
MCL®
STUCCO-RITE® SYSTEM

MCL® Stucco Rite® TECHNICAL MANUAL

July 2011

MCL® STUCCO-RITE®

CAVITY WALL CLADDING SYSTEM

CI/SfB
(41) Hn7

July 2011

TECHNICAL MANUAL

ACCREDITED
DEPARTMENT OF BUILDING AND HOUSING

MCL®
STUCCO-RITE® SYSTEM

MCL® Stucco-Rite® System

This Technical Manual sets out all elements required to enable the installation of the MCL® Stucco Rite® Cavity Wall Cladding System on to timber framed structures.

This manual includes specification of all system parts and describes the total system for use on non specific designed external timber framing complying with NZS 3604.

MCL® Stucco Rite® complies as an alternative to stucco cladding as described in paragraph 9.3 Stucco E2/AS1 and will meet or exceed all the requirements of this acceptable solution.

Outside the scope of this Technical Manual, MCL has developed enhancements for the system for such things as bracing, parapets, balustrades, decorative forms, textures and finishes. Information on these enhancements can be obtained direct from MCL – see contact details below.

Construction and standard detail drawings can be found in sections C to F. Rules for Movement Control Joint (MCJ) Location, Openings and MCL® Fibreglass Mesh Reinforcing can be found in Section G.

Note: The MCL® Stucco Rite® Cavity Wall Cladding System shall be referred to as the MCL® Stucco Rite® System throughout this manual.

©2005 - 2010 Copyright - MCL® Limited.
Unless permission is granted in writing from Mineral Coatings Limited the copy righted protected works in this manual shall not be copied or used for any purpose other than for the specifying and constructing of the MCL® Stucco Rite® System.

Trade Mark Notice
Kwik and Stucco Rite are trade marks of Tree Island Wire (USA), Inc.
MCL® and Stucco Rite® are registered trade marks in New Zealand.

Patent and Design Notice
Patented New Zealand No. 586093, NZ Patent Applications 586092, 586135, 586598 Foreign Rights Pending.

New Zealand Registered Designs 404069, 408974, 408975, 408976, 408977, 408978.

412929, 412933, 412934, 413739, 413740, 413741, 413742 and NZ Registered Design Application 412934.

©Copyright 2003 - 2011 The Nereides Trust

Foreign Patent and Design Rights Pending.

www.rimpac.co.nz
Postal: PO Box 78286, Auckland 1245.
Free Call: 0800 200 705 Email: mcl@rimpac.co.nz

Table of Contents

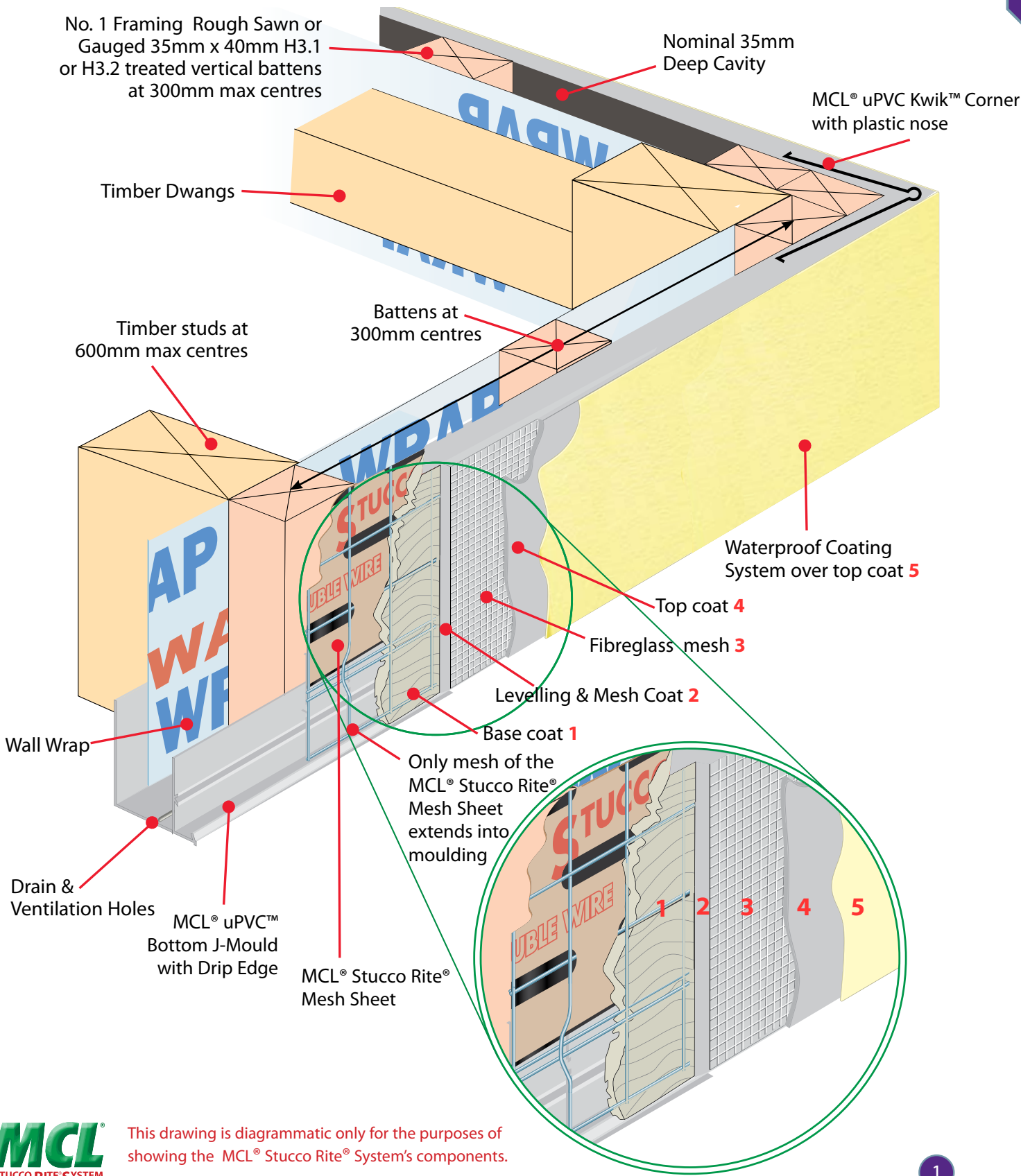
MCL® Stucco Rite® System

MCL® STUCCO-RITE®

A1

CAVITY WALL CLADDING SYSTEM

21mm 3 coat plaster system on pre papered Stucco Rite® mesh sheet on battens



This drawing is diagrammatic only for the purposes of showing the MCL® Stucco Rite® System's components.

A2 Introduction

This Technical Manual describes the installation instructions for the MCL® Stucco Rite® Cavity Wall Cladding System (called the MCL® Stucco Rite® System). It is to be read in conjunction with Appraisal Certificate #30/0708 titled "MCL® Stucco Rite® Cavity Wall Cladding System" and dated July 2011.

The installation instructions are in three sections: The Builder's Work, the Plaster Applicator's Work and the Waterproof Coating Applicator's Work. The building owner is responsible for arranging the work. No special skills are required other than those associated with the installation of timber framing and conventional plastering work.

The MCL® Stucco Rite® System provides a nominal 21mm stucco wall cladding with a drained and ventilated cavity.

The MCL® Stucco Rite® System is a wall cladding system over timber framed walls and on concrete foundations providing a complete wall finish incorporating aluminium window and door joinery. The system uses MCL® Stucco Rite® Mesh Sheets, pre mixed pump able plaster in bags and MCL® Stucco Rite® Mortar Pumps for the application of plaster. The plaster shall be mechanically mixed and pumped by an electric mortar pump and applied by a plaster applicator.

A3 System Requirements

The MCL® Stucco Rite® System requirements are set out in this Technical Manual and covers the following:

Introduction to MCL® Stucco Rite®	: Section A
MCL® Stucco Rite® Compliance	: Section B
Builder's Work	: Section C
Plaster Applicator's Work	: Section D
Waterproof Coating Applicator's Work	: Section E
Standard Details and Drawings	: Section F
Rules for MCJ Location, Openings and MCL® Fibreglass Mesh Reinforcing	: Section G
Maintenance Requirements and Repairs	: Section H

A4 MCL® Stucco Rite® Compliance with the New Zealand Building Code

The MCL® Stucco Rite® System, when constructed in compliance with this Technical Manual, will comply with the following performances of the NZ Building Code:

Structure - Clauses	B1.3.1, B1.3.2, B1.3.3(f), B1.3.3 (h), B1.3.3(j), B1.3.4,
Durability - Clause	B2.3.1(b)
External Moisture - Clauses	E2.3.2, E2.3.6
Hazardous Building Materials - Clause	F2.3.1

B1 New Zealand Building Code Compliance

B1.1 Site and Building Requirements

- The building on which the MCL® Stucco Rite® System is to be applied shall comply in all respects with NZS 3604 except as varied herein.
- Foundation design under external walls in all cases shall be either concrete slab on grade or continuous concrete footings. The concrete slab shall be rebated and sloped at all door locations and, except at garage doors, have a specifically poured concrete offset proud of the slab line (see Drawing F28, page 58).

B2 Co-ordination and Co-operation

This Technical Manual requires co-ordination and co-operation from the building owner to the builder, the window and door joinery supplier, the plaster applicator and the waterproof coating applicator.

B3 Design and General Application

The MCL® Stucco Rite® System is a nominal 21mm thick medium weight monolithic drained cavity cladding system for buildings which conform to NZS 3604: 1999 'Timber Framed Buildings' incorporating Amendments 1 and 2.
All details of the plaster work shall comply with NZS 4251.1 2007 except as varied herein.
Eaves shall be provided, depending on the height of the eave above ground level, in accordance with the following table. The eave width shall be measured horizontally from the exterior face of the MCL® Stucco Rite® System:

Eaves to ground height (m) up to:	Minimum eaves width (mm)
2.4	300
2.7	350
3.0	450
4.0	600
10.0	750

B3.1 This MCL® Stucco Rite® System Technical Manual sets out the procedures, details, materials and workmanship for the cladding of timber framed walls.

B3.2 The MCL® Stucco Rite® System is prescribed by a set of standard details **F1 to F32.**

B3.3 Separation of Trade Work

- The MCL® Stucco Rite® System is applied by various trades as contracted by the building owner.
- Framing, Wall Wrap, Battens, Aluminium Z Flashings, MCL® uPVC Mouldings, Flashings and Control Joints, Windows, Doors, Penetrations and MCL® Stucco Rite® Mesh Sheet by the builder.
- Reinforced MCL® uPVC Kwik™ Corners, Flanges, the application of MCL® Stucco Rite® Plaster and MCL® Fibreglass Mesh by the plaster applicator.
- Application of MCL® Water Repellent Plaster Sealer by the plaster applicator.
- Waterproof coating by the waterproof coating applicator.

B3.4 Wall Framing Flatness and Tolerances

All timber wall framing shall comply with the framing flatness tolerances complying with NZS 3604: Table 2.1. The builder shall take care when using pre-nailed framing to ensure flatness of all framed walls is achieved.

B3.5 The MCL® Stucco Rite® System shall be fixed to new or existing timber wall framing complying with NZS 3604.

B3.6 Penetrations

Penetrations through the MCL® Stucco Rite® System must be detailed on the plans, elevations and specifications and installed with the timber framing.
All timber wall framing shall require dwangs to provide support for penetrations.
Round penetrations through the MCL® Stucco Rite® System shall be limited to 110mm outside diameter.
Round penetrations shall be supported by dwangs, additional to those required for framing support located above and below the penetration.

Dwangs may be fixed on edge (rather than on their flat as for timber framing) and penetrations may pass through a single dwang provided there is at least 20mm of timber all around the penetration. Holes through the wall wrap shall be made good with flexible flashing tape.
Larger pipe penetrations normally have proprietary flashing kits however, the adequacy of such, are outside of the scope of this Technical Manual.
Square edged penetrations, such as for ducts or meter boxes, shall be framed out on all four sides as required by NZS 3604.

B3.7 B1:Structure

Movement Control Joints (MCJ's), Openings and MCL® Fibreglass Mesh Reinforcing

The location of vertical (VMCJ) and horizontal (HMCJ) movement control joints, openings and additional MCL® Fibreglass Mesh shall be shown on the plans, elevations and specifications. Requirements shall be as given in Section G 'Rules for MCJ Location, Openings and MCL® Fibreglass Mesh Reinforcing'.

B3.8 **Wind:** The MCL® Stucco Rite® System is suitable for use in all wind speed zones including very high speed (VH) sites to NZS 3604 without specific design (SED).

B3.9 **Seismic:** The medium weight MCL® Stucco Rite® System is suitable for use in all seismic zones conforming to NZS 3604.

B3.10 The MCL® Stucco Rite® System will not provide bracing resistance for the building but will perform adequately over braced panels. In-plane deflection of timber framing conforming to NZS 3604 will be absorbed by the MCL® Stucco Rite® System without failure.

B3.11 Face impact loading from normal soft body impacts associated with domestic living will be resisted by the MCL® Stucco Rite System without damage. The design of protection to resist any other potential impact loading cases is outside the scope of this manual.

B3.12 B2: Durability

The class of the MCL® Stucco Rite® Mesh Sheet (see Components List, pg 7) shall be shown on the plans and specifications. In NZS 3604's Sea Spray Zones the MCL® Stucco Rite® System must use the MCL® Stucco Rite® Mesh Sheet with the heavier galvanising weight i.e the Sea Spray Zone Class W10 (Green Suction Paper) product. In all other areas the Standard Class W02 (Red Suction Paper) product shall be used. The MCL® Stucco Rite® System, with regular normal maintenance, will have a life not less than 15 years as required by NZBC/B2.3.1(b)

B3.13 E2: External Moisture

The MCL® Stucco Rite® System is a plastered cladding similar to traditional stucco external wall cladding but uses proprietary plaster, mouldings and reinforcement on a nominal 35mm deep drained and ventilated cavity. It is an alternative to the stucco cladding described in Paragraph 9.3 of Acceptable Solution E2/AS1. The MCL® Stucco Rite® System requires a waterproof external paint coating that complies with Paragraph 9.3.7 of E2/AS1 and has a Light Reflective Value of 40% or more.

B3.14 F2 : Hazardous Building Materials

- Before curing, the wet mortar has a high alkali action.
- After curing, the MCL® Stucco Rite® plaster is not a fire or explosive material and is environmentally safe.
- Refer to MCL® Stucco Rite® Material Data Sheets on MCL® Stucco Rite® website.

B3.15 Materials

- Installed by builder **(Refer: Section C)**.
- Installed by plaster applicator **(Refer: Section D).**
- Installed by waterproof coating applicator **(Refer: Section E)**.

B3.16 Workmanship

- Builder workmanship **(Refer: Section C)**.
- Plaster applicator workmanship **(Refer: section D)**.
- Waterproof coating applicator workmanship **(Refer: Section E)**.

B3.17 Product Specification

The MCL® Stucco Rite® System materials comply with NZS 4251.1 except as varied herein.

B3.18 Quality Control and Quality Assurance

- Materials forming the MCL® Stucco Rite® System are manufactured to strict quality control requirements and standards.

B3.19 Clean up Site

- At the completion of the MCL® Stucco Rite® application work the plaster applicator shall clean the site of all stucco waste material and equipment.
- At completion of painting, the waterproof coating applicator shall clean up the walls / windows / doors and clear the site of waste material.

B3.20 Top Coat Finish

- The surface texture of the MCL® Stucco Rite® System is a sponge or plastic float finish.

B3.21 Maintenance - By the Owner - Refer to page 72

B3.22 Specific Design and Detailing

MCL® Limited can provide technical advice for specific design outside of the scope of this manual.

B3.23 General

The MCL® Stucco Rite® System uses mineral based premixed MCL® Stucco Rite® NZ 660 Multicoat Cement Plaster pumped onto the MCL® Stucco Rite® Mesh Sheet and MCL® uPVC reinforced Kwik™ Corners and Kwik™ Flanges. The MCL® Stucco Rite® NZ 660 Multicoat Cement Plaster shall be sponge finished.

The MCL® Stucco Rite® AL40 SP Polymer Modified Finishing Plaster is a pre-mixed acrylic skim coat in plastic buckets or a dry mix in bags and is a plastic float finishing plaster. MCL® Stucco Rite® NZ 500 Adhesive Plaster is used to attach MCL® Decorative Mouldings.

The MCL® Stucco Rite® System, provides a 21mm thick monolithic finish with a minimum of 3 coats. The application uses a base coat of MCL® Stucco Rite® NZ660 Multicoat Cement Plaster that is applied by MCL® Stucco Rite® Mortar Pump and trowelled into the MCL® Stucco Rite® Mesh Sheets then scratched.

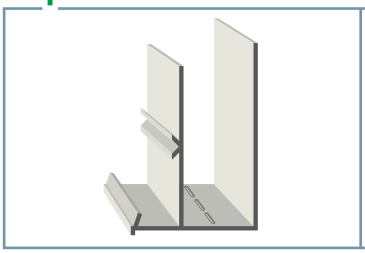
A levelling and mesh coat of MCL® Stucco Rite® NZ660 Multicoat Cement Plaster is applied by a MCL® Stucco Rite® Mortar Pump then a top coat of MCL® Stucco Rite® NZ660 Multicoat Cement Plaster is hand skimmed and sponge finished. The MCL® Water Repellent Plaster Sealer is applied to repel water from the plaster before the final waterproof coating is applied.

Alternatively, after the levelling and mesh coat is applied, the plaster shall be sealed with MCL® Water Repellant Plaster Sealer and a top coat of MCL® Stucco Rite® AL40 SP Polymer Modified Finishing Plaster is applied. The AL40 SP finishing plaster shall be plastic float finished. In both cases a paint waterproofing system with a Light Reflective Value of 40% or more is applied by the waterproof coating applicator as per Paragraph 9.3.7 of E2/AS1.

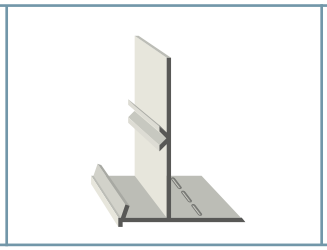
C1

Components List

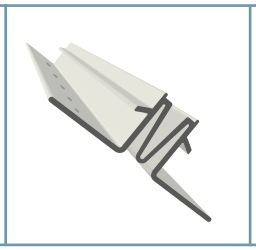
A. Components sourced from MCL®



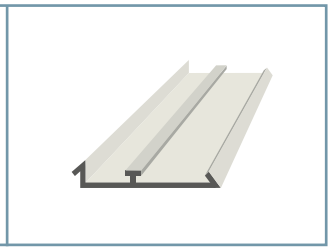
MCL® uPVC Bottom J-Mould with Drip Edge



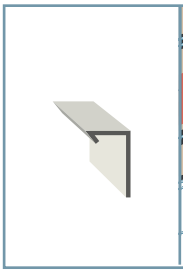
MCL® uPVC Window and Door Head with Drip Edge



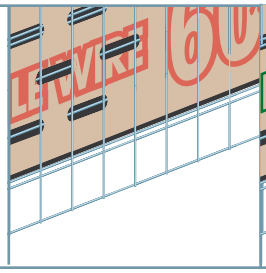
MCL® uPVC Vertical Movement Control Joint



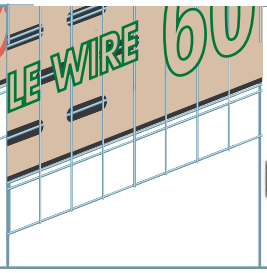
MCL® uPVC Side Jamb Flashing



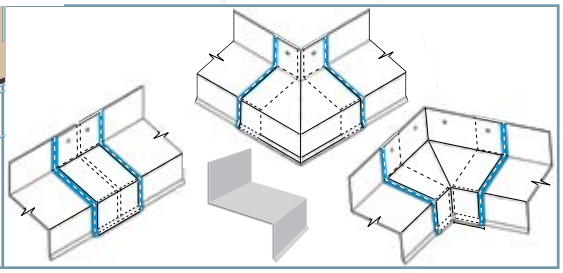
MCL® uPVC Soffit and Sill Flange



Standard Class W02 (Red Suction Paper) MCL® Stucco Rite® Mesh Sheet 2.170m x 0.7m double wire 60mins. 1.52m² per sheet

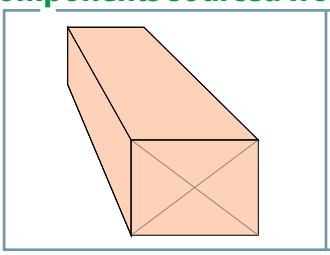


Sea Spray Zone Class W10 (Green Suction Paper) MCL® Stucco Rite® Mesh Sheet 2.170m x 0.7m double wire 60mins. 1.52m² per sheet

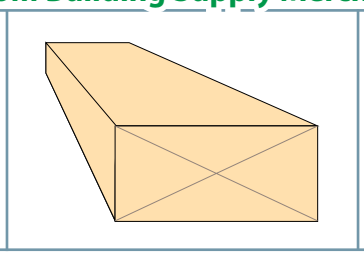


MCL® Plain Aluminium Deck & Horizontal Movement Control Joint (HMCJ) Z Flashing and MCL® uPVC External and Internal Corner and HMCJ Straight Flashing Jointers

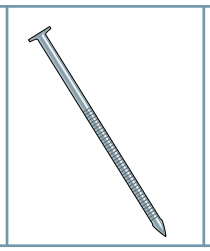
B. Components sourced from Building Supply Merchants or MCL®



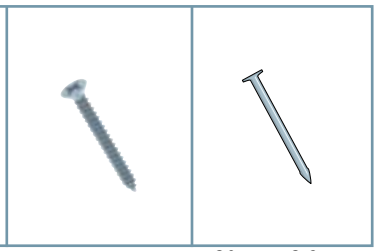
35mm x 40mm No.1 Rough Sawn or Gauged H3.1 or H3.2 Treated Batten



No.1 Framing Radiata Pine Dwangs Treated to H3.1 or H3.2 . Minimum size 45mm x 90mm.

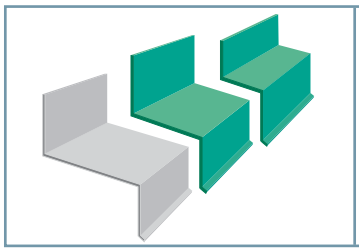


75mm x 2.8mm dia. D Head Type 304 Stainless Steel Ring Grip Gun Nail

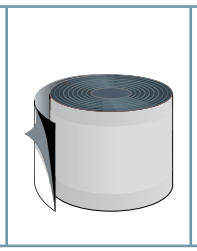


20mm x 6 gauge Type 304 Stainless Steel Screw

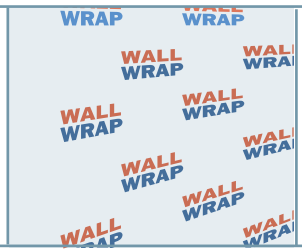
20mm x 2.8mm Hot Dipped Galvanised Round Head Nail



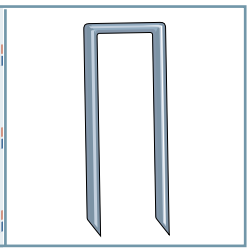
Powder Coated Aluminium Head & Sill Z Flashings and Plain Aluminium Garage Lintel Z Flashing (Refer p14, C6.7)



Flashing Tape and Sealant as per Paragraph 4.5.2 (g) of E2/AS1. The sealant is a neutral cure silicone



Wall Wrap



1.6mm dia. 38mm x 9.5mm or wider Type 304 Divergent Point Stainless Steel Gun Driven Staple

At meter boxes 20mm x 20mm x 0.75mm aluminium angle.

- Etching Primer for Aluminium
- Paint complying with Paragraph 9.3.7 of E2/AS1 with a light reflective value of 40% or more

At decks:

- No. 1 framing Radiata Pine packers 90 x 35 x 260 mm long treated to H3.1 or H3.2.
- M12 bolt with nut and washers; all Type 304 stainless steel length to suit.
- 50mm x 50mm sq. x 3mm washer with 14mm diameter hole, Type 304 stainless steel.
- 50mm x 50mm sq. x 3mm EPDM washer.
- 10DN PVC Sleeve 22mm long.
- Proprietary Type 304 Stainless Steel Joist Hangers with capacity (kN) of half joist span (m) x joist spacing (m) x 3.35 for 2 kPa decks, or half joist span (m) x joist spacing (m) x 4.85 for 3.0 kPa decks.
- 140mm x 140mm sq. x 13mm fibre cement board with 14mm diameter hole.
- Saddle Flashing as described in NZS3604 (see Fig. 7.6) and E2/AS1 (see Fig. 16) but to the dimensions of Drawing No. F13. Flashing material shall comply with the '50 year' requirement of Table 20 in E2/AS1.

C2 General

C2.1 The builder's work starts on the completion of the concrete slab or continuous concrete foundation complete with its rebates and concrete offsets at door locations and involves the installation of the Timber Framing, Wall Wrap, Flashing Tape, Battens, MCL® uPVC Mouldings, Penetrations, Control Joints and the installation of the Aluminium Window and Door Joinery complete with all detailed flashings. The builder shall fix in place the MCL® Stucco Rite® Mesh Sheets.

C2.2 The completion of this section of the work shall enable plastering of the MCL® Stucco Rite® Mesh Sheets, to commence.

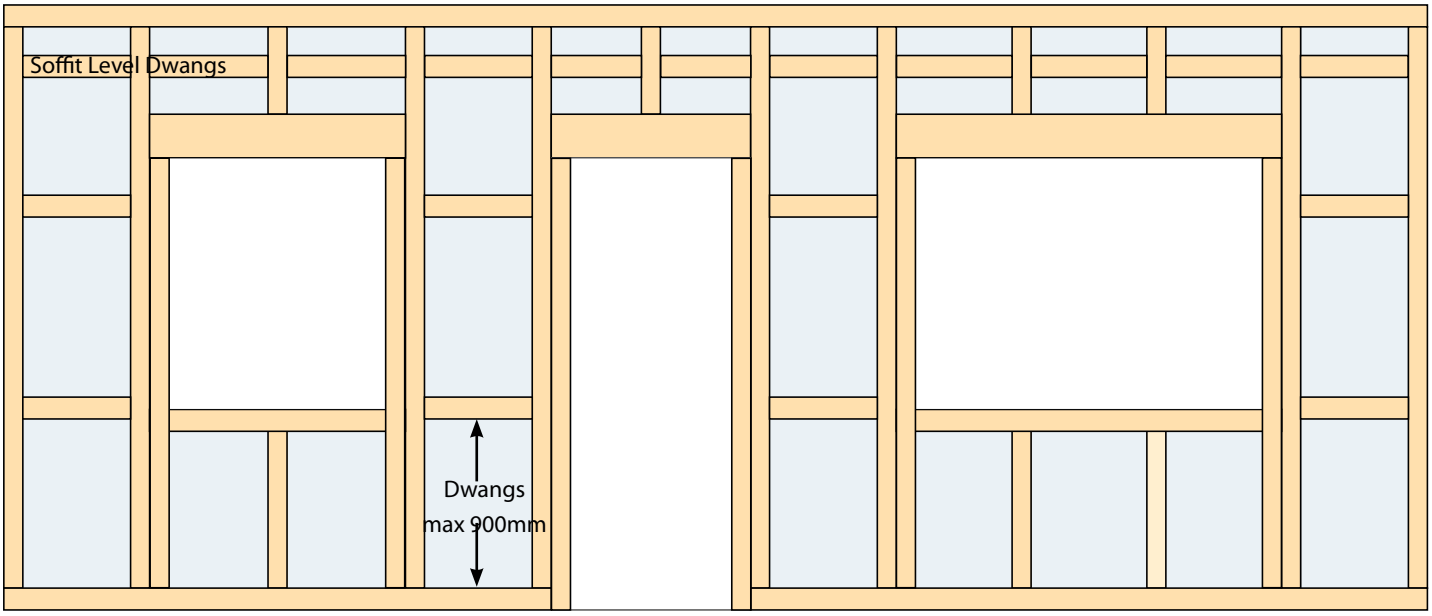
C3 Builder's Work

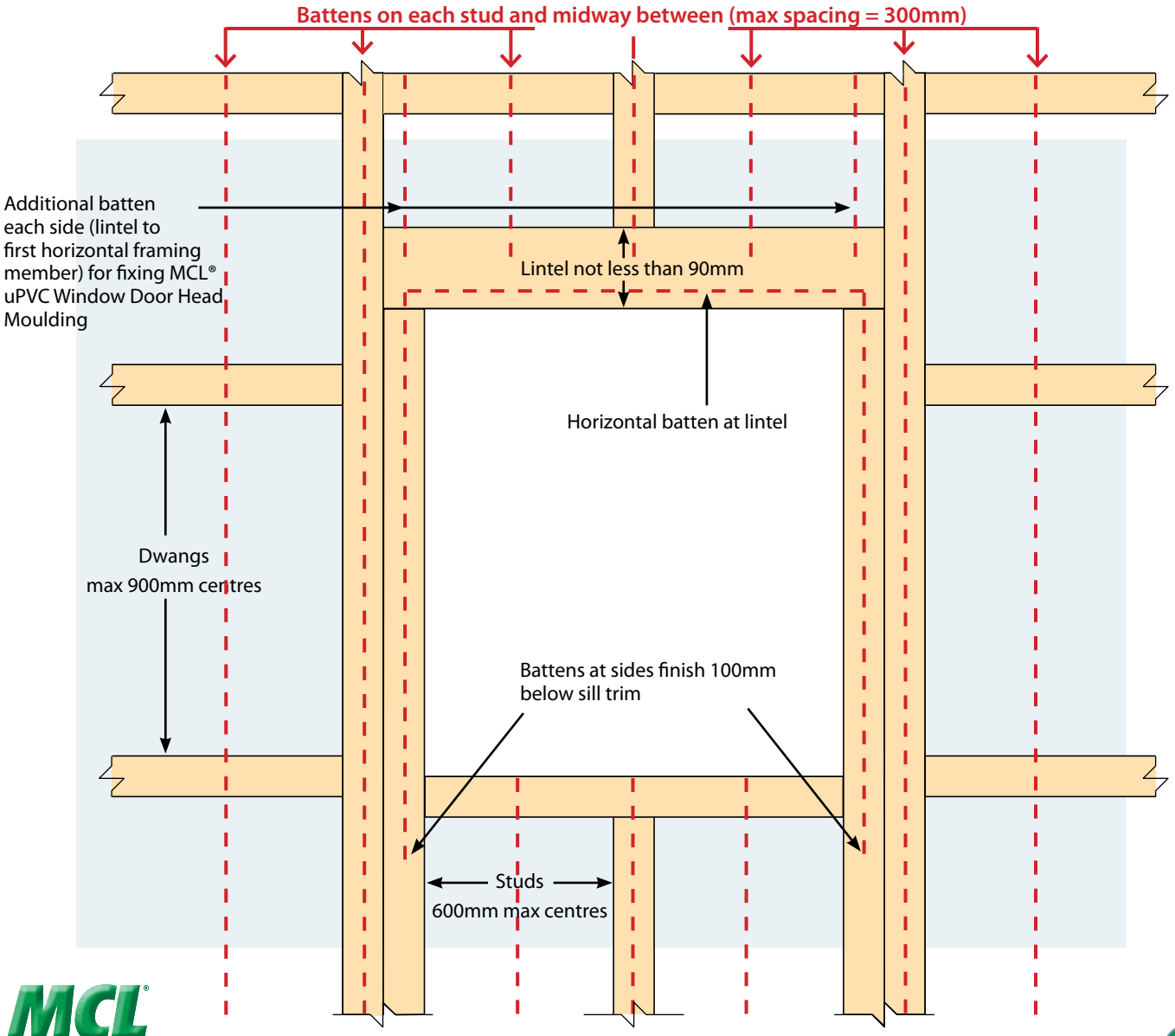
Step 1: Timber Framing **(Refer: pg 8)**
Step 2: Wall Wrap and Flashing Tape **(Refer: pg 10)**
Step 3: MCL® uPVC Bottom J-Mould with Drip Edge **(Refer: C6.1, pg 11)**
Step 4: Locating and Fixing of the 35mm x 40mm H3.1 or H3.2 Treated Battens **(Refer: C6.3, pg 11)**
Step 5: MCL® uPVC Sill Flange **(Refer: C6.5, pg 14)**
Step 6: MCL® uPVC Side Jamb Flashings **(Refer: C6.6, pg 14)**
Step 7: Aluminium Sill Z Flashings **(Refer: C6.8, pg 15)**
Step 8: Window and Door Installation **(Refer: C6.9, pg 15)**
Step 9: Aluminium Head Z Flashing **(Refer: C6.9.1, pg 15)**
Step 10: Battens Above Openings **(Refer: C6.9.2, pg 15)**
Step 11: MCL® uPVC Window and Door Head with Drip Edge **(Refer: C6.9.3, pg 15)**
Step 12: MCL® uPVC Soffit Flange **(Refer: C6.9.4, pg 15)**
Step 13: Movement Control Joints **(Refer: F12, F13, F14, F15,F16 & F17, C7, pg 16 & Section G)**
Step 14: Penetrations **(Refer: C8, pg 17)**
Step 15: Fixing the MCL® Stucco Rite® Mesh Sheets **(Refer: C9, pg 19)**

C3.1 Step 1: Timber Framing

- Timber framing shall comply with NZS 3604 except as varied herein.
- Walls shall be a maximum height of 4.8 metres.
- Studs shall be at a maximum 600mm centres and be located between the top and bottom plates.
- Dwangs shall be provided at max 900mm centres beside window and door openings and elsewhere.
- Dwangs shall be provided at HMCJ locations, where the HMCJ is not located wholly over the depth of an intermediate floor, and at deck Z Flashings to provide support for the battens and flashing. **(Refer: F12, F13, F14a & F15, pgs 46, 47, 48 & 49)**
- If the timber is wetter than 18% then either a HMCJ must be installed at a mid floor or plastering operations shall be deferred until such time as the moisture content has dropped to 18% or less.
- Double dwangs shall be provided where battens not on studs are to be butt jointed. **(Refer: C6.4, page 13)**
- Additional dwangs may be required at the soffit. **(Refer: F2, pg 36)**
- A stud and at least 1 doubling stud shall be provided to the sides of all openings for doors and windows.
- Penetrations shall be as described **(Refer B3.6, pg 3 and C8, pg 17 - 18)**
- Framing shall overhang concrete slab by 6mm to provide an anti capillary gap at the bottom. **(Refer: F3, pg 37)**
- The MCL® Stucco Rite® System may be fixed to wet timber framing provided the interior lining and insulation is not installed until framing moisture content is less than 18%.
- Framing tolerances shall comply with NZS 3604.
- Dwangs shall be made flush with studs and studs shall be flush with top and bottom plates.
- Buildings shall have closed in soffits. Eaves widths shall be as per **B3 pg 3.**
- Construct concrete edge and framing at garage entrance as detailed. **(Refer: F20 - F24 & F29 - F32)**
- Provide flashing tape under and to sides of the bottom plate at garage door openings as shown in **F20.**

C3.2 Timber Framing Layout





C4 Wall Wrap

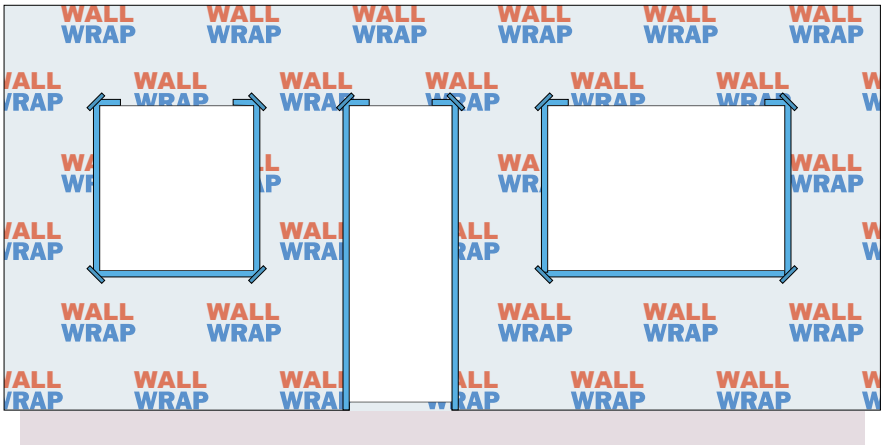
Step 2: Wall Wrap & Flashing Tape

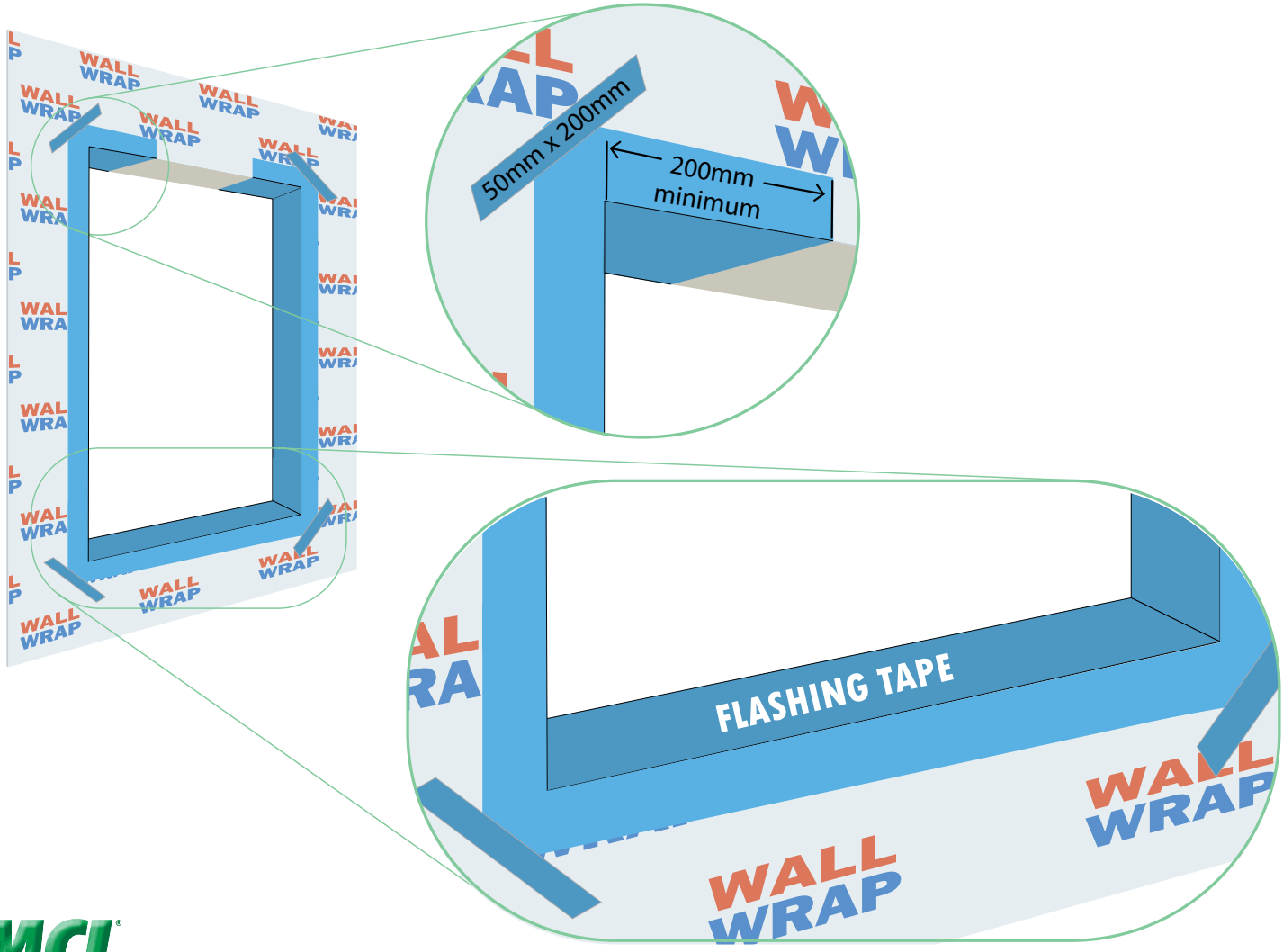
- Leave Wall Wrap unfixed at the bottom plate for a minimum height of 150mm.
- Wall Wrap to comply with Table 23 of E2/AS1 - Paragraphs 9.1.5 and 9.1.7

C5 Window and Door Flashing Tape

Use flashing tapes which shall comply with Paragraph 4.3.11 of E2/AS1.

