasroc X has been designed for use as part of pressure equalised cladding systems to produce effective weather-resistant facades. It has been tested as part of a pressure equalised wall system and assessed to have an ultimate limit state (ULS) capacity of ± 6kPa. A negative value is a suction pressure. There are a range of facade cladding solutions in the market that are suitable for use as part of a pressure equalised facade system, including the Cemintel cavity fixed cladding range. Visit www.cemintel.com.au for more information.

The Glasroc X rigid air barrier system is suitable for use with timber or steel framing. It can be installed horizontally across the frame. A flexible tape or external graded sealant is applied continuously across joints to limit air penetration and moisture.

Any flashings are recommended to fixed over the top of the air barrier and taped unless appropriately designed. Refer to the product and accessories section for the recommended components. To optimise system performance, the Glasroc X system is not recommended for use with rainscreens that have unsealed joints between boards.

Design Considerations

This section outlines some important factors for consideration, when it comes to determining whether Glasroc X is a suitable solution for a particular project.

It must be noted the following points are not exhaustive and there may be other considerations depending on the project and specific application. Designers and architects will need to ensure that designs conform with all relevant national building regulations and guidance, including the National Construction Code (NCC) and other relevant building standards that may exist for specific construction types or applications. This guide should be read in conjunction with these regulations and guidance.

It is also the responsibility of the architect/building designer to select the appropriate corrosivity category as per AS 4312, assess the amount and type of exposure to such elements as UV, wind and rain that the air barrier will encounter prior to the external cladding being installed, along with such considerations as the likelihood that the product will be damaged before or during installation.

Cavity Baffle

Cavity baffles are used vertically at the major corners or other areas of the building where differential cavity pressures on either side of the corner can occur. Cavity baffles provide an obstruction to limit the airflow between cavities and promote pressure equalisation in each wall cavity section.

A cavity baffle solution can consist of a top hat section, Z-flashing, angle, channel, backing rod and external graded sealant and/or self-adhesive expanding foam tape. This will bridge and close the cavity gaps between the corner sub-framing and the air barrier layer. Cavity baffle types must be suitable for the project design differential pressures. As required, use compatible sealants to close off any gaps between the baffle section and the air barrier layer, cladding and sub-framing.

Application

Boards should be fixed in a staggered pattern horizontally with printed side out to ensure weather protection and UV performance.

Fixing and Installation

For best practice follow these guidelines:

- For fastener spacing and board fixing, refer to the Span Table and diagrams on page 11 to 14 of this guide.
- Fasteners must not be overdriven. Glasroc X screws should be installed flush to the surface of the board.
- Screw fix to each stud (including nogging or similar framing) along recessed edges, beginning at the centre of the board and working towards the ends.
- Fix fasteners 50-75mm from corners. Do not fix through steel top track.
- Vertical butt joints in adjacent board and opposite sides of the wall must be staggered by a minimum of one stud spacing.
- All butt joints must be centred on studs flanges.
- Control joints must be installed at all construction joints in the building and at every 15m to allow for structural movement.
- Refer to The Red Book 1 for internal lining options.
- Refer to The Red Book 2 and 3 on internal lining installation and considerations.

Joint Sealing

Tapes, sealant or a combination of both can be used for sealing joints. For optimal adhesion, tape and sealant must be installed on clean, dry and residue free surfaces. If boards are exposed to rain after being installed onto the frame, inspect the board to confirm it is free of visible cracks and permanent damage and allow the board to be fully dried before applying tape and sealant.

Tape

Tapes are used for sealing all board joints and penetrations.

The Glasroc X system has been tested using Glasroc X tape for sealing both Glasroc X boards and any penetrations or openings.

For best practice follow these guidelines:

- Always apply firm pressure over the entire tape surface in numerous directions during application, ideally using a tape applicator such as a squeegee or small diameter rubber roller.
- Sheet joints – Install boards no greater than a 2mm gap.
- Control joints – Install boards no greater than a 20mm gap.
- Refer to details for tape installations for fire rated systems.
- All joints must be taped.
- Tape application temperature range is – 10ºC to + 45ºC.
- Glasroc X tape weather exposure period is 6 months.

Sealant

The Glasroc X system has been tested with Sikaflex®-PRO & Sikaflex®-400 Fire external grade sealant for jointing Glasroc X boards. For fire rated wall system, Sikaflex-400 Fire sealant must be used. Other fire rated external grade sealant may be suitable but is the responsibility of the selected manufacturer to substantiate suitability.

For best practice follow these guidelines:

- An external graded sealant is required to seal gaps and act as a control joint, as specified in the drawings in this guide.
- It is recommended to fulfil the 2:1 width to depth ratio to achieve the optimal sealant performance where possible.
- If required, insert a backing rod to the required depth as per the recommendation on the drawings.
- Insert a foil pack or cartridge into the sealant gun and extrude Sikaflex sealant into the joint making sure that it comes into full contact with the sides of the joint and avoids any air entrapment. Ensure continuity of the seal where required.
- Sikaflex sealants must be firmly tooled against the joint sides to ensure adequate adhesion and a smooth finish. Tooling time is approximately 150 minutes (+23 °C / 50 % r.h.).
- Substrate temperature range is +5 to +40 °C.
- For more information refer to the manufacturer's installation recommendation.

Structural Design

All walls must be designed according to the applied loads. Load-bearing walls and walls subjected to wind pressures shall be designed to meet the relevant Australian Standards or construction manuals.

Once wind loads have been determined, fastener spacings and board fixing details may be selected from the appropriate span table on page 14 of this guide. For specific structural framing design, it is the responsibility of the qualified structural engineers to consider relevant codes and standards, which is not covered within this guide. Seismic actions must be considered for building elements in accordance with the NCC. The loads and effects of earthquakes may be determined in accordance with AS 1170.4 'Earthquake Actions in Australia'. The Standard has design procedures for houses (Class 1), and to buildings (Classes 2 to 9) with importance levels 2, 3 or 4 as defined in the NCC.

Cladding

Cladding must be designed for the applicable wind loads. To determine the maximum framing spacing, any batten requirements, and the cladding fixing specifications, refer to the relevant cladding manufacturer's installation guide. It is the responsibility of the building designer to determine the wind loads or classifications of the building and to assess the suitability of the system.

The span table and fastener fixing recommendations have considered the effect of the extra weight from CSR Cemintel™ cavity fixed cladding systems; and Hebel PowerPanel High Rise Facade Wall System and Hebel PowerPanel 50 High Rise Facade Wall System. CSR Cemintel™ cavity external systems include Territory, Surround, Barestone and ExpressPanel. Refer to the relevant design and installation guide for more information.

Note that Glasroc X is not a structural element, all fasteners and connections from the cladding systems must penetrate through the Glasroc X lining into the structural framing.

Fire

The Glasroc X system has been tested and assessed in accordance with AS 1530.4 – Fire Resistance Tests of Elements of Building Construction, at approved testing laboratories. Glasroc X is suitable for the stated Fire Resistance Level (FRL) when installed in accordance with the details in this guide. Refer to system table in The Red Book 01 for the appropriate fire-rated systems selection.

The FRL of the services penetrations and openings (such as electricals, gas and windows) are not being covered in this guide and must be managed by tailored passive fire solutions to the specific project. Ensure the FRL of the services penetrations and openings match with the Glasroc X external wall system. In accordance with NCC Clause C2D10, plasterboard, fibre cement sheet and steel may be used wherever a non-combustible material is required.

Bushfire

The fire-rated Glasroc X system is designed for bushfire prone areas to meet Bushfire Attack Level (BAL) rated building standard. For fire-rated wall systems of FRL 30/30/30, they are deemed to achieve BAL-FZ rating as per AS 3959. Construction of buildings in bushfire-prone areas. Additional construction requirements are required for bush fire prone areas in accordance with AS 3959.

Termite Management

There is a wide variety of methods for managing termite entry to buildings. Selecting the appropriate method for any structure depends on specific risk factors and the type of construction.

Refer to your local pest management service, the NCC, AS 3660: Termite Management, and your local building authorities for more information about the requirements for the design of a suitable termite management system.

Acoustic

It is recommended that an acoustic engineer be consulted for all projects where acoustics are important. The performance of the as-built system may be affected by sound flanking, the effectiveness of workmanship and caulking, the presence and treatment of penetrations and the inclusion of structural elements and bridging items.

The acoustic performance of the wall systems is not adversely affected by the order of lining boards that are fixed direct to framing or by the use of deeper stud sections.

Thermal Performance

Energy efficiency requirements for buildings are set out in the NCC as performance requirements dependent on geographical Climate Zones. To meet the requirements, it is recommended that CSR Bradford batts be installed in the wall framing, with insulation values chosen with consideration for energy conservation and occupant comfort. Insulation also improves the acoustic performance of the wall against noise transmission.

The level of insulation provided in a wall is described by its R-Value; the higher the R-Value the greater the insulation provided.

Thermal Bridging

For projects conforming prior to NCC 2022, thermal bridging consideration is not required in the Total R-Value calculation for all building classes, such as:

- Class 2 to Class 9 buildings for NCC2016 Amdt. 1 Volume 1 and NCC2016 Amdt. 1 Volume 2 (and earlier).
- Class 1 and Class 10 only for NCC2019 (incl. Amdt. 1) Volume 2.

The CSR Thermal Calculator will generate thermal performance calculations for Glasroc X wall systems, ensuring thermal targets can be met. It does this while providing the flexibility to experiment with different system configurations. The calculations will be compliant to the relevant Australian Standards, providing peace of mind. To start your calculation, scan the QR code on the back cover of the guide.

Refer to Gyprock The Red Book 1 for an extensive range of systems with associated fire, acoustic and thermal performance values.

Condensation Management

Condensation is a complex problem and can occur under a variety of conditions, not just in cold and tropical climates. As well as the local climate, condensation can result due to the building use, the degree of ventilation the building has and the system R-value.

Glasroc X is classified as a Class 4 vapour permeable in accordance with AS/NZS 4200.1: Pliable building membranes and underlays – Installation requirements and can be used in Climate Zones 2-8. It provides outstanding performance in colder environments (Climate Zones 6, 7 & 8) where the condensation risk is increased.

Considerations for improved condensation management:

- Suitable for installation on the exterior side of the building frame in Climate Zones 2 to 8. Always check with cladding manufacturer's guidance to confirm compatibility.
- Where this product is used on a supporting structure, it is recommended to consider suitable ventilation is provided above or below the assembly to manage condensation risk.

Where required, a vapour impermeable wall-wrap may be added to the facade system, located outside the Glasroc X boards, or as appropriate for the design. The wall-wrap must have a high water barrier rating and meet the requirements of AS/NZS 4200.1. The external wall-wrap must be sealed to maintain vapour performance and draught-proofing effectiveness and be installed in accordance with the manufacturer's instructions.

It is recommended that designers undertake a condensation risk analysis as part of the building design. Additional literature on this subject is available from CSIRO, BRANZ, ASHRAE and ABCB.

Weathertightness

The Glasroc X system has been tested and assessed to comply with NCC clause F3P1 and H2P2 when installed in accordance with the details in this guide when using CSR Cemintel™ cavity external systems including Territory, Surround, Barestone and ExpressPanel; and Hebel PowerPanel High Rise Facade Wall System and Hebel PowerPanel 50 High Rise Facade Wall System. Meaning that it is a weatherproof system designed to prevent water penetration from the outside. Refer to the relevant Cemintel™ and Hebel® Design and Installation Guide for more information on cavity external systems. Other cladding systems may be used upon appropriate design and considerations, however they are not covered in this guide.

Corrosion, Mould and UV Exposure

Corrosivity categories are as described in AS 4312 – Atmospheric corrosivity zones in Australia. The code has methods for determining categories as well as maps and tables of major population centres. It is recommended that building designers assess the site in accordance with the standard and local conditions, and to specify appropriate components, protective coatings, and maintenance procedures and schedules.

Glasroc X screws achieved Class 4 corrosion resistance grade. Screws have been tested to ASTM-B117 salt spray test and showed no failure after 1500 hours. Glasroc X is resistant to mould as tested in accordance with ASTM G21, scoring 0 showing no mould growth. The corrosion and mould resistance performance of the components and accessories (eg flashing, penetrations, window frames) supplied by others are not covered by this guide. Please consult the relevant manufacturers and project design specialists.

Glasroc X passed the accelerated direct outdoor weathering exposure test under UV and water spray as per ASTM G155.

Services and Openings

Ensure all services, such as electrical, plumbing and insulation materials have been installed before sheeting the internal wall side. Any services and openings formed must be considered in the framing design and effectively sealed to maintain the pressure equalisation of the cavity and accommodate building movements. Joints are not to coincide with the edge of openings (e.g. doorways, windows or vents etc.) except where permitted to form a control joint. All services and openings shall not compromise the integrity of the Glasroc X external wall system. For fire rated systems, services and penetrations need to be fire treated with approved passive fire solutions.

System Engineering

Design, Detailing and Performance Responsibilities

The Glasroc X system detailed in this guide is designed to act as one component of an exterior wall system. The functional requirements of exterior walls may include spread of fire, thermal insulation, loading resistance, amongst others, that are not considered in this guide. Compliance with these items are within the role of various project design specialists.

Project Consultants (Structure, Acoustics, Thermal etc.)

These consultants are typically responsible for the following:

- Opinions on expected laboratory performance of wall configurations that vary from actual test configuration, such as substitution products and components.
- Judgements about expected field performance using laboratory test reports and practical experience.
- Design, specification and certification of structural, acoustic, durability and any other required performance criteria for individual projects.

This involves the design and selection of building elements, such as wall and floors and their integration into the building considering the following:

- Interface of different building elements and to the structure / substrate.
- Wall, roof and floor junctions.
- Services and openings.
- Flashing design.
- Room / building geometry.
- Acoustic and water penetration field-testing.
- Total system R-value.

Project Certifier and/or Builder

These professionals are typically responsible for:

- Identifying the performance requirements for the project in accordance with the NCC and clearly communicating this to the relevant parties.
- Applicability of any performance characteristics supplied by CSR including test and opinions for the project.
- The project consultant's responsibilities detailed above if they are not appointed.

CSR does not provide consulting services and only provides information that has been prepared by others and therefore shall not be considered experts in the field. Any party using the information contained in this guide or supplied by CSR in the course of a project must satisfy themselves that it is true, current and appropriate for the application, consequently accepting responsibility for its use.

It is the responsibility of the architectural designer and engineering parties to ensure that the details in this design guide are appropriate for the intended application.

The recommendations in this guide are formulated along the lines of good building practice, but are not intended to be an exhaustive statement of all relevant data.

CSR is not responsible for the performance of constructed walls, including field performance, and does not interpret or make judgements about performance requirements in the NCC.

Installation

The following demonstrates a typical installation procedure for Glasroc X systems. An appropriate board fixing layout should be selected based on the project's design wind pressure and frame spacing.

Figure 1: Glasroc X Installation Steps

1. Install steel or timber framing as per framing design.

2. Cut Glasroc X boards to ensure vertical joints are supported by studs and horizontal joints are backed by noggings or similar framings.

3. Position Glasroc X boards onto the framing and fix it as per fixing layout.

4. Seal intermediate junction with wall wrap or infill as per detail.

5. Seal vertical joints, horizontal joints and corners with recommended tape or sealant as per detail.

6. Seal any openings and penetrations with recommended tape or sealant. For fire rated system, tailored passive fire solution must be considered to achieve the targeted FRL.

7. Seal around window and door openings with recommended tape, followed by applying Glasroc X tape to corners of the openings.

Figure 2: Glasroc X horizontal board fixing layout steel frame

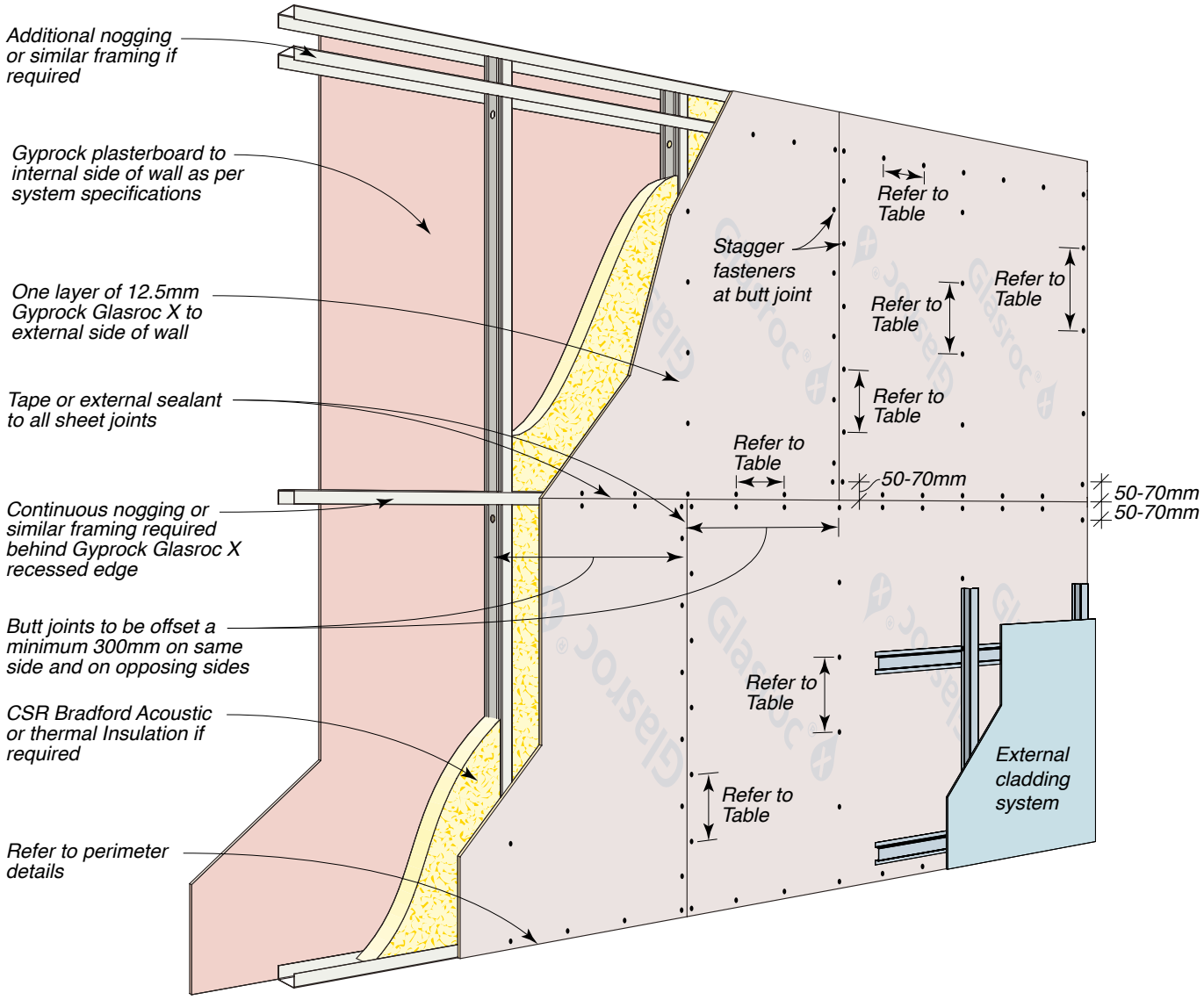
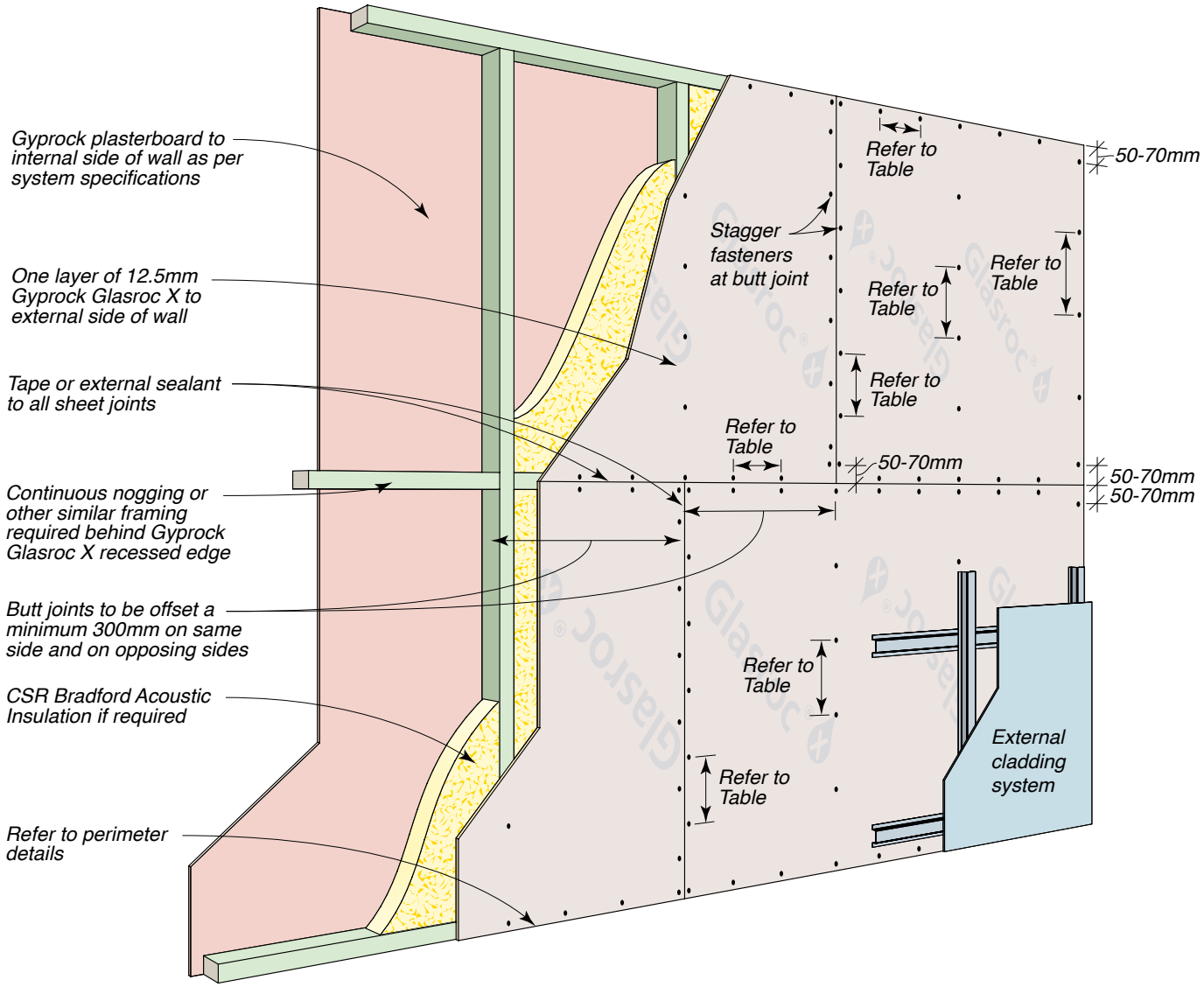


Figure 3: Glasroc X horizontal board fixing layout timber frame



Span Table

The following table provides the maximum allowable fastener and stud spacings to achieve a targeted design ULS wind pressure. It has considered the weight of Cemintel™ cavity external systems including Territory, Surround, Barestone and ExpressPanel; and Hebel PowerPanel high rise facade wall system and Hebel PowerPanel 50 high rise facade wall system. External wall systems must be fixed through Glasroc X board into the structural framing. Refer to the fixing layout details on page 12 and 13 for more information.

Table 1: Span Table for Steel and Timber Frames

Design ULS Wind Pressure (kPa)	Max Stud Centres (mm)	Fixing Centres (mm)[1]	
		Field	Others[2]
1	600	250	200
2	450	250	200
3	450	150	150
4	450	125	100
5	300	125	100
6	300	75	100

[1] Cladding system screws must penetrate Glasroc X into the backing stud framing.

[2] Other fixing locations include noggins, butt edge, recess edge, openings and corners.

Construction Drawings
Steel Frames – Non Fire Rated

The following construction details outline the recommended approach to installing Glasroc X on non fire rated steel frame systems.