- Surface shall be clean, dry and free from oil and grease.
- Apply in clear weather.
- Place flashing tape along entire bottom sill, up each side and 200mm each side of the top corners. This will prevent deflection of the MCL® uPVC Side Jamb Flashing.
- To prevent peel back place flashing tape diagonally across top and bottom corners of taped surface.
- Apply uniform pressure by rolling the surface with a hand roller.





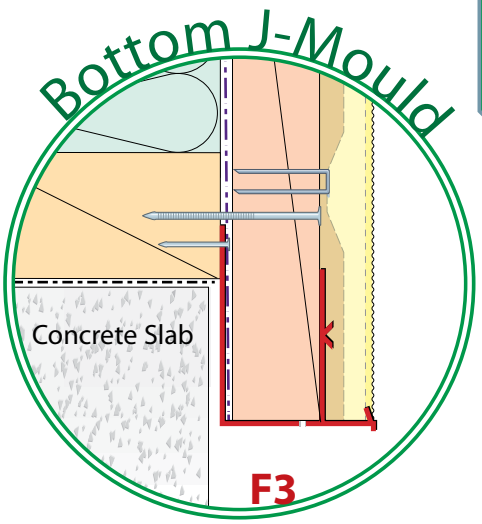
C6

Battens and Fixing

Battens shall be No.1 Framing Rough Sawn or Gauged 35mm x 40mm Radiata Pine with a tolerance of ± 3mm on each dimension. The battens shall be treated to H3.1 or H3.2.

Batten Nails

Batten Nails shall be not less than 75mm x 2.8mm Flat Head Type 304 Stainless Steel Ring Grip gun nail.



C6.1 Step 3: MCL® uPVC Bottom J-Mould with Drip Edge (Refer F3)

Before battening, the MCL® uPVC Bottom J-Mould with Drip Edge shall be fixed to the bottom plate with the lower face at a minimum of 50mm below the bottom plate using 20mm x 2.8mm hot dipped galvanised flat head nails. The bottom shall be horizontal, levelled and mitred at all corners. At garage entrances the MCL® uPVC Bottom J-Mould with Drip Edge shall follow around the corner where the jamb is plastered **(see F21, page 54)** or, if there is a timber jamb, stop at the inside face of the jamb line **(see F29 or F31, page 59).**

The Wall Wrap shall overlap the inside edge of the MCL® uPVC Bottom J-Mould with Drip Edge.

C6.2 Joinery, Batten and Flashing Sequence on Two Level Buildings

Where there are openings above and below each other, install the lower battens and the lower joinery first. The battens above the lower opening shall be installed before the flashings and joinery in the above opening are installed.

C6.3 Step 4: Locating and Fixing of the 35mm x 40mm H3.1 or H3.2 Treated Battens

a) General:

- Battens shall be located on each stud and midway between studs. The maximum batten spacing shall be 300mm.
- Battens on studs shall be fixed to top and bottom plates and at 400mm centres between plates.
- Battens between studs shall be fixed to top and bottom plates and to all intermediate dwangs.
- Except as otherwise shown in the details of this Technical Manual, battens must start and finish on framing members with end fixings provided at 20mm from the batten's end.
- In all other cases batten end fixings must be within 75mm of the batten end.

b) Joints or Splices in Battens:

- Battens shall extend full height between top and bottom edges of the MCL® Stucco Rite® wall panels and be continuous except at locations where HMCJs are required by Section G. Battens shall be used in the longest lengths possible. Where joints are necessary to make up batten lengths or where splices are necessary because lower and upper level battens don't align **(see Fig 1, pg 12)** they shall be fixed as shown in **C6.4, pg 13**.
- Where battens are jointed, whether on a stud or dwang, they shall be close butted. When jointing battens on a dwang provide a double dwang for fixing purposes as shown on **C6.4, pg 13.**
- Battens shall not be jointed within 400mm of the top or underside surface of a floor/wall junction.
- Joints in adjacent battens must be staggered and separated vertically by at least 400mm.
- Where battens on lower and upper levels align they shall be jointed as described above.
- Where battens on lower and upper levels do not align then, unless there is a HMCJ at the intermediate floor level, they shall be spliced (overlapped) as follows. The lower battens shall continue up past the floor to at least the bottom plate of the upper wall framing, and the upper battens shall extend down past the floor to at least the top plate of the lower wall framing **(see pg 12 & pg 13)**.

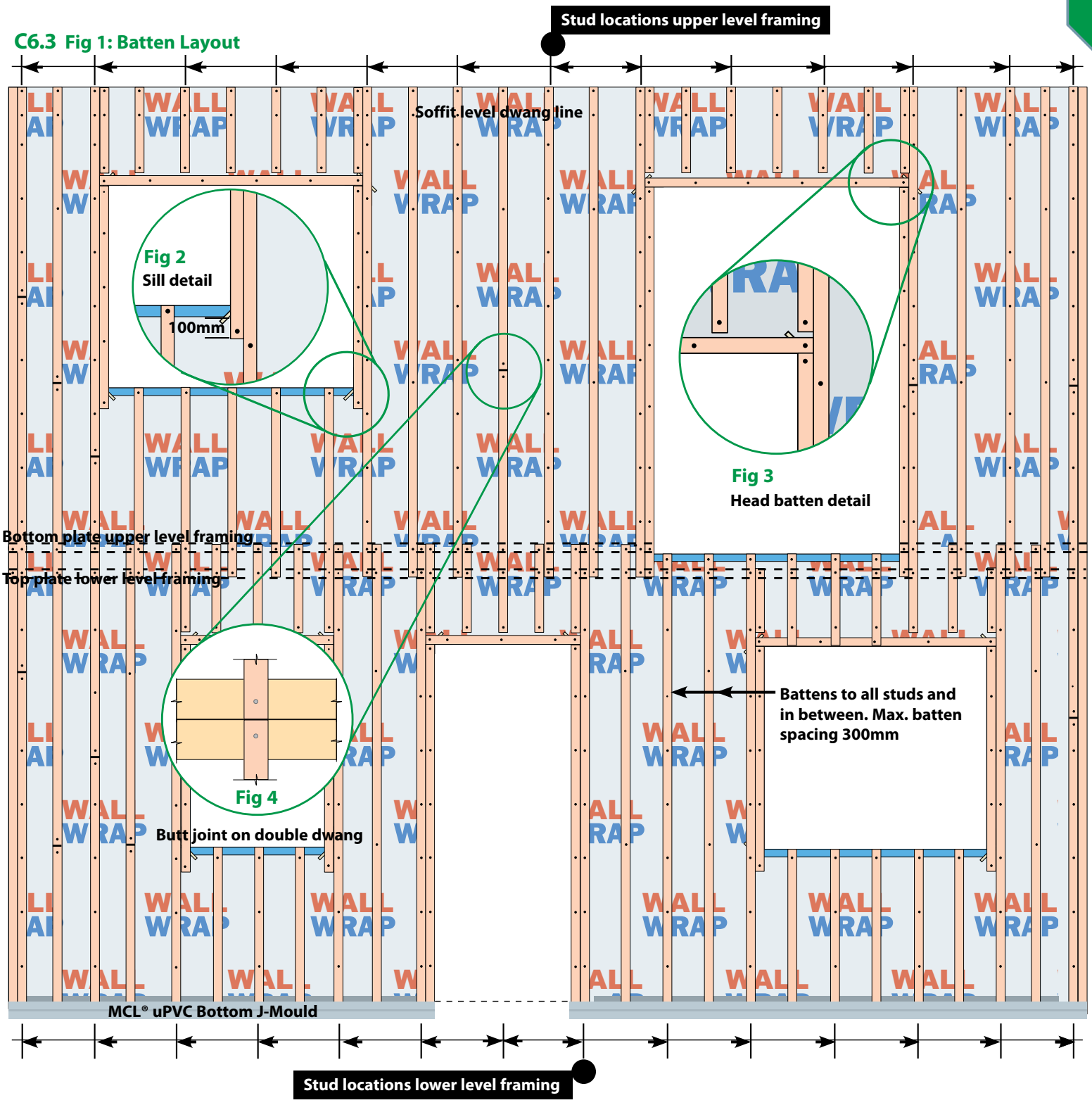
c) At and below Window and Door Openings:

- Battens below openings that are above floor level shall finish flush with the sill trim **Refer: F7, pg 41**.
- Battens below openings that are at floor level shall extend up to the underside of the joinery **Refer: F9, F10, pg 43-44.**
- A horizontal batten shall be fixed to the lintel at the top of the window and door opening.
- In addition to the batten on the studs at the sides of openings a vertical batten shall be placed at each side flush to the window and door frame trims and fitting under the horizontal batten at the top and extending 100mm below the sill trim. **Refer: Fig 1, pg 12.** This batten is required for fixing of the MCL® uPVC Side Jamb Flashing.
- Provide flashing tape to bottom of battens immediately adjacent to doors **Refer: F27, pg 58.**

- The battens at garage door openings shall be as shown in drawing **F21 pg 54.**

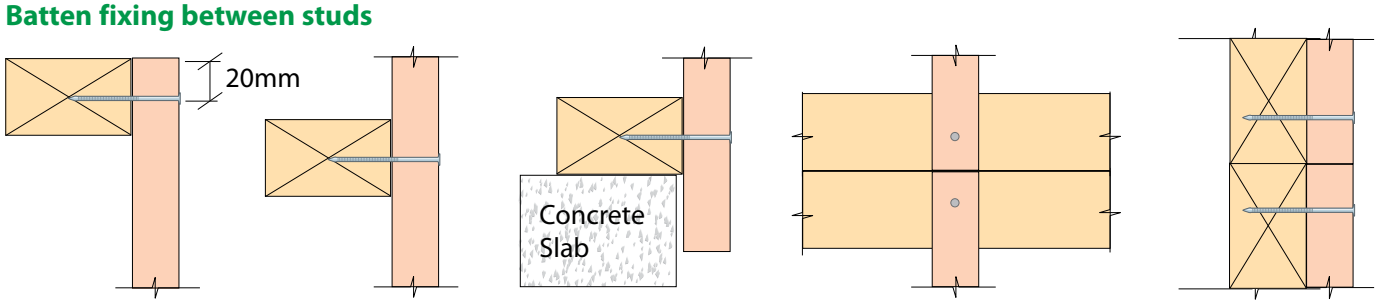
d) Above the openings: **(Refer: C6.9.2, Step 10, pg 15)**
e) At Movement Control Joints: **(Refer: C7, pg 16)**

C6.3 Fig 1: Batten Layout



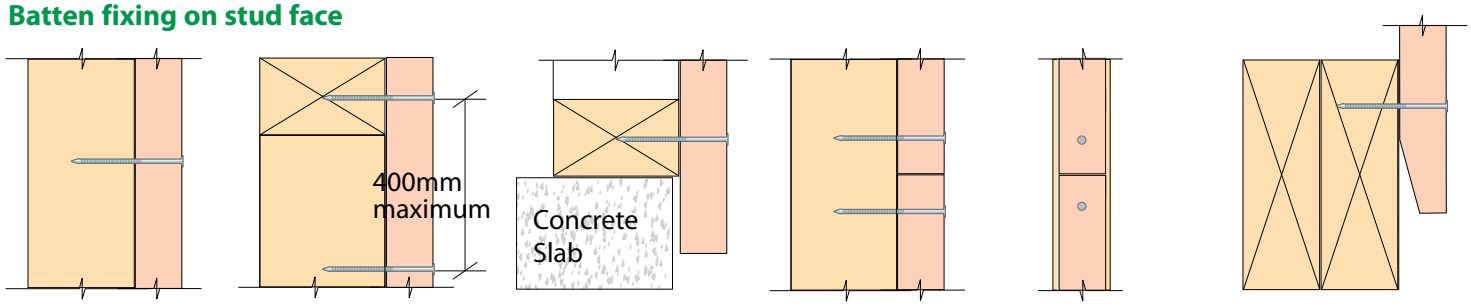
C6.4 Batten Fixing, Joints & Splices

Batten fixing between studs



Top plate | Dwang | Bottom plate | Butt Joint on double dwang

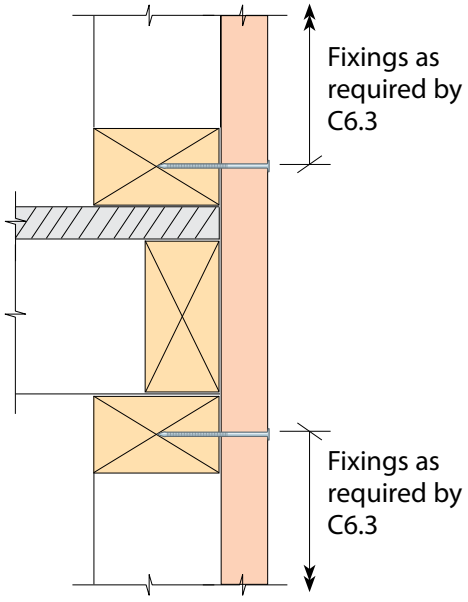
Batten fixing on stud face



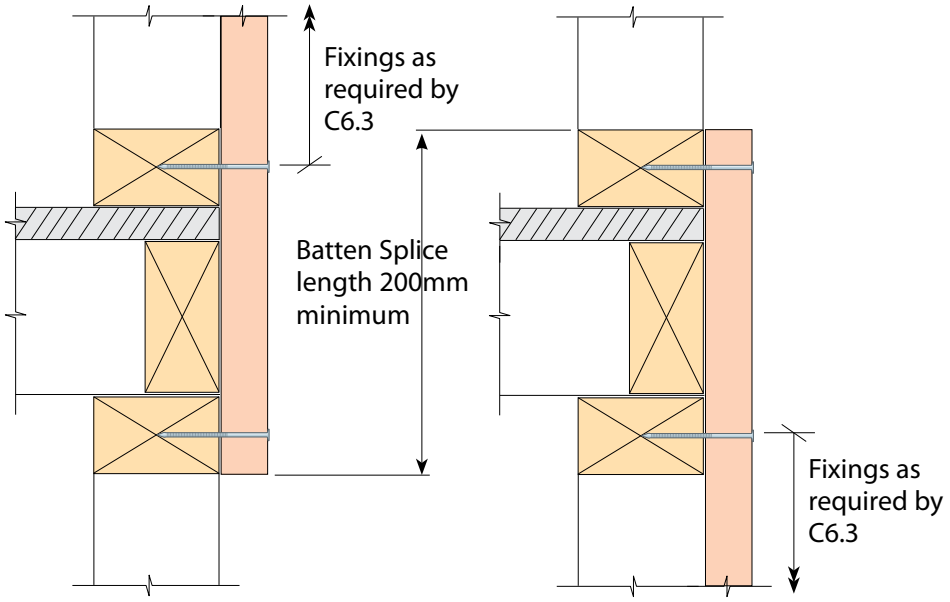
Typical | Top plate | Bottom plate | Butt Joint on stud | Butt Joint on stud | Window/Door opening head on lintel

Intermediate Floor

Battens aligned & continuous



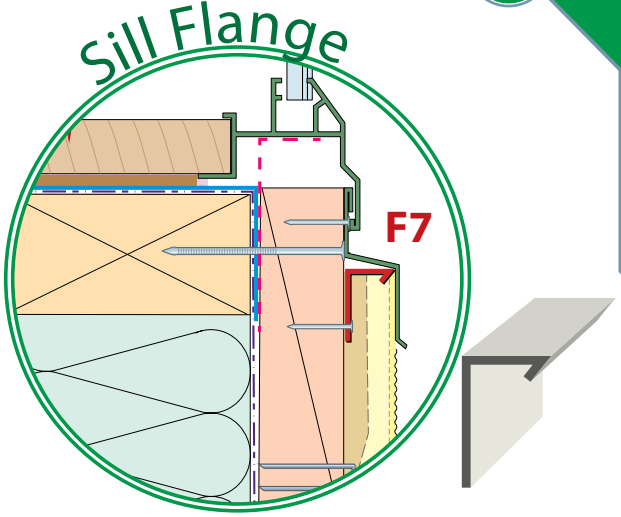
Battens not aligned & spliced



Bottom fixing of upper floor batten | Top fixing of lower floor batten

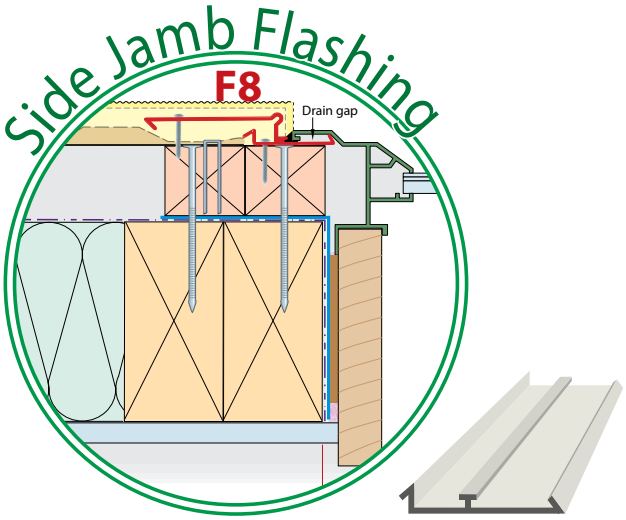
C6.5 Step 5: MCL® uPVC Sill Flange (F7)

A Sill Flange shall be fixed 35mm below the top of the sill battens which are fixed in line with the sill trim. The Sill Flange, which spans between the battens under the sill, shall be cut to the same length as the Aluminium Sill Z Flashing (25mm over each end of window and door flange measurement) **(Refer: pgs 20 & 22)**.
Use the Aluminium Sill Z Flashing to check the position of the MCL® uPVC Sill Flange before fixing to the battens.



C6.6 Step 6: MCL® uPVC Side Jamb Flashing (F8)

The MCL® uPVC Window and Door Side Jamb Flashing shall be attached using 20mm x 6 gauge Type 304 Stainless Steel Screws. It shall be fixed to the batten parallel to the Window/ Door Flange, once the window/door has been positioned and aligned with the opening stud trims and battens. When fixing and aligning the MCL® uPVC Window and Door Side Jamb Flashing push it as far as possible into the Window Flange to create a drain gap - **Refer F8**. The top of the jamb flashing shall be in line with the top edge of the horizontal head batten and the bottom of the jamb flashing shall be a minimum of 10mm below the sill trim edge over the top face of the Aluminium Sill Z Flashing but not below the bottom flange of the joinery. **(Refer: C10, pg 20)**.



C6.7 Aluminium Head, Sill, HMCJ, Deck and Garage Lintel Z Flashings

The Aluminium Head and Aluminium Sill Z Flashings shall be colour matched to the joinery. The flashings shall have a polyester powder coating complying with specification AAMA 2603-02 and with a minimum coating thickness of 20 microns. The HMCJ and Garage Lintel Z Flashing shall be plain aluminium and shall be primed with an etching primer then painted to match the walls. The gauge of flashings shall not be less than 0.7mm as per paragraph 4.3.2 E2/AS1.

Fig. 1
Powder coated Aluminium Head Z Flashing **F6**

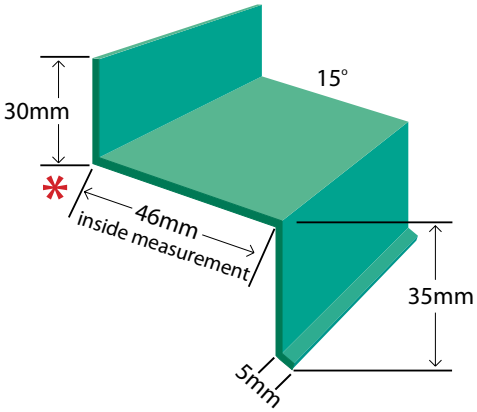


Fig. 2
Powder coated Aluminium Sill Z Flashing **F7**

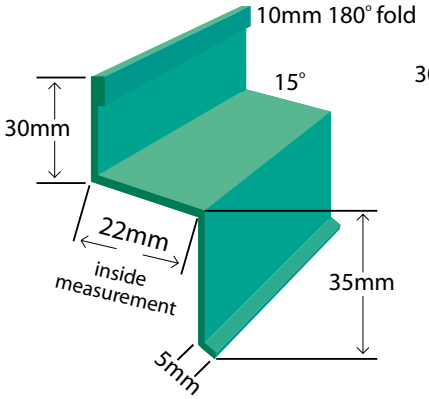
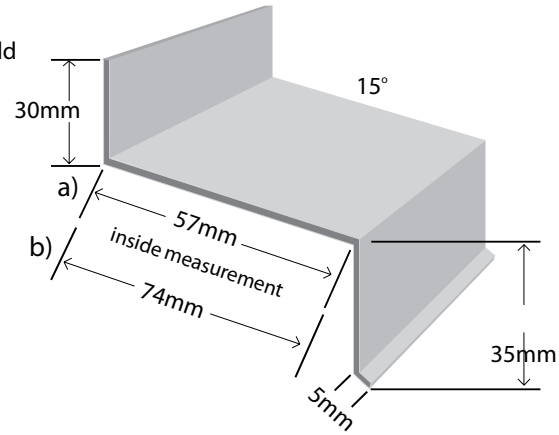


Fig. 3
a) Aluminium HMCJ & Deck Z Flashing
b) Garage Lintel Z Flashing
F12 to F15 & F30

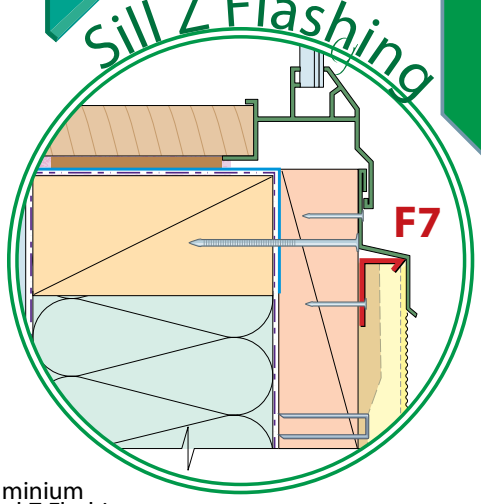


* Aluminium Head and Sill Z Flashings shall extend 25mm each side of the window and door flange dimension, top and bottom i.e. 50mm over all.

The builder shall ensure the flashings are bent to the inside dimensions as detailed above.
The builder shall ensure this dimension matches the joinery being used.

C6.8 Step 7: Aluminium Sill Z Flashing (F7)

The Aluminium Sill Z Flashing shall be powder coated to match the joinery and shall be not less than 0.7mm minimum thickness.
Refer to the dimensions shown on pg 14.
The Aluminium Sill Z Flashing shall extend past the window flange at each end by 25mm ie. overall the Z Flashing shall be 50mm wider than the outside edge to edge measurement of the window and door flanges. This flashing shall be located over the Sill Flange and under the side jamb flashings flush to the top edge of the sill trim. Fix the Aluminium Sill Z Flashing to the batten with 20mm x 2.8mm hot dipped galvanised round head nails. Ensure the nails are attached at the top edge of the Aluminium Sill Z Flashing so the nails are hidden by the window/door flange. Using tin snips cut the Aluminium Sill Z Flashing ends 10mm and bend up to form a stop-end.
(Refer: C10, Steps 4 & 5, pg 20).

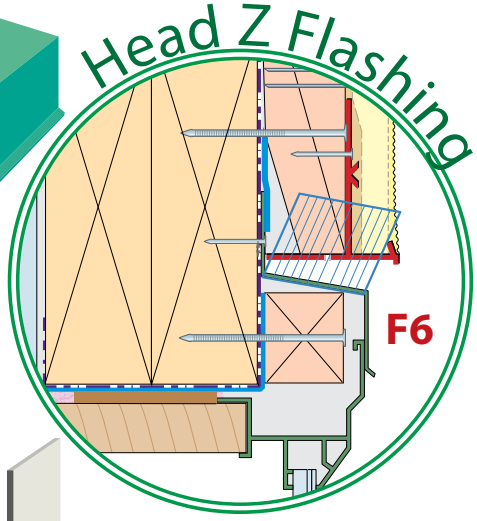


C6.9 Step 8: Window and Door Installation (F6, F7 & F8)

When window and doors are installed the flanges shall touch the MCL® uPVC Side Jamb Flashing. The builder shall seal the window/door side flange edge where it meets the jamb flashing.
(Refer: Fig 1, pg 21). The details of installation, including air seals, shall be in accordance with E2/AS1.

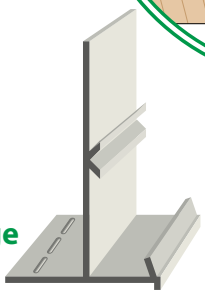
C6.9.1 Step 9: Aluminium Head Z Flashing (F6)

The Aluminium Head Z Flashing shall be powder coated to the minimum dimensions shown in **Fig 1, pg 14**. The Aluminium Head Z Flashing shall extend past the window flange at each end by 25mm ie. overall the Aluminium Head Z Flashing shall be 50mm wider than the outside edge to edge measurement of the window and door flanges. Install Aluminium Head Z Flashing stop-end comprising 100mm x 40mm flashing tape.
The Aluminium Head Z Flashing shall be nailed using 20mm x 2.8mm hot dipped galvanised round head nails and over flashed with flashing tape after the joinery is in place. **(Refer: C11, pg 21 & C14, pg 24).**



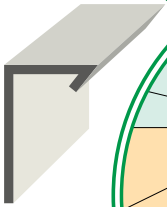
C6.9.2 Step 10: Battens Above Openings

The battens above all windows and doors shall be fixed as described in **C6, pg 11.** These battens shall be fixed after the window and door and its head flashing have been installed.
The battens shall extend from a minimum of 5mm and a maximum of 10mm above the top fold in the head flashing. Bevel the bottom inside edge of the battens **(Refer: F6, pg 40)** and fit the battens as described on **C11, pg 21.**



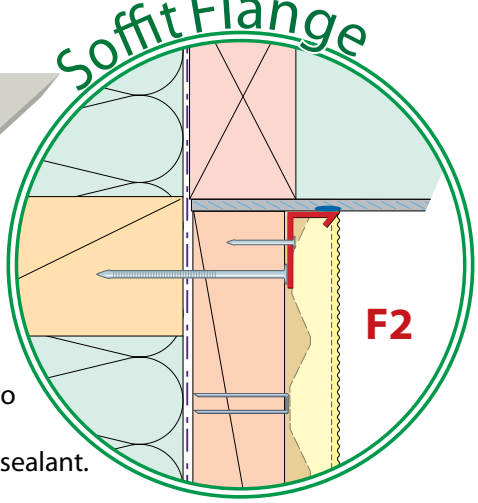
C6.9.3 Step 11: MCL® uPVC Window and Door Head with Drip Edge

The MCL® uPVC Window and door Head with Drip Edge shall be cut to the same length as the Aluminium Head Z Flashing and overall be 50mm wider than the outside edge to edge measurement of the window and door flanges. Fix with 20mm x 2.8mm hot dipped galvanised round head nails into the battens above openings. Fold the Head Z Flashing stop end up and over both ends of the MCL® uPVC Window and Door Head with Drip Edge. **(Refer: C11, pg 21).**



C6.9.4 Step 12: MCL® uPVC Soffit Flange (F2)

At top of walls fix the Soffit Flange to the top of the battens with 20mm x 2.8mm hot dipped galvanised round head nails **(Refer: F2, pg 36).**
The Soffit Flange shall be continuous and mitred at all corners and gable ends. The MCL® Soffit Flange shall be sealed to eaves soffit lining unless the eaves are wider than 450mm for single storey and 600mm for two storey buildings. The Soffit Flange shall also be used at garage entrances.
Where the timber jamb option is used the flange shall be embedded in sealant.
(Refer: F21, pg 54 & F29 & F31, pg 59)



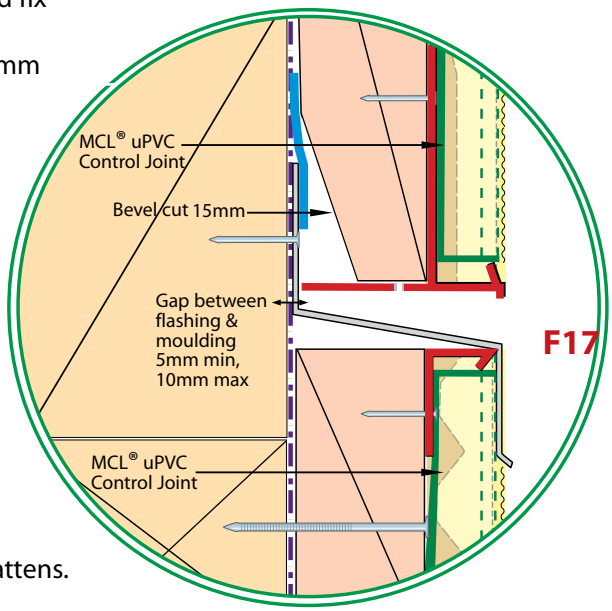
C7 Movement Control Joints - Step 13: Movement Control Joints
a) Horizontal Movement Control Joints (HMCJ)

HMCJs shall be provided as required by Section G. Where a HMCJ is required to limit the height of a wall panel it shall be located at intermediate floor level as shown in Drawings **F12, F13, F14, F15 & F17** depending on whether openings extend to floor level or the building has a deck. The HMCJ comprises a plain aluminium HMCJ Z flashing made continuous by the use of uPVC corner and straight flashing jointers. Sealant shall be provided between the jointers and the HMCJ Z flashings as shown in the figures below. The flashings and jointers shall be fixed to the framing with 20mm x 2.8mm flathead hot dipped galvanised round head nails or 20mm x 6 gauge Type 304 Stainless Steel Screws.

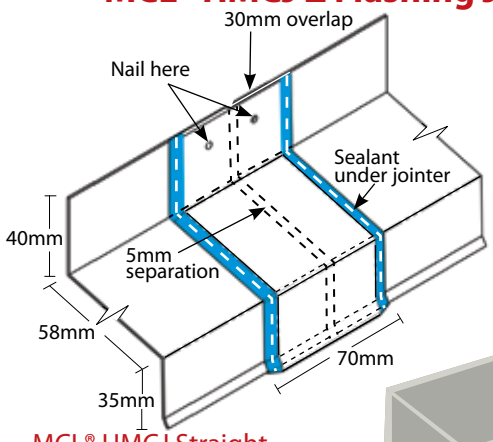
The HMCJ shall be constructed as follows:

- Attach the bottom battens to a formed line.
- Attach the MCL® uPVC Soffit Flange along top edge of the battens.
- The installation of the HMCJ Z flashing shall start at the building's corners. Corner units, comprising the corner flashing jointer (external or internal as appropriate) and two HMCJ Z flashings, shall be assembled on the ground then lifted into position and fixed in place to the framing. The assembly of the corner units entails providing beads of sealant to the two HMCJ Z flashings and positioning them in the jointer, 5mm back from the jointer's mitre as shown in the figures below. The bottom edge of the flashings shall fit into and be held in position by the lugs on the bottom of the jointer.
- Fix the corner flashing jointers through the nail holes provided and fix the HMCJ Z flashings at 500mm centres.
- Fix the remaining HMCJ Z flashings at 500 mm centres leaving a 5mm gap at the junction with adjoining flashings.
- At the junctions provide beads of sealant, as shown in the figures below, and position the straight flashing jointer centrally over the junction ensuring the bottom edge of the flashings fits into and is held in position by the lug on the bottom of the jointer. Fix the jointer through the nail holes provided.
- On completion of all fixings to the flashings and jointers the top edge of the HMCJ Z Flashings and the jointers shall be sealed with flashing tape.
- Bevel cut the back bottom edge of the upper battens and attach at a minimum of 5mm and a maximum of 10mm above the fold of the HMCJ Z Flashing.
- Upper battens shall not be attached to the same structural member as the bottom battens. **(Refer: F14, Pg 48).**
- Attach the MCL® uPVC window and door head moulding to the battens.
- The VMCJ shall stop when meeting a HMCJ.
- Where openings extend to floor level, the HMCJ can be continuous with the sill flashing **(Refer: F12, pg 46)** or it can be positioned below the sill **(Refer: F15, pg 49)**
- Prior to painting the HMCJ aluminium Z flashing shall be primed with an etching primer.

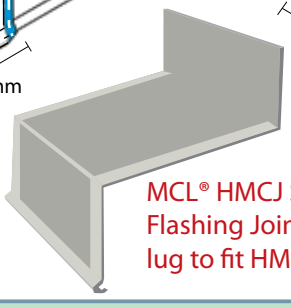
VMCJ meets HMCJ F17



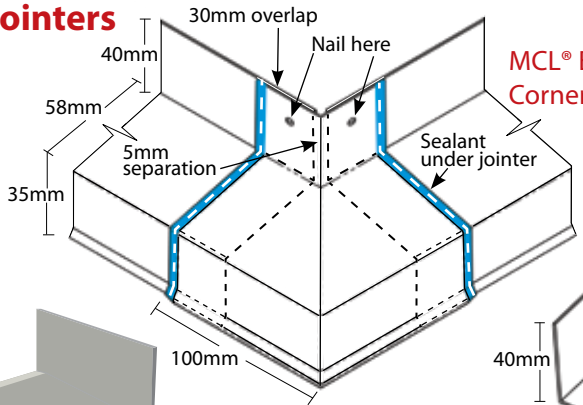
MCL® HMCJ Z Flashing Jointers



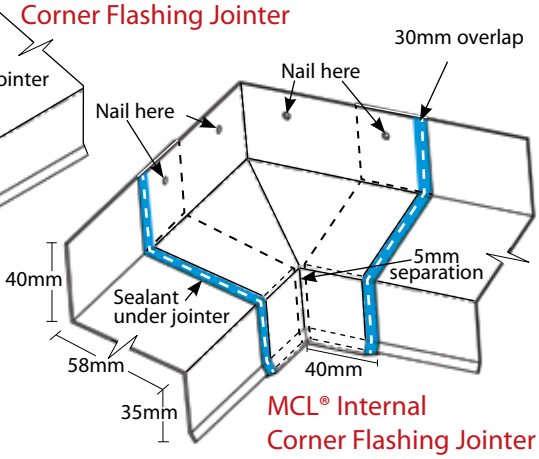
MCL® HMCJ Straight Flashing Jointer



MCL® HMCJ Straight Flashing Jointer showing bottom lug to fit HMCJ Z Flashing.



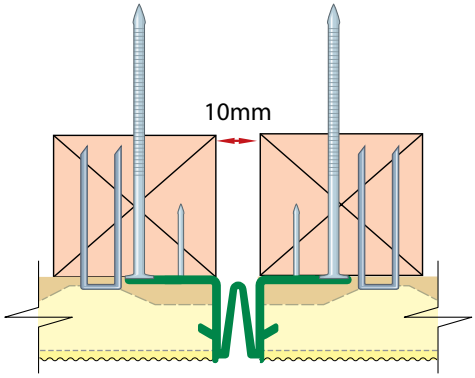
MCL® External Corner Flashing Jointer



MCL® Internal Corner Flashing Jointer

b) Vertical Movement Control Joints (VMCJ) F16, pg 50

- VMCJ's shall be provided as required by Section G.
- Use a plumb bob to mark top and bottom.
- Fix two battens 10mm apart on VMCJ line, and down into the MCL® uPVC Bottom J-Mould with Drip Edge and up to the Soffit or HMCJ.
- Cut and fix Soffit Flange to battens at the Soffit or HMCJ.
- Cut the VMCJ to span between the Soffit Flange and the MCL® uPVC Bottom J-Mould with Drip Edge.
- Mark width of VMCJ at MCL® uPVC Bottom J-Mould with Drip Edge. **(Refer to pic 1 below)**
- Cut and snip the plaster grab and rasp the gap smooth. **(Refer to pic 2 & 3 below)**
- Attach the VMCJ down into the MCL® uPVC Bottom J-Mould with Drip Edge and flush with the Soffit Flange at the top. Nail off to battens in holes provided using 20mm x 2.8mm hot dipped galvanised round head nails. **(Refer to pic 4 & 5 below)**



F16

1. Measure the gap

2. Snip the plaster grab

3. Rasp smooth

4. Attach at the bottom

5. Attach at the top and along the length of the flashing

C8

Penetrations

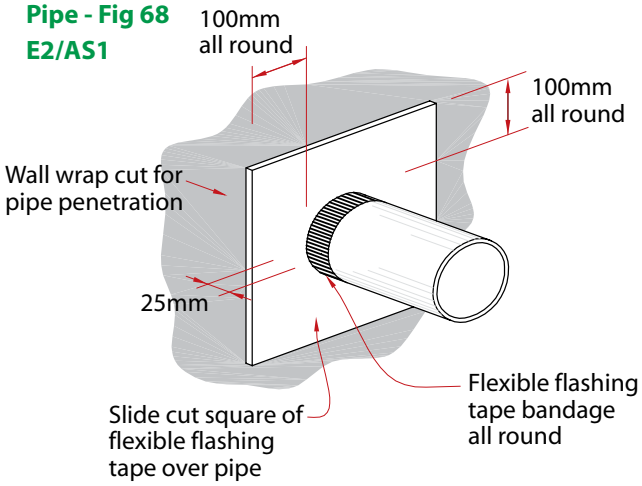
Step 14: Penetrations

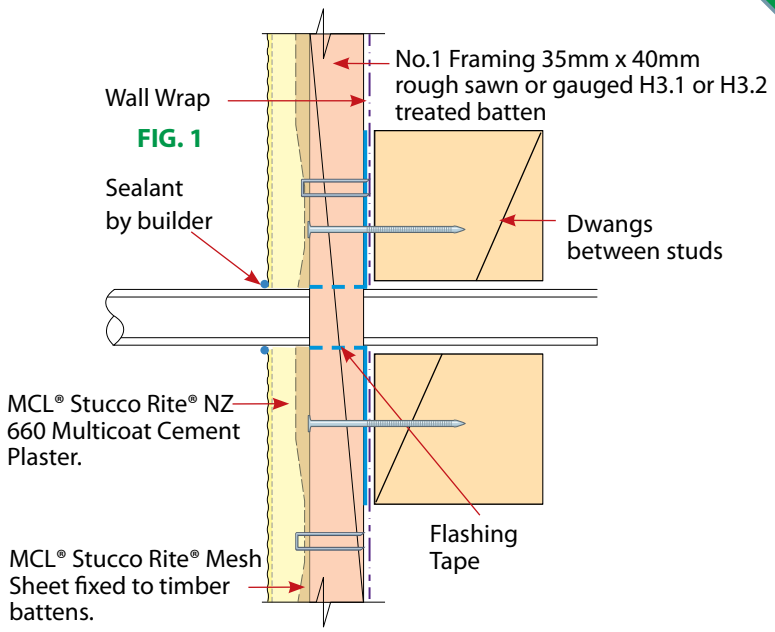
Penetrations through the MCL® Stucco Rite® System shall be detailed on the plans and specifications and installed with the timber framing. Round penetrations shall have a maximum outside diameter of 110mm and be installed with a nominal fall to the outside. All penetrations shall use additional dwangs for support. **(Refer: B3.6, pg 3)**
Holes through the wall wrap shall be made good with flexible flashing tape as required by the figure on page 18 titled 'General Pipe' **(Details here are as per Fig 68 of E2/AS1)**.
To fit the MCL® Stucco Rite® Mesh Sheet, snip the wires and neatly cut the backing paper of the MCL® Stucco Rite® Mesh Sheet to allow for the penetration.
After the plastering and before the painting the builder shall seal all penetrations as shown in **Fig 1, pg 18**.

C8.1 For square edged penetrations (eg. square or rectangular ducts, meter boxes):

a) the opening shall have the wall wrap finished and taped as required for window openings. **(Refer C4 & C5: pg 10)**
b) the penetration shall be installed with a 20mm x 20mm aluminium angle fixed and sealed all around as shown for a meter box in **Fig.3, pg 18 & F19, pg 52 (Details here are as per Fig 69 of E2/AS1).**
c) install MCL® uPVC Soffit/Sill Flange with mitred corners, fixed in position and sealed all round penetration all as shown in **Fig 2 & 3, pg 18 and F19, pg 52**.
d) the opening shall have additional reinforcement at corners as required by **C9.2, pg 19.**

General
Pipe - Fig 68
E2/AS1





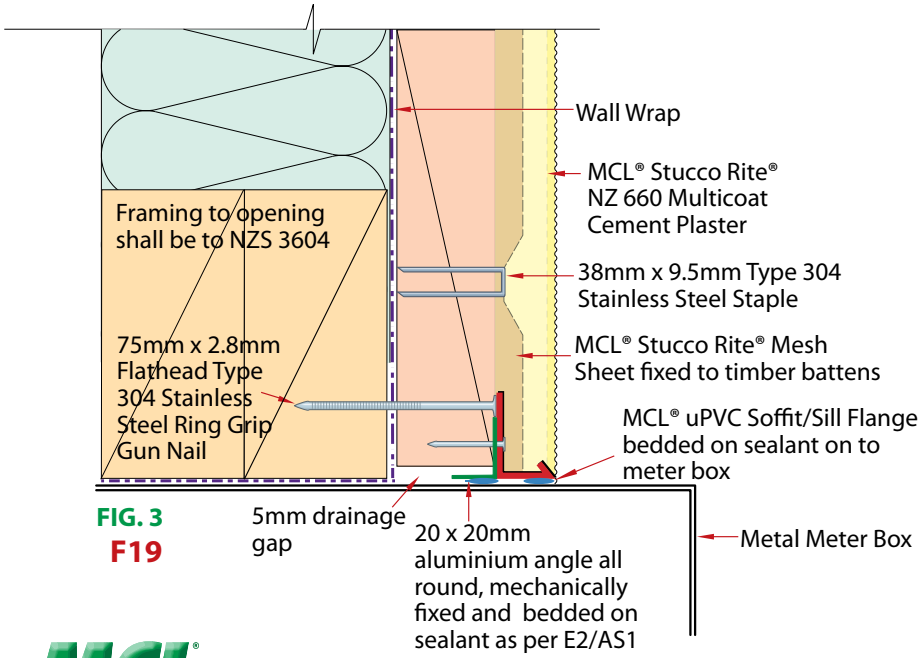
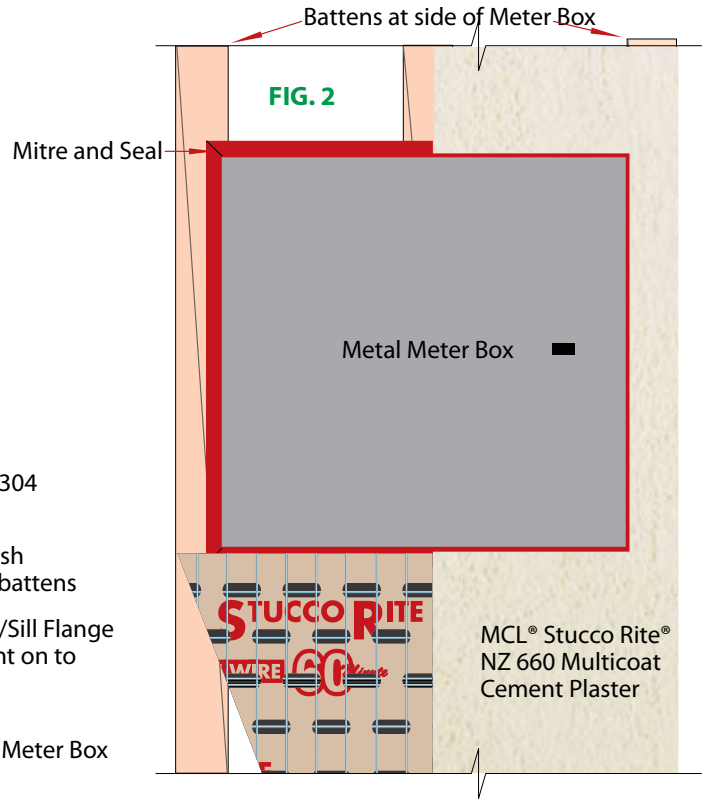


FIG. 3
F19



C9 Fixing the MCL® Stucco Rite® Mesh Sheets

Step 15: Fixing the MCL® Stucco Rite® Mesh Sheets

Ensure the correct Class of MCL® Stucco Rite® Mesh Sheet is installed: Sea Spray Zone Class W10 (Green Suction Paper) in NZS 3604's sea spray zones: Standard Class W02 (Red Suction Paper) elsewhere - see B3.12, page 4.

The MCL® Stucco Rite® Mesh Sheets shall be fixed to the battens using not less than 38mm x 9.5mm Type 304 Stainless Steel Gun Driven Staples over the 2 horizontal furring wires.

C9.1

- The MCL® Stucco Rite® Mesh Sheets shall be fixed from right to left starting at the bottom of the wall. This is because the top and left hand sides of the sheets have a bitumen paper overlap on these sides to meet and overlap with the next sheet.
- At corners fold at least to the next batten (300mm) to form a continuous return around every corner. Staple off at the corner but not at the 300mm lap batten as this shall be overlapped with the next sheet.
- The Stucco Rite® Mesh Sheets shall be placed with the protruding bitumen backing paper to the top and the left hand side of the sheet.
- Adjoining MCL®Stucco Rite® Mesh Sheets above and to the side shall be placed so the mesh of joining sheets overlap by a minimum of 50mm (1 square) and the bitumen backing papers overlap by a minimum of 150mm at the ends and 75mm horizontally.
- Top sheets overlap the bottom sheets and the correctly formed joints result in the continuous black horizontal and vertical lines as shown in **Fig 1, pg 19**.
- Vertical joints shall be made on batten lines. If necessary, trim the MCL® Stucco Rite® Mesh Sheet so that mesh and paper overlaps are minimised.
- Plastic cable ties shall be used to hold sheets together and to flatten all overlaps.
- When the vertical and horizontal joins are overlapped the sheets shall be stapled onto the battens vertically at 150mm centres at all double wires.
- When fixing the MCL® Stucco Rite® Mesh Sheets at windows and doors, measure and cut the sheets so that the edge of the sheet clips into the perimeter edge of the MCL® uPVC Jamb Flashing.
- The open bottom edge of the MCL® Stucco Rite® Mesh Sheet shall sit in to the MCL® uPVC Bottom J-Mould with Drip Edge and the MCL® uPVC Window and Door Head with Drip Edge.
- If using part of a sheet then the paper shall be removed at the bottom edge to a width of 50mm and the length of the moulding so that the plaster can adhere to the plaster grab on the MCL® uPVC Bottom J-Mould with Drip Edge and the MCL® uPVC Window and Door Head Moulding with Drip Edge: **(Refer to pgs 22 & 23)**.

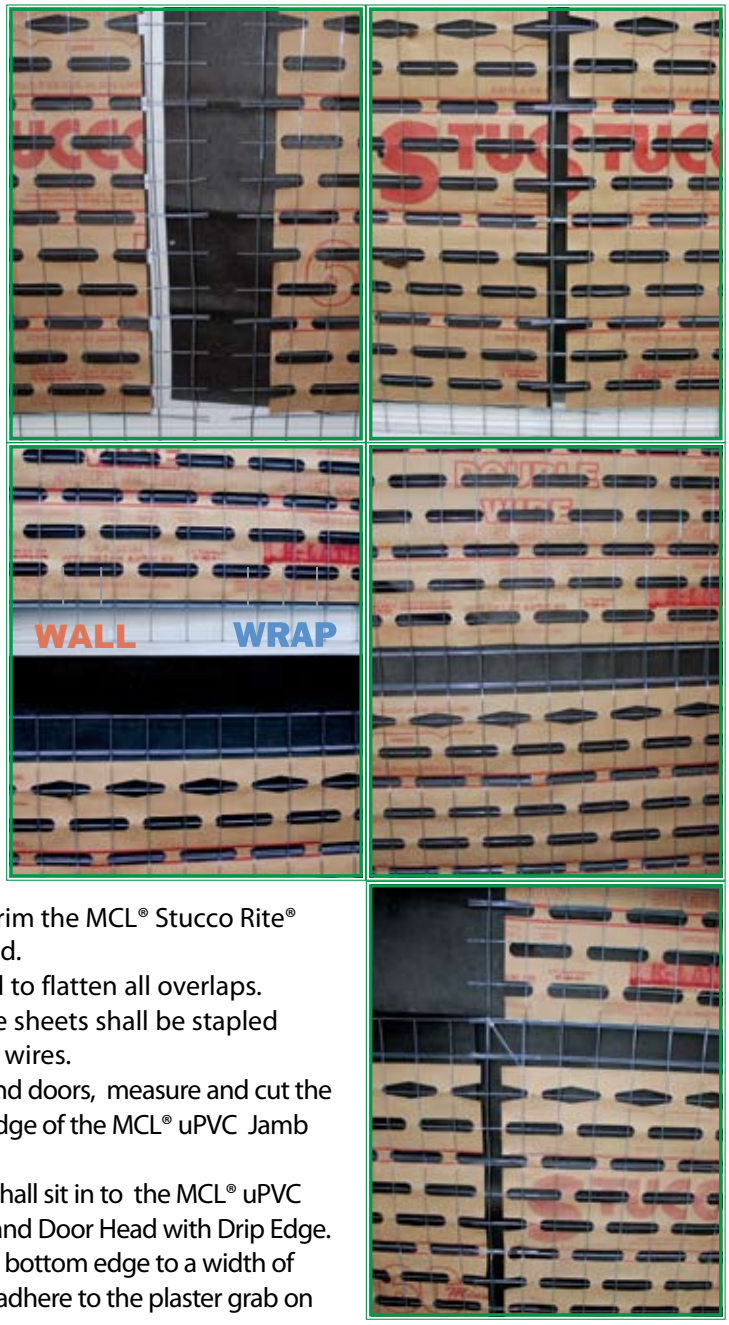


FIG. 1 Sheet overlap examples

C9.2 Reinforcing at Joinery Corners and Offsets - (Refer: Fig 2, pg 19).

Strip surplus MCL® Stucco Rite® wire mesh of its paper then cut squares not less than 4 squares each way (i.e. 200mm square) and fix diagonally at all window and door corners and offsets without control joints **(Refer: Section G, Rule 2b)**.

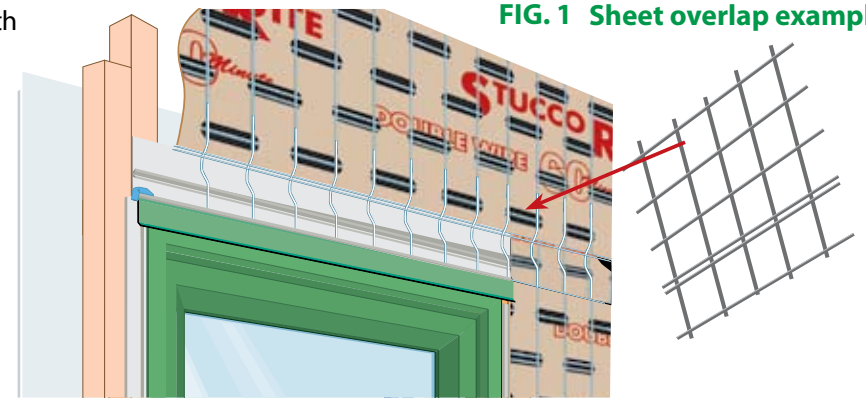


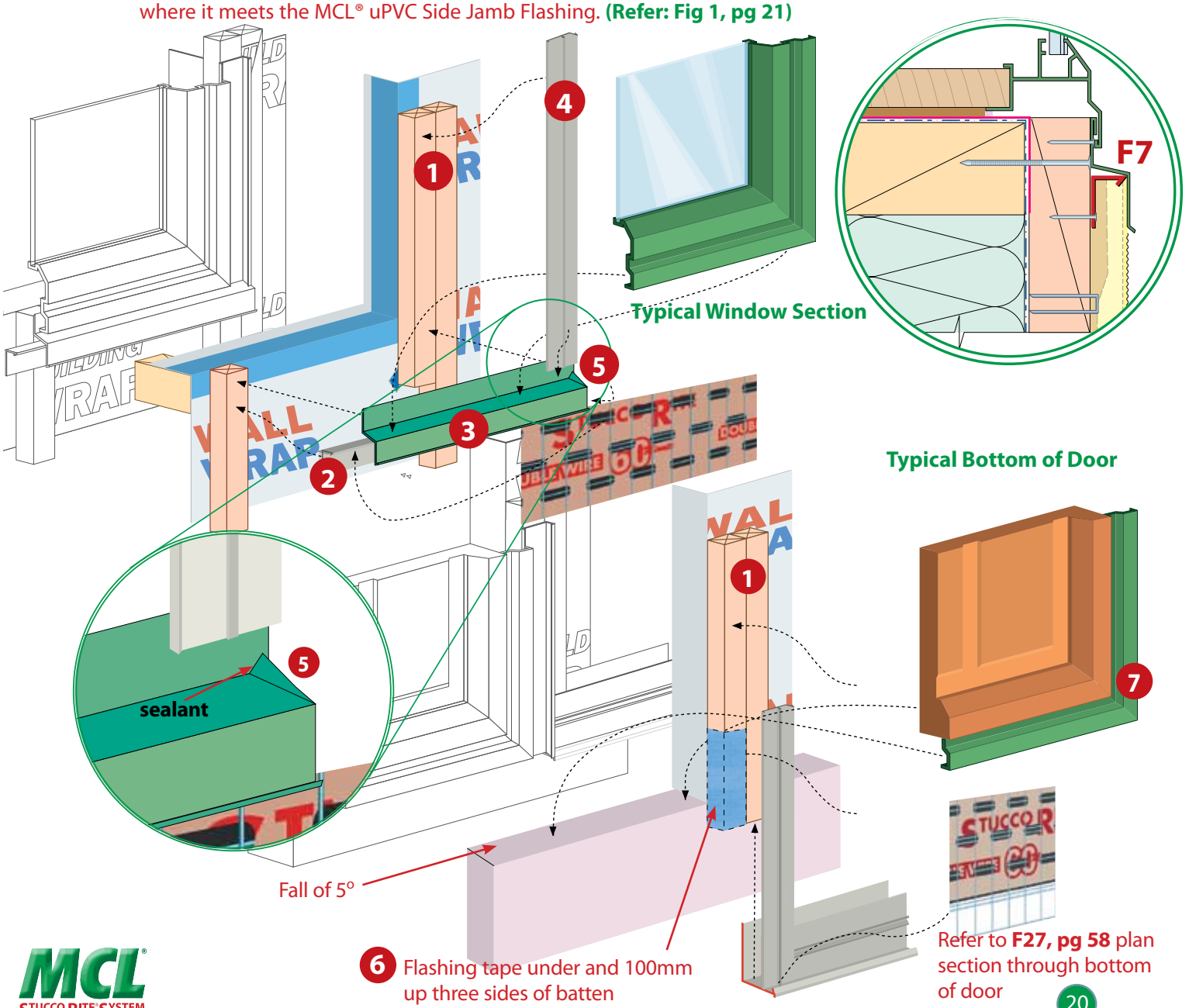
FIG. 2 Opening Corner Reinforcing

C10

Installing Windows and Doors

Note: Instructions below correspond to diagrams on this page and page 21.

1. Battens shall be attached as per **Section C6.3, pg 12.** Flashing tape to underside of batten and up three sides.
2. The Sill Flange shall be fixed 35mm below the top of the sill battens which are fixed in line with the sill trim. The Sill Flange spans between the bottom sill battens and shall be cut to the same length as the Aluminium Sill Z Flashing i.e. (25mm over each end of window and door flange).
3. Install the Aluminium Sill Z Flashing flush with the top edge of the lower battens and over the sill flange below. The Aluminium Sill Z Flashing shall extend 25mm each side of the window/door flange.
4. Measure and cut the bottom of the MCL® uPVC Side Jamb Flashing so that it overlaps the Sill Z Flashing by a minimum of 10mm but does not protrude past the bottom window/door flange of the joinery. When installing the joinery (step 7 below), attach the Window and Door MCL® uPVC Side Jamb Flashing using 20mm x 6 gauge Type 304 Stainless Steel Screws ensuring it is parallel to and it has 18mm minimum overlap with the outer edge of the joinery flange (Refer. F8, pg 42).
5. Using tin snips cut end of Aluminium Sill Z Flashing by 10mm and bend up at 45 degrees to provide a stop-end. Seal between stop end and Aluminium Sill Z Flashing. **(Refer: Step 1, pg 24)**.
6. Attaching flashing tape to bottom of inner batten (under and 100 mm up three sides) at bottom of doors. Cut and snip plaster grab on the MCL® uPVC Bottom J-Mould to fit MCL® uPVC Side Jamb Flashing **(Refer: F25, pg 57)**.
7. Install joinery. After the joinery is installed the builder shall apply sealant to the edge of the window flange where it meets the MCL® uPVC Side Jamb Flashing. **(Refer: Fig 1, pg 21)**



C11 Head Z Flashing Assembly

8. Attach a 100mm x 40mm piece of flashing tape under each end of the Aluminium Head Z Flashing. Refer to installation of Head Z Flashing Stop-end **(Steps 2-4, pg 24 - 25)**.
9. Attach the powder-coated Aluminium Head Z Flashing in place with 20mm x 2.8mm flathead galvanised nails and a 100mm wide strip of flashing tape.
   This Z flashing shall extend 25mm each side of the window/door flange.
10. Fix the top vertical battens with bevelled ends at a minimum of 5mm and maximum of 10mm above the top fold of the Head Z Flashing so that they are parallel and square.
11. Attach the MCL® uPVC Window and Door Head with Drip Edge under vertical battens and fold the Head Z Flashing Stop-end up and over both ends of the moulding. **(Refer: Step 4, pg 25)**

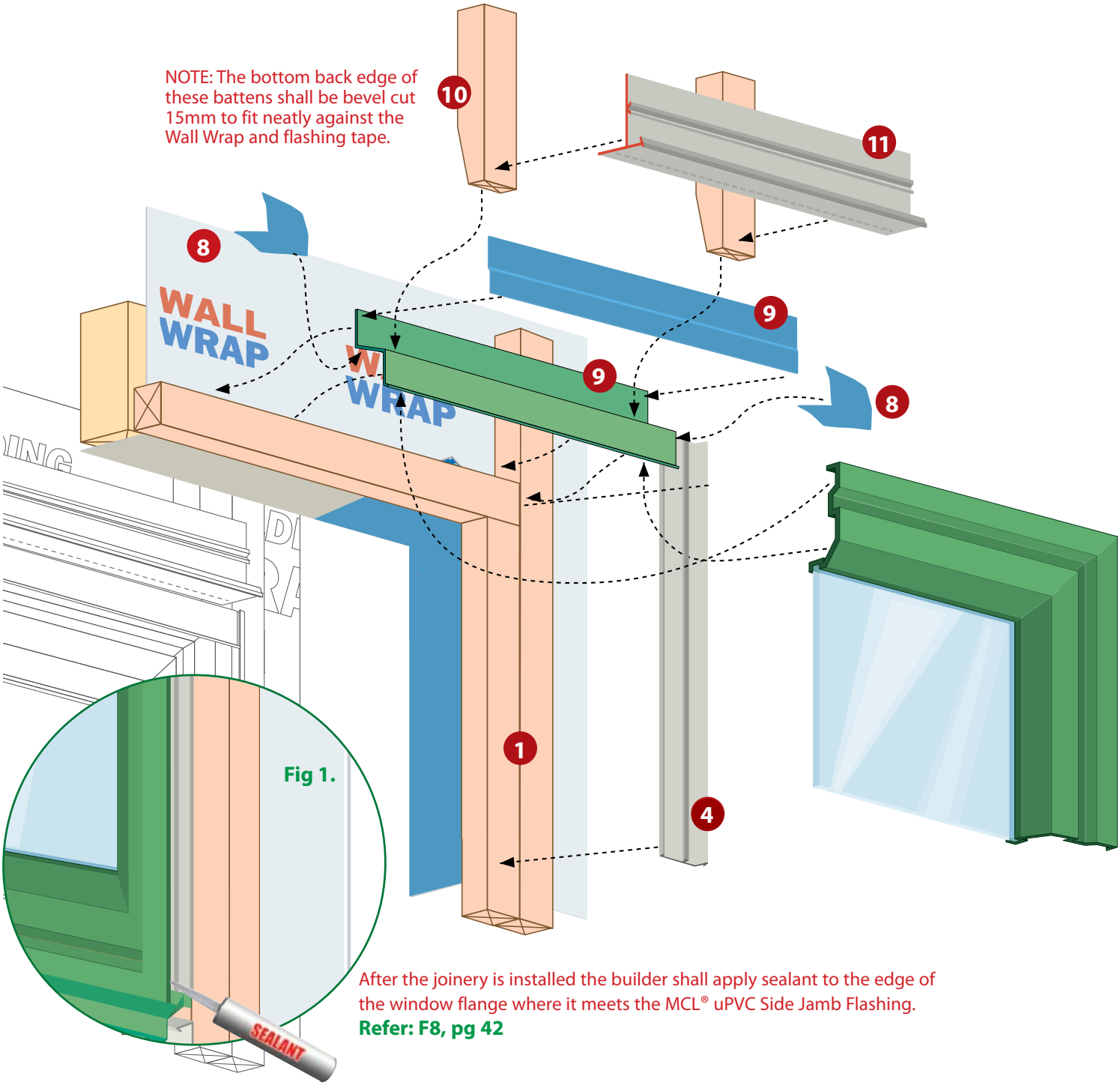
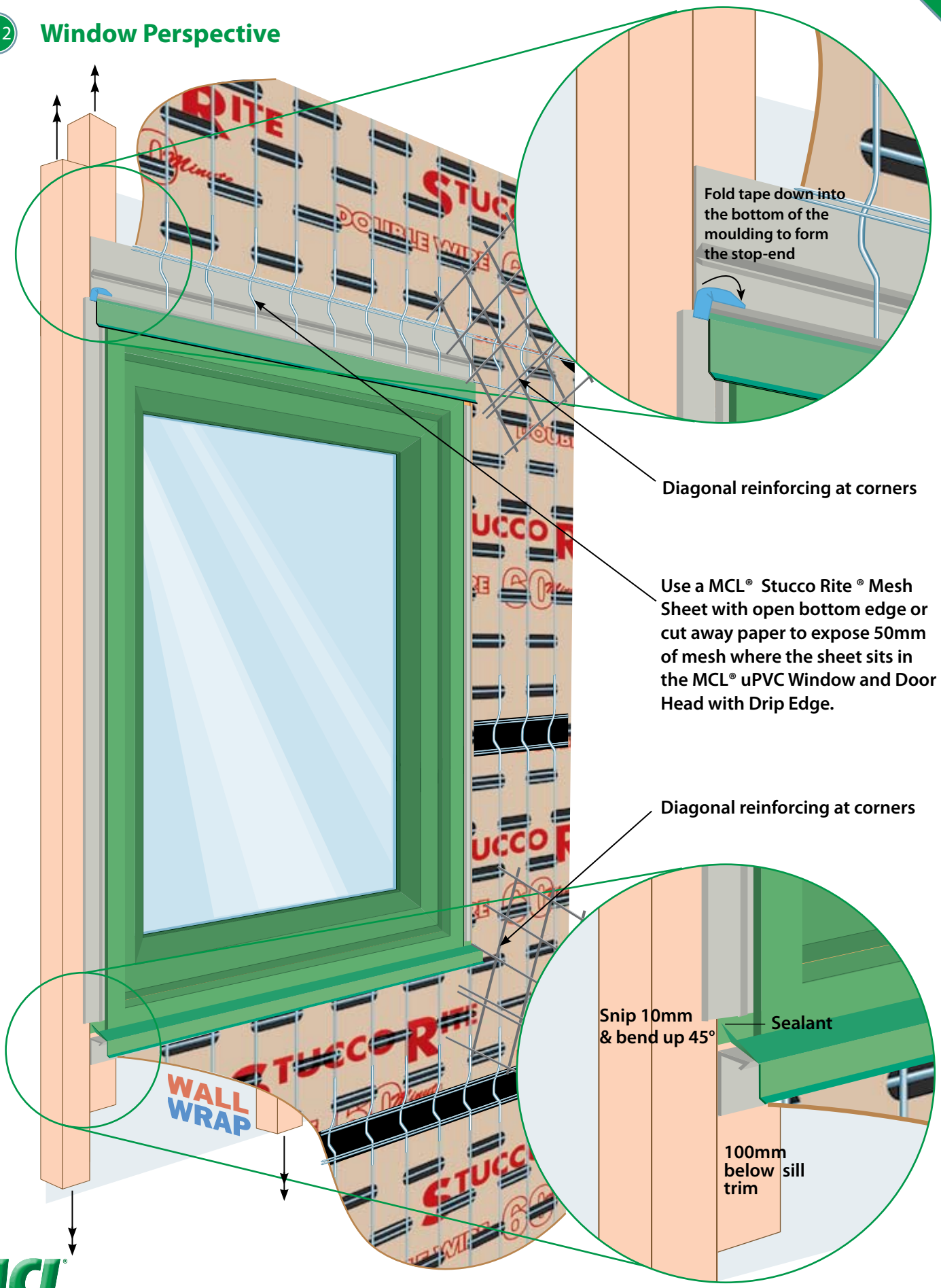


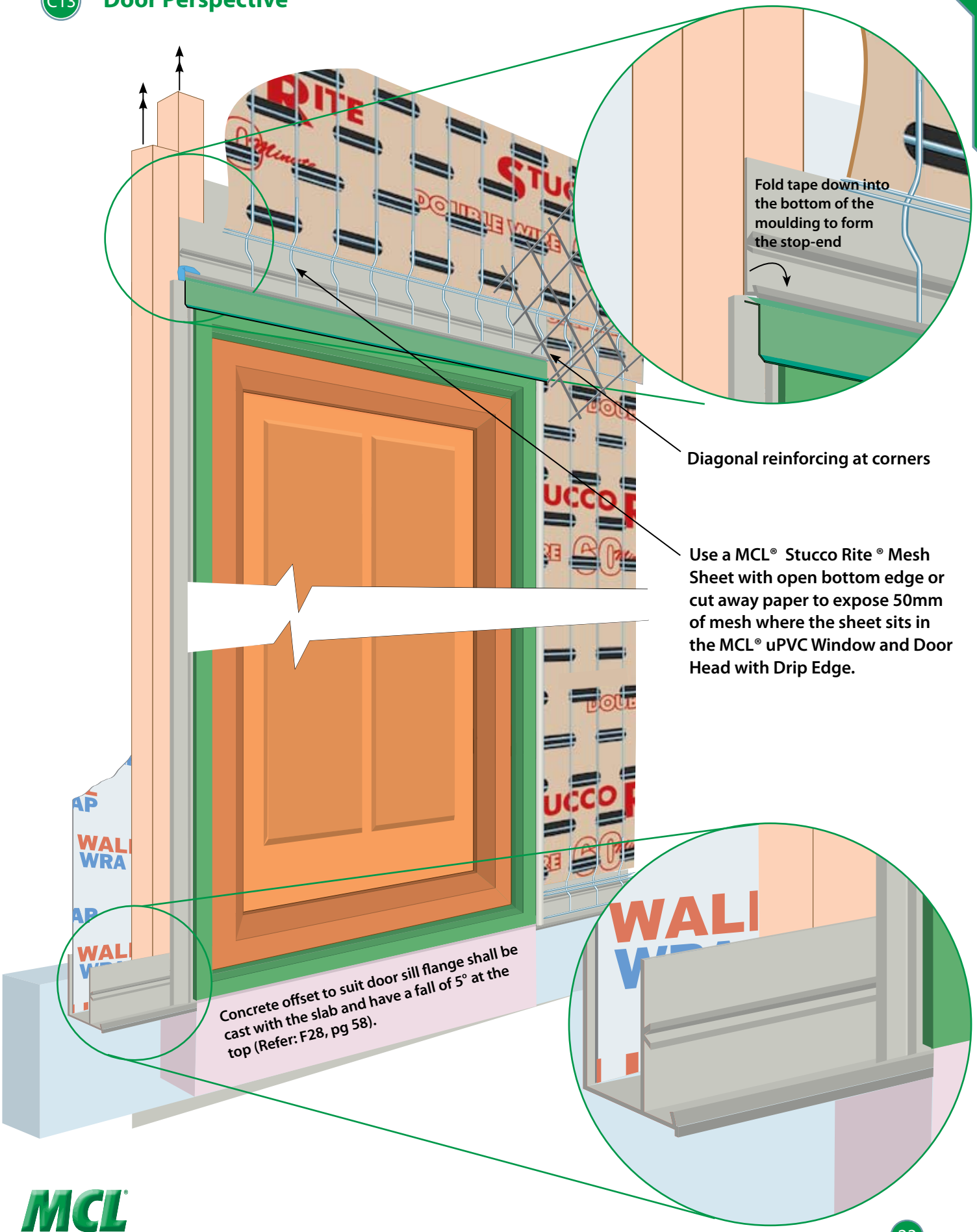
Fig 1.

After the joinery is installed the builder shall apply sealant to the edge of the window flange where it meets the MCL® uPVC Side Jamb Flashing.
Refer: F8, pg 42

C12 Window Perspective



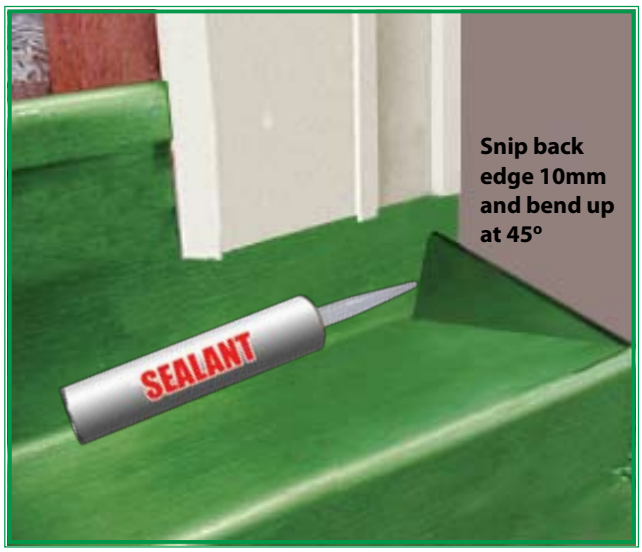
C13 Door Perspective



C14 Head and Sill Z Flashing Stop-Ends

STEP 1

Attach the MCL® uPVC Side Jamb Flashing to the trim batten. Slip the Aluminium Sill Z Flashing under the MCL® uPVC Side Jamb Flashing. Use tin snips to cut and bend up the edge of the Sill Z Flashing by 10mm. Ensure the MCL® uPVC Side Jamb overlaps the Sill Z Flashing by a minimum of 10mm and does not protrude below the window flange at the sill and is flush with the top edge of the batten at the head.



STEP 2

Before nailing and taping the Aluminium Head Z Flashing in place, attach a piece of flashing tape 100mm x 40mm underneath and at each end of the flashing leaving 50mm ready to fold up onto the ends of the MCL® uPVC Window and Door Head with Drip Edge.

STEP 3

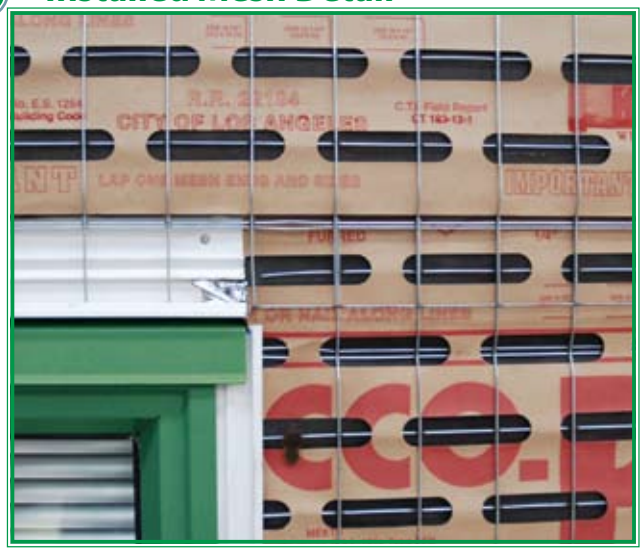
Measure and bevel cut the top vertical battens and fix into the lintel at a minimum of 5mm and maximum of 10mm above the top fold of the Head Z Flashing.

C14 Head and Sill Z Flashing Stop-Ends

STEP 4

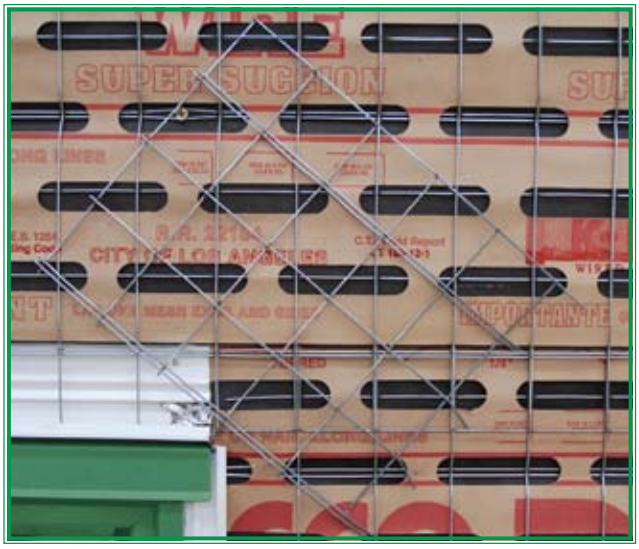
Attach the MCL® uPVC Window and Door Head with Drip Edge in place and fix using 20mm x 2.8mm hot dipped galvanised nails. Fold the strip of flashing tape over the outside edge of the MCL® uPVC Window and Door Head with Drip Edge to form a stop-end.