Figure 4: Vertical Junction – Tape

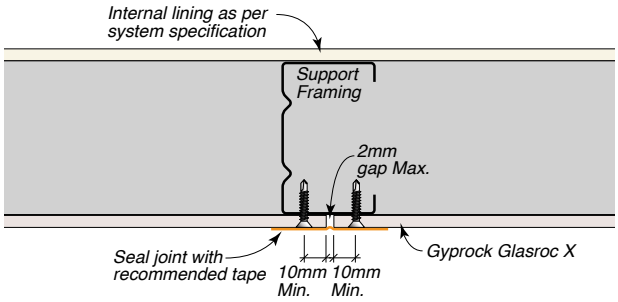


Figure 5: Vertical Junction – Sealant

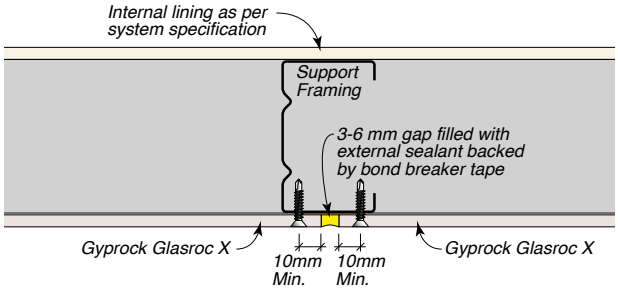


Figure 6: Vertical Control Joint – Tape

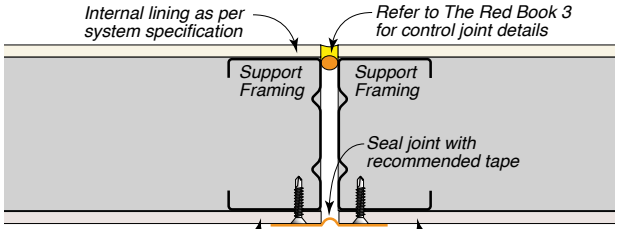


Figure 7: Vertical Control Joint – Sealant

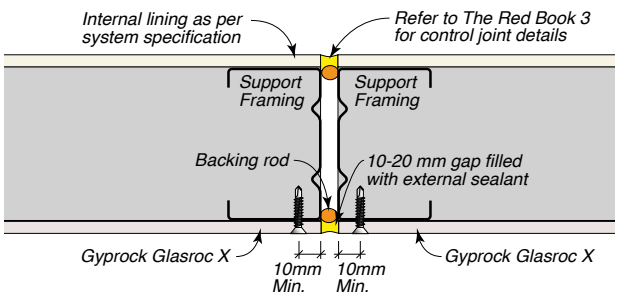


Figure 8: Intermediate Junction – Tape

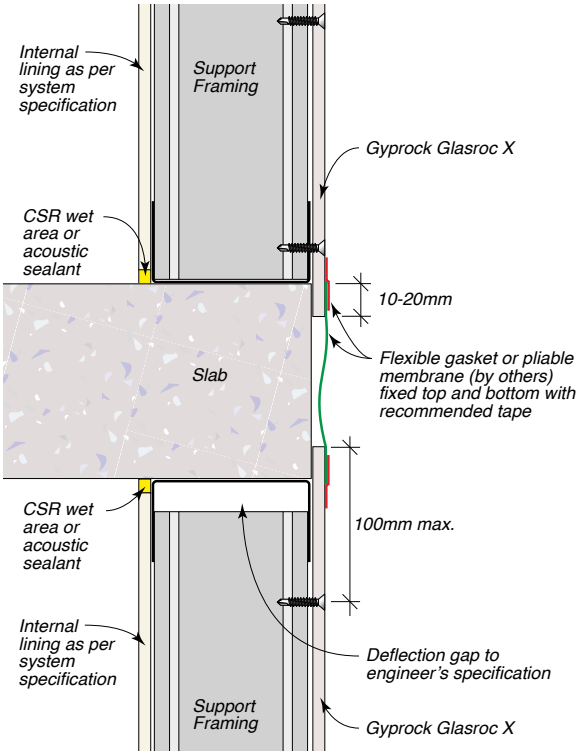


Figure 9: Intermediate Junction – Sealant

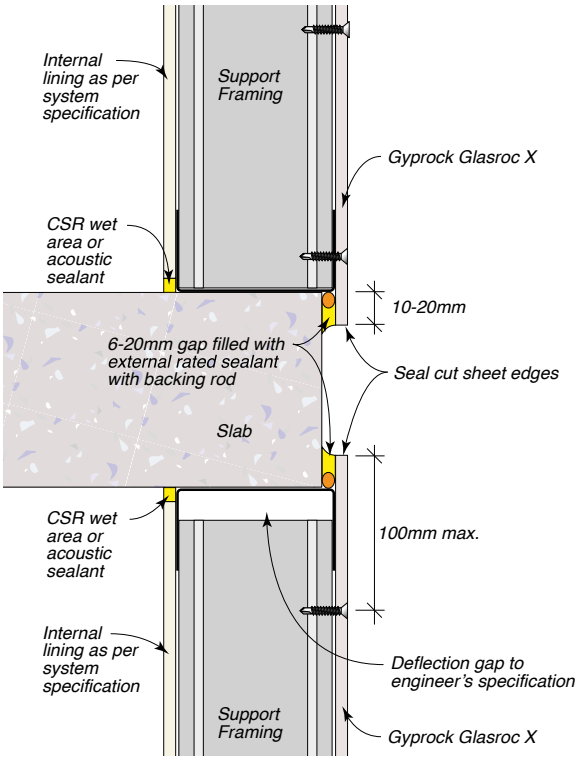


Figure 10: Head Detail – Tape

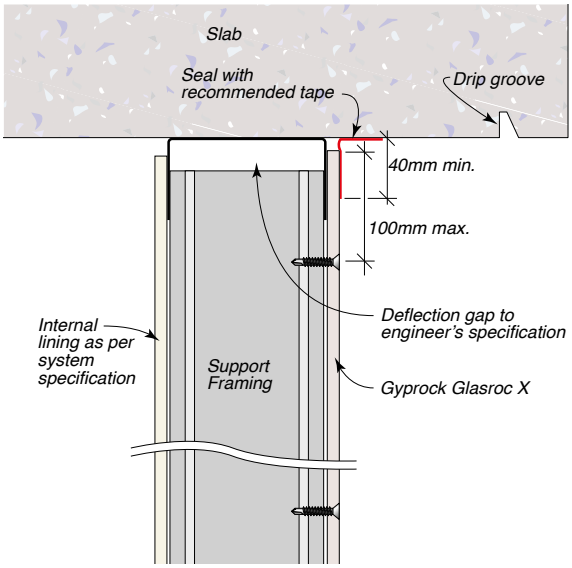


Figure 11: Head Detail – Sealant Option 1

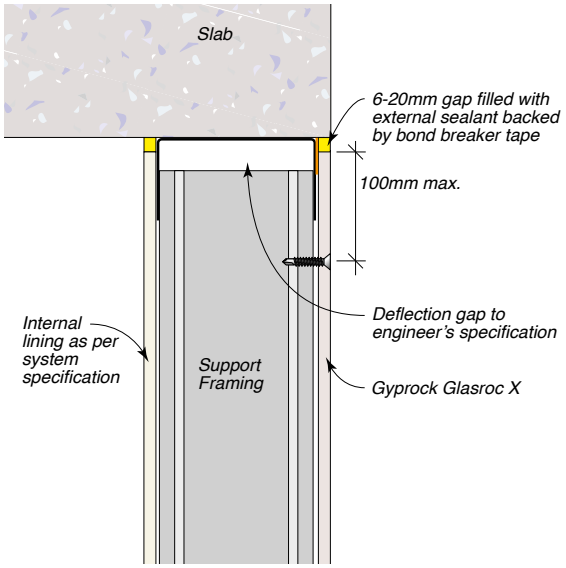


Figure 12: Head Detail – Sealant Option 2

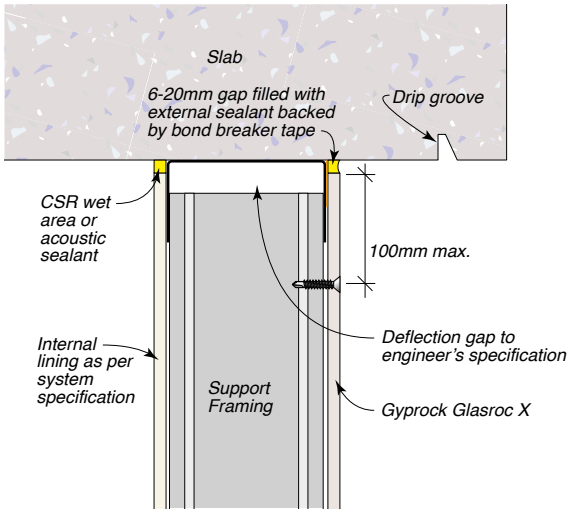


Figure 13: Head Detail – Flashing

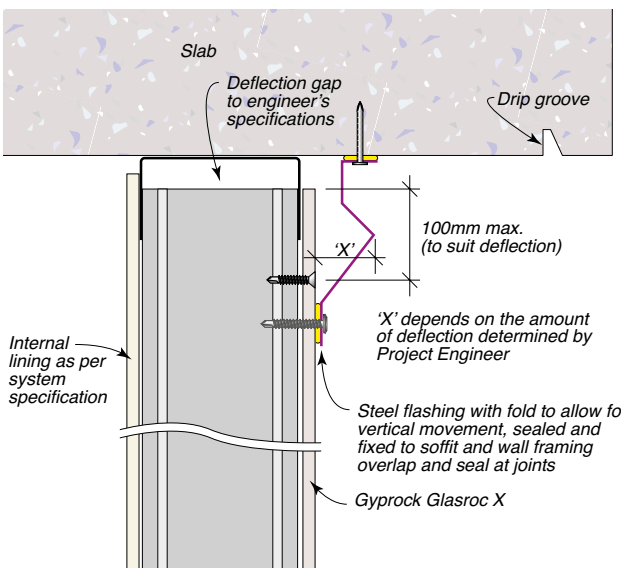


Figure 14: Base Detail – Tape Option 1

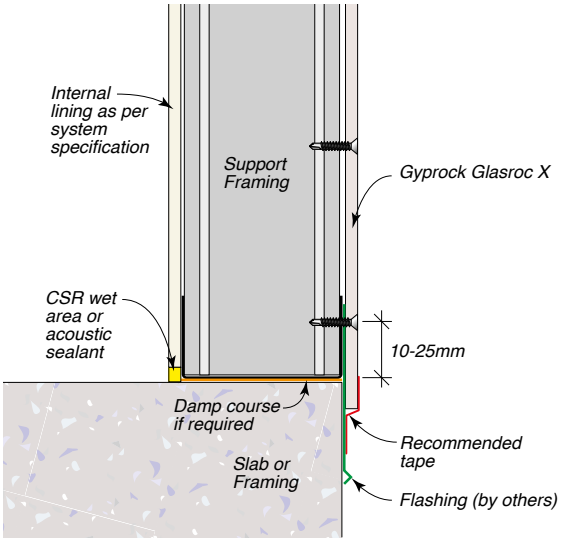


Figure 15: Base Detail – Tape Option 2

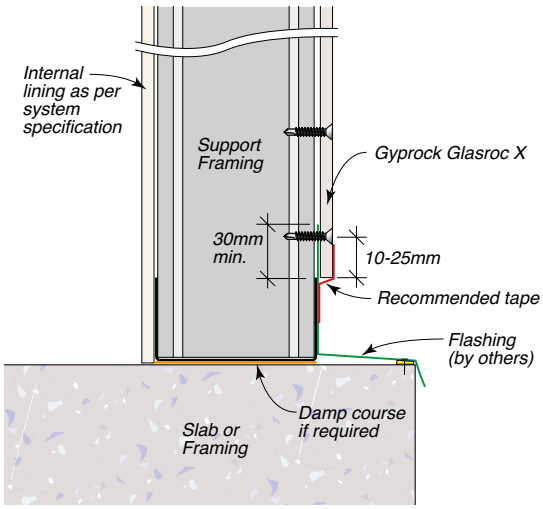


Figure 16: Base Detail – Sealant

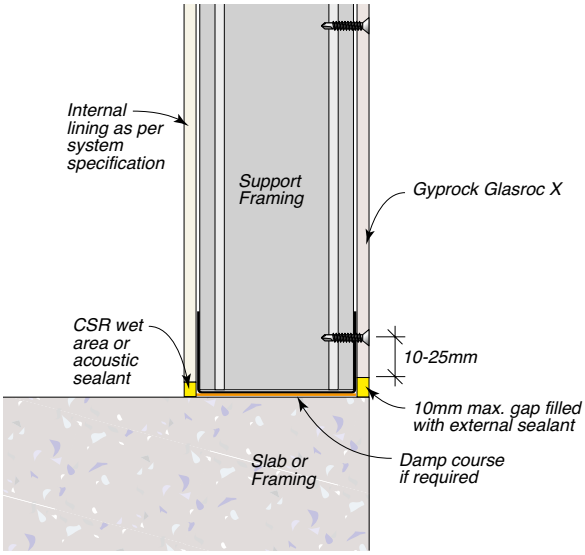