C15 Installed Mesh Detail



Head meshed

Sill meshed



Head with wire square reinforcement

Sill with wire square reinforcement

C16

Decks

Decks shall follow the details of drawings **F11 or F13** depending on whether the deck is simply supported or cantilevered.

F11 - Building Supported Timber Deck

Drawing **F11** provides for a simply supported deck that is attached to the main building. The design of the deck must follow the requirements of Clause 7.4 of NZS 3604 in all respects except as noted. The departures from NZS 3604 are limited to the connections of the deck joists to the stringer and of the deck itself to the building. All other aspects of the deck such as deck spans and deck bracing requirements shall be to NZS 3604.

Fixings shall be M12 stainless steel bolts (complete with washers and nuts provided) as per Clause 6.13 of NZS 3604. The bolts shall be installed with the framing and the resulting holes through the wall wrap made good with flashing tape as described in C8 for penetrations.

At each bolt location provide a 260mm long 90mm x 35mm H3.1 or H3.2 treated packer.
The spacing of bolts and packers shall be a maximum of 600mm centres.

The bolts shall be installed in holes of 14mm maximum diameter through the flooring members and packers and shall not be placed closer than 60mm from a timber edge. The bolts shall be central in the width of the 260mm long packer which shall be fixed to the floor and wall framing with 10 nails as shown in the drawing. These nails shall not be placed closer than 15mm from the edge of any timber.

To provide a separation from the plaster the bolts shall be fitted with a 10DN PVC sleeve, 22mm long. The remainder of the bolt shall be masked prior to plaster application. The deck shall not be attached until 7 days after all work associated with the construction of the MCL® Stucco Rite® plaster has been completed.

The deck joists shall be fixed to the stringer with Type 304 stainless steel joist hangers with a capacity in kN (as defined in NZS 3604) determined as follows:

a) For 2 kPa decks: 1/2 deck joist span (in m) x joist spacing (in m) x 3.35.

b) For 3 kPa decks: 1/2 deck joist span (in m) x joist spacing (in m) x 4.85.

F13 - Cantilevered Timber Deck

Drawing **F13** provides for a deck cantilevered out from the main building. The cantilevered deck joists must meet the requirements of Clause 7.1.5.3(b) of NZS 3604.

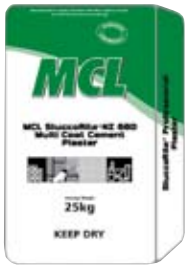
A saddle flashing shall be provided at each joist as detailed in Drawing **F13**. The saddle flashing shall be as described in Fig 7.6 of NZS 3604 and Fig 16 of E2/AS1 but to the dimensions of Drawing No. F13. Flashing material shall comply with the '50 year' requirement of Table 20 of E2/AS1.

The MCL® Stucco Rite® plaster between joists must be supported on battens at centres no greater than 300mm. If the joists are at wider centres than 300mm then three battens will be required. The battens shall be positioned at each joist and if necessary midway between. The edges of the plaster shall be bounded on all sides by mouldings; the MCL® uPVC Window and Door Head moulding below and the MCL® uPVC Soffit and Sill flange elsewhere.

Below the deck a physical break in the Stucco Rite plaster must be provided. The HMCJ Z Flashing shall be used for this purpose and the flashing must extend beyond the deck in both directions until it reaches a VMCJ. If Section G requires the building to have a HMCJ then this detail doubles for that purpose.

D1 Parts List - Parts supplied by MCL®

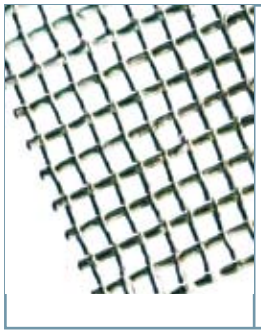
MCL® Stucco Rite® NZ 500 Adhesive Plaster in 25kg bags



MCL® Stucco Rite® NZ 660 Multicoat Cement Plaster in 25kg bags

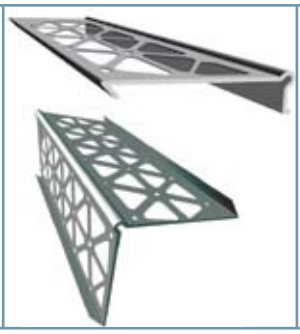
MCL® Stucco Rite® AL 40 SP Polymer Modified Finishing Plaster in 25kg bags & pre-mixed in plastic buckets

MCL® Water Repellent Plaster Sealer in plastic containers



MCL® Fibreglass Mesh 1m x 50m rolls 160 grams per sq metre.

MCL® Premeshed EPS Bevelled Sill with drip line Bevelled Head & Square Jamb Mouldings having a maximum cross sectional size of 150 x 50 mm



MCL® uPVC Kwik ™ Flange
MCL® uPVC Kwik ™ Corner

MCL® Stucco Rite® Mortar Pump (G5C)

MCL® Stucco Rite® Mortar Pump (Ritmo)

D2 Scope

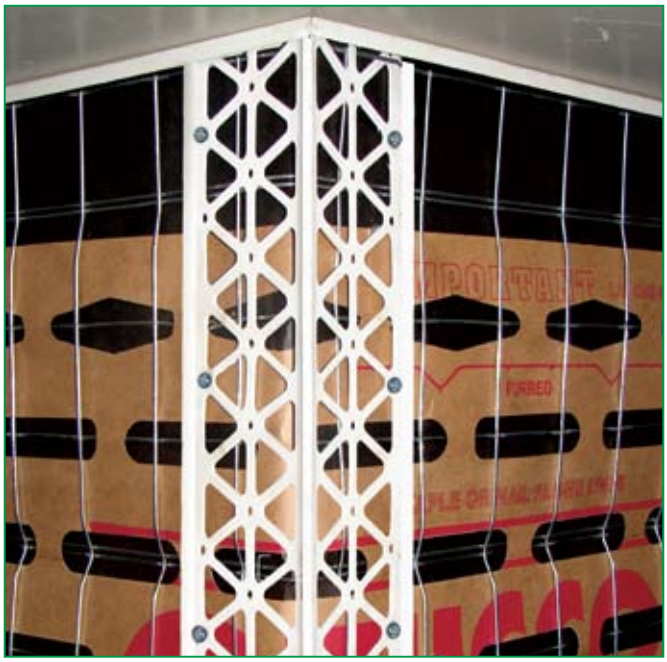
This section of the MCL® Stucco Rite® Technical Manual sets out the requirements and procedure for the plaster applicator's work. This work involves the installation of the MCL® uPVC Kwik™ Corners and Flanges **(Refer D3 pg 28 & D3.1 pg 29)** and the application of the MCL® Stucco Rite® plaster and MCL® Water Repellent Plaster Sealer. **(Refer D6: pg 32)** The workmanship shall meet the standards required in the Technical Manual including consistency of the pumped plaster mix, the embedment of the wire mesh into the plaster, the correct setting of all corners and flanges, the application of the MCL® Fibreglass Mesh, water repellent and finishing plaster.

D3

Fixing MCL® uPVC Kwik™ Corners and Kwik™ Flanges

Fix the MCL® uPVC Kwik™ Corners in place before the base coat is applied. MCL® uPVC Kwik™ Corners are rigid plastic nosed and they shall be fixed on all external corners. Measure and cut the corners and fit so that they are at least 4mm inside the outside edge of the MCL® uPVC Bottom J-Mould with Drip Edge and MCL® uPVC Soffit/Sill Flanges at the top.
The corners shall be straight and vertical and be installed so as to be covered by the plaster's second coat.
(Refer: D5, pg 31)
The corners and flanges provide an accurate screeding line and provide for the economical use of plaster.
If required close butt corners to meet heights as overlaps are not required.
For ease of positioning fix the corners using 20mm x 6 gauge type 304 stainless steel screws in the holes provided.

D3 MCL® uPVC Kwik™ Corners

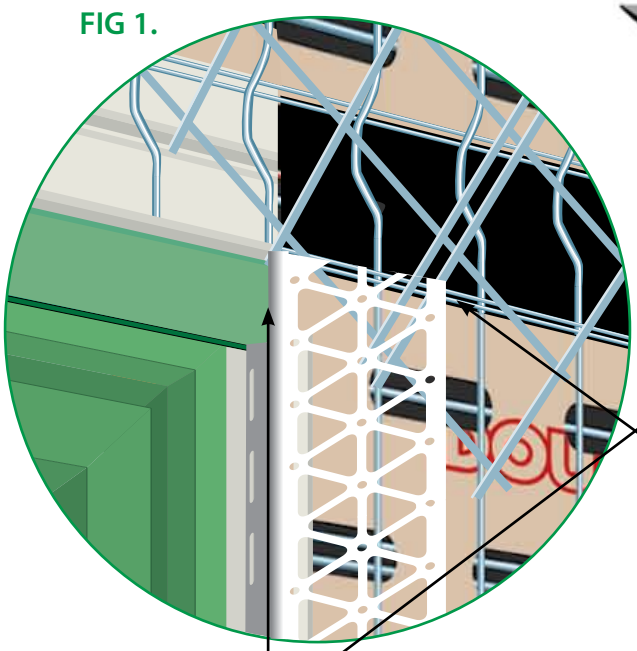


D3.1 MCL® uPVC Kwik™ Flanges

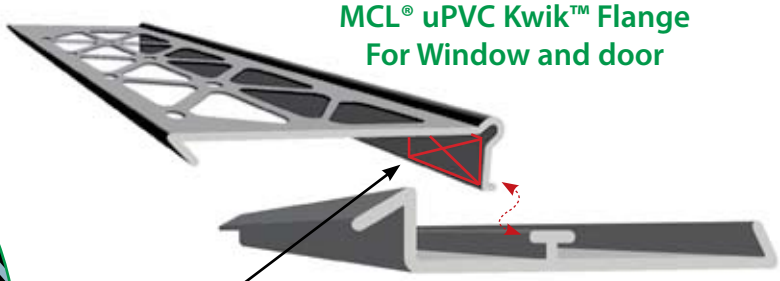
D3.1 Fixing MCL® uPVC Kwik™ Flanges

Fix the MCL® uPVC Kwik™ Flanges into place at the side of all window and door openings.
The flanges shall be cut to span from the top of the head flashing to the bottom of the sill flashing
Refer: Figs 1 and 3, pg 29
MCL® uPVC Window and Door Head moulding and down onto the Sill Z Flashing at 15°. **Refer: Fig 1 & Fig3, pg29.**
The flange shall be locked into the MCL® Side Jamb Flashing and for ease of positioning fix the Kwik™ Flanges using 20mm x 6 gauge type 304 stainless steel screws in the holes provided.
The MCL® Fibreglass Mesh shall overlap the MCL® uPVC Kwik™ Flange when embedded in the plaster.

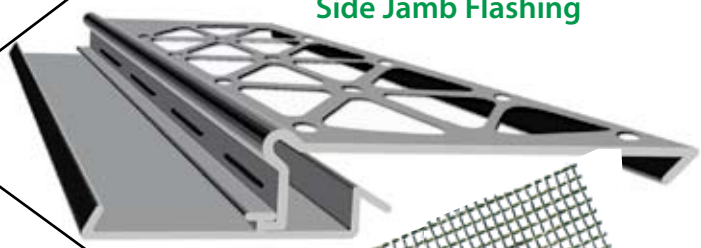
FIG 1.

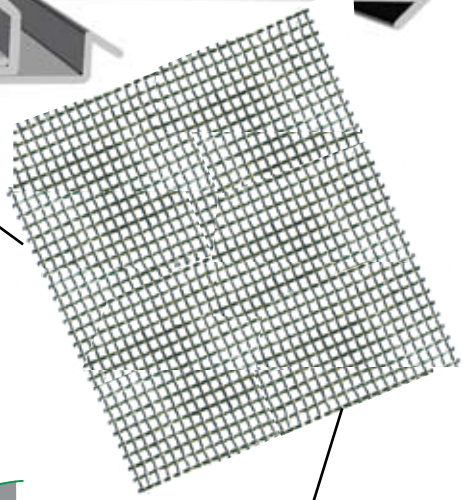


MCL® uPVC Kwik™ Flange
For Window and door



MCL® uPVC
Side Jamb Flashing





Basecoat Diagonal
Fibreglass Mesh
Reinforcing
at corners

Snip top edge of Kwik™ Flange 40mm to fit
Snip bottom edge of Kwik™ Flange 15° to fit

FIG 2.

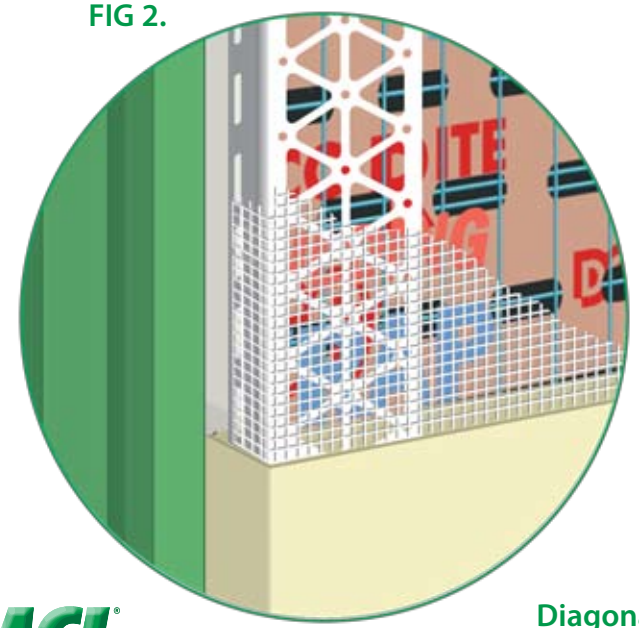
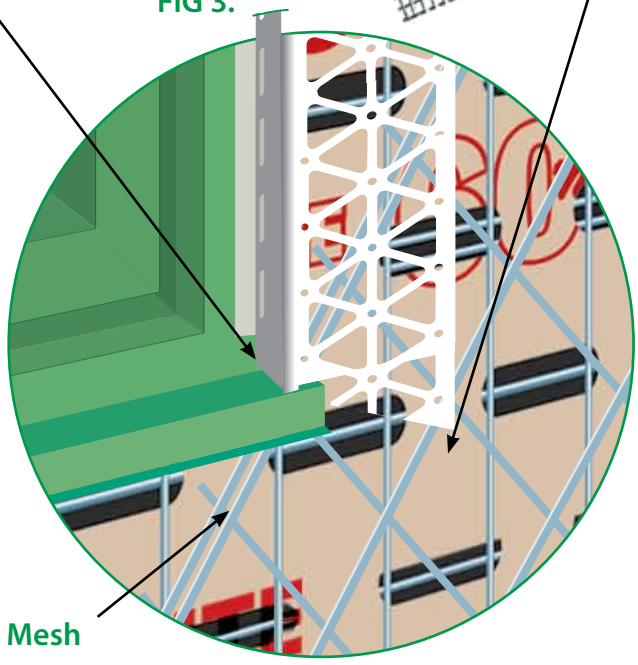


FIG 3.



Diagonal Steel Mesh
reinforcing at corners

D4

Application of MCL® Stucco Rite® Plaster

Plaster Applicators shall have the requisite skill and experience as required by NZS 4251 Cl. 2.1.2.
The plaster shall be mixed and applied by a MCL® Stucco Rite® Mortar Pump with the Plaster Applicator being responsible for operating the pump to provide correct plaster mix consistency.

The plaster shall either be Plaster System Option 1 or Plaster System Option 2 as described below.
Prior to plastering, joinery and penetrations shall be masked so as to prevent any damage.
On completion of plastering work the plaster shall be painted in accordance with Paragraph 9.3.7 of E2/AS1. Masking shall be removed on completion of painting. For both options 1 and 2 the MCL® Stucco Rite® NZ 660 Multicoat Cement Plaster shall be applied using an MCL® Stucco Rite® Mortar Pump for the first two coats with the final coat mixed mechanically and applied by hand. The MCL® Stucco Rite® Mortar Pumps are supplied by MCL® for purchase or hire.

The Mortar Pumps shall be connected to a potable water supply and mains power.
Bagged MCL® Stucco Rite® plaster shall be emptied into the hopper where it is mixed to the correct consistency by the Mortar Pump and the supply of plaster shall be controlled by the plasterer at the nozzle outlet.

Curing and Sealing of the Plaster

The plaster shall be cured as set out in section 2.5 of NZS 4251 and as modified below. The objective of curing is to reduce shrinkage of the plaster and minimise cracking.

- The base coat shall be moist cured for 48 hours before application of the levelling and mesh coat.
- After application of the levelling and mesh coat the plaster shall be moist cured for 48 hours.
- After application of the top coat moist cure for 48 hours.
- At all times ensure that the plaster does not dry due to drying wind, low humidity (MC < 60%) or sunshine on East, North or West walls.
- The application of the MCL® Water Repellent Plaster Sealer shall be after 48 hours. The MCL® Water Repellent Plaster Sealer, diluted 1:9 with potable water, shall be applied in two wet coats being one on top of the other using a backpack sprayer.

a) Plaster System Option 1

MCL® Stucco Rite® NZ660 Multicoat Cement Plaster shall be used for all three coats being the base coat, the levelling and mesh coat and the finishing skim and sponged top coat.
On completion of plastering MCL® Water Repellent Plaster Sealer shall be applied to the finished top coat before applying the waterproof coating.

Fig. 1 Pumping Base Coat Plaster

Fig. 2 Wire Mesh showing Internal Coverage and embedment of wire

b) Plaster System Option 2

MCL® Stucco Rite® NZ660 Multicoat Cement Plaster shall be used for the first two coats only being the base coat and the levelling and mesh coat. The levelling and mesh coat shall be applied so that it is flat and true, with the surface levelled and prepared for the finishing top coat.
MCL® Stucco Rite® Water Repellent Plaster Sealer shall be applied to the levelling and mesh coat and, after allowing 72 hours for the sealer to dry, the finishing top coat shall be applied by hand using MCL® Stucco Rite® AL40 SP Polymer Modified Finishing Plaster. This finishing plaster shall be plastic float finished.

D5

Embedment of the MCL® Stucco Rite® Mesh and Application of the Plaster

The total embedment of the wire in the plaster between the front suction paper and the bitumen paper behind shall be acheived by applying the base coat as follows:

First Coat (Base) for both Options 1 and 2:

The base coat shall be pumped to a thickness of 8mm then screeded and trowelled hard and flat into the wire. The base coat shall be strongly trowelled in to achieve full coverage of the wire mesh behind and against the surface suction paper of the sheet.
(Refer: Fig.2, pg 30).

- The base coat shall be squared off to all windows, doors and corners, scratched and left to cure for a minimum of 48 hours.
- The plaster shall be flat and level to the edges of mouldings, leaving depth for coverage by the levelling and mesh coat.
- Fill the MCL® uPVC Kwik™ Corners and Flanges with plaster but do not cover completely so as to allow for the levelling and mesh coat to fully cover at the correct depth.
- Setting times are between 6 and 12 hours depending on temperature and conditions.
- MCL® Fibreglass Mesh between openings, MCJs and corners shall be plastered into the surface of the base coat, as required by Section G.
- A 200mm x 200mm square of fibreglass mesh shall be plastered diagonally into the base coat at all window and door corners.

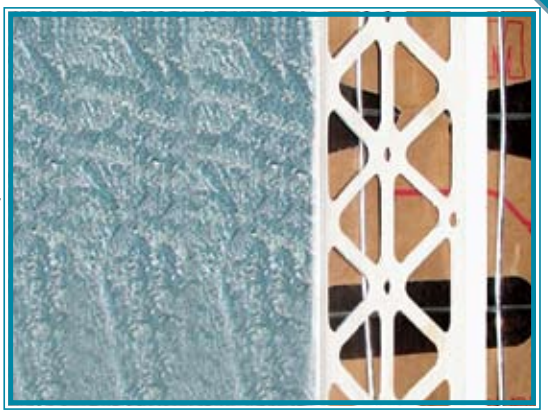


Fig. 3
Levelling and Mesh Coat on Corner

Fig. 4
Mesh Coat Application

Second Coat for both System Options 1 and 2: Levelling and Mesh Coat

- The levelling and mesh coat shall be applied by Mortar Pump and levelled to a thickness of 10mm. The MCL® Fibreglass Mesh shall be floated into the surface, trowelled flat and levelled to all corners and flanges. The MCL® uPVC Kwik™ Corners and MCL® uPVC Kwik™ Flanges shall be covered with plaster and meshed over. **(Refer: Fig. 3, pg 31).**
- The MCL® Fibreglass Mesh shall have a 50mm lap and be completely covered with plaster and the surface levelled to all corners and openings by hand ready for the finishing coat.
- The levelling and mesh coat shall be left to cure for a minimum of 48 hours. Curing may require a wet water spray to combat hot dry conditions.
(Refer: D4, pg30)

Third Coat for Option 1 only: Skim and Sponge

- A 3mm third and final coat of MCL® Stucco Rite® NZ 660 Multicoat Cement Plaster shall be mixed mechanically, applied by hand, skimmed and sponge finished. After 48 hours the surface shall be sealed with MCL® Water Repellent Plaster Sealer.

MCL® Stucco Rite® NZ 660 Multicoat Cement Plaster Sponge Finished

Third Coat for Option 2 only: MCL® Stucco Rite® AL40 SP Polymer Modified Finishing Plaster

- Before applying MCL® Stucco Rite® AL40 SP Polymer Modified Finishing Plaster, seal the Levelling and Mesh Coat with MCL® Water Repellent Plaster Sealer.
- After allowing 72 hours for the sealer to dry, Apply MCL® Stucco Rite® AL40 SP Polymer Modified Finishing Plaster as a third coat and plastic float finish at a thickness of 1mm to 3mm as necessary, to achieve coverage.

MCL® Stucco Rite® AL40 SP Plastic Float Finished

D6 Attaching the MCL© Premeshed EPS Decorative Mouldings Window and Door Finished Detail - Type A (Refer: D11, pg 33)

Irrespective of whether Plaster System Option 1 or 2 is used, if MCL® Premeshed EPS Decorative Mouldings are specified they shall be attached around the openings after the levelling and mesh coat is applied and cured. With Plaster System Option 2 the EPS mouldings shall be attached prior to the application of the MCL® Stucco Rite® Water Repellent Sealer. Trowel MCL® NZ 500 Adhesive Plaster onto the pre cut EPS mouldings and push into position until the fresh plaster oozes at all sides. The EPS mouldings shall be attached with a set back from the trim, flashing and joinery edges, all as shown on **Drawings F6a, F7a and F8a, pgs 40, 41, 42,** to allow for the application of the 3mm top coat. After allowing 48 hours for the MCL® NZ 500 Adhesive Plaster to cure, and with Plaster System Option 2 only allowing the MCL® Stucco Rite® Water Repellent Sealer to dry, apply the finishing top coat ensuring the following 2 conditions are meet. Firstly, at the top edge of the EPS head moulding, plaster in a 100mm wide strip of MCL® Fibreglass Mesh centred on the wall/moulding junction. **Refer Drawing F6a, pg 40.** Secondly, at the top edge of the EPS sill moulding, where it abuts the sill Z flashing, rake out the plaster to allow for a minimum 4mm sealant bead to be applied later by the Waterproof Coating applicator. **Refer D11, pg 33 and Drawing F7a, pg 41.**

D7 MCL® Fibreglass Mesh

MCL® specify and supply an alkali-resistant woven fibreglass reinforcing for the MCL® Stucco Rite® System. This mesh has a nominal 4mm x 4mm aperture and weighs no less than 160g/m2 and comes in 1m x 50m rolls.

D8 MCL® Water Repellent Plaster Sealer

MCL® Water Repellent Plaster Sealer shall be mixed into a back pack sprayer as instructed on the sealer container. The plaster shall be sprayed and soaked in two wet coats, one on top of the other with the MCL® Water Repellent Plaster Sealer, to achieve complete coverage. Application shall be after the MCL® Stucco Rite® NZ 660 Multicoat Cement Plaster for the Plaster System Option 1 has been finished and before MCL® Stucco Rite® AL40 SP Polymer Modified Finishing Plaster for Plaster System Option 2, is applied.

D9 MCL© Stucco Rite© System Mortar Pumps

Pumps specified for use with the MCL® Stucco Rite® System are supplied for purchase or hire by MCL® Ltd.

D10 Safety Precautions: Dust Masks

The potential irritant nature of plaster dust in dry powder form is acknowledged.
Paper dust masks and other adequate precautions shall be used when handling and mixing the plaster.
The wet plaster is highly alkaline and prolonged skin contact shall be avoided.
Refer to MCL® Stucco Rite® Material Data Sheets on MCL® Stucco Rite® website.

MCL® Stucco Rite System
STUCCO-RITE® SYSTEM
www.mclonline.co.nz

MCL® Stucco Rite System G5C Single Phase 230V Multi Purpose	MCL® Stucco Rite System Ritmo Single Phase 230V Multi Purpose
Pumps 25m.	Pumps 15m.

D11 Window and Door Finished Detail - Both sides, top and bottom of a typical opening

Window and door opening finishing details shall either be Type A or Type B as required by building owner

Type A: MCL® Premeshed EPS Head, Sill & Jamb Mouldings

1. This type shall not be used if there is a HMCJ at the window or door opening ie. if an EPS moulding would be placed over a HMCJ.

2. **Refer D6, pg 32** for installation instructions. **Refer to Drawings F6a, F7a, F8a pgs 40, 41 and 42.**

Type B: Plaster Head and Jambs, Sill Flashing Exposed

Refer to Drawings F6, F7, F8 pgs 40, 41 and 42.

Type A

Type B

E1

Waterproof Coating Applicator's Work

Prior to painting the HMCJ Aluminium Z Flashings shall be primed with an etching primer. The MCL® uPVC flashings are compatible with acrylic exterior paint and do not need priming.

For plaster system Option 1 ensure the MCL® water repellent plaster sealer has had a minimum of 72 hours to dry before painting commences.

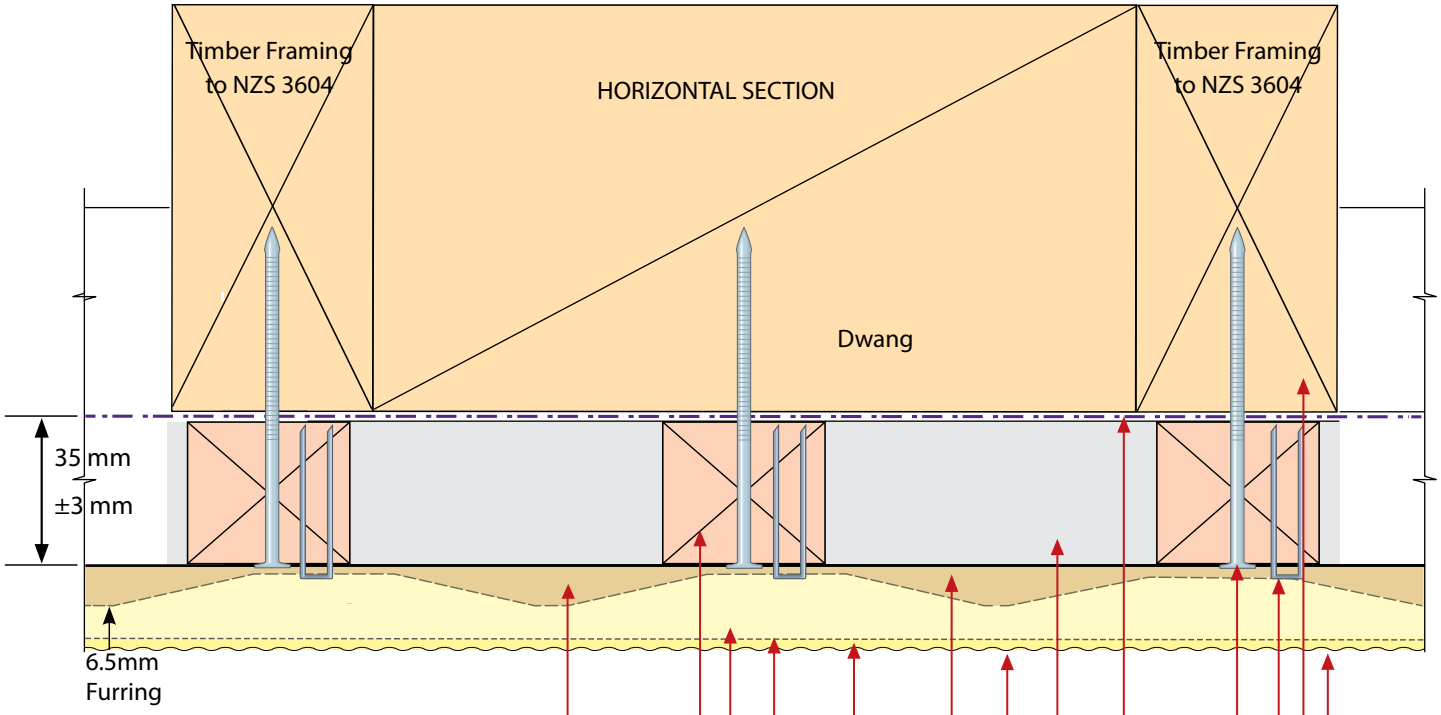
The finished plaster shall be painted with not less than a 2 coat paint system in accordance with Paragraph 9.3.7 of E2/AS1 and have a light reflective value of 40% or more.

If EPS sill mouldings have been installed apply a 4mm bead of sealant at the junction with the sill Z flashing as shown in D11, pg 33 and Drawing F7a, pg 41.

F1 CAD Detail Drawing Key Guide

Plan View

CONVENTIONS: For Architecture Drafting & Details



8mm Base Coat

No.1 Framing 35mm x 40mm rough sawn
or gauged H3.1 or H3.2 Treated Batten

10mm Levelling and Mesh Coat

MCL® Fibreglass Mesh

3mm Top Coat

Self furring MCL® Stucco Rite® Mesh Sheet
with suction paper and black building paper

Plastic float or sponge finish

35mm Deep Drained Cavity

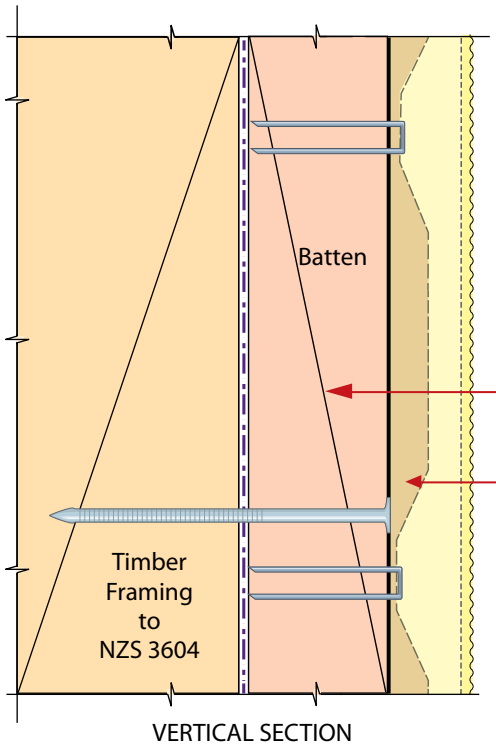
Wall Wrap

Not less than 75mm x 2.8mm 304 S/S Ring Grip Gun Nail

Not less than1.6mm dia. x 38mm x 9.5mm 304 S/S Divergent Point Staple

Base Timber Stud Wall

Waterproof Coating



VERTICAL SECTION

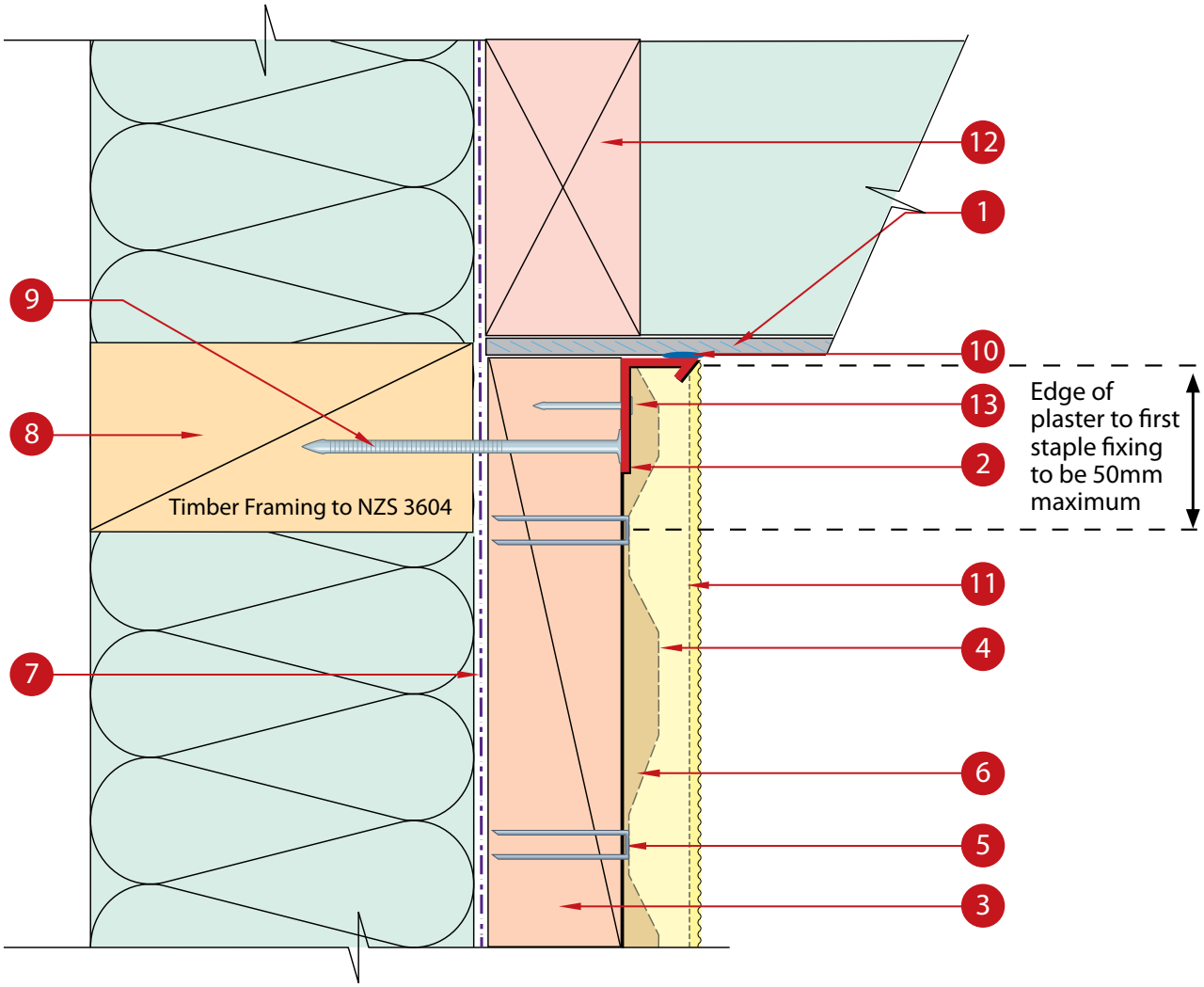
Battens nailed at 400mm centres on all studs and
fixed onto dwangs and plates at intermediate settings

Self furring MCL® Stucco Rite® Mesh Sheet
with suction paper and black building paper.
Use Sea Spray Zone Class W10 (Green Suction Paper) in
NZS 3604's sea spray zones; Standard Class W02 (Red
Suction Paper) elsewhere

Wall Wrap

Soffit Detail - Drawing No. F2

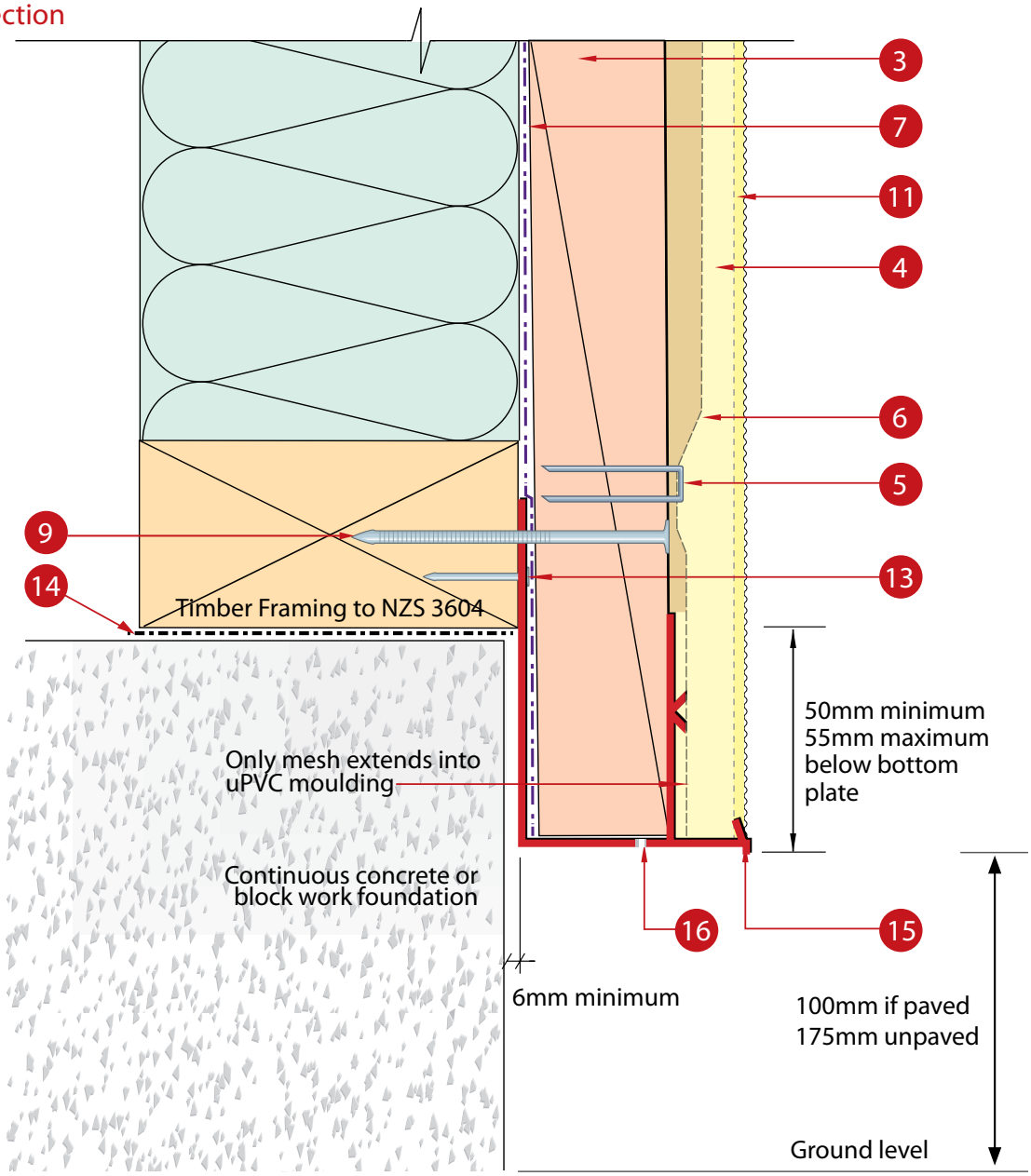
Vertical Section



1. Soffit lining. Min eaves width as required by B3, pg 3.
2. MCL® uPVC Soffit Flange
3. No.1 Framing 35mm x 40mm rough sawn or gauged H3.1 or H3.2 treated batten
4. MCL® Stucco Rite® NZ 660 Multicoat Cement Plaster.
5. Not less than 1.6mm diameter 38mm x 9.5mm 304 Stainless Steel Divergent point gun staple.
6. MCL® Stucco Rite® Mesh Sheet fixed to timber battens.
7. Wall Wrap over timber framing.
8. Additional dwang to match soffit & support upper end of battens.
9. Not less than 75mm x 2.8mm 304 Stainless Steel Ring Grip Gun Nail
10. Bedded Sealant as required by C6.9.4, pg 15.
11. MCL® Fibreglass Mesh.
12. Ribbon Plate.
13. 20mm x 2.8mm hot dipped galvanised round head nail.

Concrete Foundation and Block Base Detail - Drawing No. F3

Vertical Section



3 No.1 Framing 35mm x 40mm rough sawn or gauged H3.1 or H3.2 treated batten.

4 MCL® Stucco Rite® NZ 660 Multicoat Cement Plaster.

5 Not less than 1.6mm diameter 38mm x 9.5mm 304 Stainless Steel Divergent point gun staple.

6 MCL® Stucco Rite® Mesh Sheet fixed to timber battens and overlap bottom J-Mould.

7 Wall Wrap over timber framing.

9 Not less than 75mm x 2.8mm 304 Stainless Steel Ring Grip gun nail.

11 MCL® Fibreglass Mesh.

13 20mm x 2.8mm hot dipped galvanised round head nail.

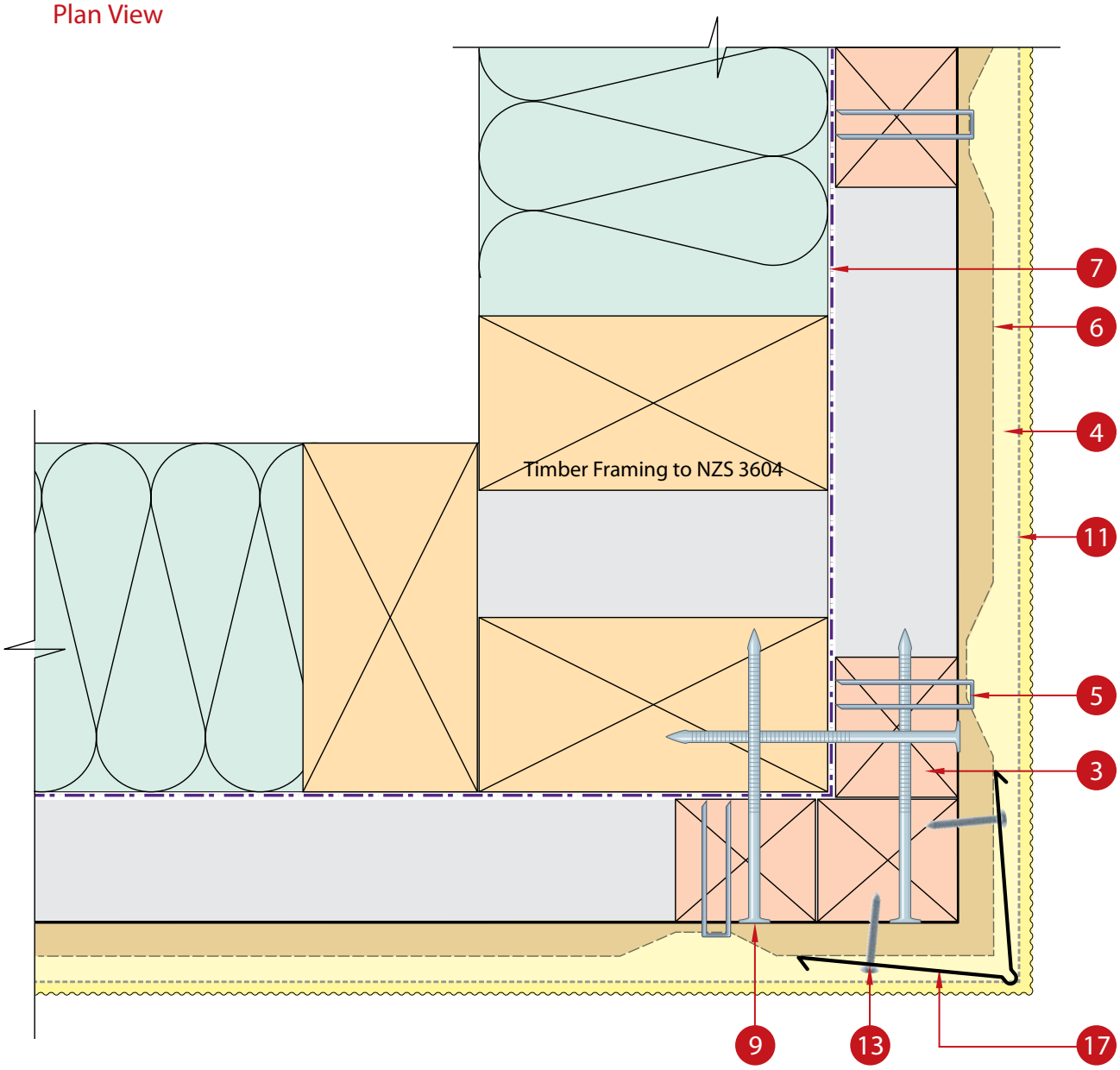
14 Damp proof course.

15 MCL® uPVC Bottom J-Mould with Drip Edge

16 Drain hole.

External Corner - Drawing No. F4

Plan View



3 No.1 Framing 35mm x 40mm rough sawn or gauged H3.1 or H3.2 treated batten.

4 MCL® Stucco Rite® NZ 660 Multicoat Cement Plaster.

5 Not less than 1.6mm diameter 38mm x 9.5mm 304 Stainless Steel Divergent Point Gun Staple.

6 MCL® Stucco Rite® Mesh Sheet fixed to timber battens.

.

7 Wall Wrap over timber framing.

9 Not less than 75mm x 2.8mm 304 Stainless Steel Ring Grip Gun Nail.

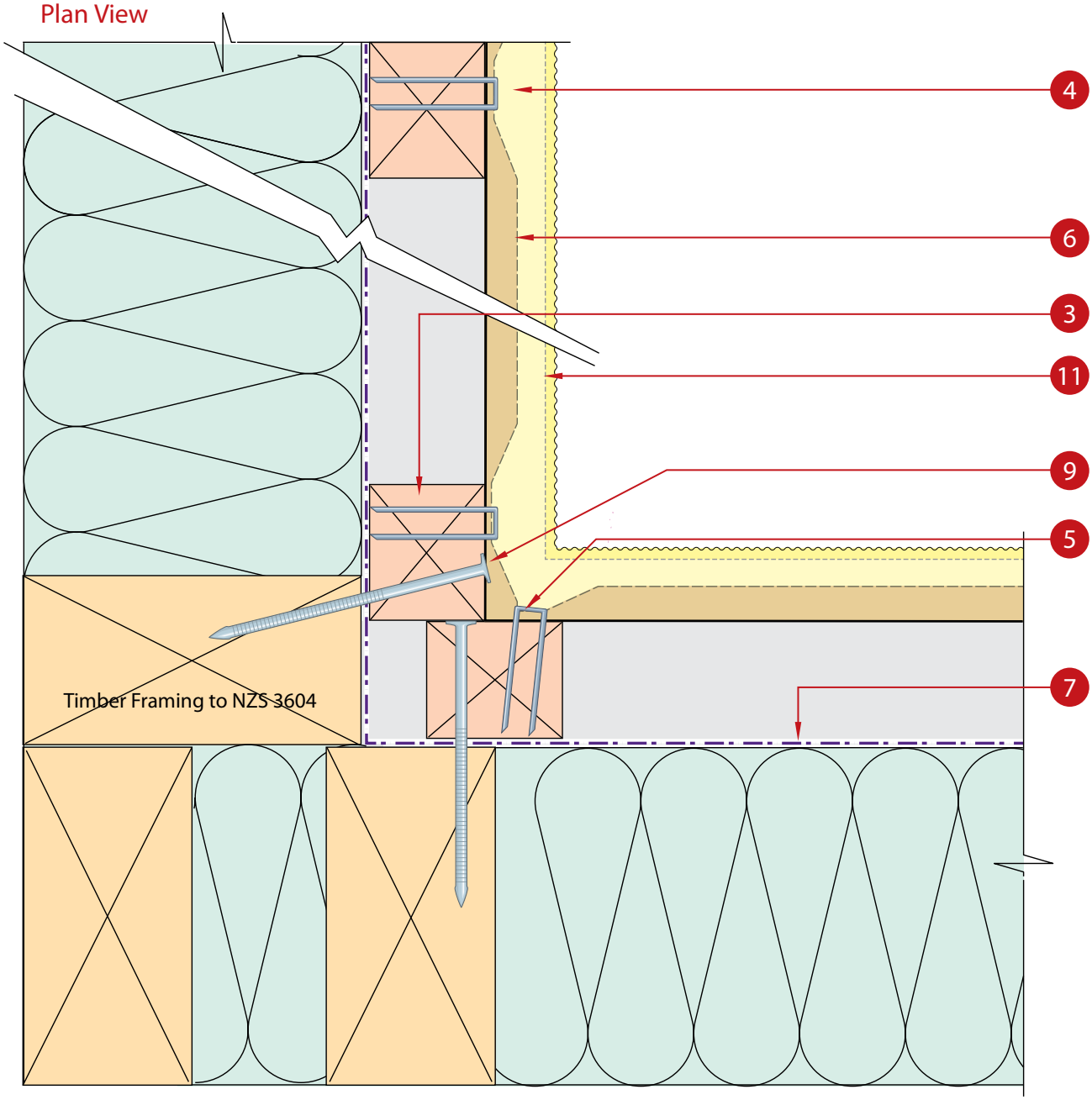
11 MCL® Fibreglass Mesh.

13 20mm x 6 gauge Type 304 Stainless Steel Screw.

17 MCL® uPVC Kwik™ Corner reinforcing.

Internal Corner - Drawing No. F5

Plan View



3 No.1 Framing 35mm x 40mm rough sawn or gauged H3.1 or H3.2 treated batten.

4 MCL® Stucco Rite® NZ 660 Multicoat Cement Plaster.

5 Not less than 1.6mm diameter 38mm x 9.5mm 304 Stainless Steel Divergent point gun staple.

6 MCL® Stucco Rite® Mesh Sheet fixed to timber battens.

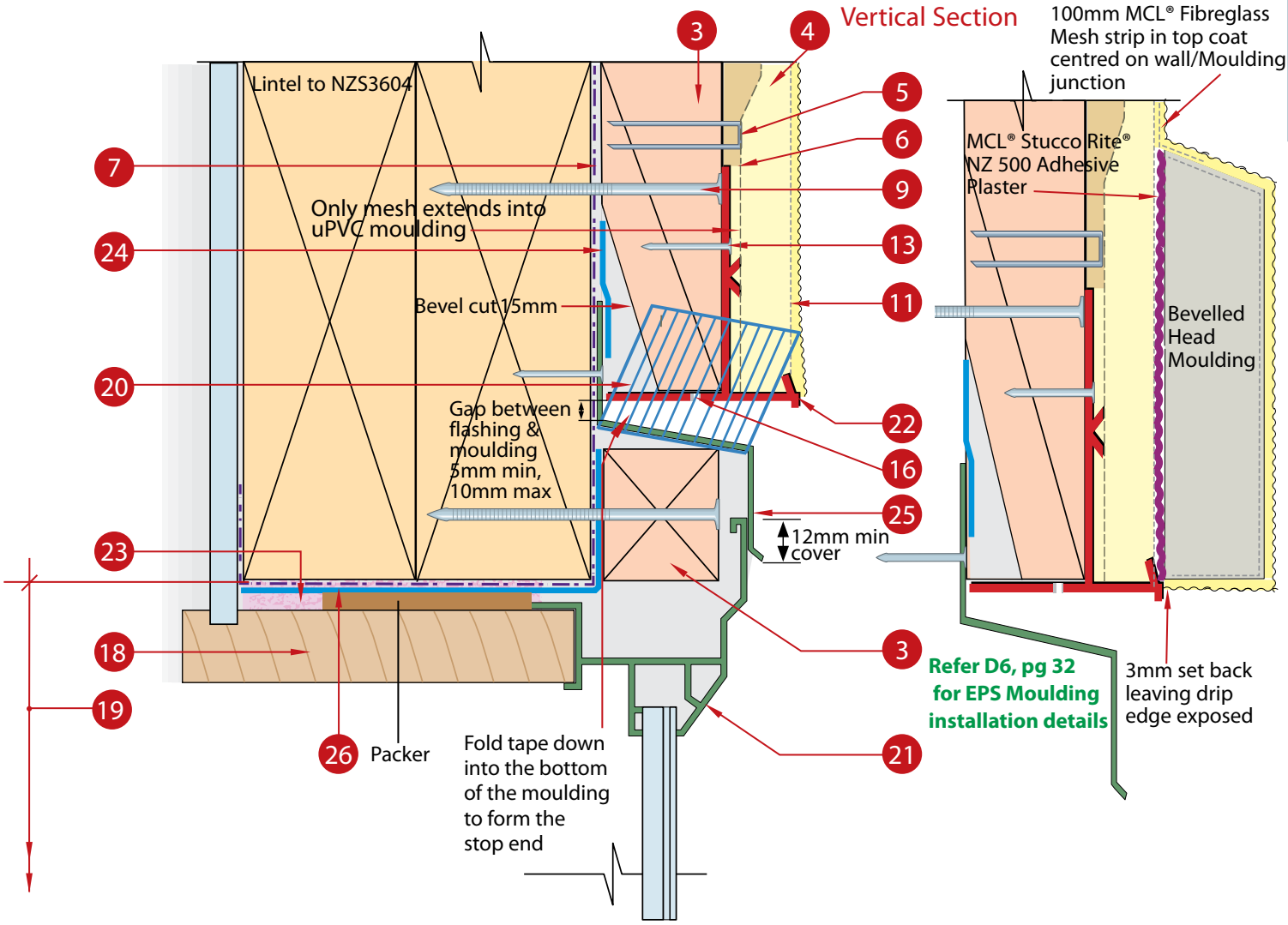
7 Wall Wrap over timber framing.

9 Not less than 75mm x 2.8mm 304 Stainless Steel Ring Grip gun nail.

11 MCL® Fibreglass Mesh.

Head Detail - Drawing No. F6
Vertical Section

EPS Decorative Head Moulding Detail - Drawing No. F6a
Vertical Section



3 No.1 Framing 35mm x 40mm rough sawn or gauged H3.1 or H3.2 treated batten.

4 MCL® Stucco Rite® NZ 660 Multicoat Cement Plaster.

5 Not less than 1.6mm diameter 38mm x 9.5mm 304 Stainless Steel Divergent point gun staple.

6 MCL® Stucco Rite® Mesh Sheet fixed to timber battens and overlap to Window and Door Head with Drip Edge.

7 Wall Wrap over timber framing

9 Not less than 75mm x 2.8mm 304 Stainless Steel Ring Grip gun nail.

11 MCL® Fibreglass Mesh.

13 20mm x 2.8mm hot dipped galvanised round head nail.

16 Drain hole.

18 Timber reveal.

19 Rough opening.

20 Flashing tape stop end 100mm x 50mm.

21 Aluminium Window Joinery to E2/AS1.

22 MCL® uPVC Window and door Head with Drip Edge.

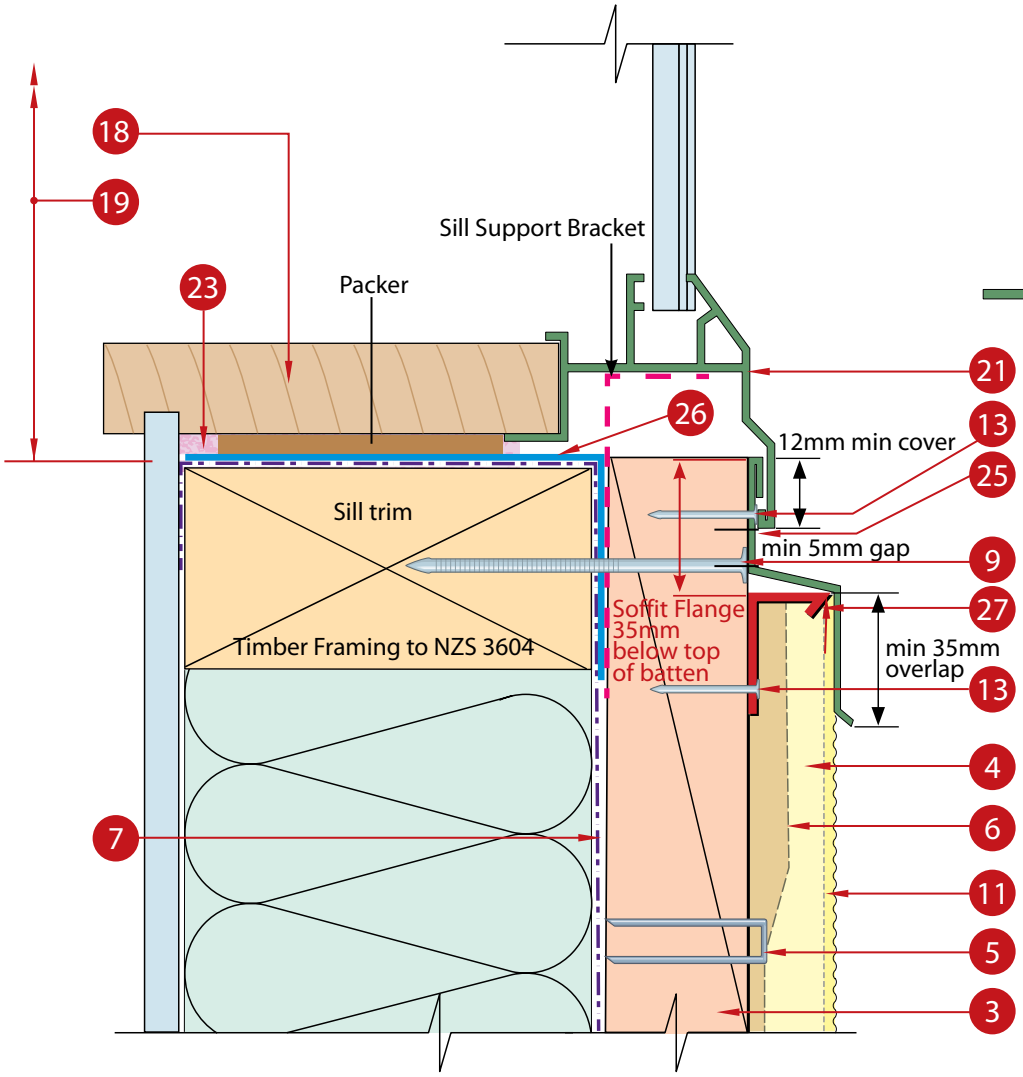
23 Air seal as per Paragraph 9.1.6 E2/AS1.

24 Flashing Tape to top edge of Aluminium Head Z Flashing (100mm wide strip).

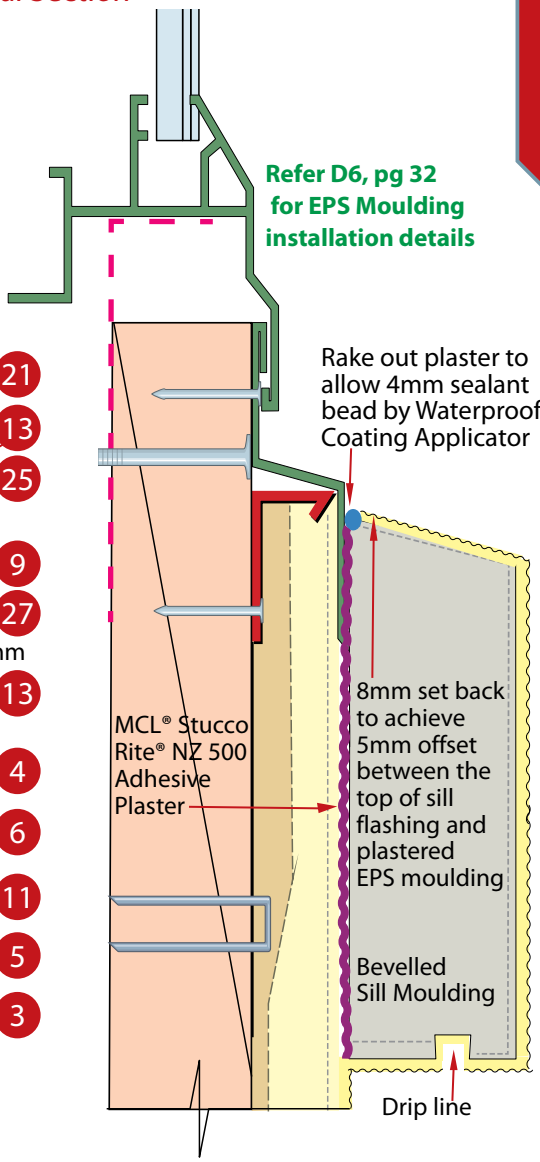
25 Powder-Coated Aluminium Head Z Flashing.

26 Flashing Tape to head, sill and side trim edges.

Sill Detail - Drawing No. F7
Vertical Section



EPS Decorative Sill Moulding Detail - Drawing No. F7a
Vertical Section



3 No.1 Framing 35mm x 40mm rough sawn or gauged H3.1 or H3.2 treated batten.

4 MCL® Stucco Rite® NZ 660 Multicoat Plaster.

5 Not less than 1.6mm diameter 38mm x 9.5mm 304 Stainless Steel Divergent point gun staple.

6 MCL® Stucco Rite® Mesh Sheet fixed to timber battens.

7 Wall Wrap over timber framing.

9 Not less than 75mm x 2.8mm 304 Stainless Steel Ring Grip gun nail.

11 MCL® Fibreglass Mesh.

13 20mm x 2.8mm hot dipped galvanised round head nail.

18 Timber reveal.

19 Rough opening.

21 Aluminium joinery to E2/AS1 (Sill support bracket shown dotted.)

23 Air seal as per Paragraph 9.1.6 E2/AS1

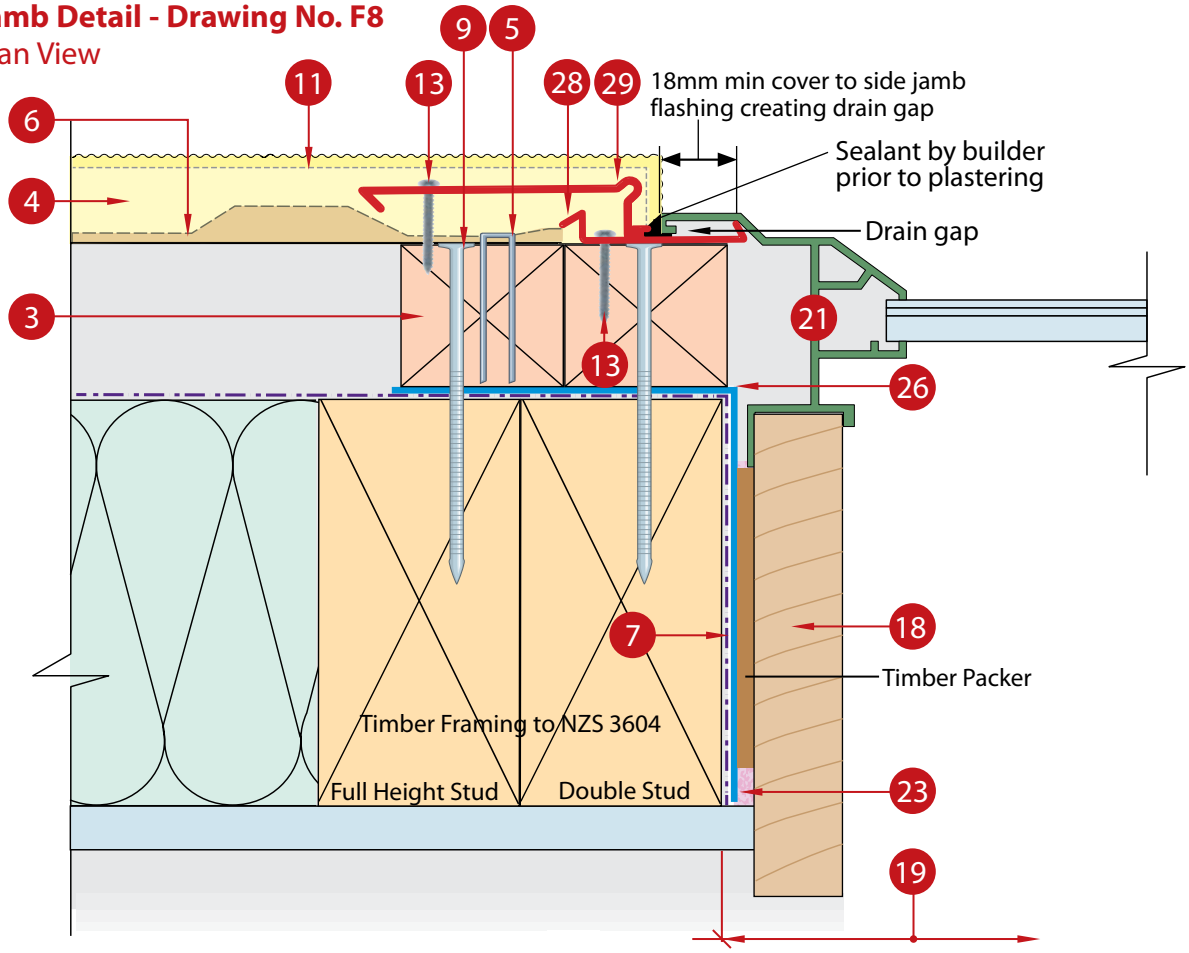
25 Powder-Coated Aluminium Sill Z Flashing.

26 Flashing Tape to head, sill and side trim edges.

27 MCL® uPVC Sill Flange.

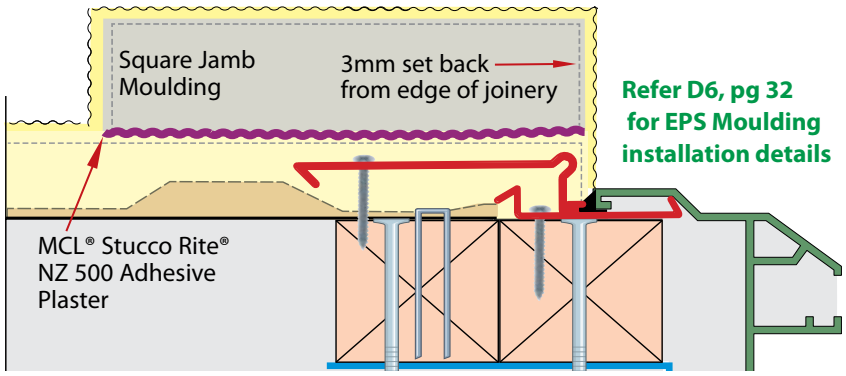
Jamb Detail - Drawing No. F8

Plan View



EPS Decorative Jamb Moulding Detail - Drawing No. F8a

Plan View



Refer D6, pg 32 for EPS Moulding installation details

3 No.1 Framing 35mm x 40mm rough sawn or gauged H3.1 or H3.2 treated batten.

4 MCL® Stucco Rite® NZ 660 Multicoat Cement Plaster.

5 Not less than 1.6mm diameter 38mm x 9.5mm 304 Stainless Steel Divergent point gun staple.

6 MCL® Stucco Rite® Mesh Sheet fixed to timber battens.

7 Wall Wrap over timber framing

9 Not less than 75mm x 2.8mm 304 Stainless Steel Ring Grip gun nail.

11 MCL® Fibreglass Mesh.

13 20mm x 6 gauge Type 304 Stainless Steel Screw.

18 Timber reveal.

19 Rough opening size.

21 Aluminium joinery to E2/AS1

23 Air seal as per Paragraph 9.1.6 E2/AS1

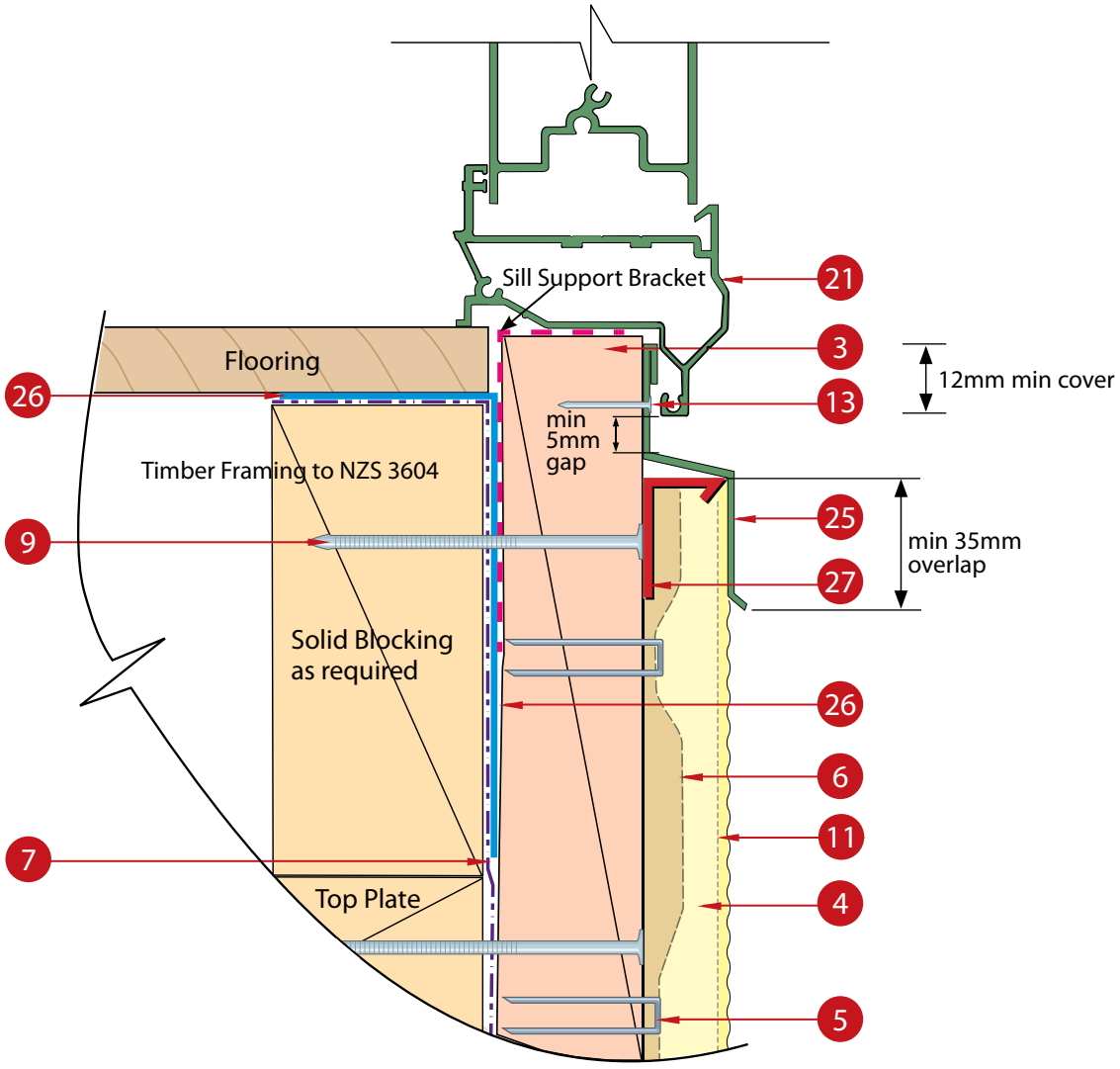
26 Flashing Tape to head, sill and side trim edges.

28 MCL® uPVC Side Jamb Flashing.

29 MCL® uPVC Kwik™ Flange

Sill Detail where Joinery extends to Floor - Drawing No. F9

Vertical Section



3 No.1 Framing 35mm x 40mm rough sawn or gauged H3.1 or H3.2 treated batten.

4 MCL® Stucco Rite® NZ 660 Multicoat Cement Plaster.

5 Not less than 1.6mm diameter 38mm x 9.5mm 304 Stainless Steel Divergent point gun staple.

6 MCL® Stucco Rite® Mesh Sheet fixed to timber battens.

7 Wall Wrap over timber framing

9 Not less than 75mm x 2.8mm 304 Stainless Steel Ring Grip gun nail.

11 MCL® Fibreglass Mesh.

13 20mm x 2.8mm hot dipped galvanised round head nails.

21 Aluminium joinery to E2/AS1 (Sill support bracket shown dotted.)

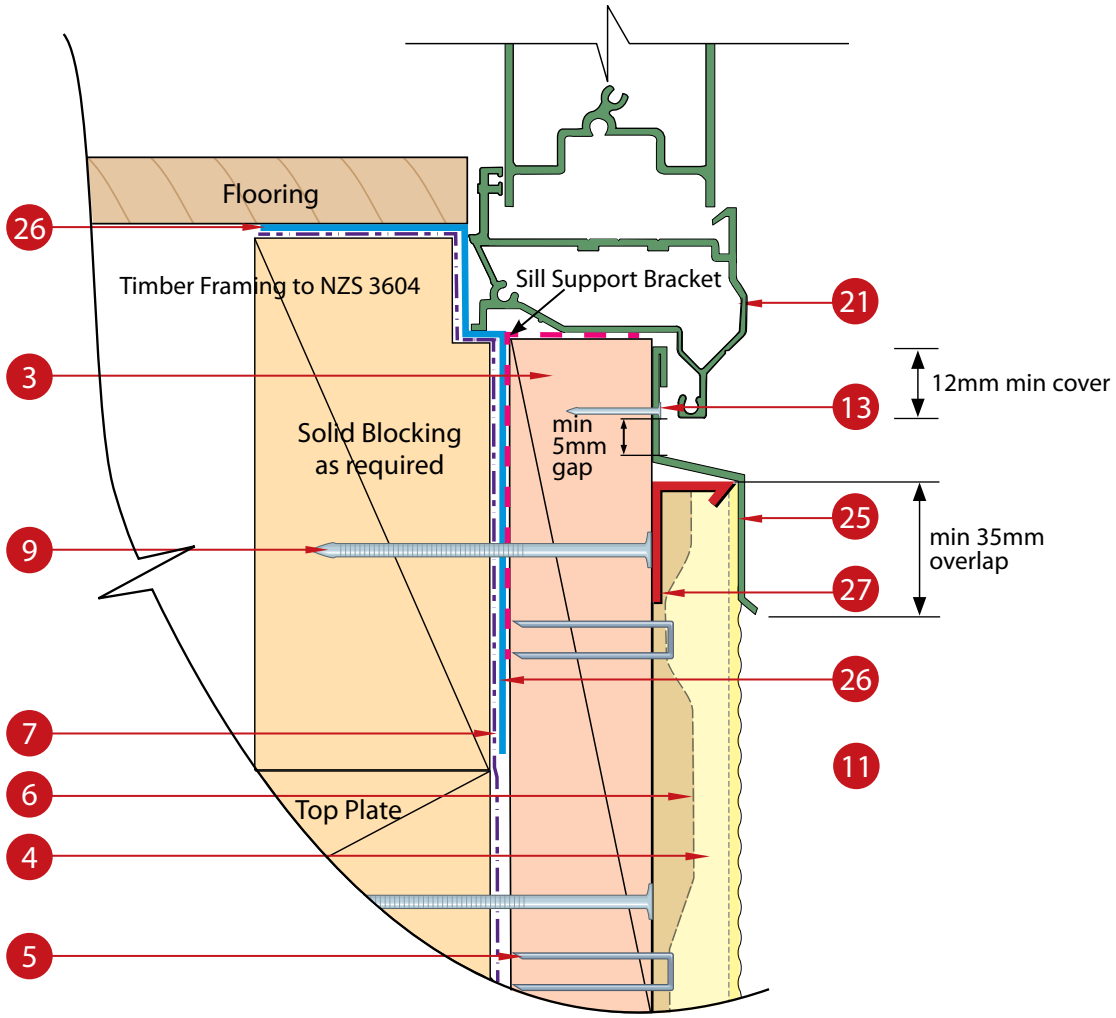
25 Powder-Coated Aluminium Sill Z Flashing.