Figure 17: Horizontal Joint – Tape

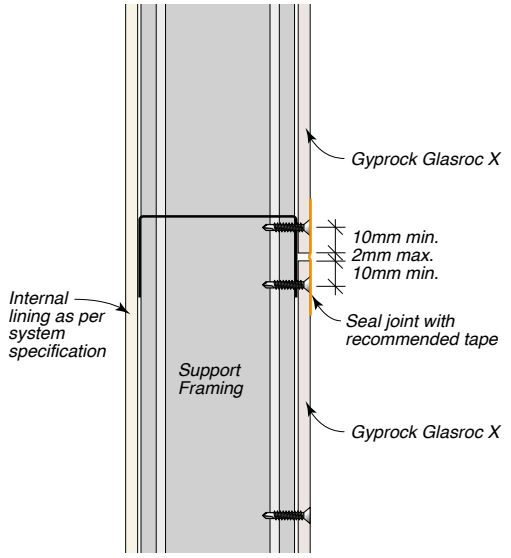


Figure 18: Horizontal Joint – Sealant

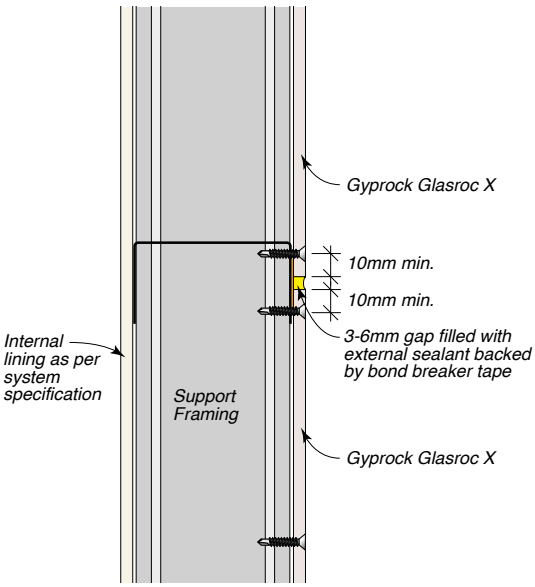


Figure 19: Junction at penetration – Sealant

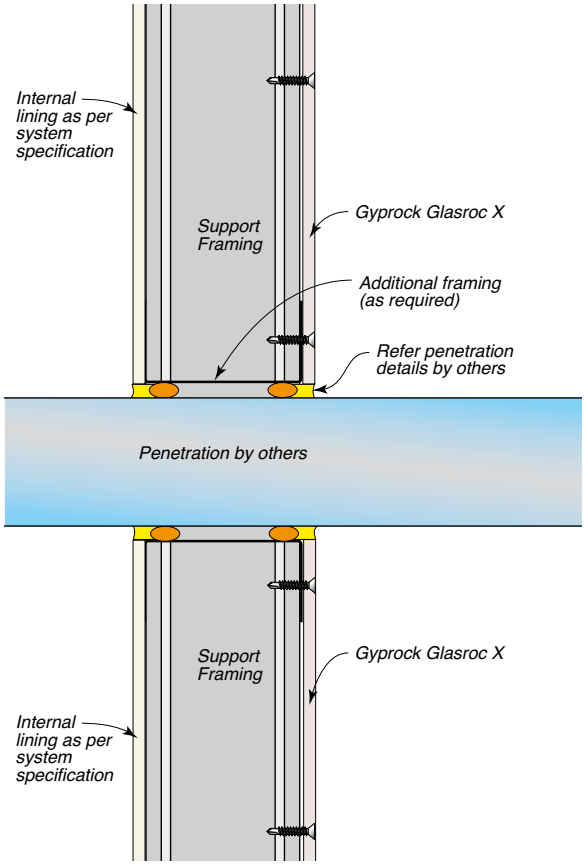


Figure 20: Parapet – Tape

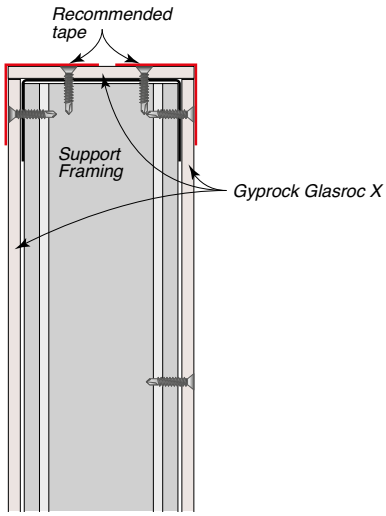


Figure 21: Internal Corner – Tape

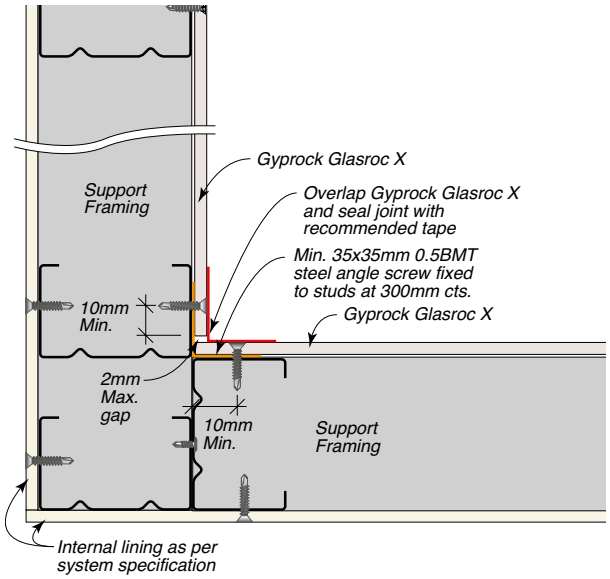


Figure 22: Internal Corner – Sealant

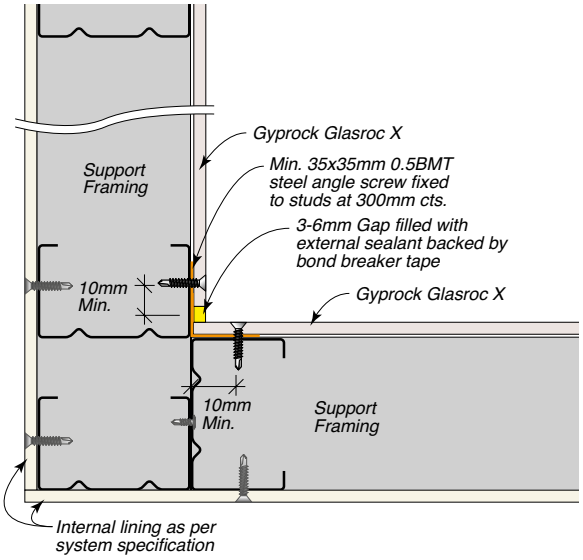


Figure 23: External Corner – Tape

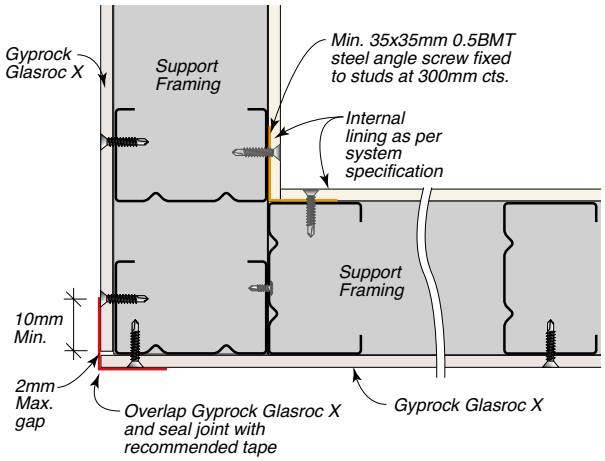


Figure 24: External Corner – Sealant

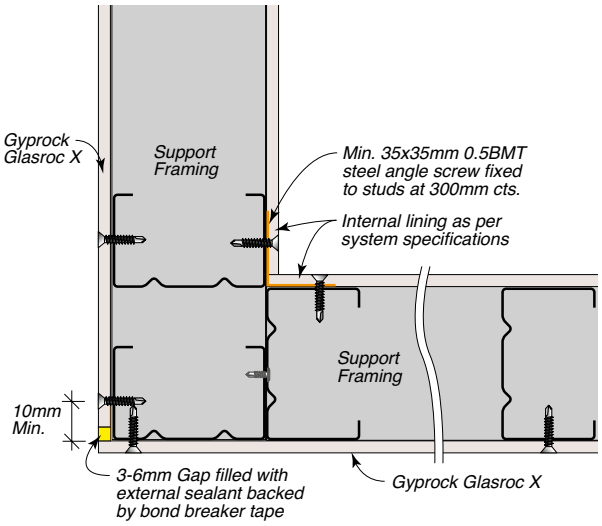


Figure 25: Soffit Junction – Tape

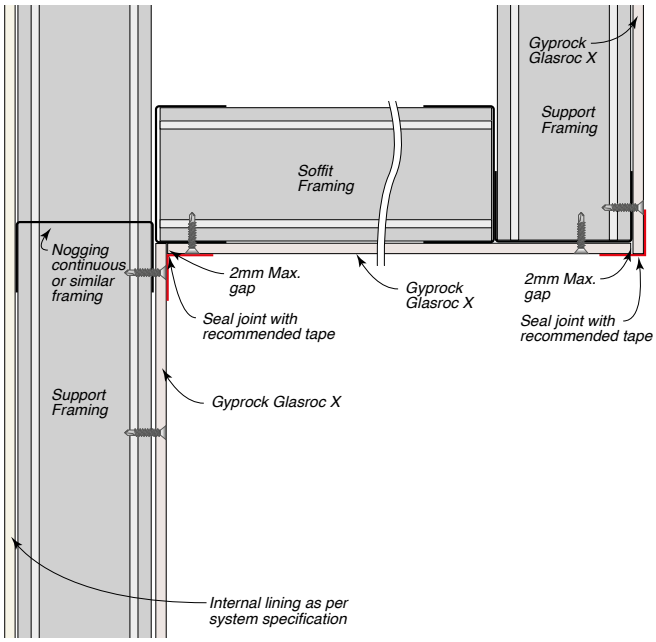


Figure 26: Soffit Junction – Sealant

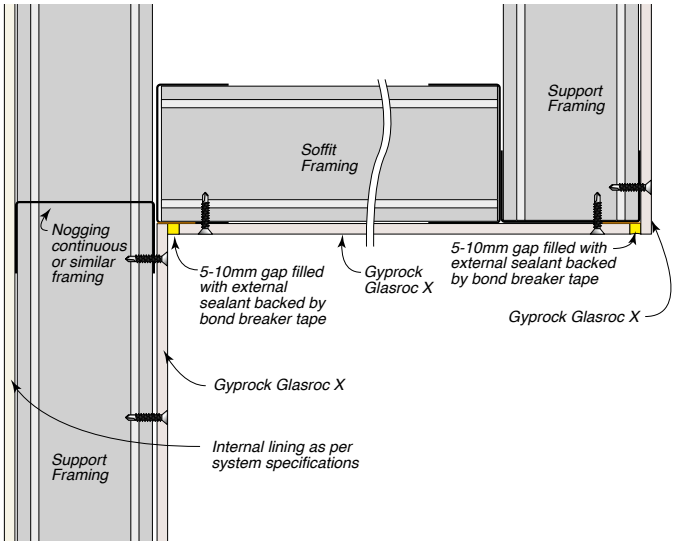
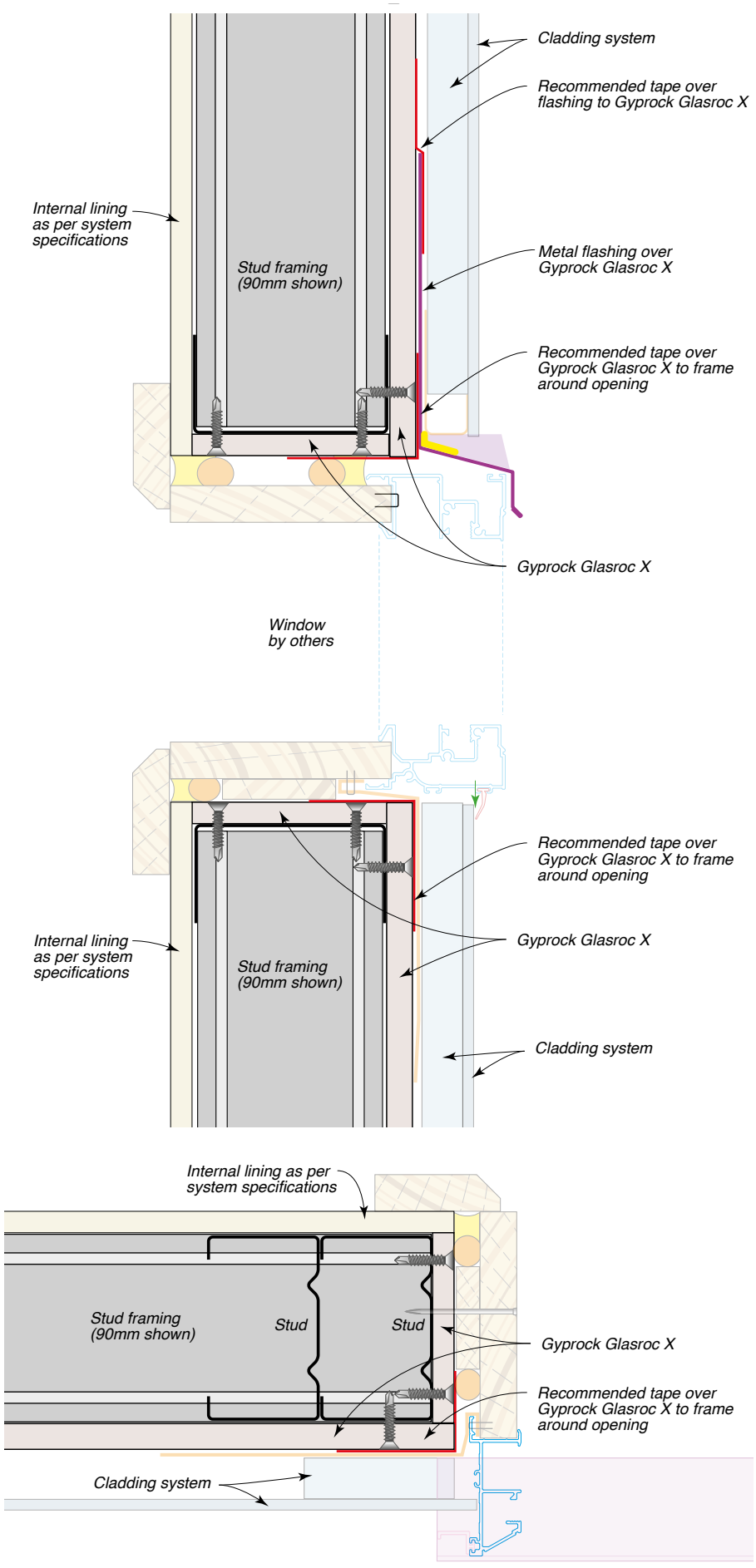


Figure 27: Window Penetration



Construction Drawings
Steel Frames – Fire Rated

The following construction details outline the recommended approach to installing Glasroc X on fire rated steel frame systems. Appraisal: FC12946

Figure 28: Vertical Junction – Tape

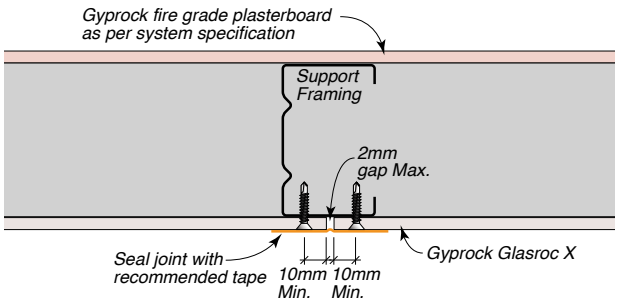


Figure 29: Vertical Junction – Sealant

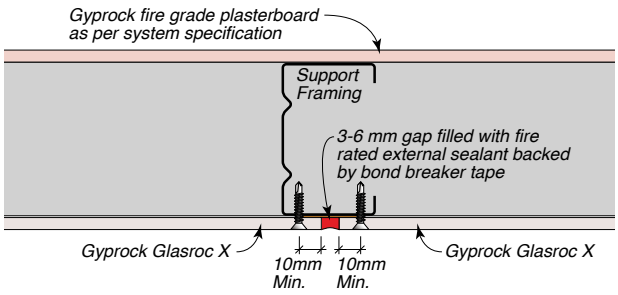


Figure 30: Vertical Control Joint – Sealant

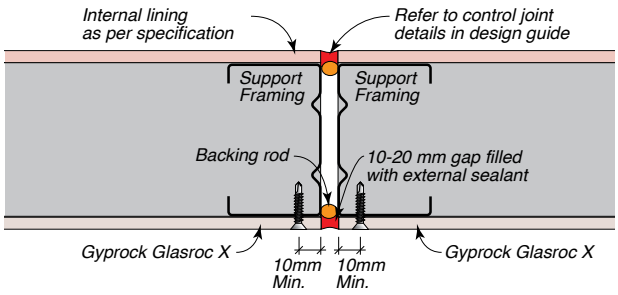


Figure 31: Intermediate Junction – Sealant

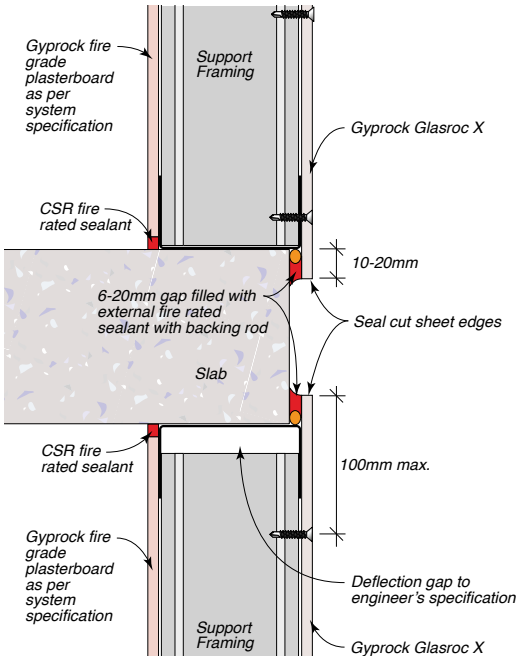


Figure 32: Head Detail – Sealant Option 1

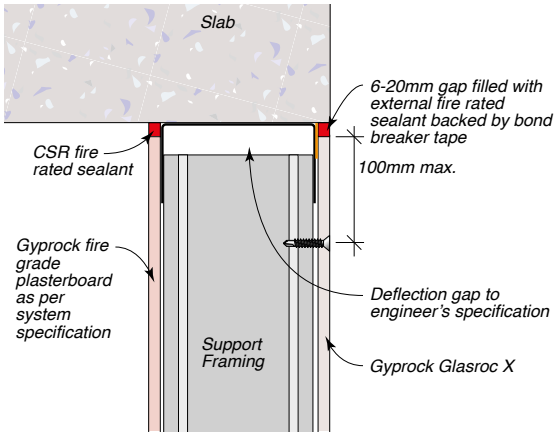


Figure 33: Head Detail – Sealant Option 2

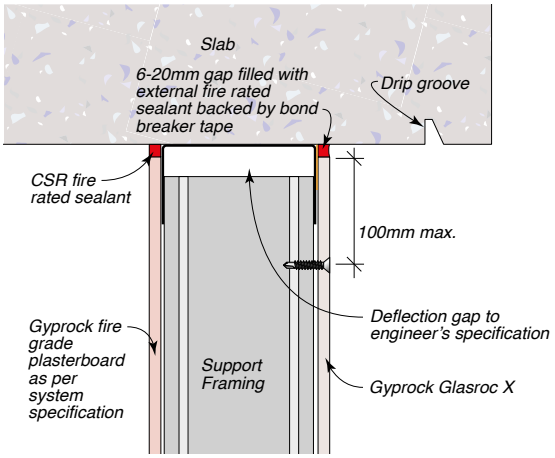


Figure 34: Base Detail – Tape

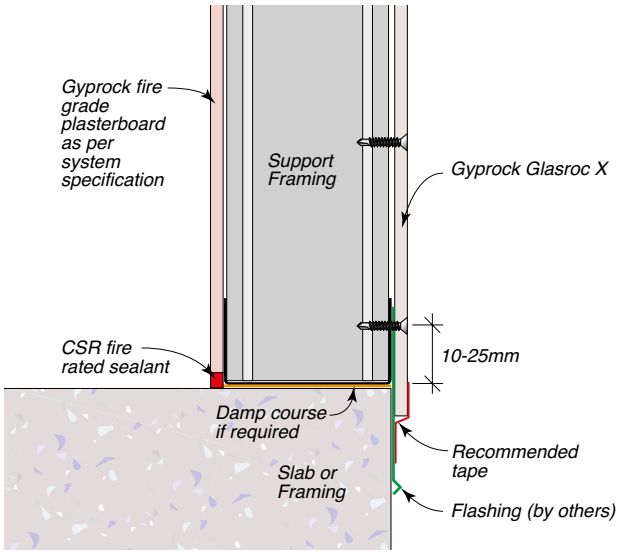


Figure 35: Base Detail – Sealant

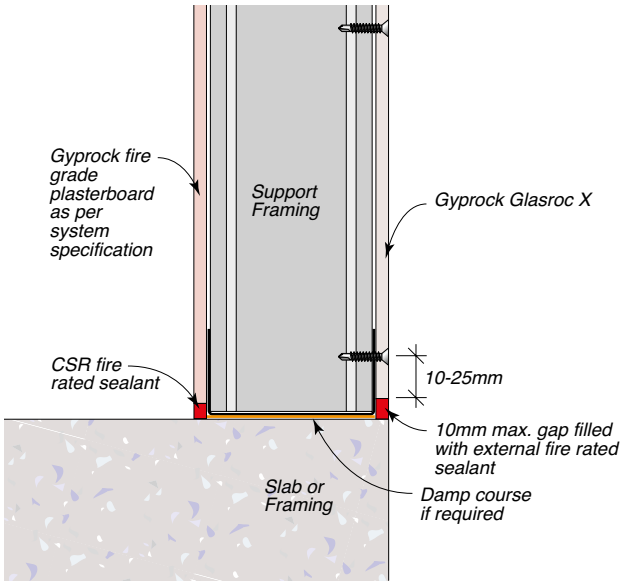


Figure 36: Horizontal Joint – Tape

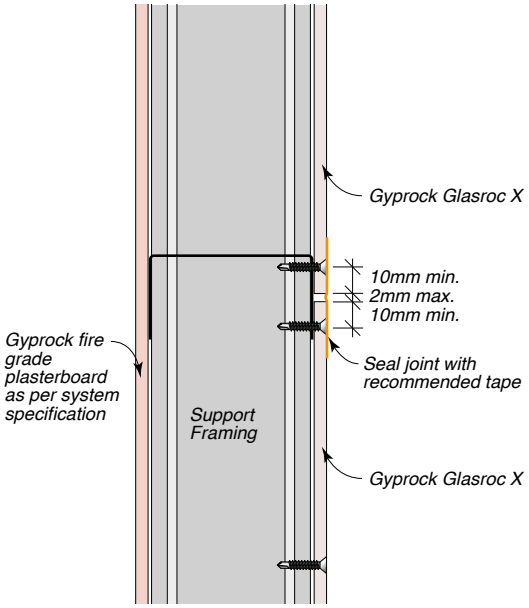


Figure 37: Horizontal Joint – Sealant

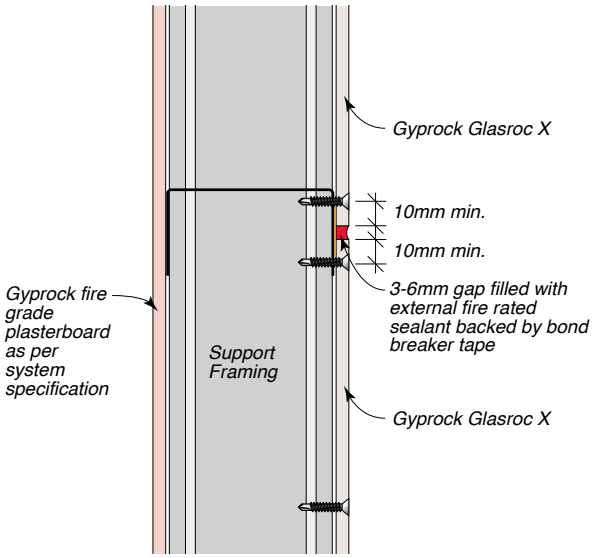


Figure 38: Internal Corner – Tape

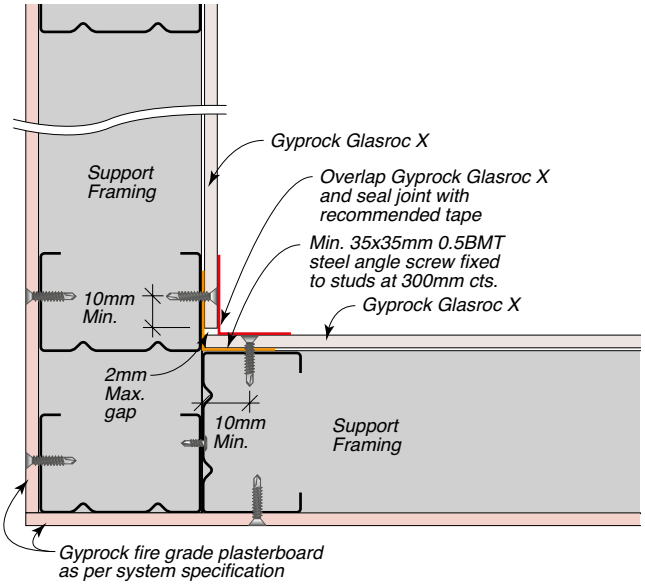


Figure 39: Internal Corner – Sealant

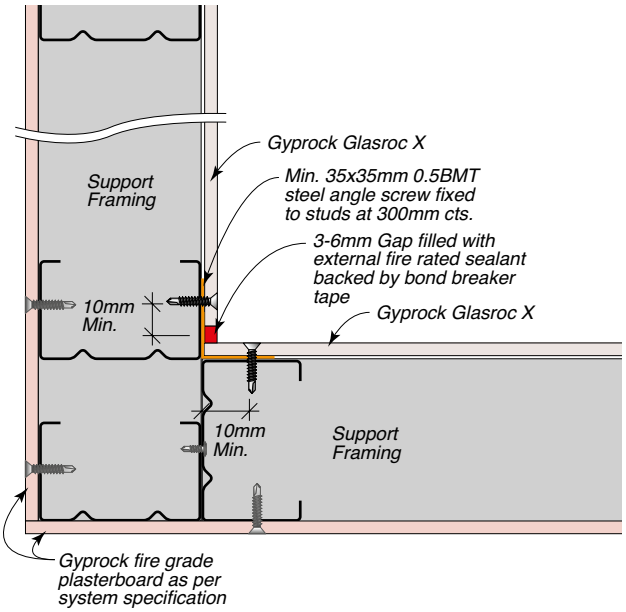


Figure 40: External Corner – Tape

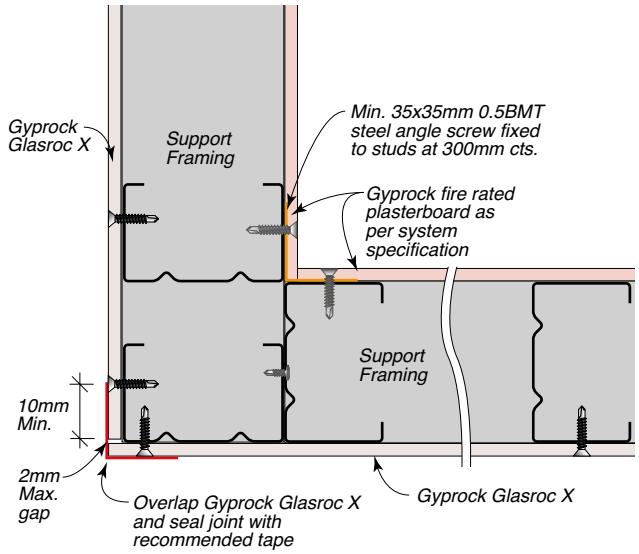


Figure 41: External Corner – Sealant

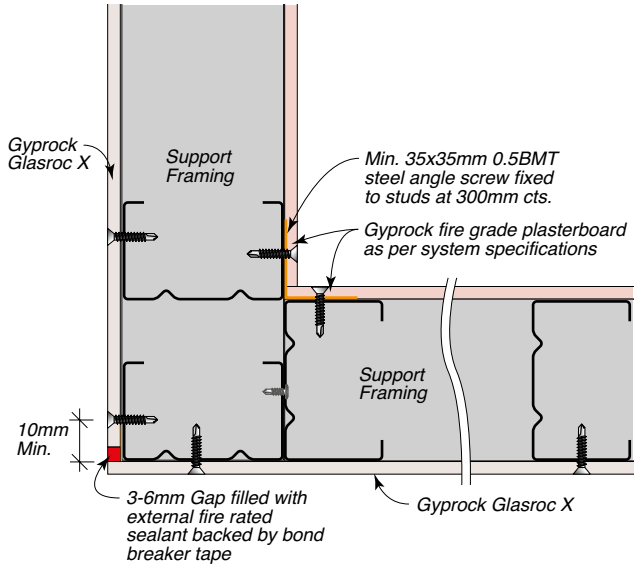


Figure 42: Window Penetration

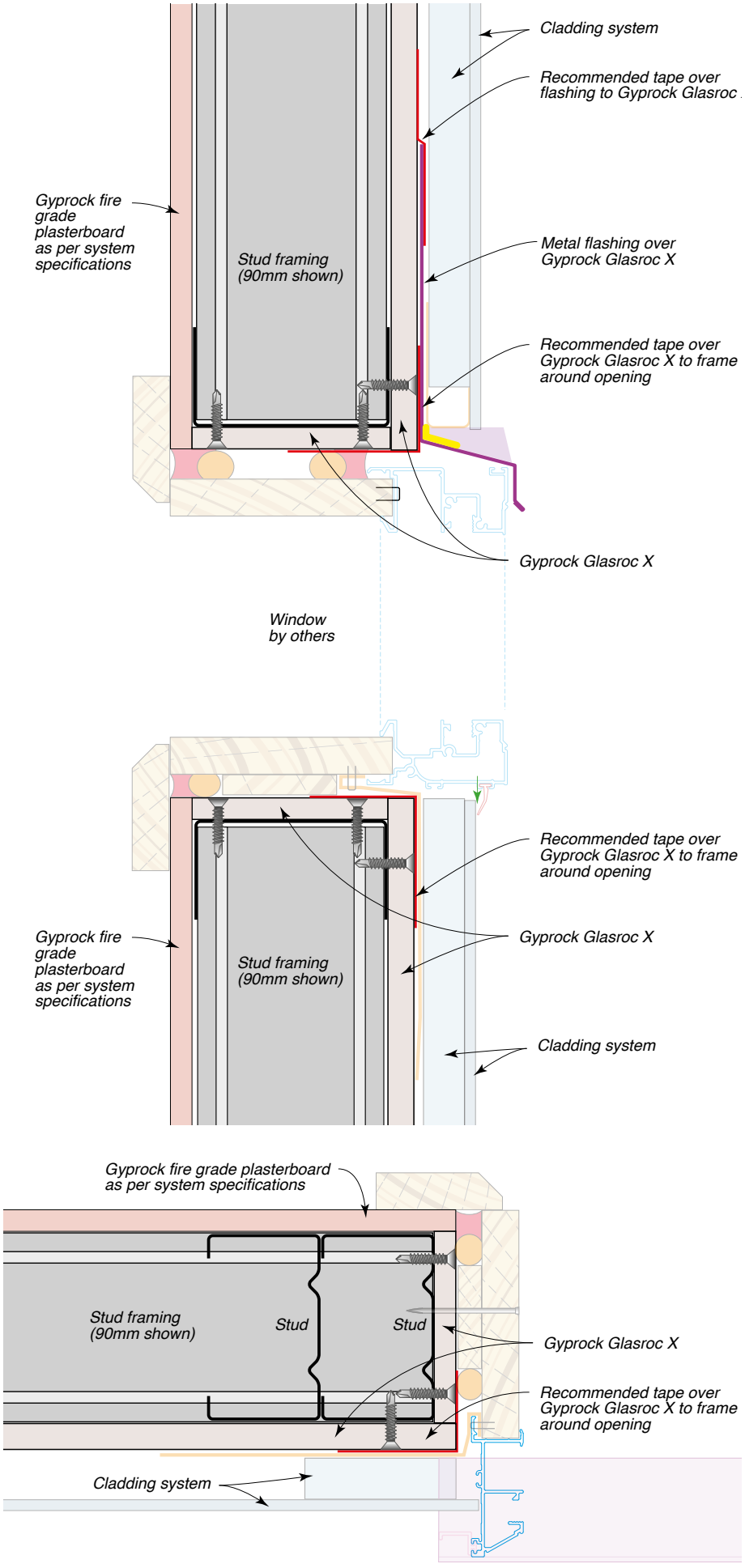


Figure 43: Treatment at Opening Step 1

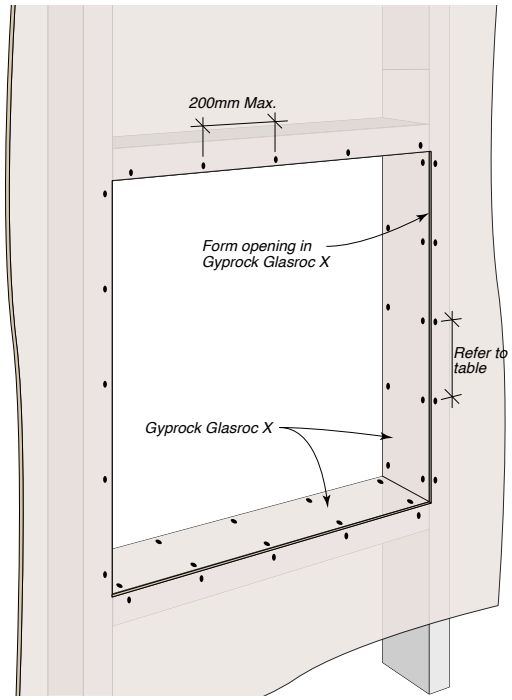
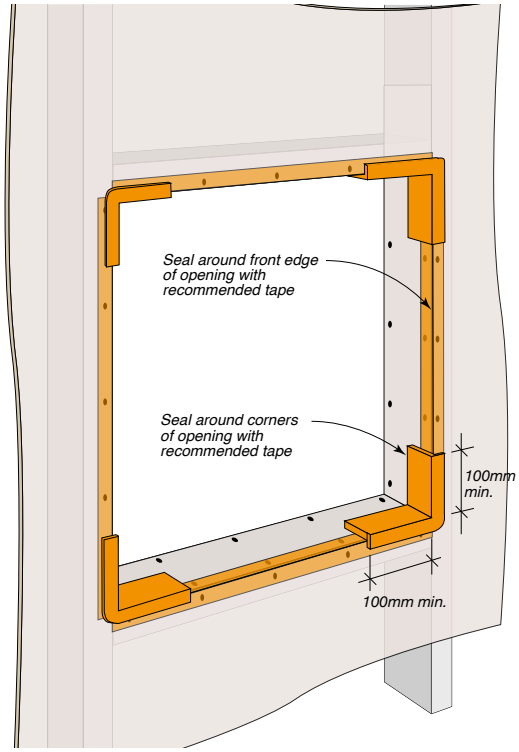


Figure 44: Treatment at Opening Step 2



Construction Drawings
Timber Frames – Non Fire Rated

The following construction details outline the recommended approach to installing Glasroc X on non fire rated timber frame systems.