26 Flashing Tape to head, sill and side trim edges.

27 MCL® uPVC Sill Flange

Flush Sill Detail where Joinery extends to Floor - Drawing No. F10

Vertical Section



3 No.1 Framing 35mm x 40mm rough sawn or gauged H3.1 or H3.2 treated batten.

4 MCL® Stucco Rite® NZ 660 Multicoat Cement Plaster.

5 Not less than 1.6mm diameter 38mm x 9.5mm 304 Stainless Steel Divergent point gun staple.

6 MCL® Stucco Rite® Mesh Sheet fixed to timber battens.

7 Wall Wrap over timber framing

9 Not less than 75mm x 2.8mm 304 Stainless Steel Ring Grip gun nail.

11 MCL® Fibreglass Mesh.

13 20mm x 2.8mm hot dipped galvanised round head nails.

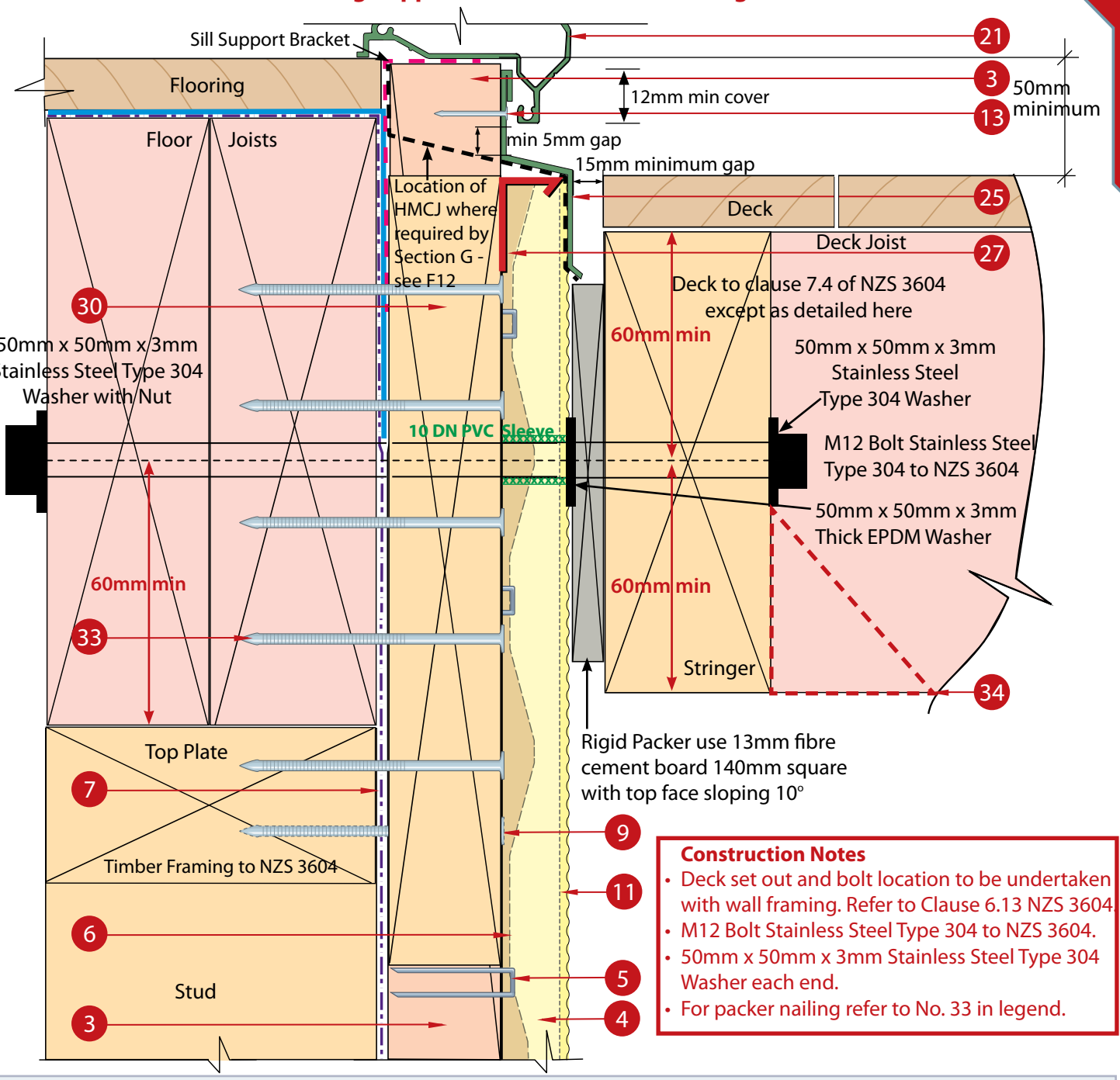
21 Aluminium joinery to E2/AS1 (Sill support bracket shown dotted.)

25 Powder-Coated Aluminium Sill Z Flashing.

26 Flashing Tape to head, sill and side trim edges.

27 MCL® uPVC Sill Flange

Junction with Wall for Building Supported Timber Deck - Drawing No. F11



Construction Notes

- Deck set out and bolt location to be undertaken with wall framing. Refer to Clause 6.13 NZS 3604
- M12 Bolt Stainless Steel Type 304 to NZS 3604.
- 50mm x 50mm x 3mm Stainless Steel Type 304 Washer each end.
- For packer nailing refer to No. 33 in legend.

3 No.1 Framing 35mm x 40mm rough sawn or gauged H3.1 or H3.2 treated batten.

4 MCL® Stucco Rite® NZ 660 Multicoat Cement Plaster.

5 Not less than 1.6mm diameter 38mm x 9.5mm 304 Stainless Steel Divergent point gun staple.

6 MCL® Stucco Rite® Mesh Sheet fixed to timber battens.

7 Wall Wrap over timber framing

9 Not less than 75mm x 2.8mm 304 tainless Steel Ring Grip gun nail.

11 MCL® Fibreglass Mesh.

13 20mm x 2.8mm hot dipped galvanised round head nails.

21 Aluminium joinery to E2/AS1 (Sill support bracket shown dotted.)

25 Powder-Coated Aluminium Sill Z Flashing.

27 MCL® uPVC Sill Flange

30 90mm x 35mm x 260mm long No. 1 Framing H3.1 or H3.2 timber packer at bolt fixings.

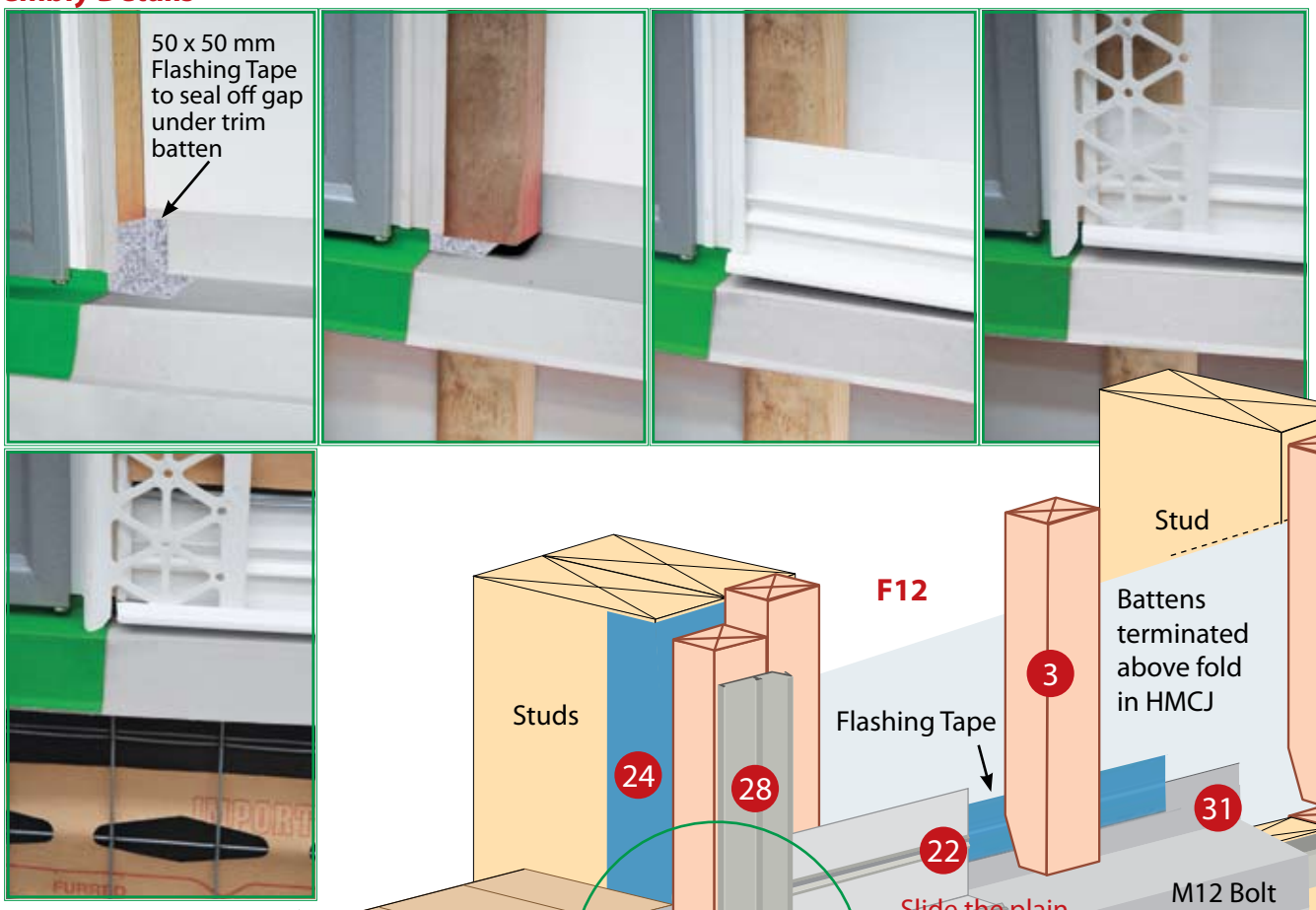
33 10 x 75mm x 2.8mm 304 Stainless Steel Ring Grip gun nail in pairs at 30mm centres at 40mm vertical spacing.

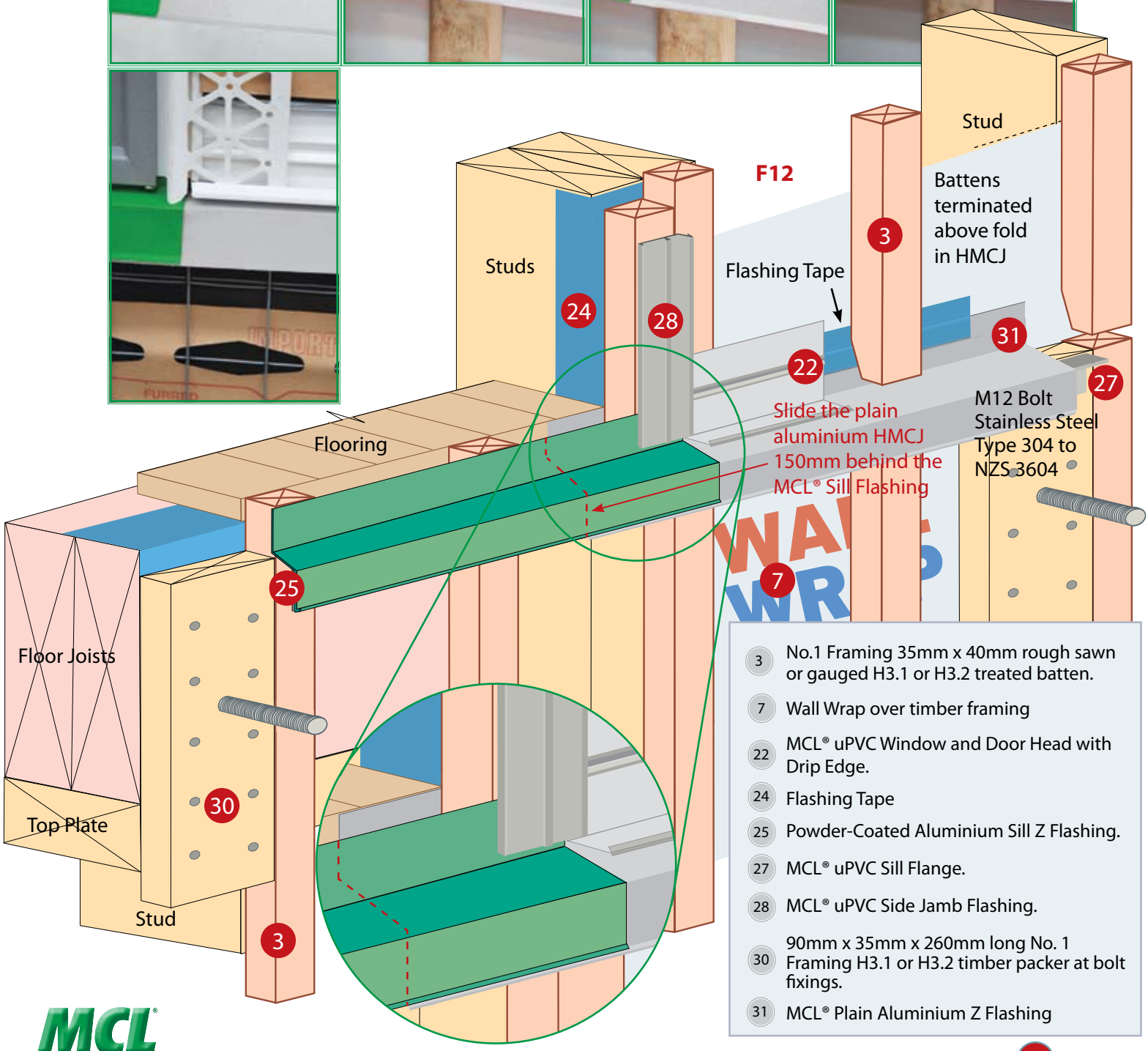
34 Proprietary Type 304 Stainless Steel Joist Hangers with capacity (kN) of half joist span (m) x joist spacing (m) x 3.35 (for 2 kPa decks) or 4.85 (for 3.0 kPa decks).

HMCJ at the bottom of an opening above a Building Supported Timber Deck
Drawing No. F12

EPS Decorative Mouldings (Refer: Type A, pg 33) not permitted here as EPS Moulding would be placed over HMCJ.

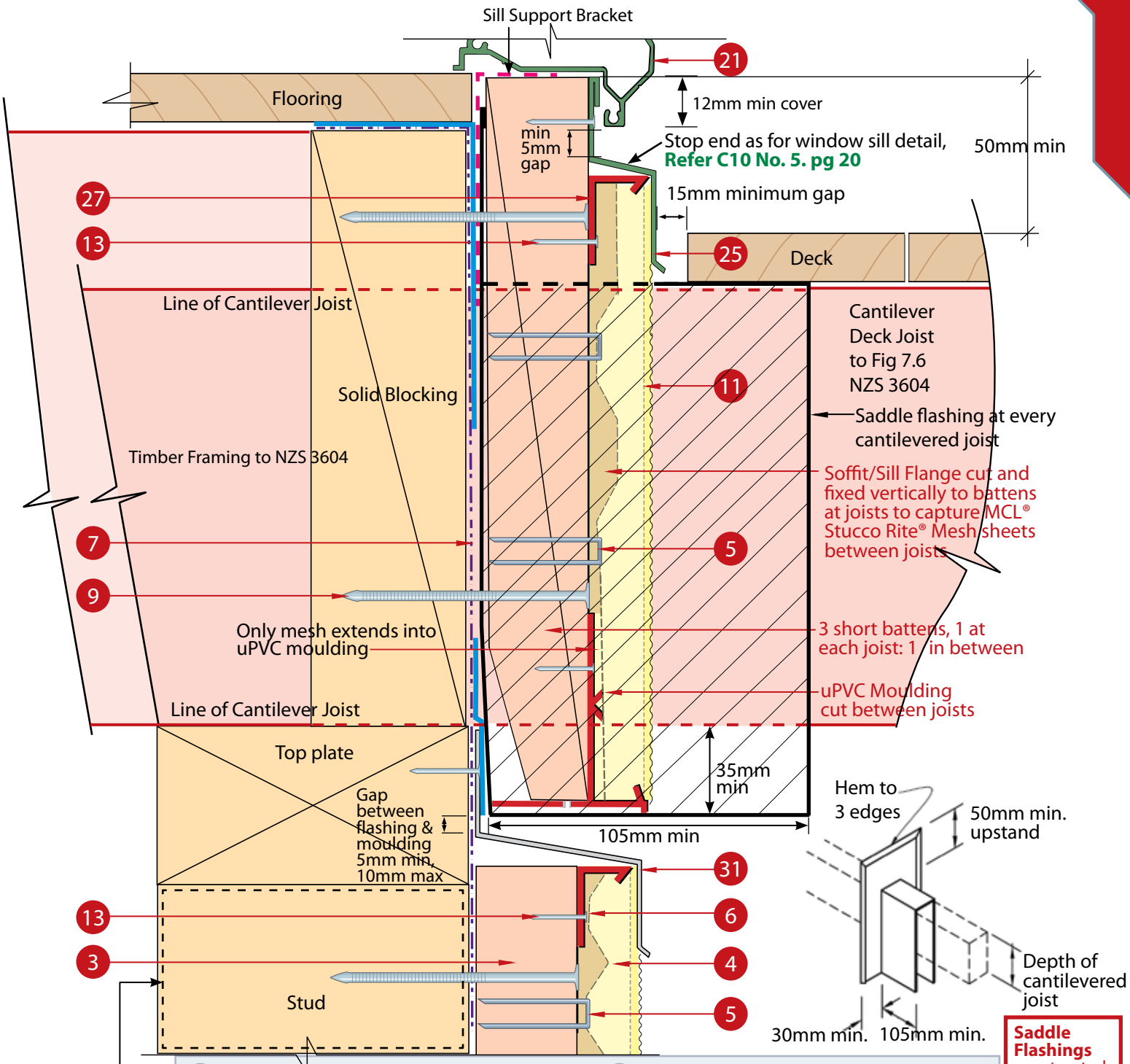
Assembly Details





3	No.1 Framing 35mm x 40mm rough sawn or gauged H3.1 or H3.2 treated batten.
7	Wall Wrap over timber framing
22	MCL® uPVC Window and Door Head with Drip Edge.
24	Flashing Tape
25	Powder-Coated Aluminium Sill Z Flashing.
27	MCL® uPVC Sill Flange.
28	MCL® uPVC Side Jamb Flashing.
30	90mm x 35mm x 260mm long No. 1 Framing H3.1 or H3.2 timber packer at bolt fixings.
31	MCL® Plain Aluminium Z Flashing

Junction with Wall for Cantilevered Timber Deck - Drawing No. F13



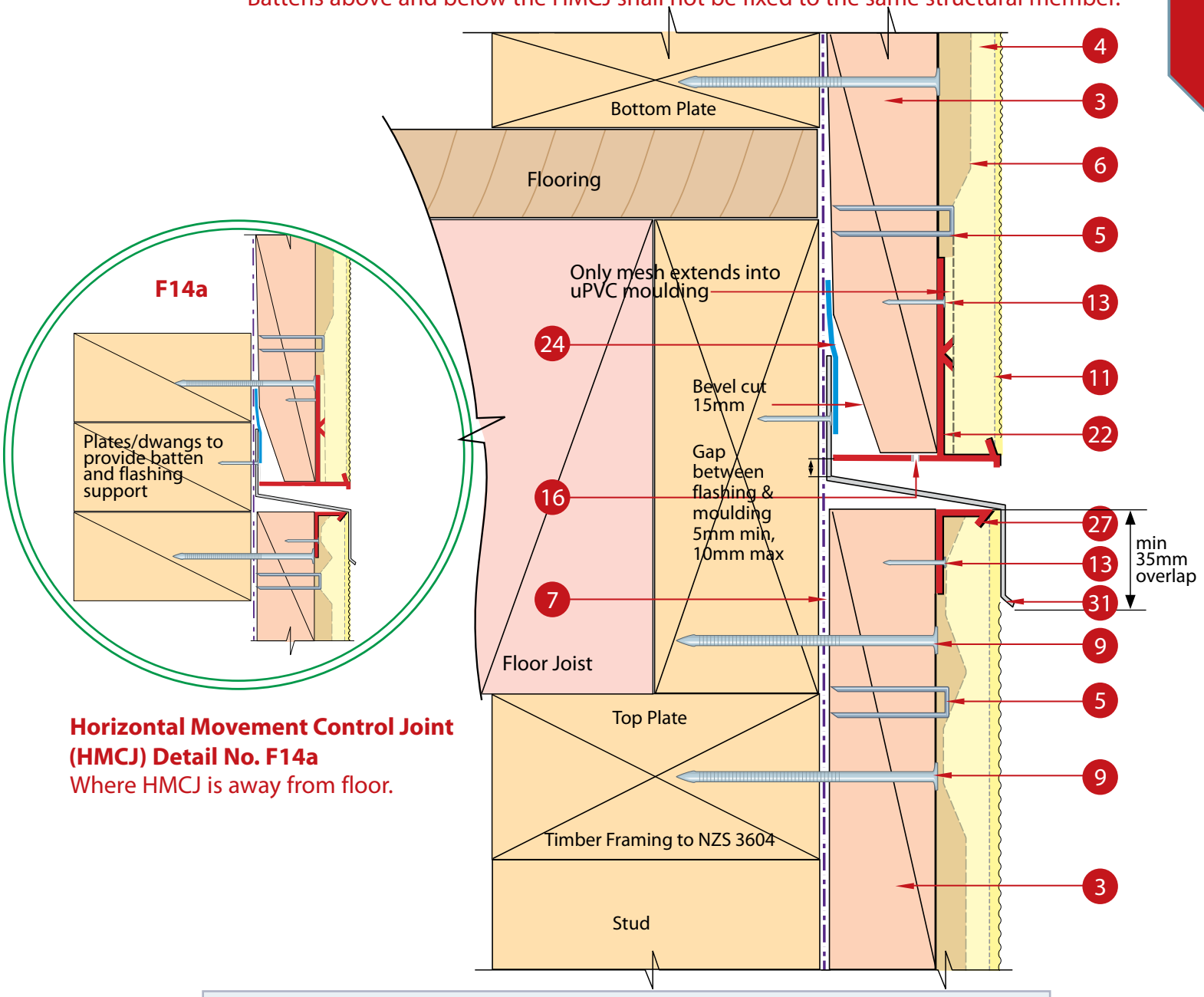
Dwang (shown dotted) as necessary to provide support for battens

Saddle Flashings constructed from materials as required in C16, pg 26.

3 No.1 Framing 35mm x 40mm rough sawn or gauged H3.1 or H3.2 treated batten.	11 MCL® Fibreglass Mesh.
4 MCL® Stucco Rite® NZ 660 Multicoat Cement Plaster.	13 20mm x 2.8mm hot dipped galvanised round head nails.
5 Not less than 1.6mm diameter 38mm x 9.5mm 304 Stainless Steel Divergent point gun staple.	21 Aluminium joinery to E2/AS1 (Sill support bracket shown dotted.)
6 MCL® Stucco Rite® Mesh Sheet fixed to timber battens.	25 Powder Coated Aluminium Sill Z Flashing.
7 Wall Wrap over timber framing	27 MCL® uPVC Sill Flange
9 Not less than 75mm x 2.8mm 304 Stainless Steel Ring Grip gun nail.	31 MCL® Plain Aluminium Z Flashing continuous between VMCJs.

Horizontal Movement Control Joint (HMCJ) - Drawing No. F14

Vertical Section - Drawing shows a HMCJ at an intermediate floor location.
- Where a HMCJ is located away from a floor provide dwangs where framing members don't exist for batten and Z-Flashing fixing - **Refer F14a**.
- Battens above and below the HMCJ shall not be fixed to the same structural member.



Horizontal Movement Control Joint (HMCJ) Detail No. F14a

Where HMCJ is away from floor.

3 No.1 Framing 35mm x 40mm rough sawn or gauged H3.1 or H3.2 treated batten.

4 MCL® Stucco Rite® NZ 660 Multicoat Cement Plaster.

5 Not less than 1.6mm diameter 38mm x 9.5mm 304 Stainless Steel Divergent Point Gun Staple.

6 MCL® Stucco Rite® Mesh Sheet fixed to timber battens.

7 Wall Wrap over timber framing.

9 Not less than 75mm x 2.8mm 304 Stainless Steel Ring Grip Gun Nail.

11 MCL® Fibreglass Mesh.

13 20mm x 2.8mm hot dipped galvanised round head nail.

16 Drain hole.

22 MCL® uPVC Window and Door Head with Drip Edge.

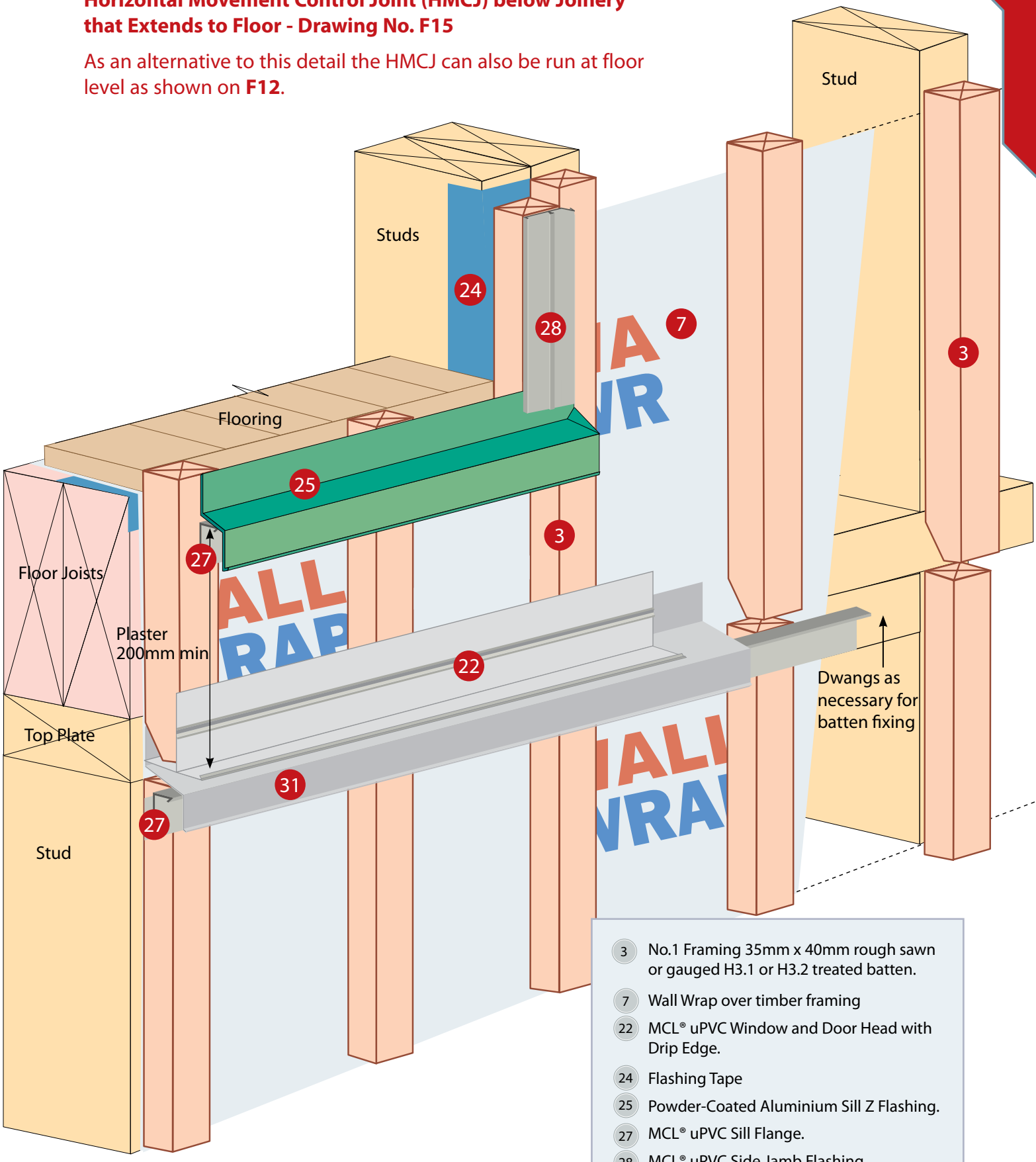
24 Flashing Tape to top edge of HMCJ Z Flashing (100mm wide strip).

27 MCL® uPVC Sill Flange.

31 MCL® Plain Aluminium Z Flashing.

Horizontal Movement Control Joint (HMCJ) below Joinery that Extends to Floor - Drawing No. F15

As an alternative to this detail the HMCJ can also be run at floor level as shown on **F12**.



3 No.1 Framing 35mm x 40mm rough sawn or gauged H3.1 or H3.2 treated batten.

7 Wall Wrap over timber framing

22 MCL® uPVC Window and Door Head with Drip Edge.

24 Flashing Tape

25 Powder-Coated Aluminium Sill Z Flashing.

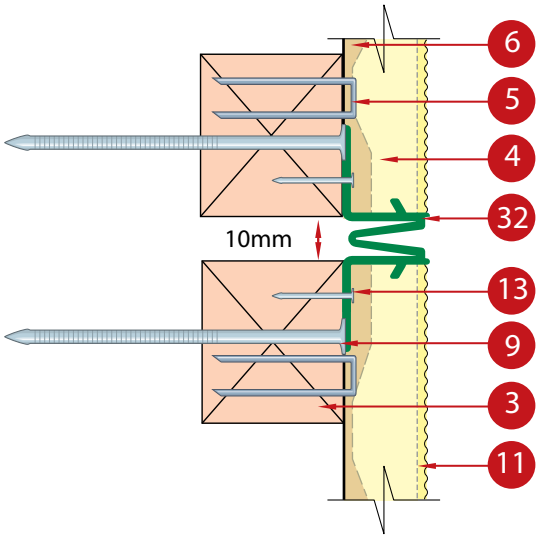
27 MCL® uPVC Sill Flange.

28 MCL® uPVC Side Jamb Flashing.

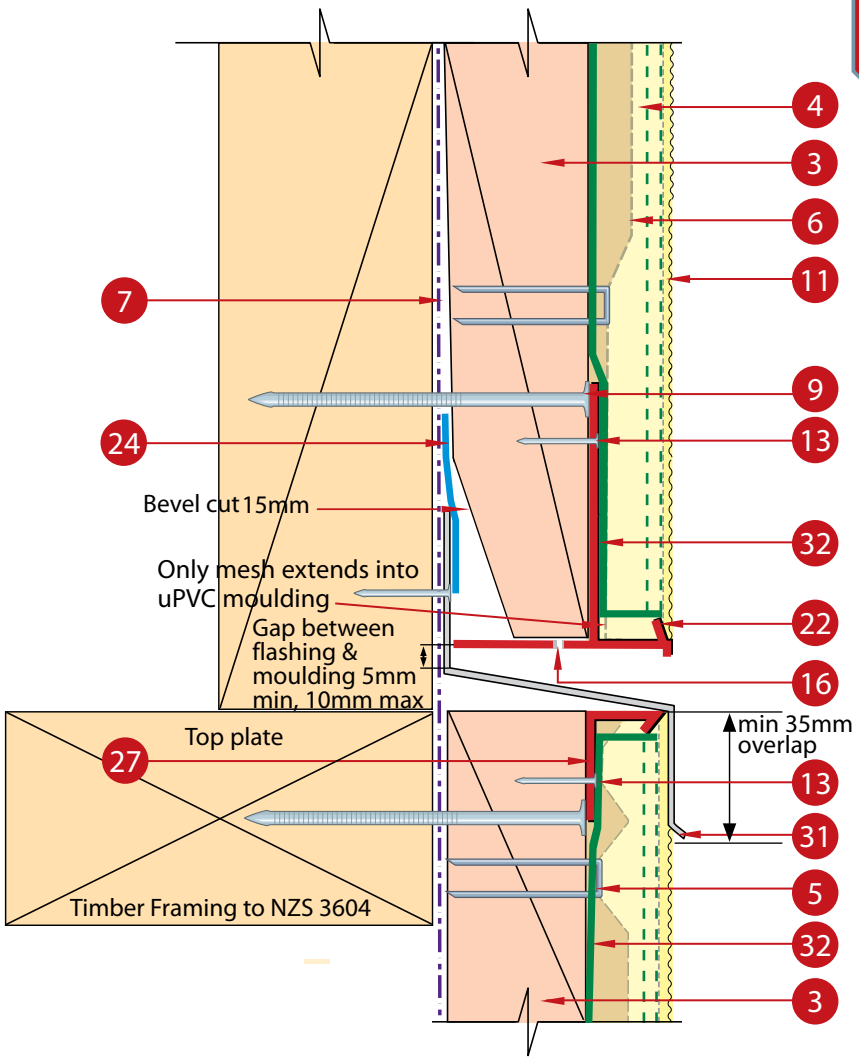
31 MCL® Plain Aluminium Z Flashing

Vertical Movement Control Joint (VMCJ) Drawing No. F16

Plan View



Vertical Movement Control Joint (VMCJ) meets Horizontal Movement Control Joint (HMCJ) Drawing No. F17



3 No.1 Framing 35mm x 40mm rough sawn or gauged H3.1 or H3.2 treated batten.

4 MCL® Stucco Rite® NZ 660 Multicoat Cement Plaster.

5 Not less than 1.6mm diameter 38mm x 9.5mm 304 Stainless Steel Divergent Point Gun Staple.

6 MCL® Stucco Rite® Mesh Sheet fixed to timber battens.

7 Wall Wrap over timber framing.

9 Not less than 75mm x 2.8mm 304 Stainless Steel Ring Grip Gun Nail.

11 MCL® Fibreglass Mesh.

13 20mm x 2.8mm hot dipped galvanised round head nail.

16 Drain hole.

22 MCL® uPVC Window and Door Head with Drip Edge.

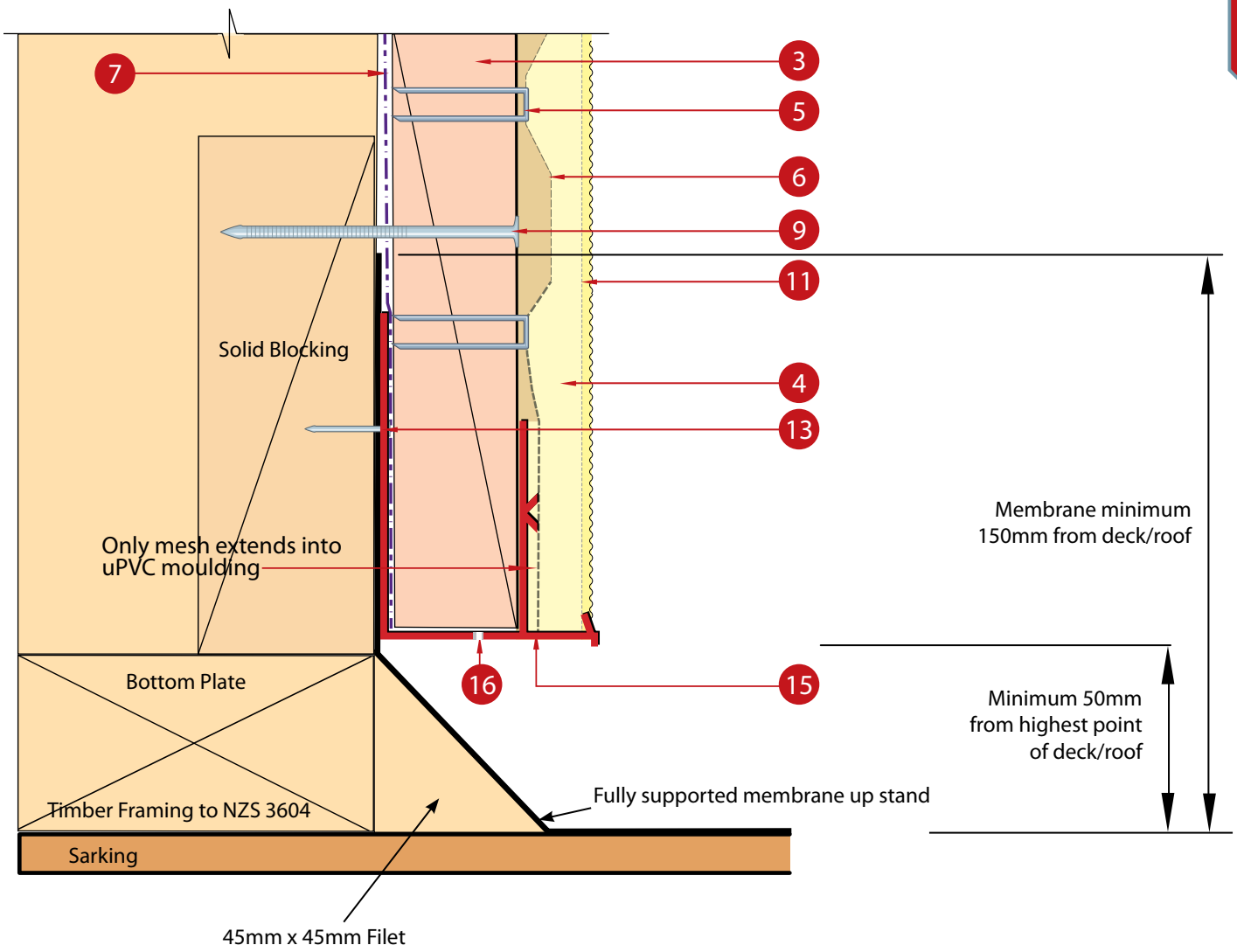
24 Flashing Tape to top edge of HMCJ Z Flashing (100mm wide strip).