Figure 45: Vertical Junction – Tape

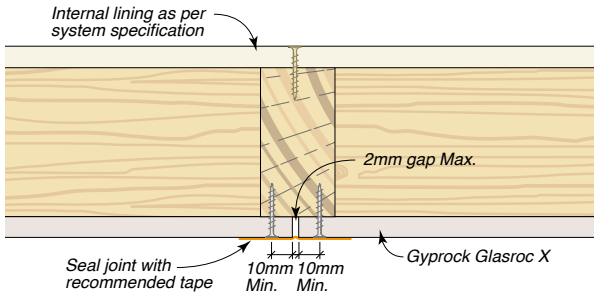


Figure 46: Vertical Junction – Sealant

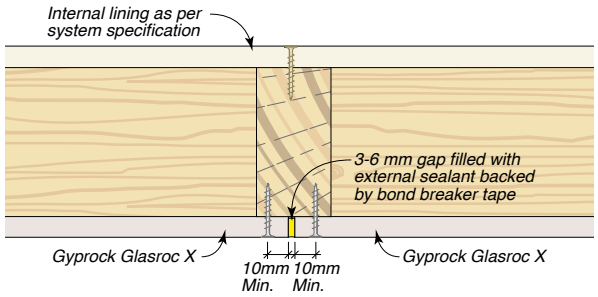


Figure 47: Vertical Control Joint – Tape

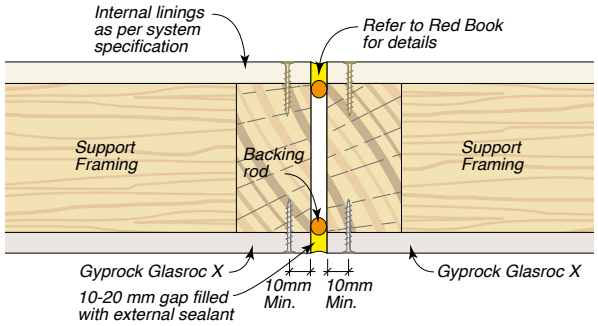


Figure 48: Vertical Control Joint – Sealant

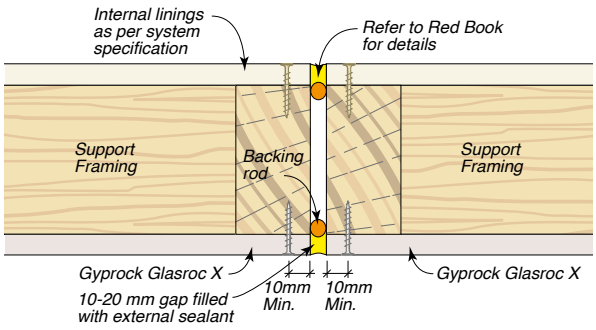


Figure 49: Intermediate Junction – Option 1

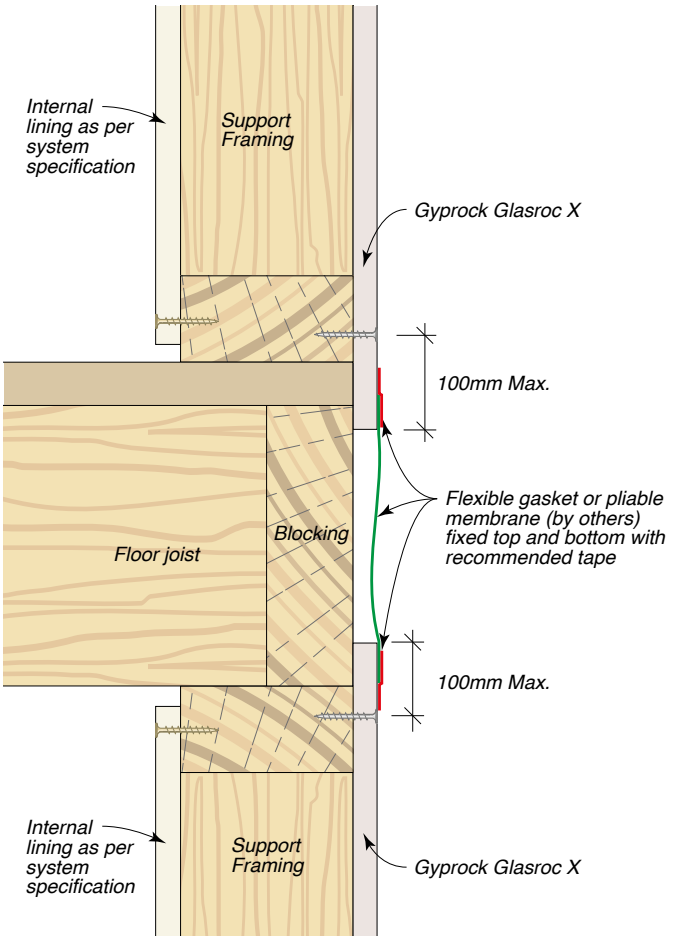


Figure 50: Intermediate Junction – Option 2

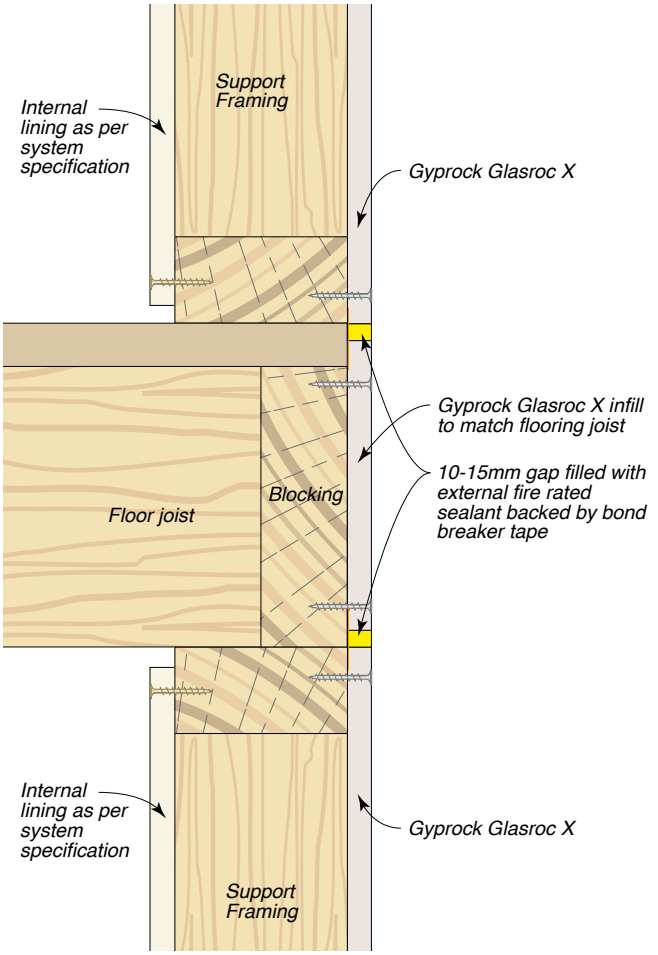


Figure 51: Base Detail – Tape Option 1

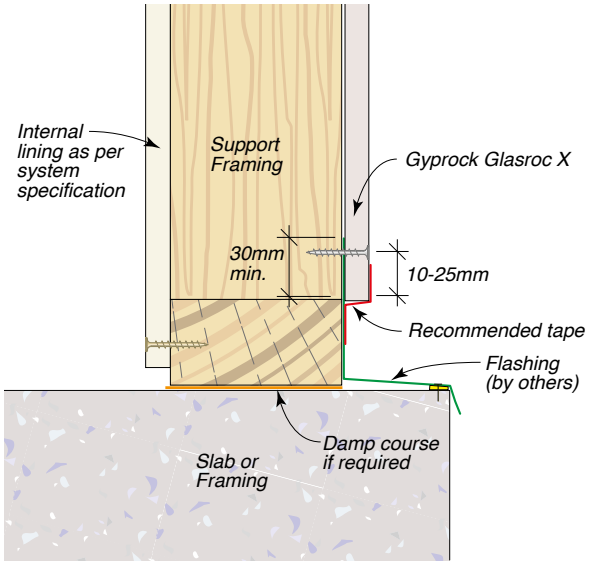


Figure 52: Base Detail – Tape Option 2

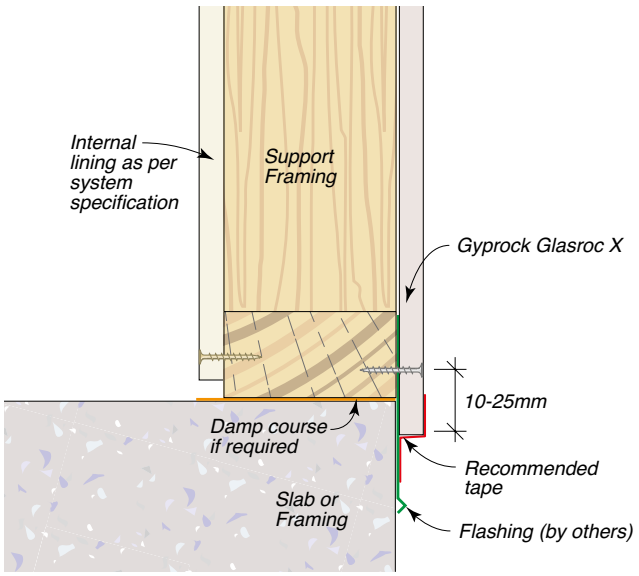


Figure 53: Base Detail – Sealant

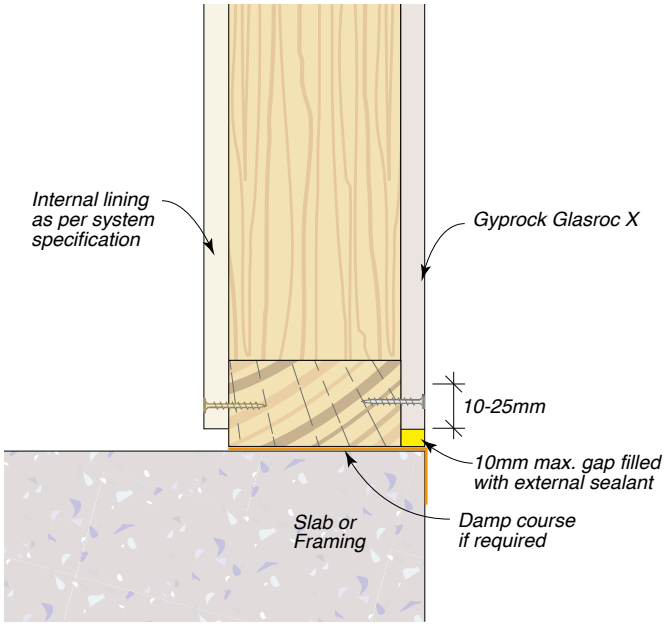


Figure 54 Horizontal Joint – Tape

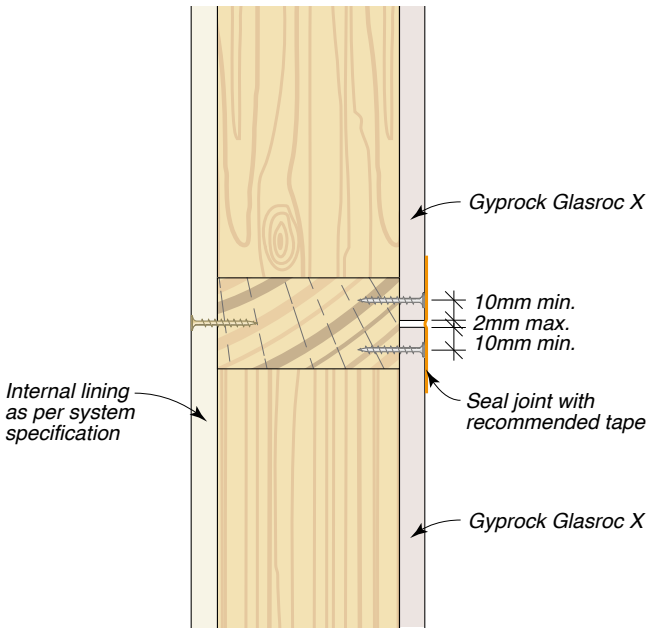


Figure 55: Horizontal Joint – Sealant

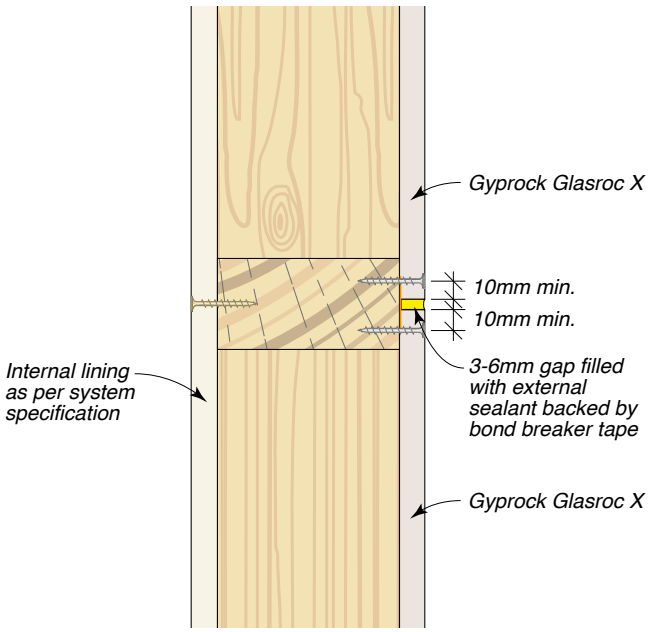


Figure 56: Junction at penetration – Sealant

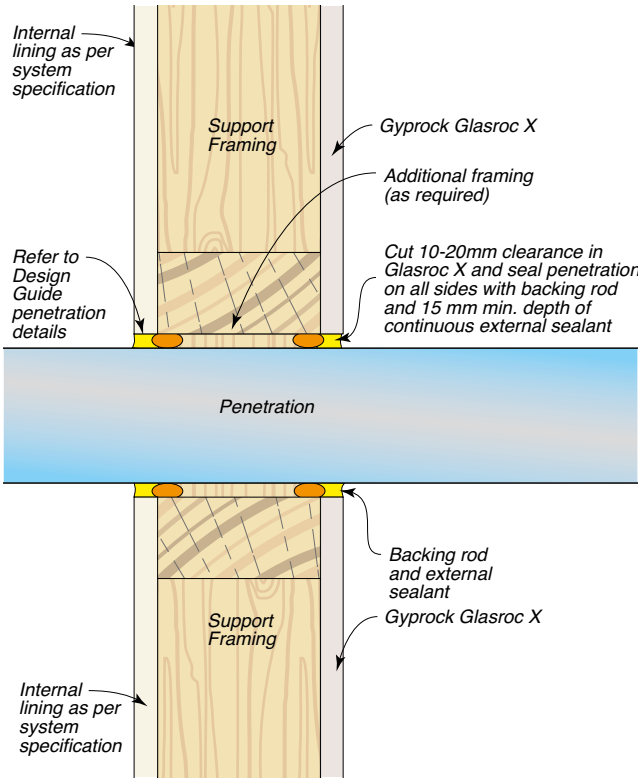


Figure 57: Parapet – Tape

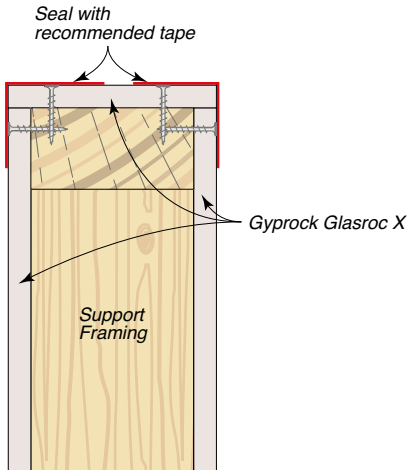


Figure 58: Internal Corner

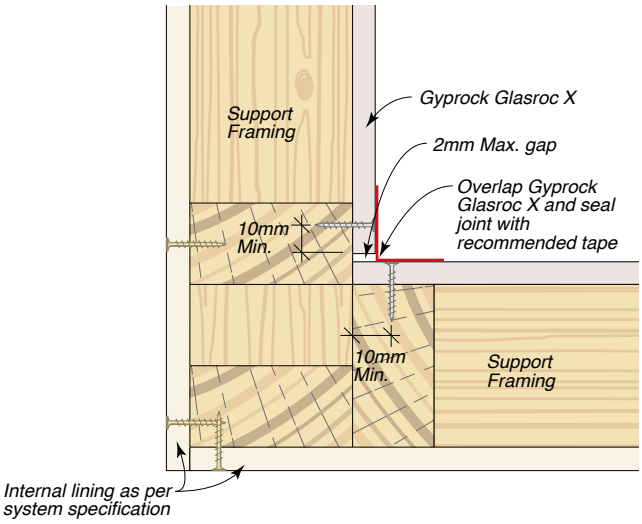


Figure 59: Internal Corner – Sealant

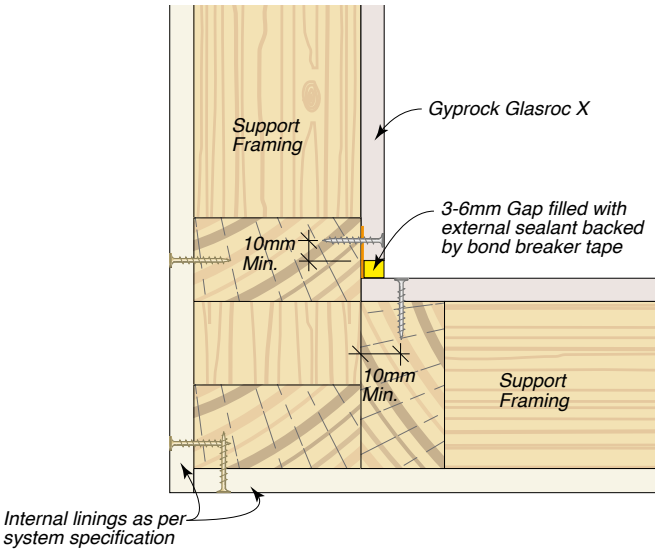


Figure 60: External Corner – Tape

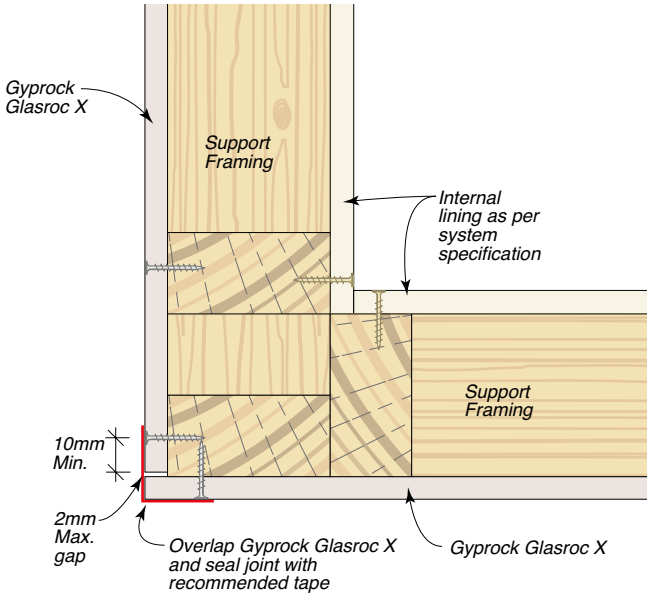


Figure 61: External Corner – Sealant

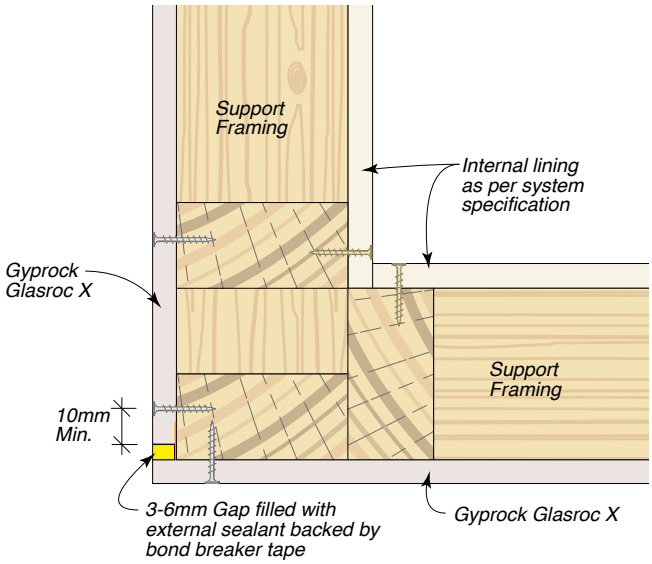


Figure 62: Window Penetration

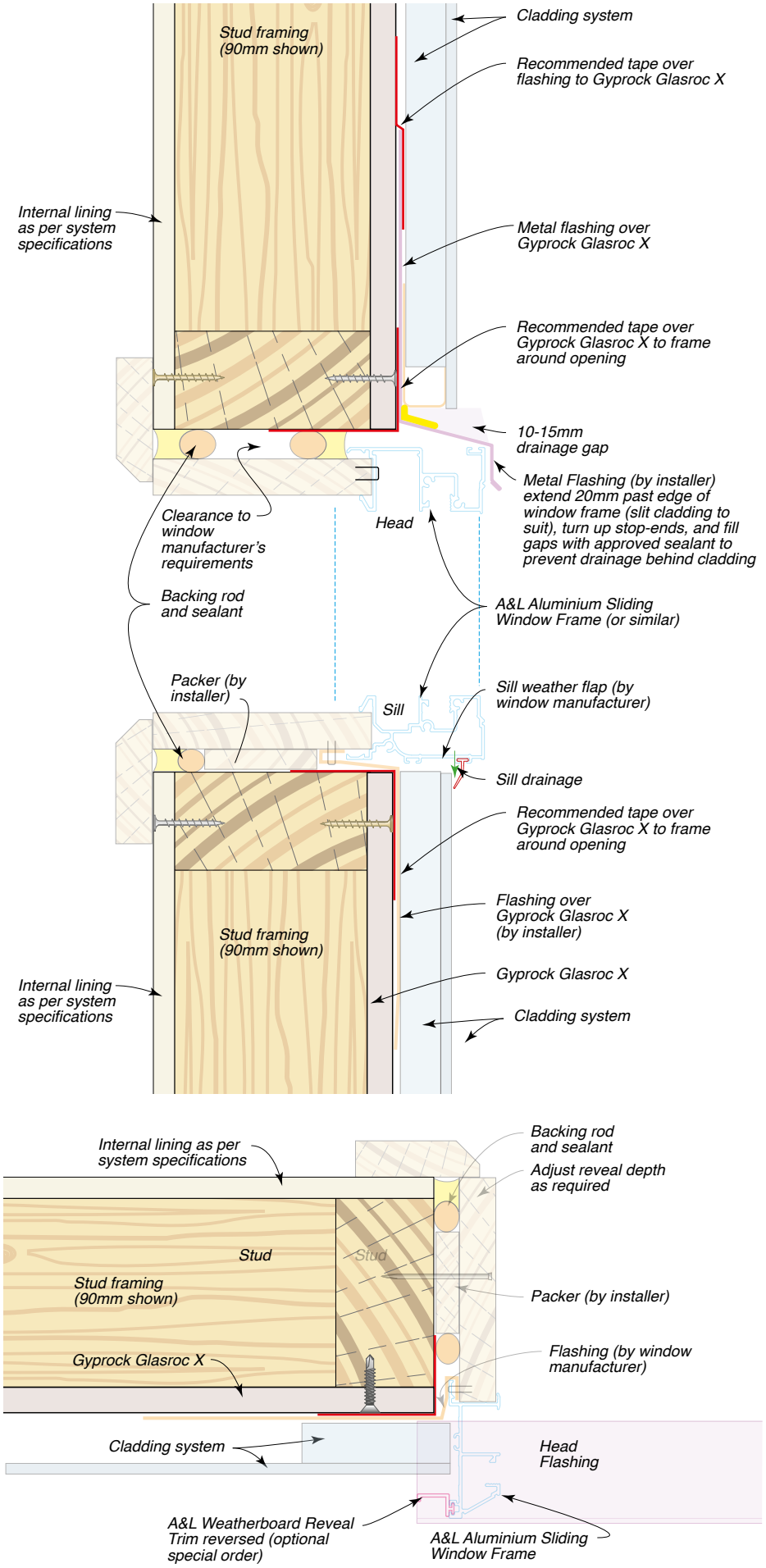


Figure 63: Treatment at Opening Step 1

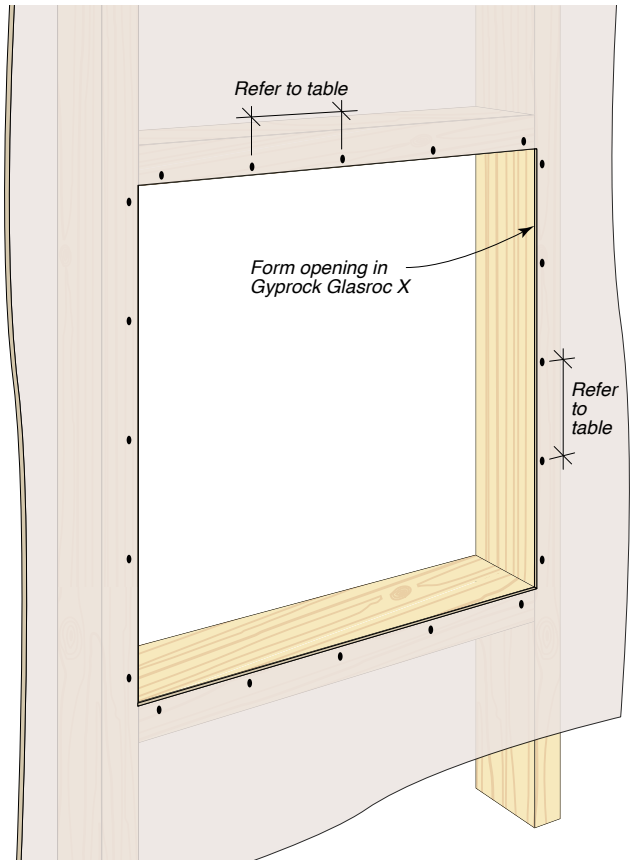
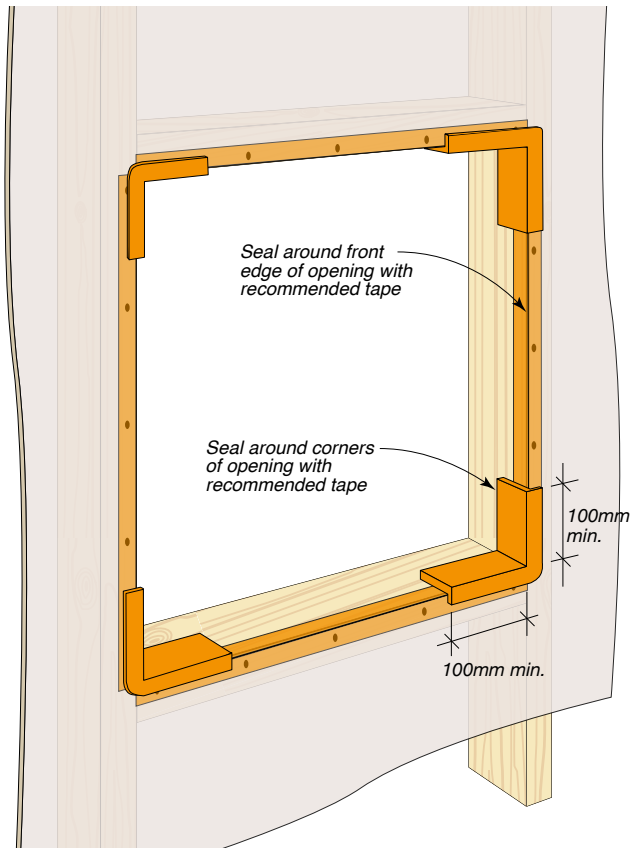


Figure 64: Treatment at Opening Step 2



Construction Drawings
Timber Frames – Fire Rated

The following construction details outline the recommended approach to installing Glasroc X fire rated timber frame systems.
Appraisal: FC12969