27 MCL® uPVC Sill Flange.

31 MCL® Plain Aluminium Z Flashing.

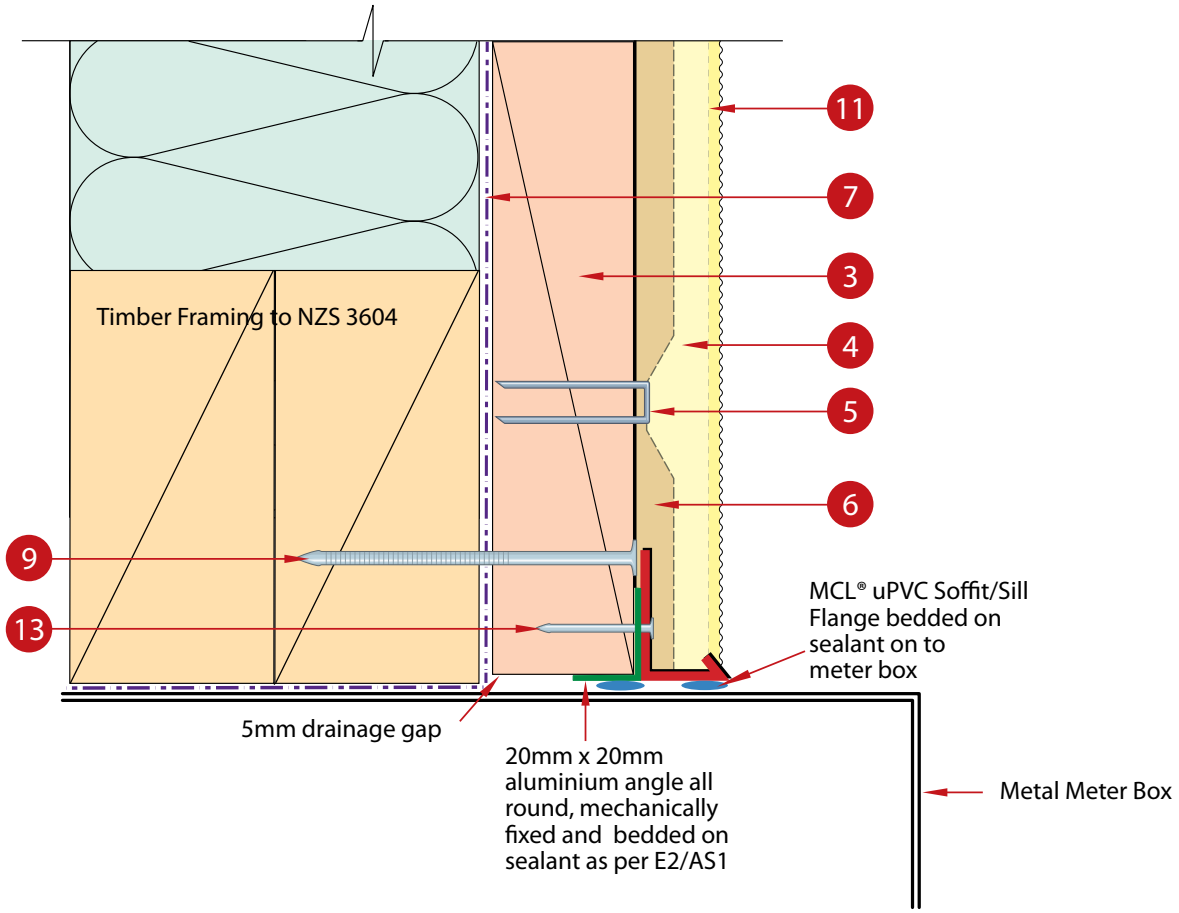
32 MCL® uPVC Vertical Movement Control Joint

Junction of Wall with Deck or Flat Roof - Drawing No. F18



3 35mm x 40mm No. 1 Rough Sawn or Gauged H3.1 or H3.2 Treated Battens.	9 Not less than 75mm x 2.8mm 304 Stainless Steel Ring Grip gun nail.
4 MCL® Stucco Rite® NZ 660 Multicoat Cement Plaster.	11 MCL® Fibreglass Mesh.
5 Not less than 1.6mm diameter 38mm x 9.5mm 304 Stainless Steel Divergent point gun staple.	13 20mm x 2.8mm hot dipped galvanised round head nail.
6 MCL® Stucco Rite® Mesh Sheet fixed to timber battens and overlap bottom J-Mould.	15 MCL® uPVC Bottom J-Mould with Drip Edge.
7 Wall Wrap over timber framing.	16 Drain hole.

Standard Meter Box Detail F19
Vertical Section



3 35mm x 40mm No. 1 Rough Sawn or Gauged H3.1 or H3.2 Treated Battens.

4 MCL® Stucco Rite® NZ 660 Multicoat Cement Plaster.

5 Not less than 1.6mm diameter 38mm x 9.5mm 304 Stainless Steel Divergent point gun staple.

6 MCL® Stucco Rite® Mesh Sheet fixed to timber battens.

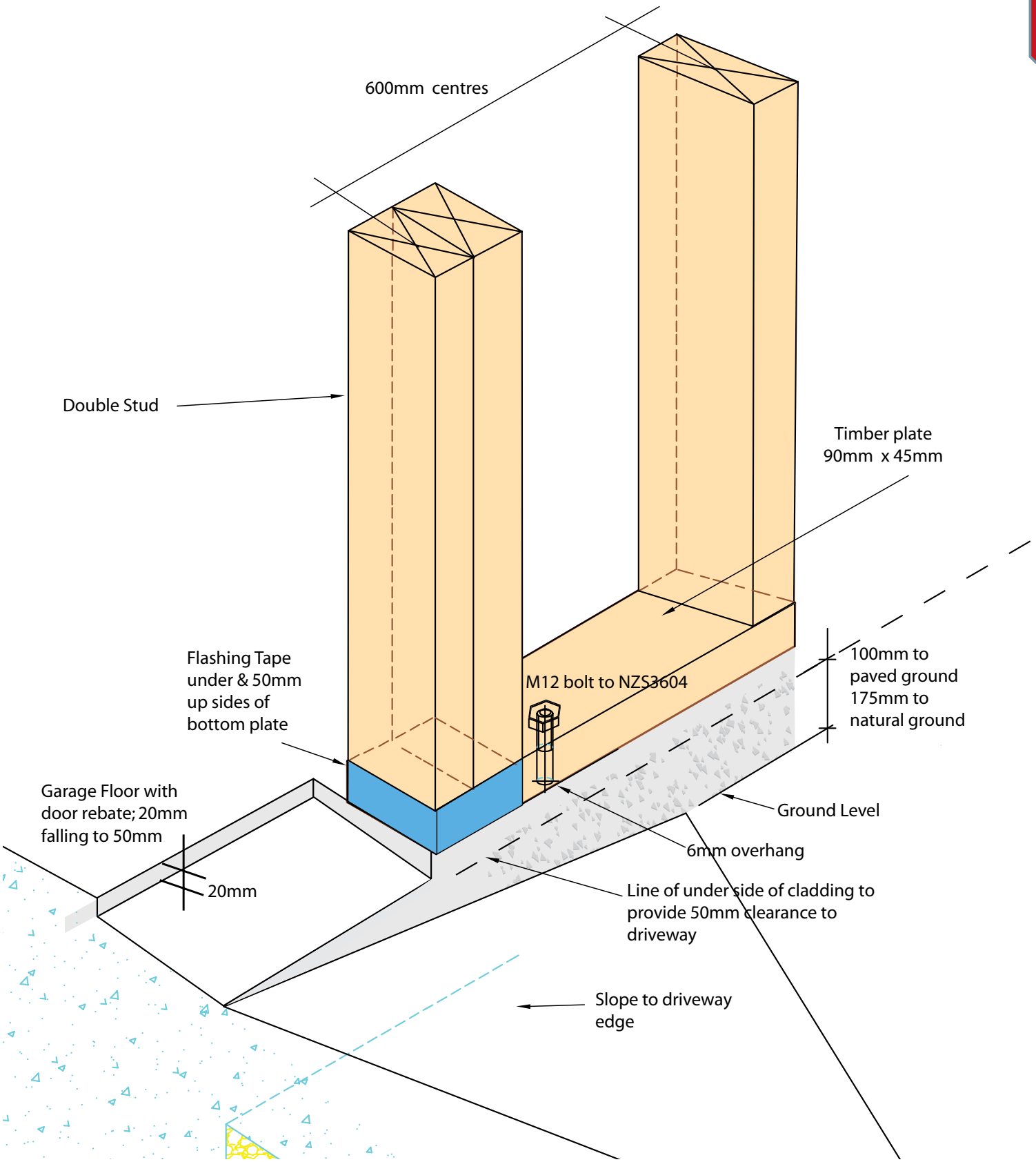
7 Wall Wrap over timber framing.

9 Not less than 75mm x 2.8mm 304 Stainless Steel Ring Grip gun nail.

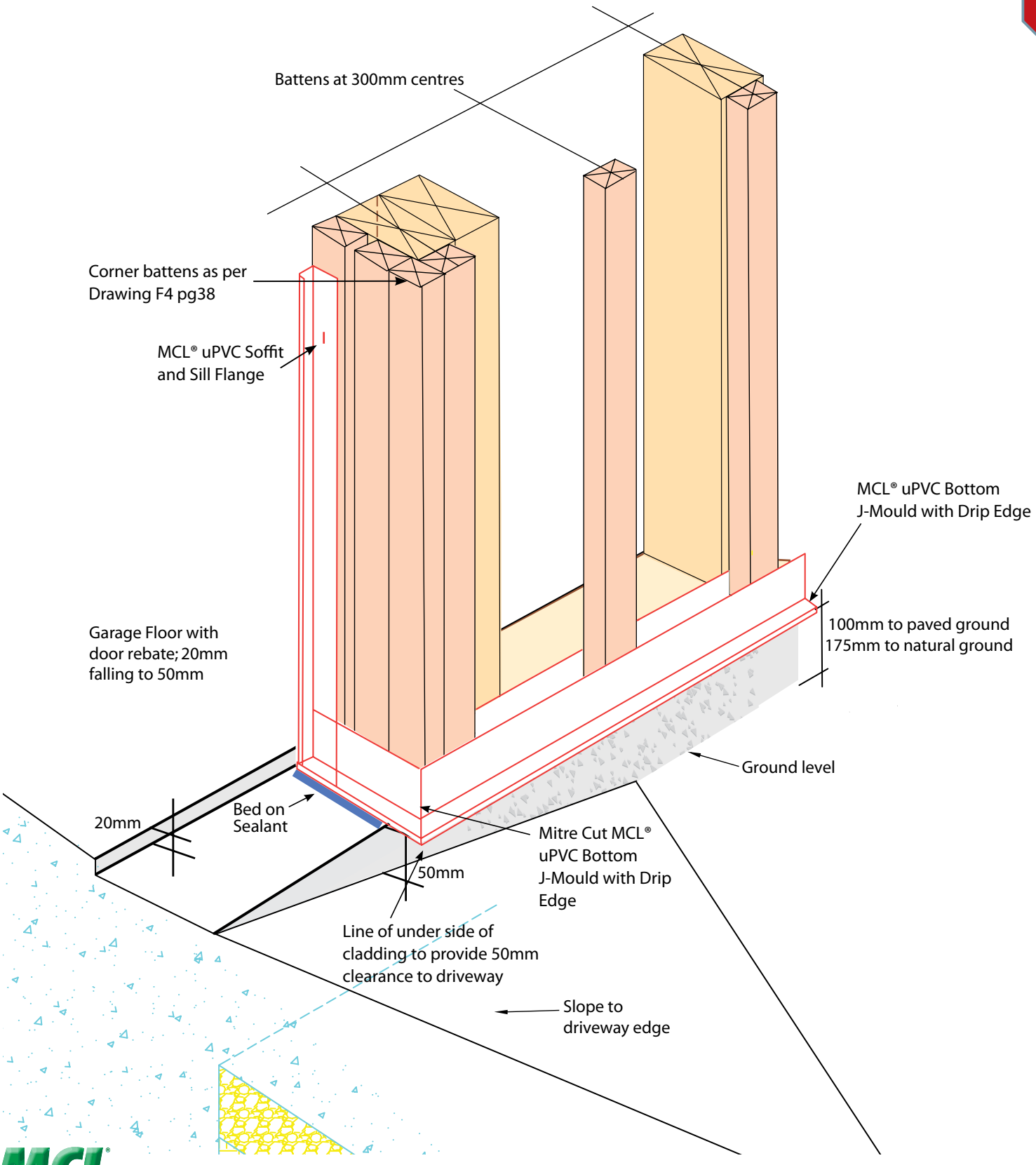
11 MCL® Fibreglass Mesh.

13 20mm x 2.8mm hot dipped galvanised round head nail.

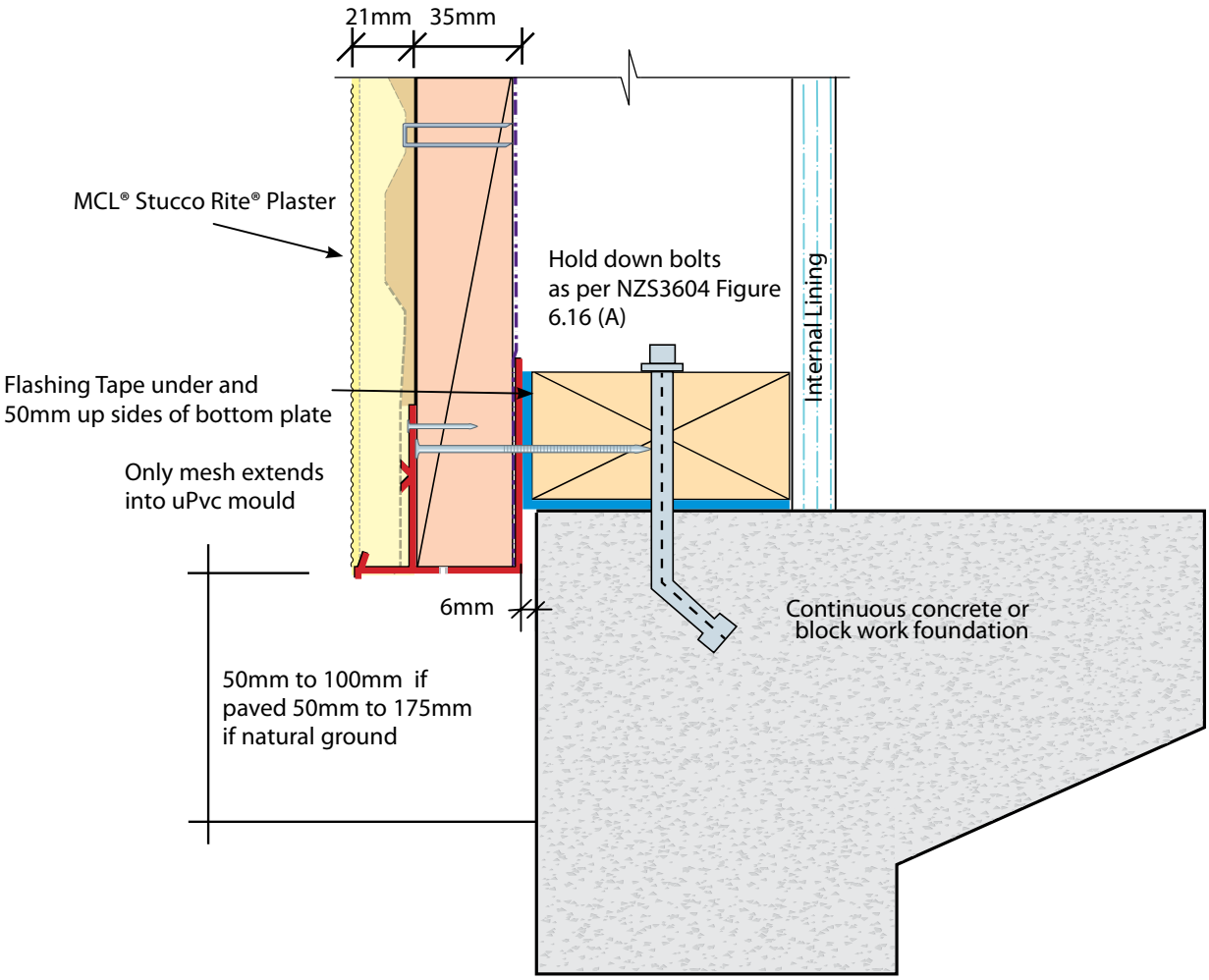
Garage Entrance Detail - A - Drawing No. F20
Tie down details cl. 8.6 NZS3604
Fixing of built up members cl. 2.4.4.7 NZS3604



Garage Entrance Detail - B - Drawing No. F21
Battens and Mouldings
Refer to F29 - F31 for alternative details of timber jamb and head at garage door

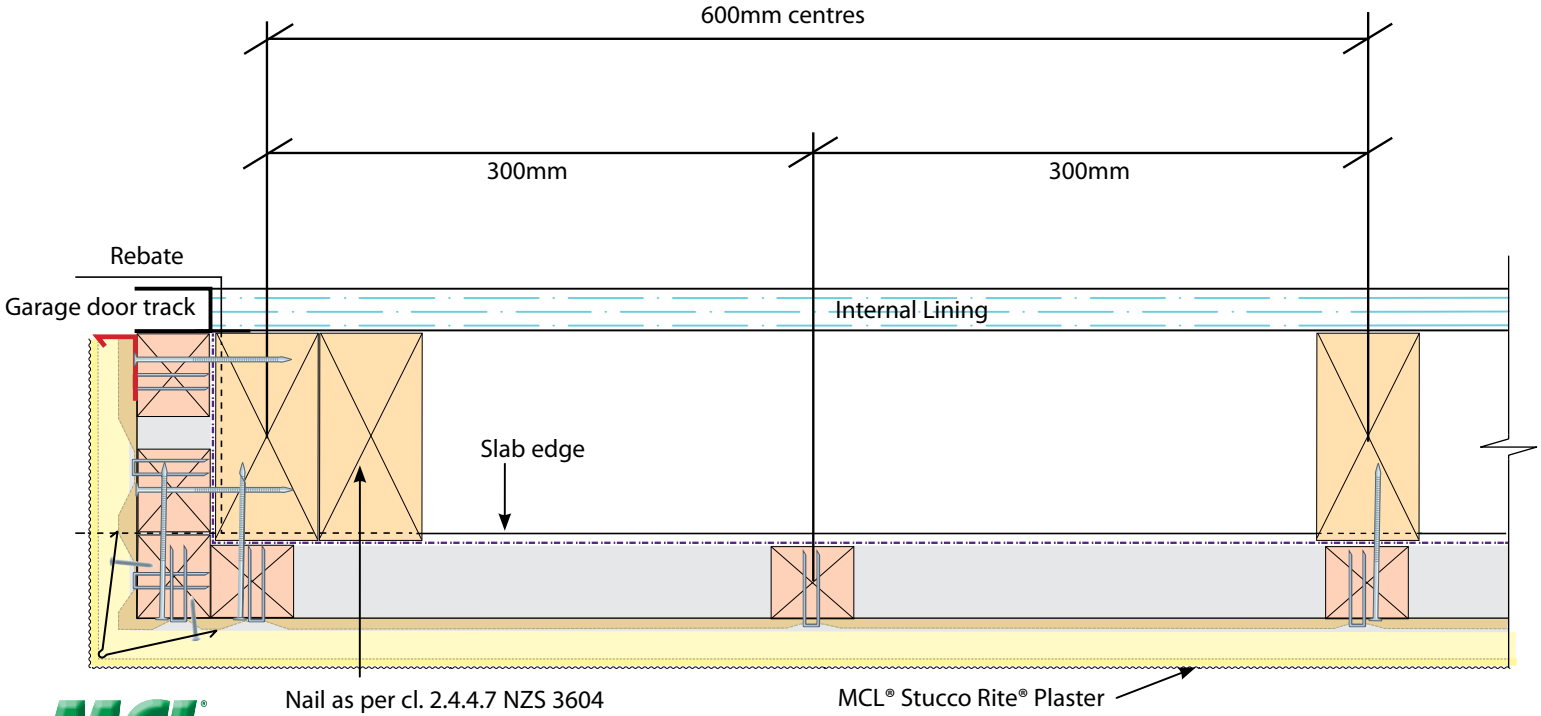


Garage Entrance Side Detail - C - Drawing No. F22

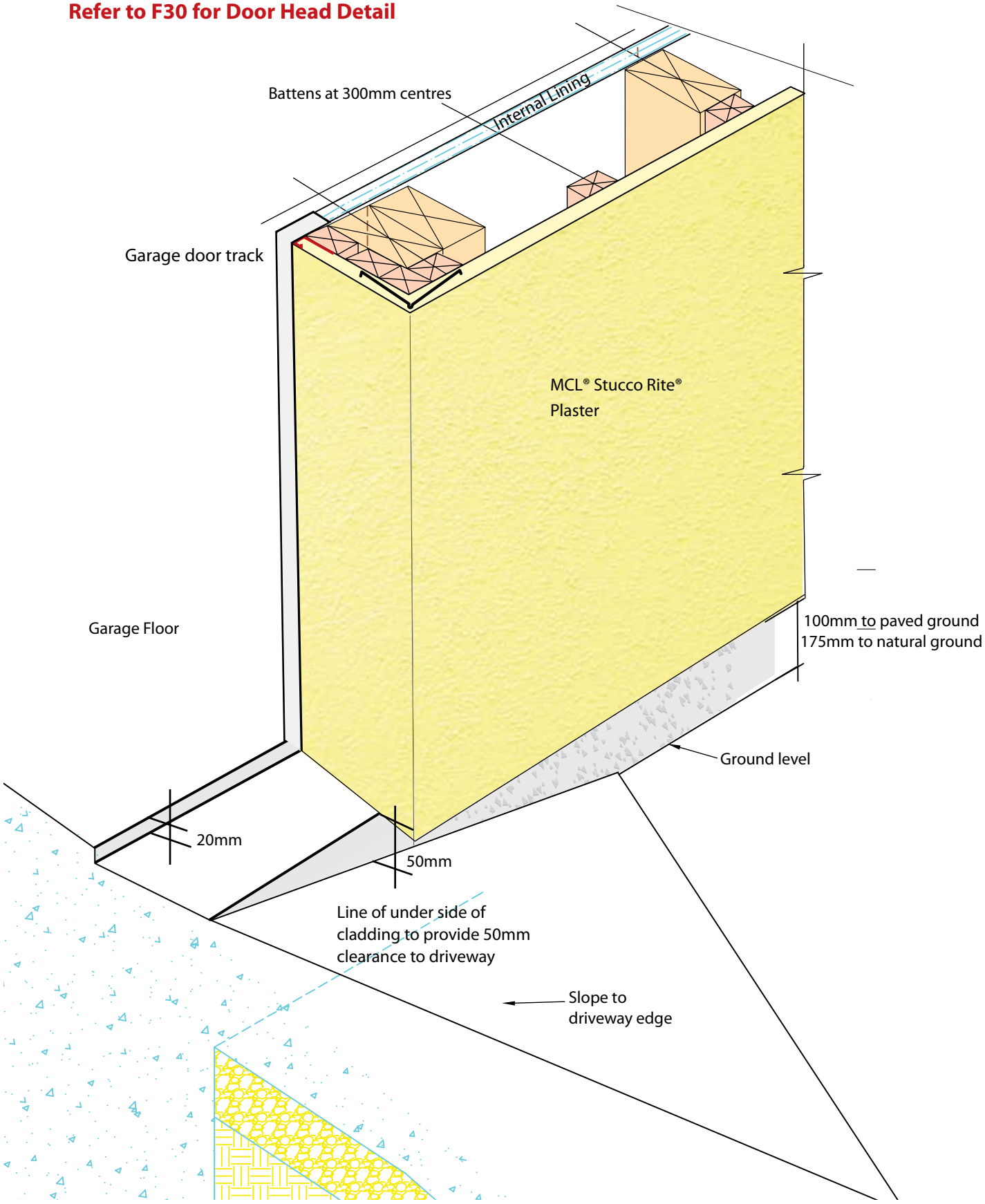


Garage Entrance Plan View - D - Drawing No. F23

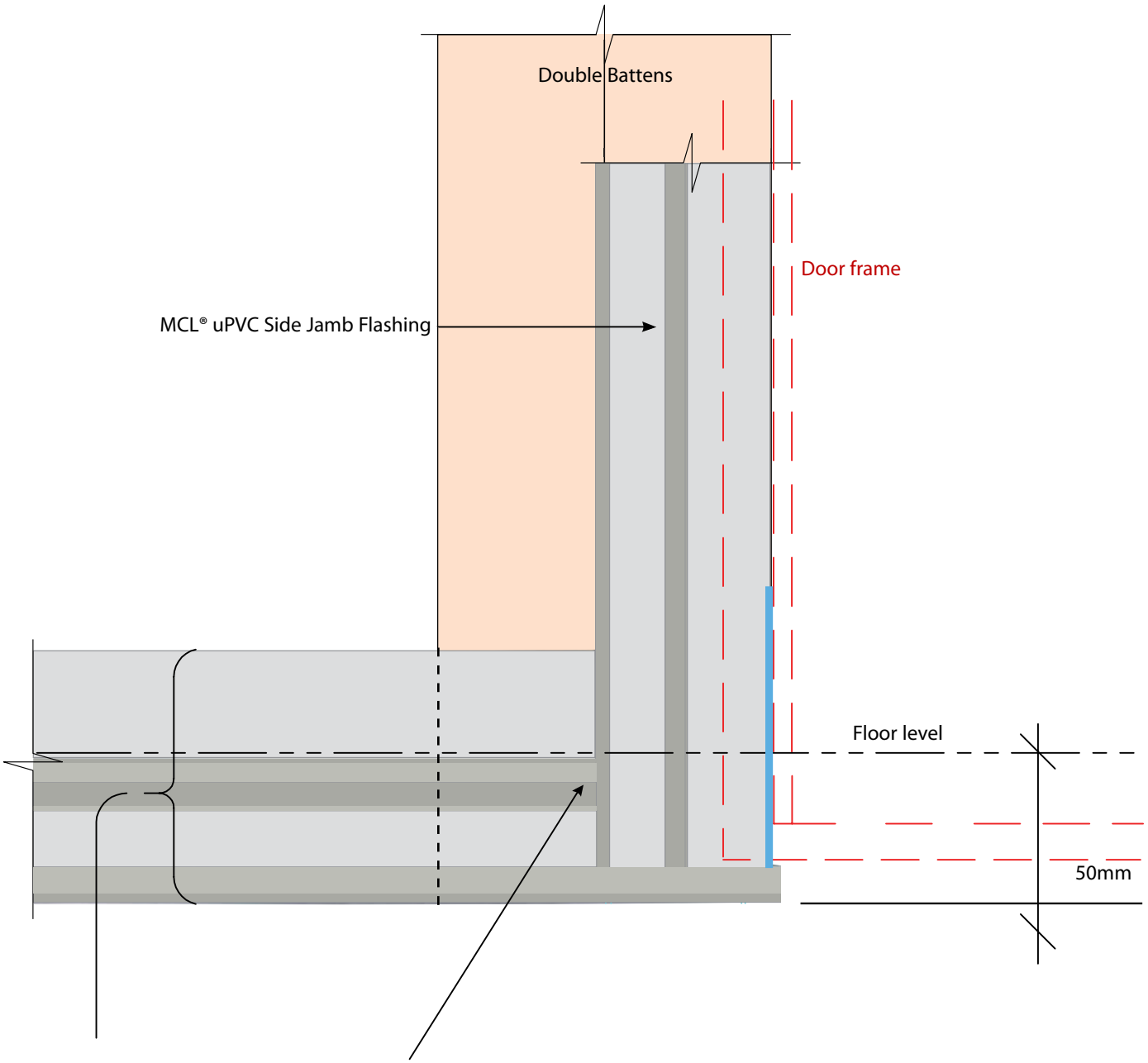
Refer to F32 for Head Details



Garage Entrance Finished View - E - Drawing No. F24
Refer to F30 for Door Head Detail

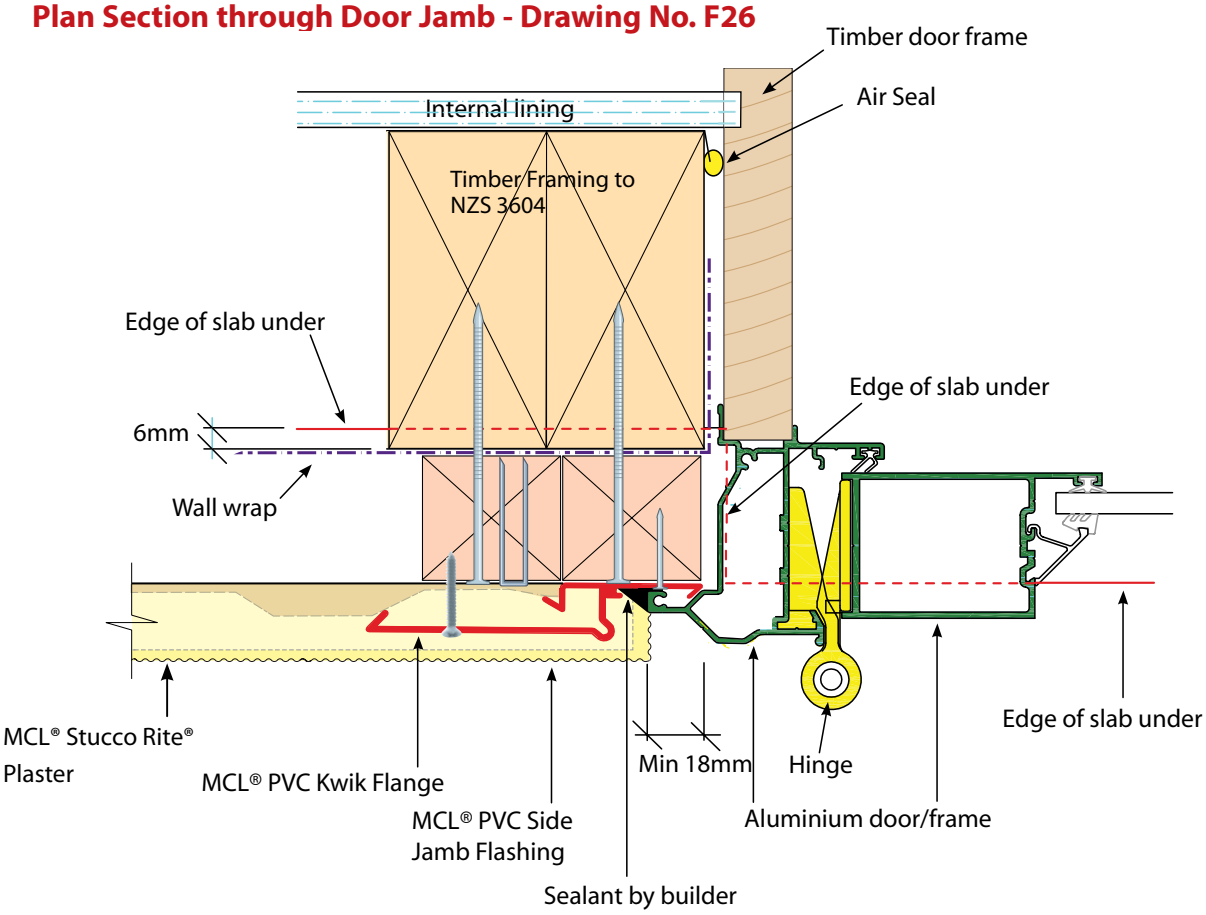


Sectional Elevation Bottom of Door
Drawing No. F25

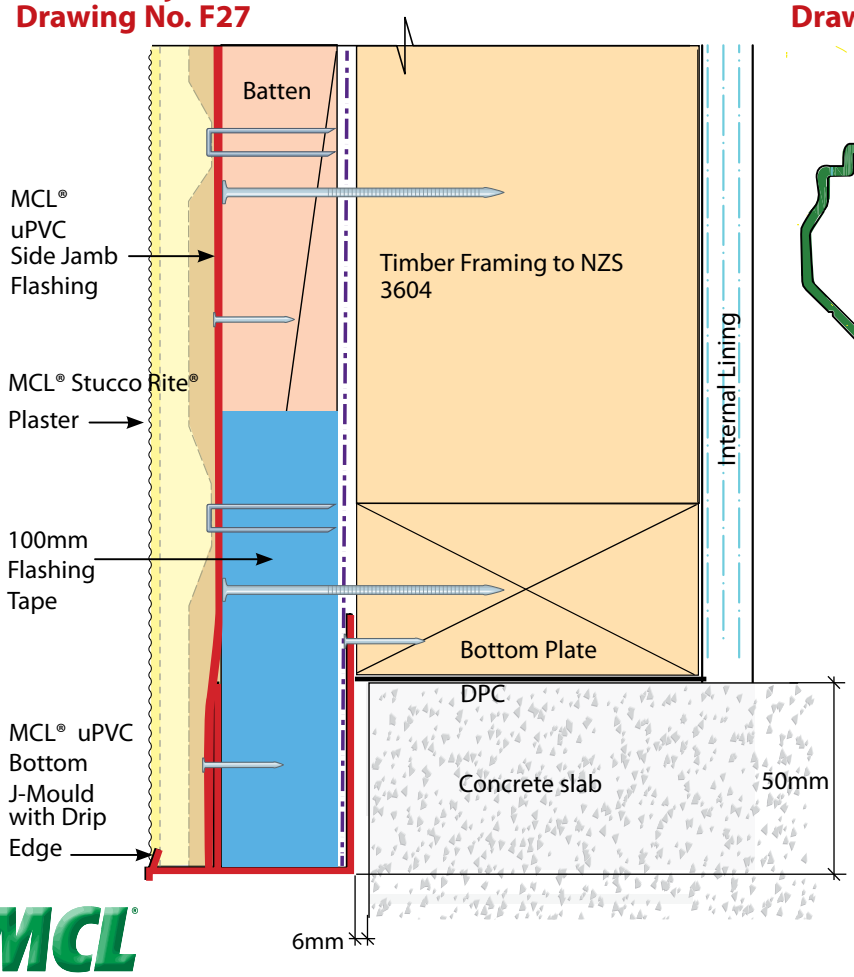


MCL® uPVC Bottom J-Mould - cut away plaster grab and rasp smooth to allow vertical MCL® uPVC Side Jamb Flashing to fit. **Refer to Figs 1 to 4, pg 17.**

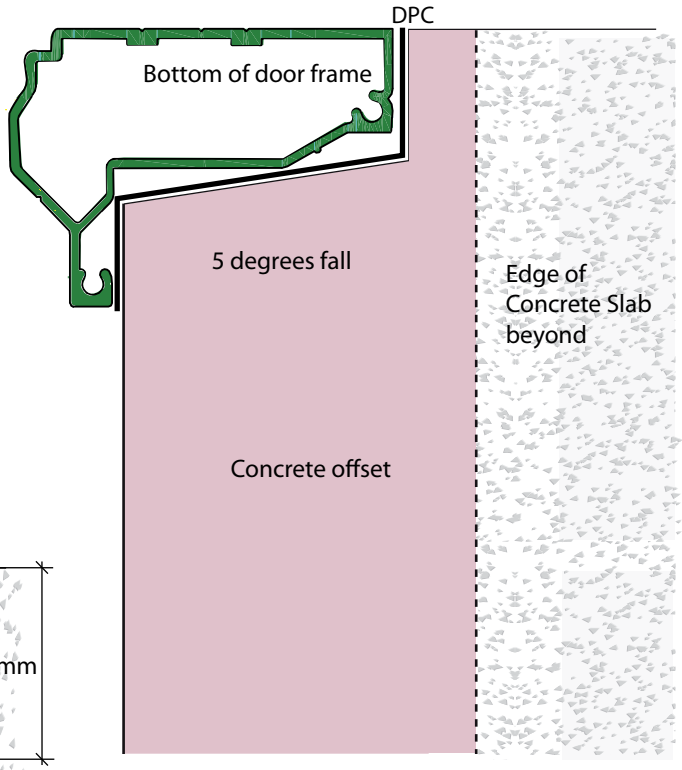
Plan Section through Door Jamb - Drawing No. F26



Section adjacent to Bottom of Door Drawing No. F27

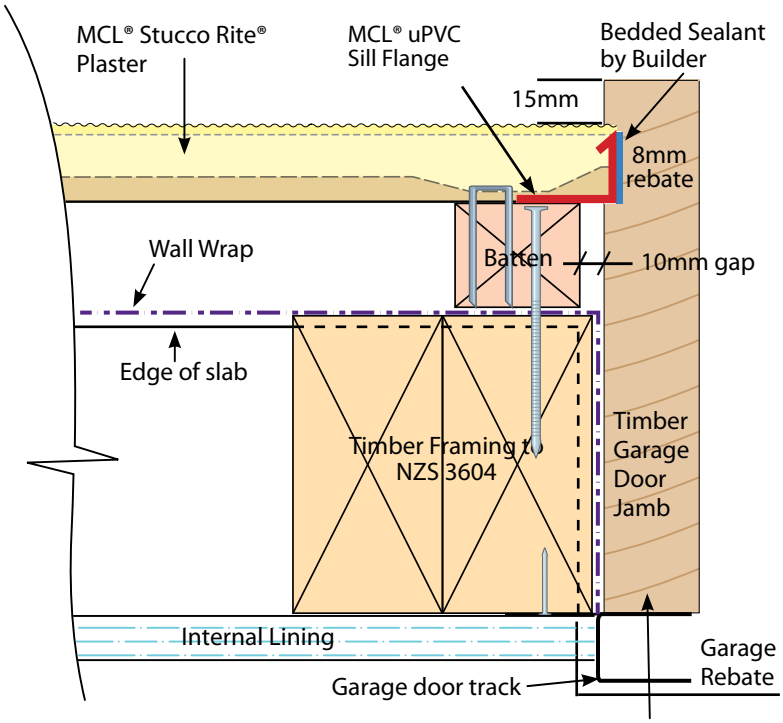


Section through Bottom of Door Drawing No. F28



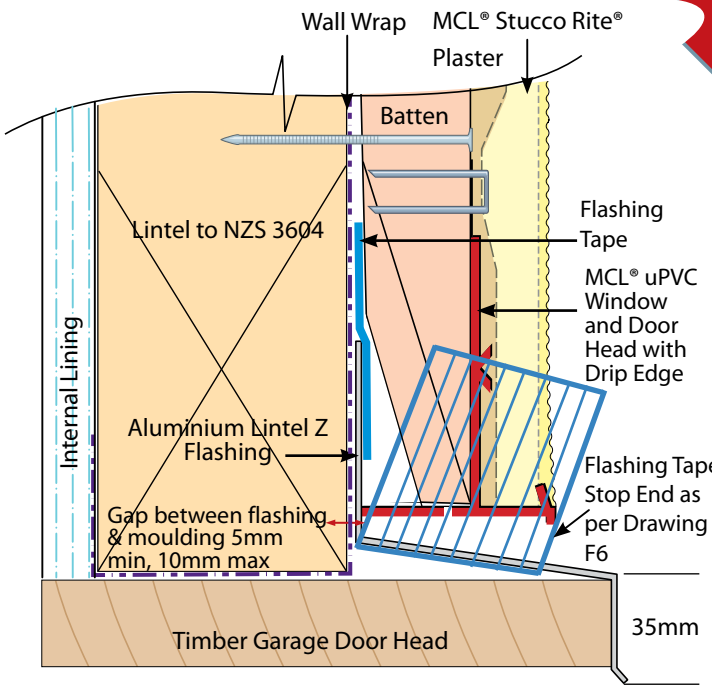
Garage Entrance Details
Plaster Head and Alternative Timber Jamb and Head Details

Timber Face Jamb - No Cavity
Drawing No. F29



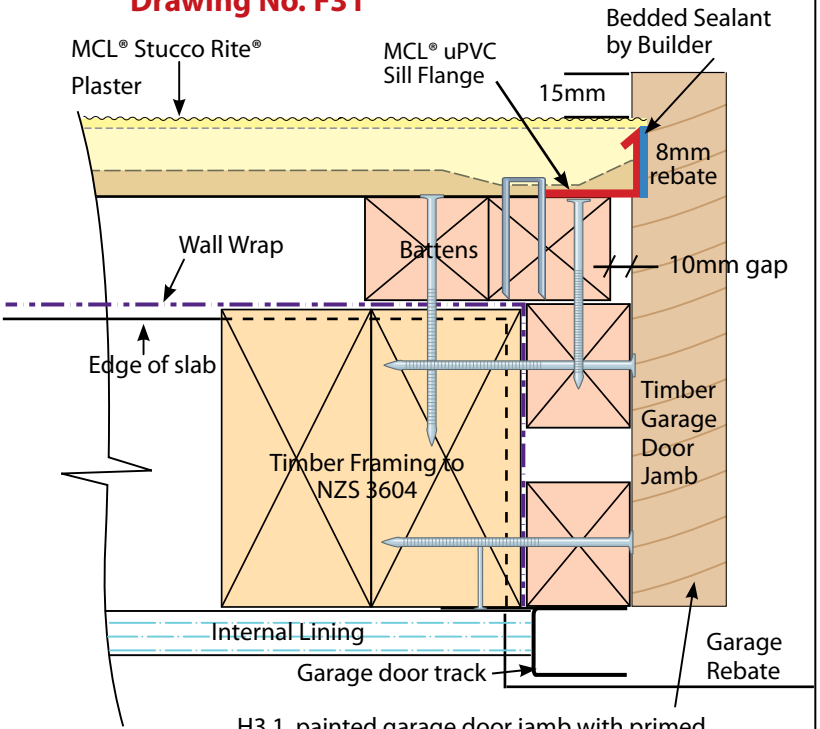
H3.1, painted garage door jamb with primed rebate for MCL® uPVC Soffit and Sill Flange. Cut jamb to suit rebate in garage slab and bed on sealant

Timber Face Head
Drawing No. F30



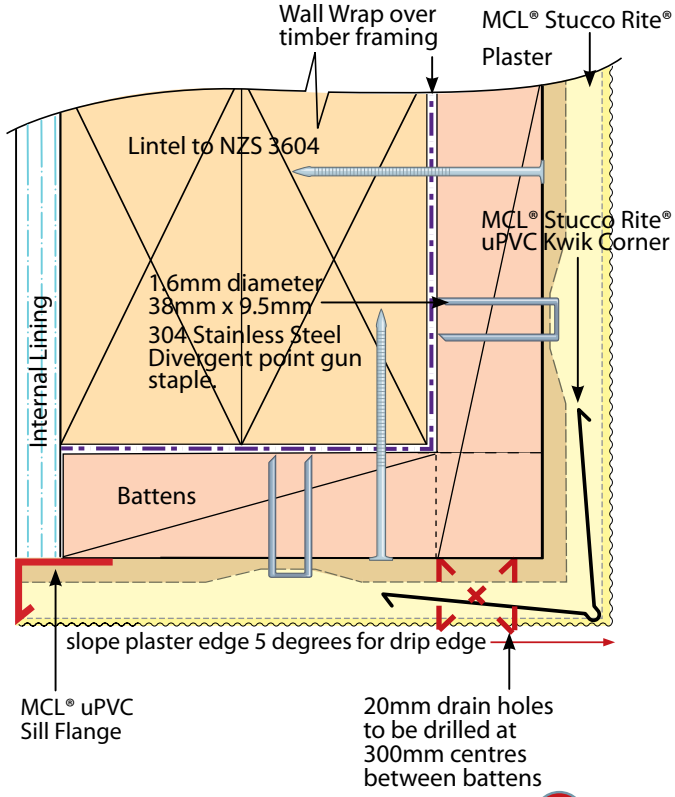
Lintel Z Flashing shall extend full width of framed opening.