Figure 65: Vertical Junction – Tape

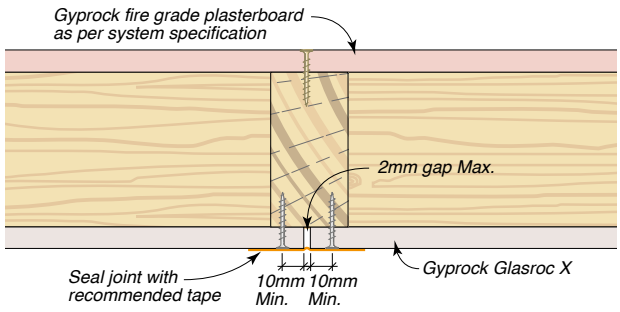


Figure 66: Vertical Junction – Sealant

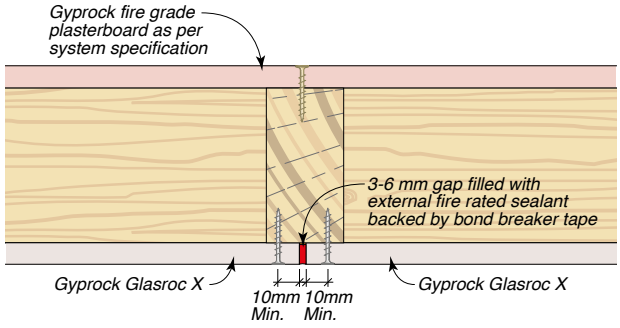


Figure 67: Vertical Junction – Sealant

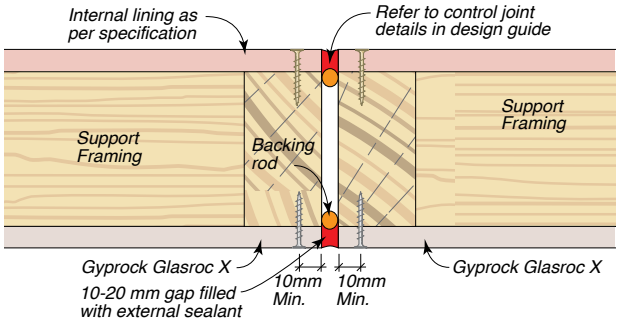


Figure 68: Intermediate Junction

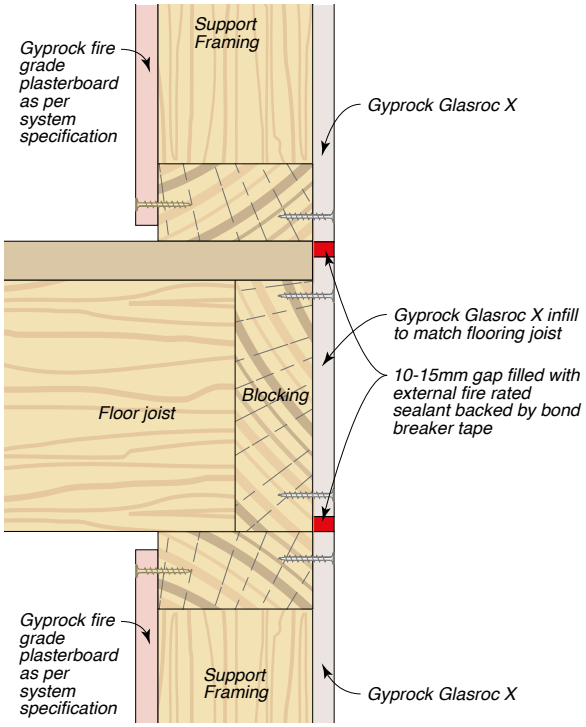


Figure 69: Base Detail – Tape

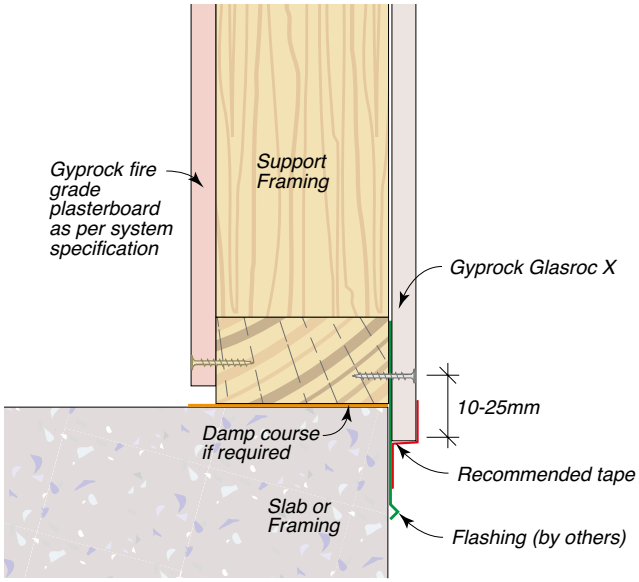


Figure 70: Base Detail – Sealant

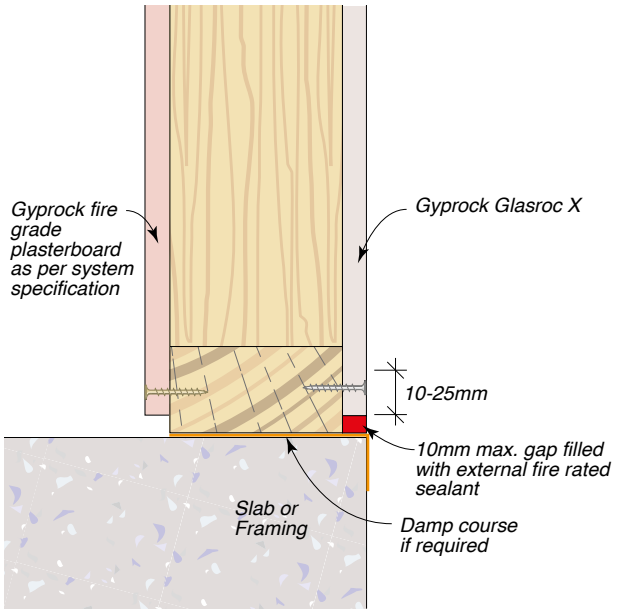


Figure 71: Horizontal Joint – Tape

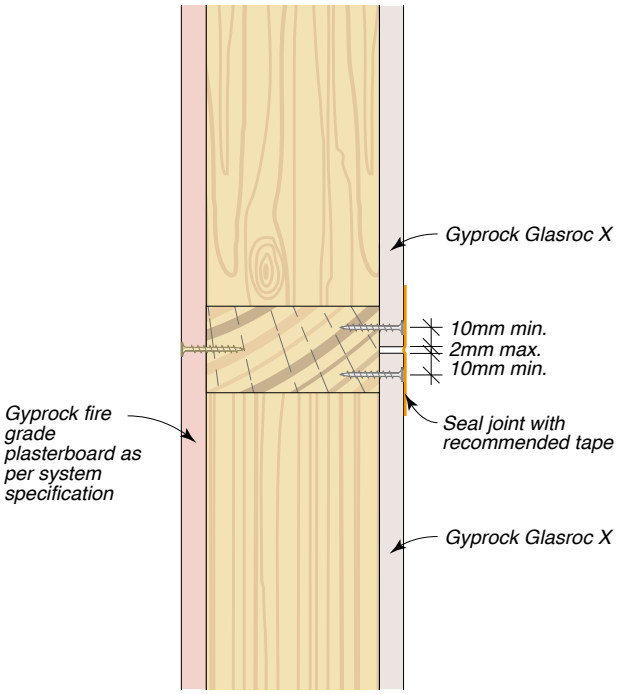


Figure 72: Horizontal Joint – Sealant

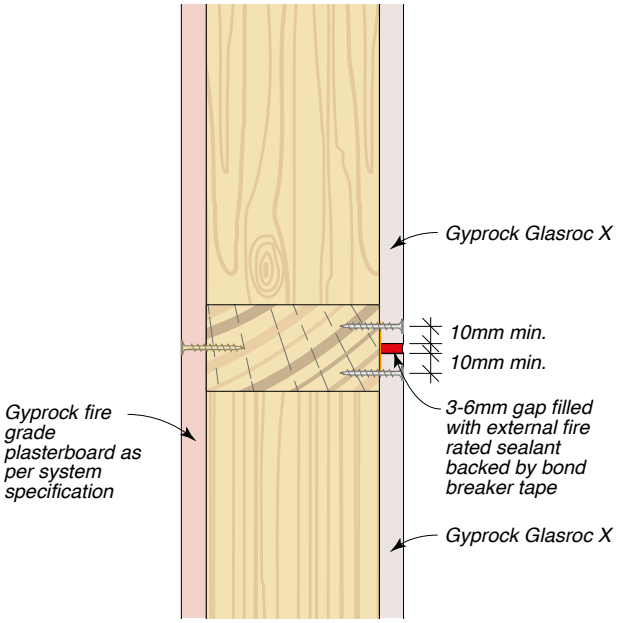


Figure 73: Internal Corner – Tape

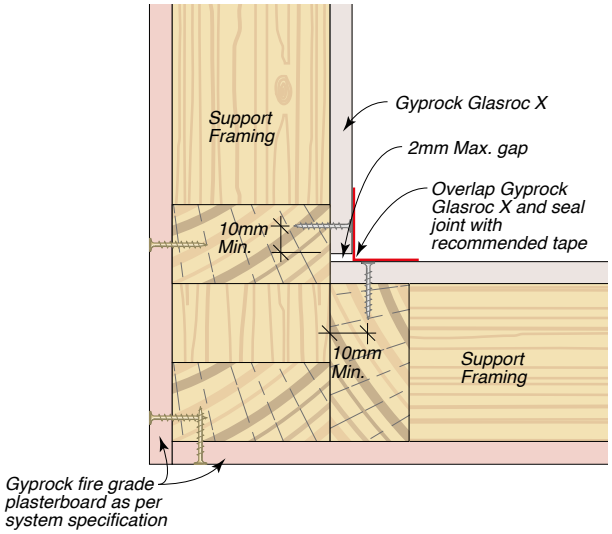


Figure 74: Internal Corner – Sealant

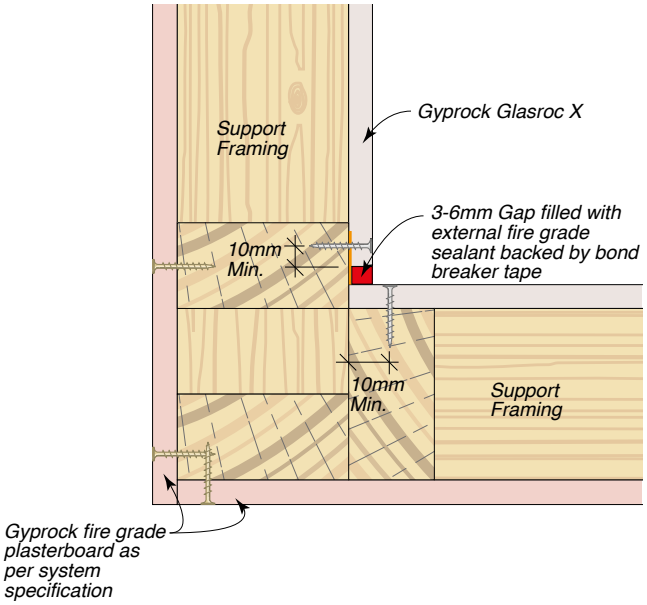


Figure 75: External Corner – Tape

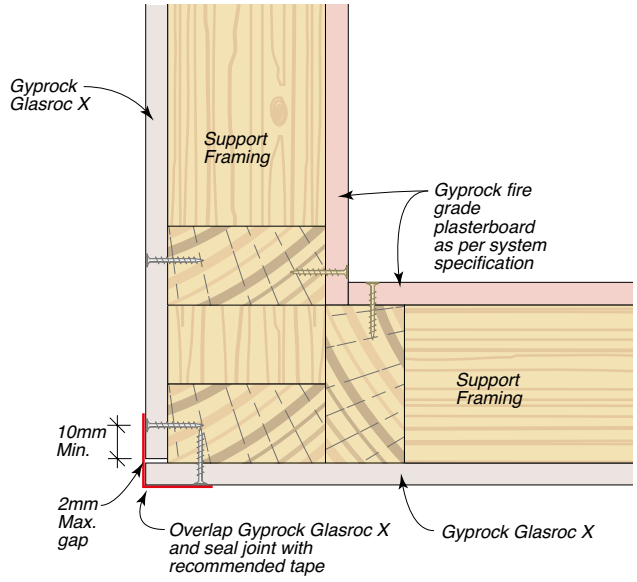


Figure 76: External Corner – Sealant

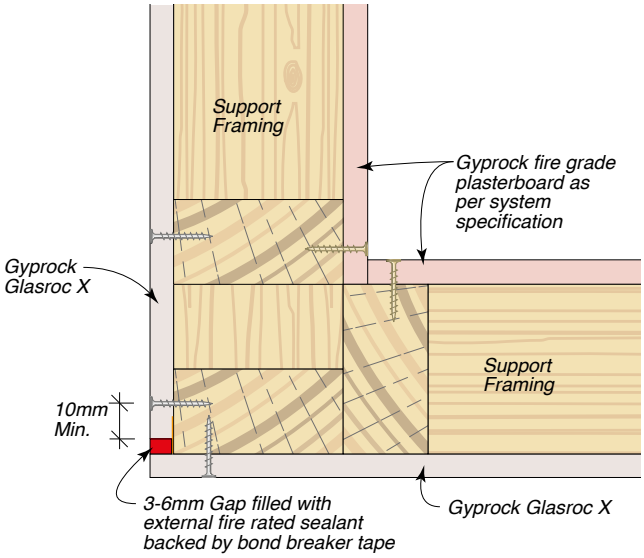


Figure 77: Window penetration

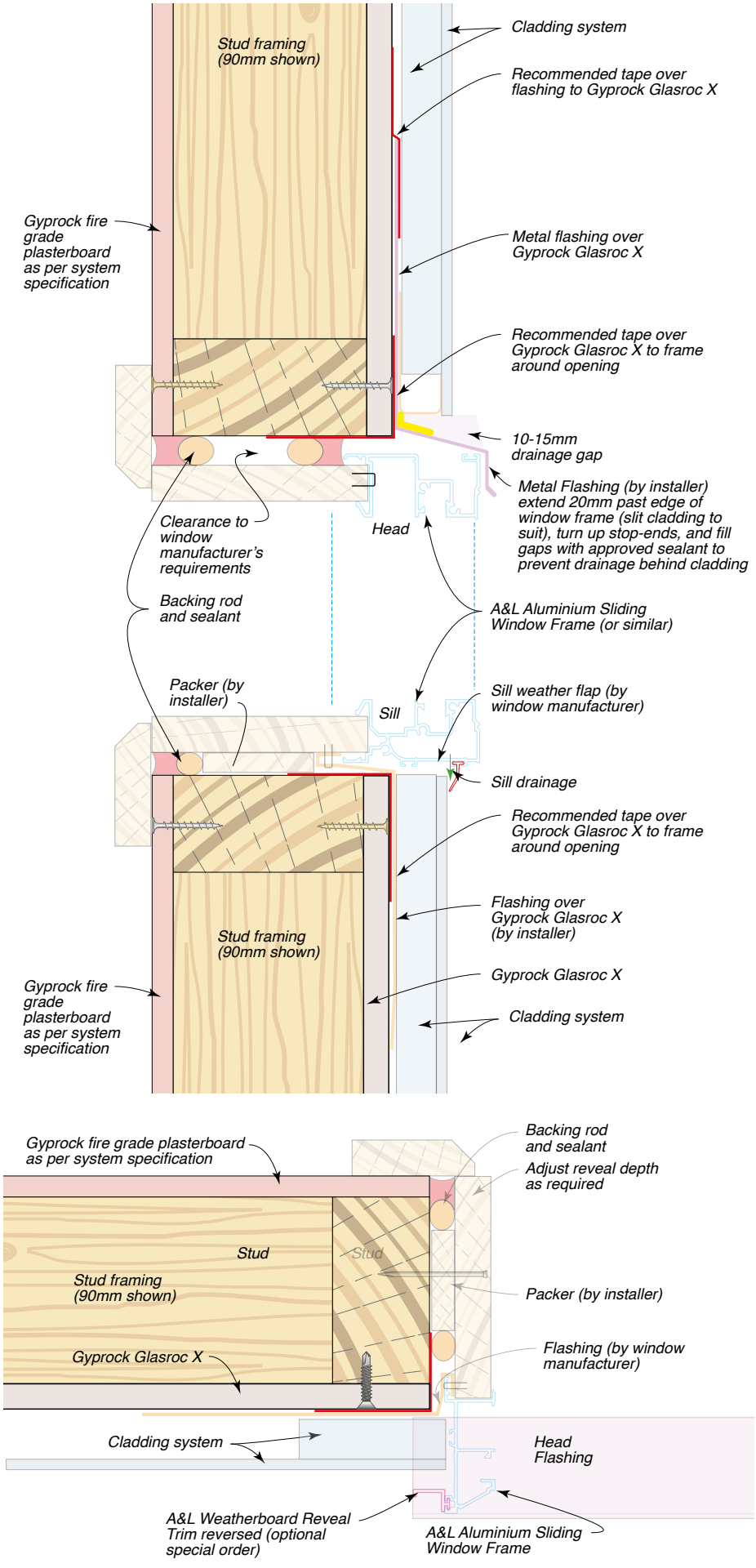


Figure 78: Treatment at opening Step 1

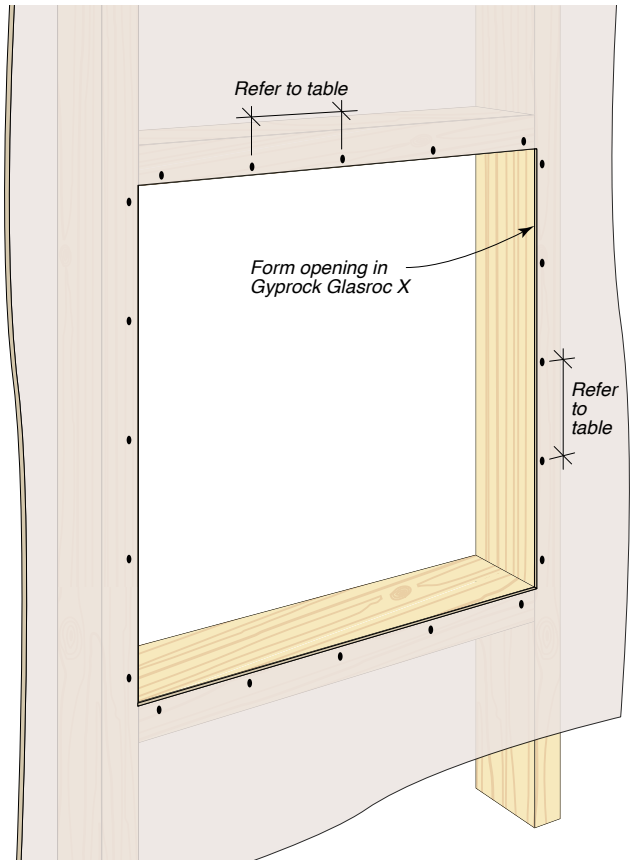


Figure 79: Treatment at opening Step 2

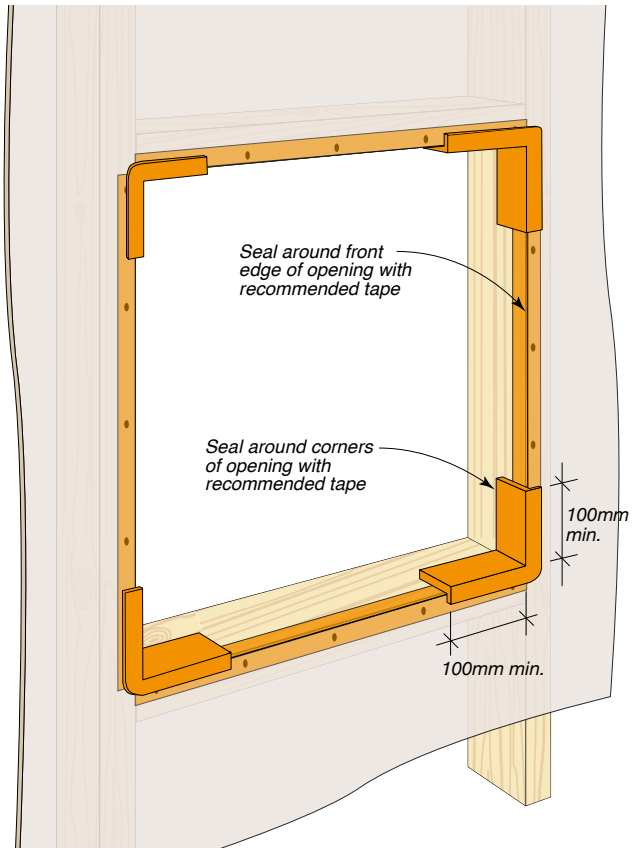
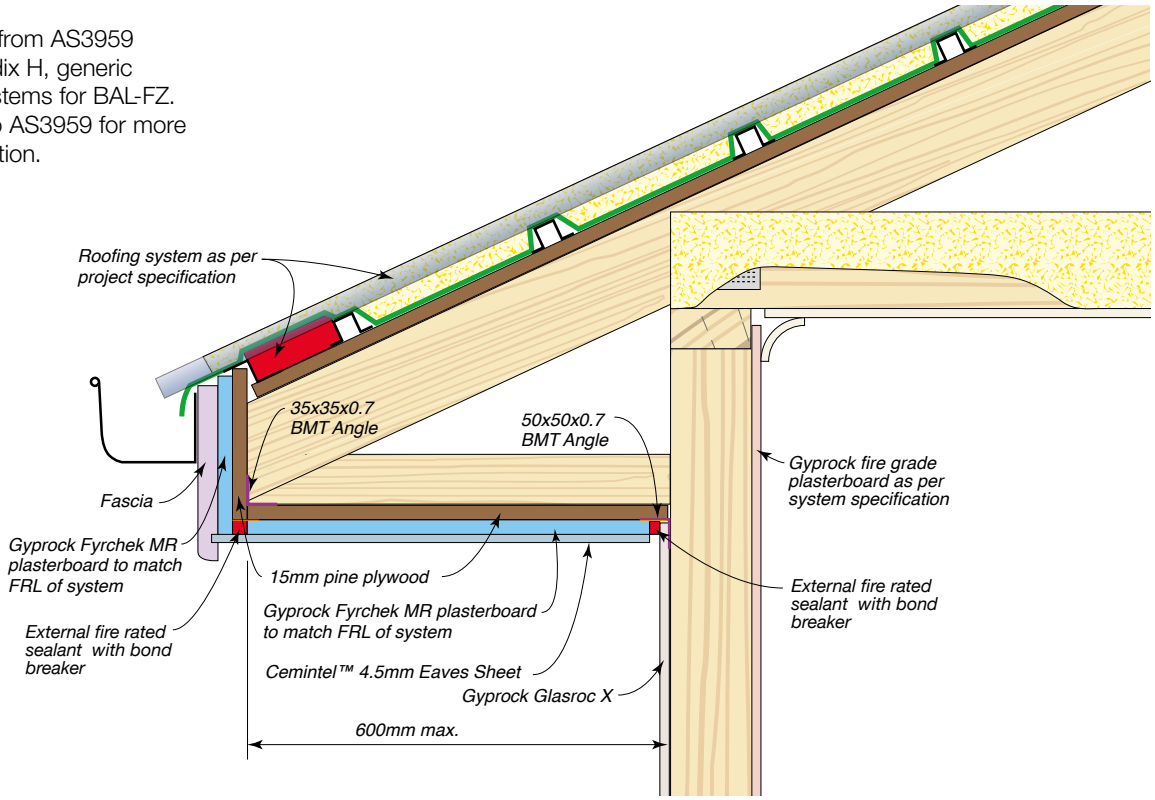


Figure 80: Eaves Junction

Details from AS3959 Appendix H, generic roof systems for BAL-FZ. Refer to AS3959 for more information.



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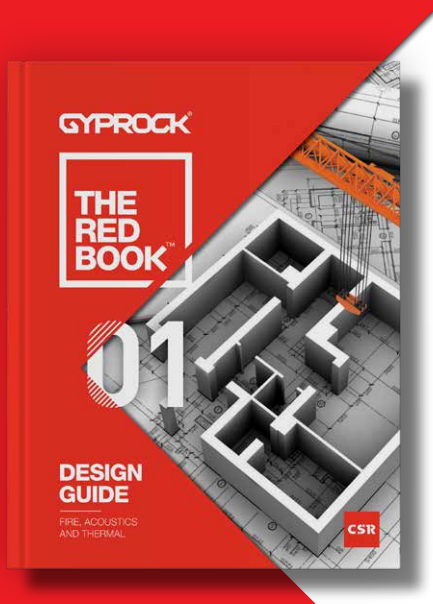

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G160 Septemberl 2025 (GY1015)

The Glasroc X system has been engineered and tested to comply with the National Construction Code and relevant Australian Standards.

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