Timber Face Jamb - With Cavity
Drawing No. F31



H3.1, painted garage door jamb with primed rebate for MCL® uPVC Soffit and Sill Flange. Cut jamb to suit rebate in garage slab and bed on sealant

Plaster Face Garage Door Head Detail
Drawing No. F32



G Rules for MCJ Location, Openings and MCL® Fibreglass Mesh Reinforcing

G.1 The location of movement control joints (both vertical (VMCJ) and horizontal (HMCJ)), openings and additional MCL® Fibreglass Mesh into the base coat, all as required by these Rules, shall be shown on the building consented plans and specifications.

G.2 The MCL® Stucco Rite® System, with stucco extending vertically from the base of the wall i.e. The MCL® uPVC Bottom J-Mould with Drip Edge (F3) to the top of the wall i.e. the MCL® uPVC Soffit Flange (F2) and horizontally between external or internal corners (see F4 and F5) shall be divided into MCL® Stucco Rite® wall panels by means of horizontal (HMCJ) and vertical (VMCJ) control joints (see F14 and F16) as required by the following rules.

G.3 The width and average height of a MCL® Stucco Rite® wall panel shall be measured between the control joints or the stucco edges (Base, Soffit or Internal/External corners) that bound the MCL® Stucco Rite® wall panel.

G.4 For the purposes of these Rules the locations and dimensions of the 'openings' shall be measured to the plaster's edge.

G.5 Rule 1: A VMCJ, as required by these rules, shall extend from the MCL® uPVC Bottom J Moulding with Drip Edge or a HMCJ up to the soffit or upper HMCJ. A HMCJ shall extend the full width of the MCL® Stucco Rite® wall panel and extend around internal or external corners along the adjacent wall panel to a VMCJ. A HMCJ does not have to extend beyond a VMCJ.

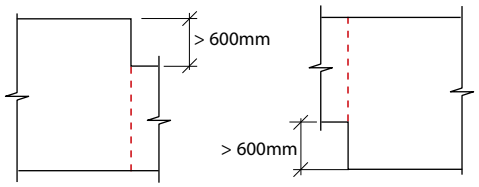
Rule 2: A VMCJ is required:

a) At each end of all openings wider than 3m or higher than 1.95m. The VMCJ's shall be placed no further than 300mm from each side of the opening except a VMCJ is not required if the opening is closer than 600mm from an internal or external corner or when Rule 10 applies.

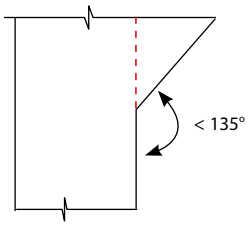
b) At a change in wall heights except as allowed by c) below.

c) Where a change of direction occurs in the MCL® Stucco Rite® wall panel and the angle between the panel surfaces, as shown in the figures below, is less than 135°. A vertical offset (angle is 90° ± 20°) up to 600mm long does not require a VMCJ.

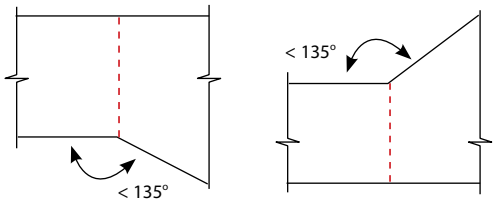
VMCJ required at these locations.



Vertical offset lower and upper edge where height greater than 600mm.



Offset in side edge of angle between surfaces less than 135°



Offset lower and upper edge at angle between surfaces less than 135°.

Rule 3: Install a HMCJ at any horizontal step in a MCL® Stucco Rite® wall panel where the width of the step is wider than 600mm. For steps less than 600mm embed a 400mm square of MCL® Fibreglass Mesh in the base coat diagonally across the step.

Rule 4: HMCJs shall be provided at intermediate floor level where, at the time of plastering, the moisture content of flooring timbers or wall plates abutting the intermediate floor is greater than 18%. In addition, HMCJs at intermediate floor level shall be provided where necessary to ensure the requirements on panel height are met.

The maximum average height of a MCL® Stucco Rite® wall panel shall be 5.2m except in the following situations where the maximum height of the wall panel shall be 7m.

a) Panels with a minimum width of 2.5m and a maximum width of 6m with a monoslope top edge of angle greater than 11° from the horizontal, and

b) Panels with a minimum width of 4m and a maximum width of 8m with sloping top surfaces of angle greater than 11° from the horizontal forming a gable with the apex located within the middle third of the panel width.

The Z Flashing below a cantilevered timber deck, as required by **C16, pg 26** and shown on drawing **F13**, is also a HMCJ.

Rule 5: Not withstanding the above Rules, the maximum width (L) of a MCL® Stucco Rite® wall panel shall not be greater than 2.75 times its average height or 8m.

Rule 6: A minimum separation distance of 175mm shall be provided between the following:

a) VMCJs and openings

b) VMCJs and corners (internal or external)

c) VMCJs

d) Openings

e) Openings and corners (internal or external)

f) Corners (internal or external)

In all situations above where the separation distance is less than 300mm provide a layer of MCL® Fibreglass Mesh in the base coat over the full length of the separation distance. Where the separation distance is at an opening extend the mesh 300mm beyond each end of the opening as shown in Table G, pg 62.

If the separation between openings is not horizontal or vertical but instead at some angle then the layer of MCL® Fibreglass Mesh in the base coat shall extend out perpendicular to that angle, in both directions, over the full width of the separation for a distance of at least twice the separation distance as shown in Table G, pg 62.

Rule 7: When the sum of the opening heights (Σh) in a MCL® Stucco Rite® wall panel exceeds 40% of the wall panel's average height (H) then reduce the wall panel's width to not greater than 6m. When determining the sum, openings separated horizontally by 900mm or less shall be included as shown in Table G, pg 62.

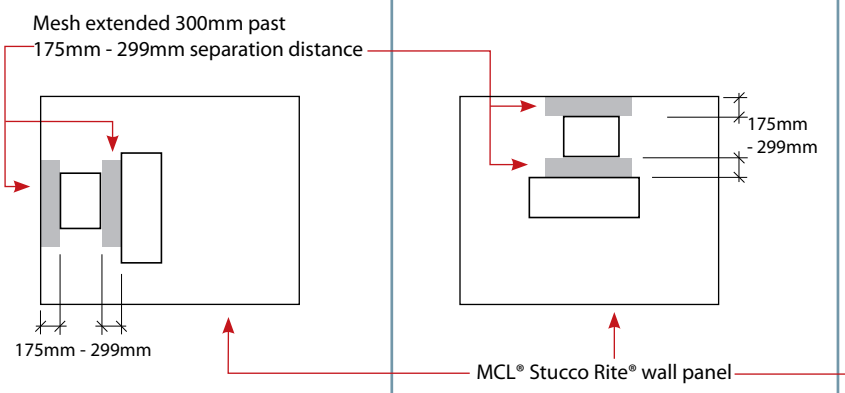
Rule 8: When the ratio Σh/H as determined by Rule 7 exceeds 80% then in addition to meeting Rule 7 a VMCJ shall be provided no further than 300mm from each side of all openings. A VMCJ is not required if the opening is closer than 600mm from an internal or external corner or when Rule 10 applies.

Rule 9: When the sum of the opening widths (Σb) exceeds 60% of MCL® Stucco Rite® wall panel width (L) then a layer of MCL® Fibreglass Mesh embedded in to the base coat, shall be provided between all openings and between openings and the panel's edges extending from 300mm above to 300mm below the openings.
When determining the sum, openings separated vertically by 900mm or less shall be included as shown in Table G, pg 62.
This mesh is not additional to that required by Rule 6.

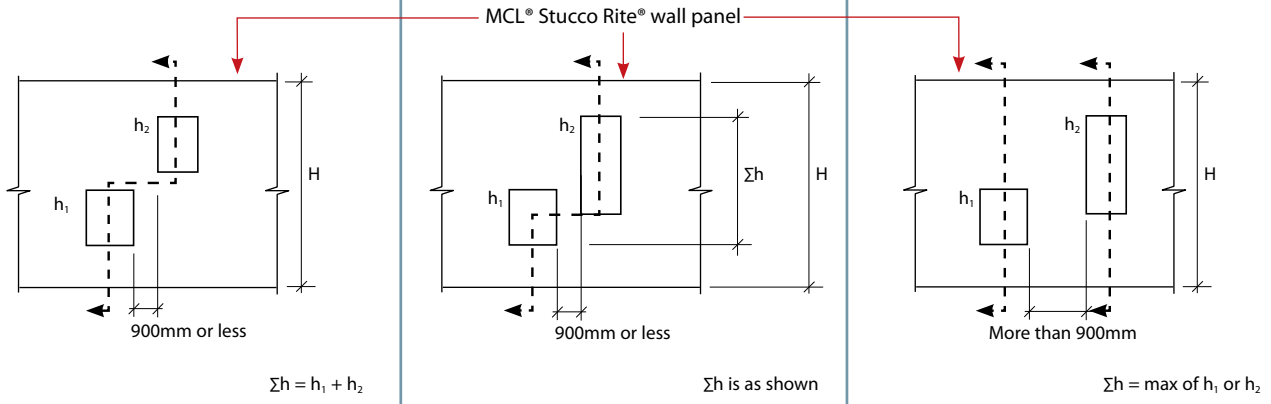
Rule 10: If the distance between two openings is 1.2m or less then two VMCJ's between the openings may be replaced by one centrally located VMCJ.

TABLE G

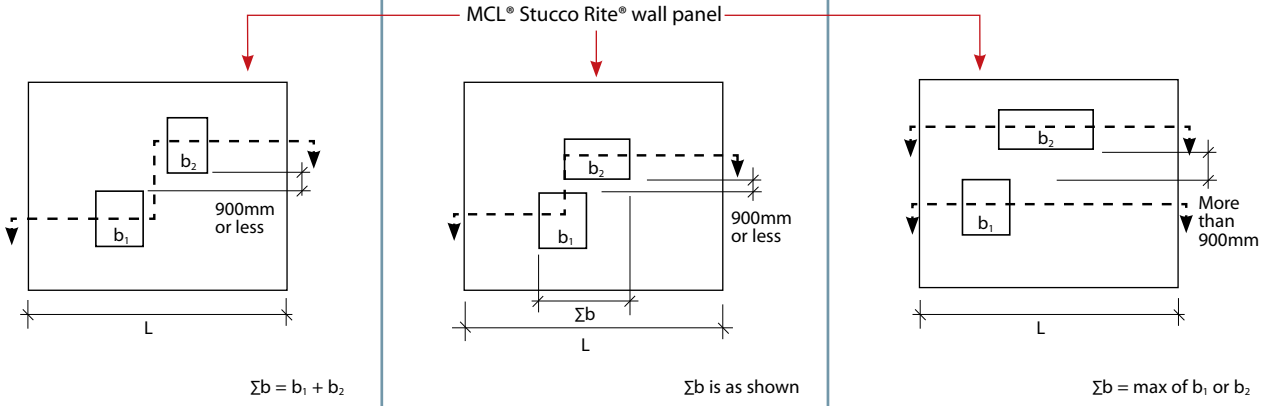
Rule 6



Rule 7 & 8



Rule 9



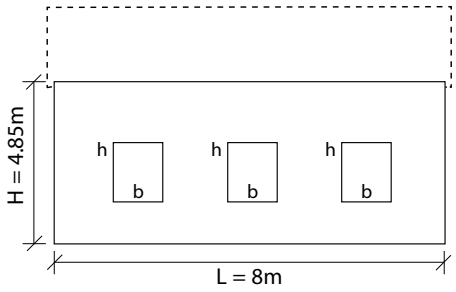
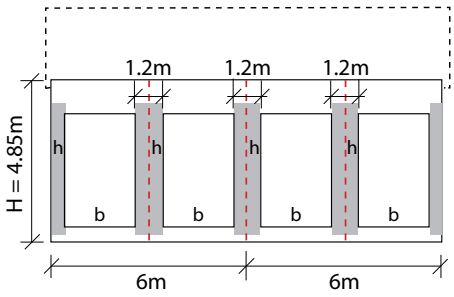
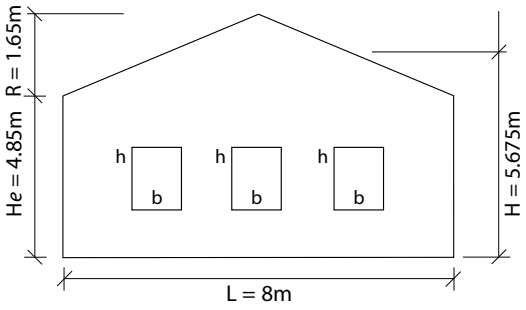
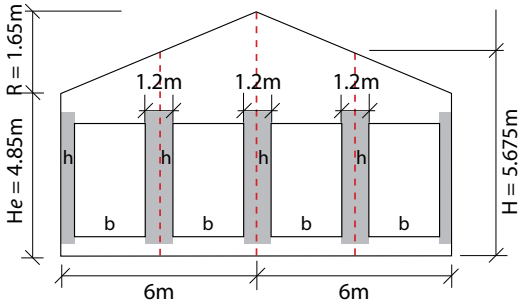
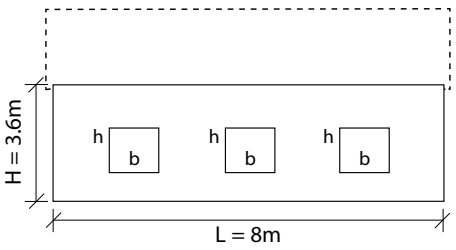
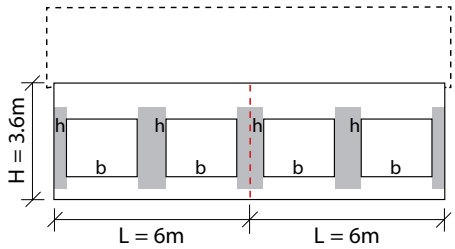
Key:

L = Width of MCL® Stucco Rite® Wall Panel
∑h = Sum of Opening Heights
h_1, h_2 = Opening Heights

H = Average Panel Height
∑b = Sum of Opening Widths
b_1, b_2 = Opening Widths

MCL® Fibre Glass Mesh in base coat extending 300mm above and below opening

TABLE G

Wall Type Single Level	Wall & Small Openings	Wall Medium & Large Windows
G.1 • Maximum Stucco Panel Width • Maximum Height	**G.1A** for h = 1.85m for b = 1.05m Ratio $\frac{h}{H}$ = 0.38 Σb/L = 1.05 x 3/8 = 0.39 	**G.1B** for h = 3.5m for b = 2.2m Ratio $\frac{h}{H}$ = 0.72 b/L = 2.2/3 = 0.73 
G.2 • Maximum Panel Width & Gable End	**G.2A** for h = 1.95m for b = 1.05m Ratio $\frac{h}{H}$ = 0.34 Σb/L = 1.05 x 3/8 = 0.39 	**G.2B** for h = 3.5m for b = 2.2m Ratio $\frac{h}{H}$ = 0.62 b/L = 2.2/3 = 0.73 
G.3 • Intermediate Height Panel	**G.3A** for h = 1.4m for b = 1.05m Ratio $\frac{h}{H}$ = 0.39 Σb/L = 1.05 x 3/8 = 0.39 	**G.3B** for h = 1.8m for b = 2.2m Ratio $\frac{h}{H}$ = 0.50 Σb/L = 2.2 x 2/6 = 0.73 

Key:

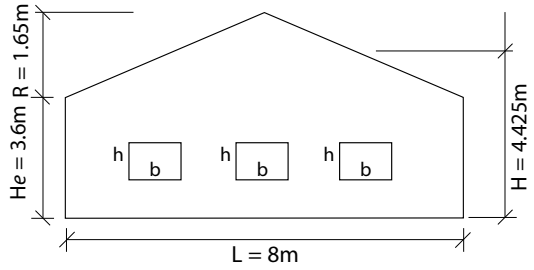
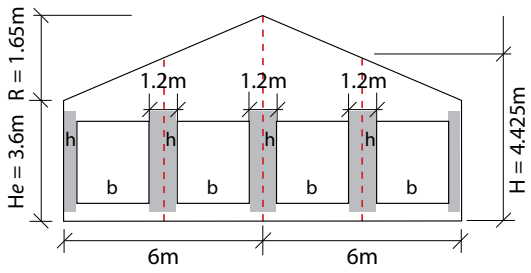
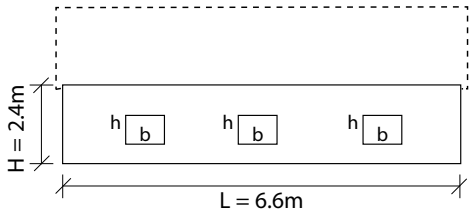
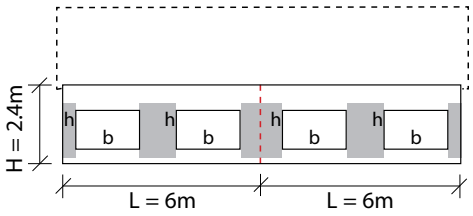
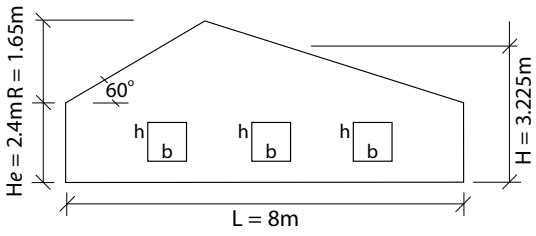
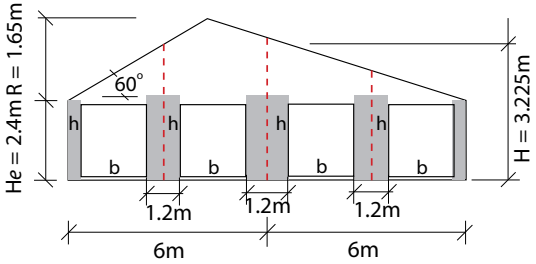
- L = Width of MCL® Stucco Rite® Wall Panel
- H = Average Panel Height
- H′ = Lower Panel Height
- H″ = Upper Panel Height
- h = Opening Heights - Single Level
- Σh = Sum of Opening Heights
- h′ = Opening Height - Lower Level
- h″ = Opening Height - Upper Level
- R = Rise of Gable
- b = Opening Width - Single Level
- Σb = Sum of Opening Widths
- b′ = Opening Width - Lower Level
- b″ = Opening Width - Upper Level
- He = Eaves Height
- VMCJ or HMCJ
- Floor / Wall Junction

MCL® Fibre Glass Mesh in base coat extending 300mm above and below opening

* = VMCJ's required by Rules 2 or 8 and placed at min separation distance i.e. 175mm

* = VMCJ's required by Rules 2 or 8 and placed at max separation distance i.e. 300mm

TABLE G

Wall Type Single Level	Wall & Small Openings	Wall Medium & Large Windows
G.4 • Intermediate Height Panel & Gable End	**G.4A** for h = 1.15m for b = 1.05m Ratio $\frac{h}{H}$ = 0.26 Σb/L = 1.05 x 3/8 = 0.39 	**G.4B** for h = 2.5m for b = 2.2m Ratio $\frac{h}{H}$ = 0.56 b/L = 2.2/3 = 0.73 
G.5 • Low End & Side Wall	**G.5A** for h = 0.90m for b = 1.2m Ratio $\frac{h}{H}$ = 0.38 Σb/L = 1.2 x 3/6.6 = 0.55 	**G.5B** for h = 1.2m for b = 1.95m Ratio $\frac{h}{H}$ = 0.50 Σb/L = 1.95 x 2/6 = 0.65 
G.6 • Pitched Roof & Gable End	**G.6A** for h = 1.2m for b = 1.05m Ratio $\frac{h}{H}$ = 0.37 Σb/L = 1.05 x 3/8 = 0.39 	**G.6B** for h = 2.2m for b = 2.0m Ratio $\frac{h}{H}$ = 0.68 b/L = 2.0/3 = 0.67 

Key:

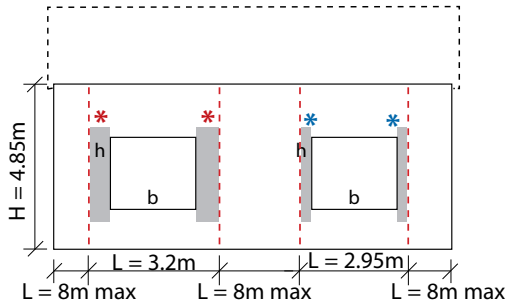
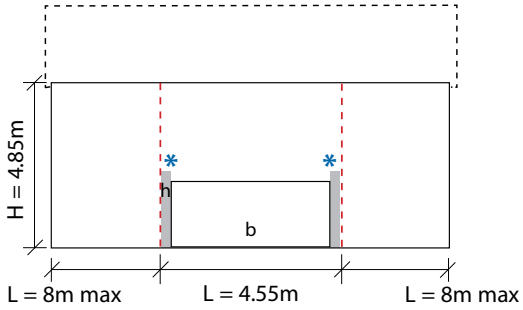
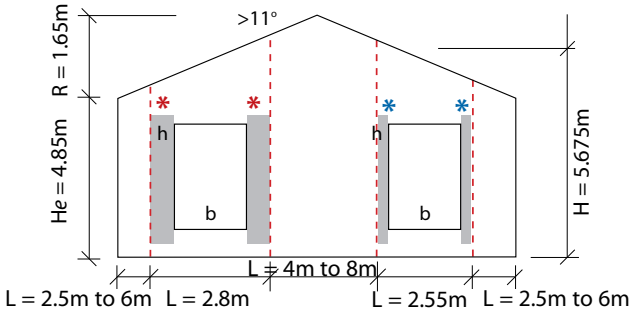
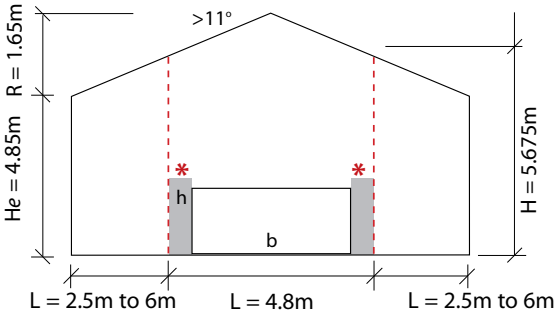
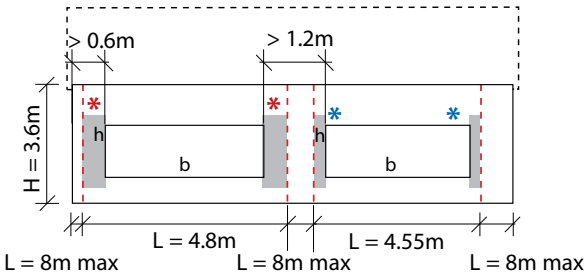
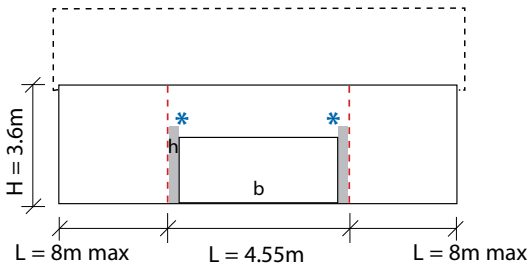
- **L** = Width of MCL® Stucco Rite® Wall Panel
- **H** = Average Panel Height
- **H′** = Lower Panel Height
- **H″** = Upper Panel Height
- **h** = Opening Heights - Single Level
- **Σh** = Sum of Opening Heights
- **h′** = Opening Height - Lower Level
- **h″** = Opening Height - Upper Level
- **R** = Rise of Gable
- **b** = Opening Width - Single Level
- **Σb** = Sum of Opening Widths
- **b′** = Opening Width - Lower Level
- **b″** = Opening Width - Upper Level
- **He** = Eaves Height
- **VMCJ or HMCJ** – – – – –
- **Floor / Wall Junction**

MCL® Fibre Glass Mesh in base coat extending 300mm above and below opening

* = VMCJ's required by Rules 2 or 8 and placed at min separation distance i.e. 175mm

* = VMCJ's required by Rules 2 or 8 and placed at max separation distance i.e. 300mm

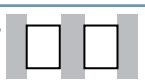
TABLE G

Wall Type Single Level	Wall Medium & Large Openings	Wall & Large Doors From Slab
G.7 • Maximum Stucco Panel Width • Maximum Height	**G.7A** for h = 2.2m for b = 2.6m Ratio $\frac{h}{H}$ = 0.45 b/L = 2.6/3.2 = 0.81 b/L = 2.6/2.95 = 0.88 	**G.7B** for h = 2.0m for b = 4.2m Ratio $\frac{h}{H}$ = 0.41 b/L = 4.2/4.55 = 0.92 
G.8 • Maximum Panel Width & Gable End	**G.8A** for h = 3.2m for b = 2.2m Ratio $\frac{h}{H}$ = 0.56 b/L = 2.2/2.8 = 0.79 b/L = 2.2/2.55 = 0.86 	**G.8B** for h = 2.0m for b = 4.2m Ratio $\frac{h}{H}$ = 0.35 b/L = 4.2/4.8 = 0.88 
G.9 • Intermediate Height Panel	**G.9A** for h = 1.6m for b = 4.2m Ratio $\frac{h}{H}$ = 0.44 b/L = 4.2/4.8 = 0.88 b/L = 4.2/4.55 = 0.92 	**G.9B** for h = 2.0m for b = 4.2m Ratio $\frac{h}{H}$ = 0.56 b/L = 4.2/4.55 = 0.92 

Key:

- **L** = Width of MCL® Stucco Rite® Wall Panel
- **H** = Average Panel Height
- **H′** = Lower Panel Height
- **H″** = Upper Panel Height
- **h** = Opening Heights - Single Level
- **Σh** = Sum of Opening Heights
- **h′** = Opening Height - Lower Level
- **h″** = Opening Height - Upper Level
- **R** = Rise of Gable
- **b** = Opening Width - Single Level
- **Σb** = Sum of Opening Widths
- **b′** = Opening Width - Lower Level
- **b″** = Opening Width - Upper Level
- **He** = Eaves Height
- **VMCJ or HMCJ** - - - - - -
- **Floor / Wall Junction** ——

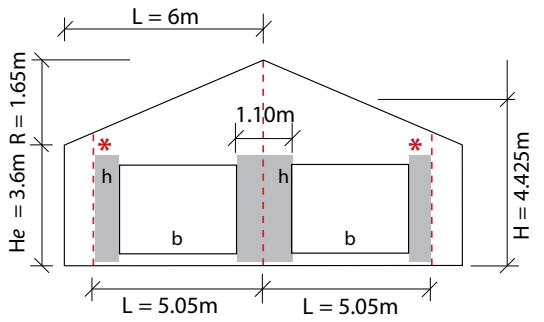
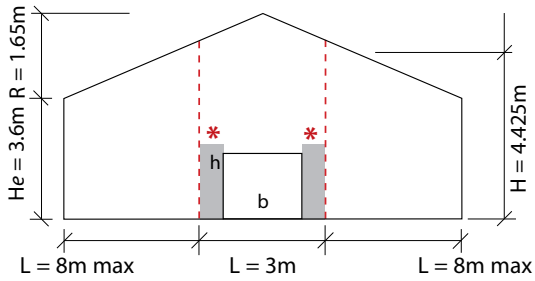
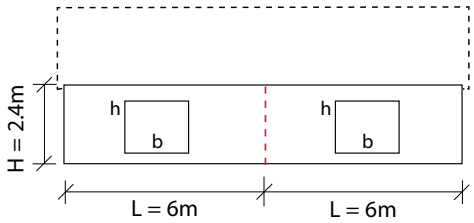
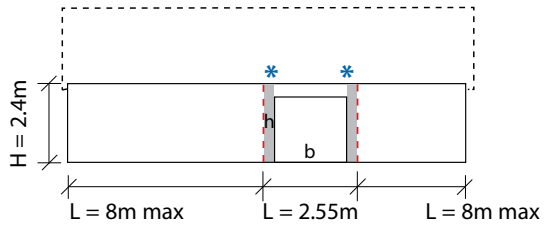
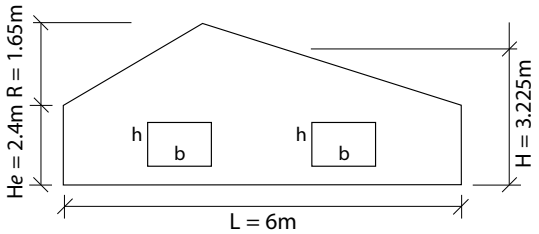
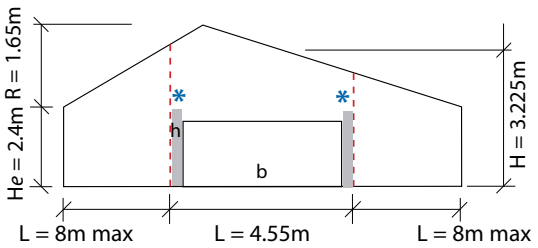
MCL® Fibre Glass Mesh in base coat extending 300mm above and below opening



- ✱ = VMCJ's required by Rules 2 or 8 and placed at min separation distance i.e. 175mm
- ✱ = VMCJ's required by Rules 2 or 8 and placed at max separation distance i.e. 300mm

MCL STUCCO-RITE SYSTEM

TABLE G

Wall Type Single Level	Wall Medium & Large Openings	Wall & Large Doors From Slab
G.10 • Intermediate Height Panel & Gable End	**G.10A** for h = 2.7m for b = 4.2m Ratio $\frac{h}{H}$ = 0.61 b/L = 4.2/5.05 = 0.83 	**G.10B** for h=2.0m for b = 2.4m Ratio $\frac{h}{H}$ = 0.45 b/L = 2.4/3.0 = 0.80 
G.11 • Low End & Side Wall	**G.11A** for h = 1.60m for b = 1.95m Ratio $\frac{h}{H}$ = 0.67 b/L = 1.95/6 = 0.32 	**G.11B** for h = 2.0m for b = 2.2m Ratio $\frac{h}{H}$ = 0.83 b/L = 2.2/2.55 = 0.86 
G.12 • Pitched Roof & Gable End	**G.12A** for h = 1.35m for b = 1.95m Ratio $\frac{h}{H}$ = 0.42 Σb/L = 1.95 x 2/6 = 0.65 	**G.12B** for h = 2.0m for b = 4.2m Ratio $\frac{h}{H}$ = 0.62 b/L = 4.2/4.55 = 0.92 

Key:

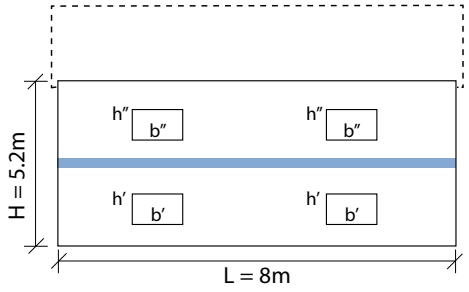
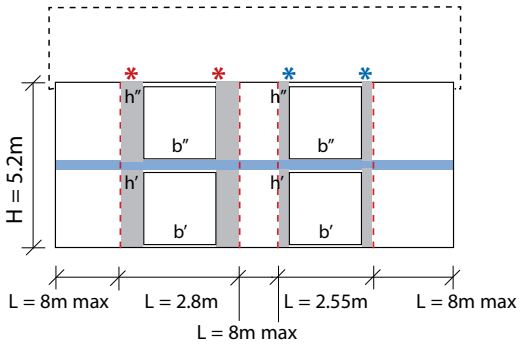
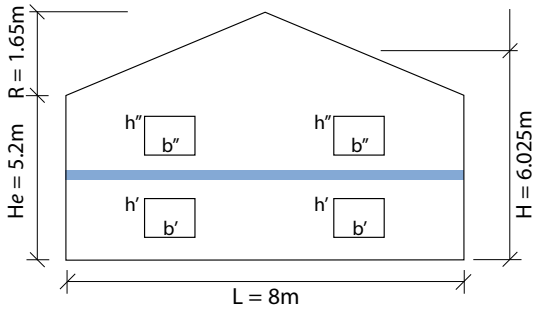
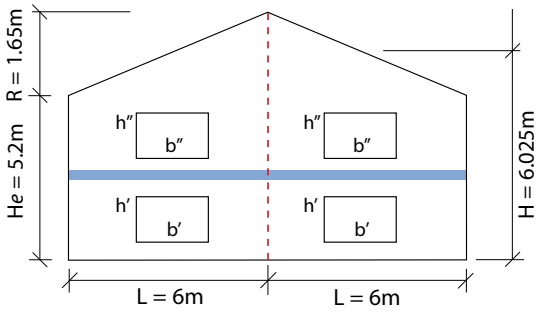
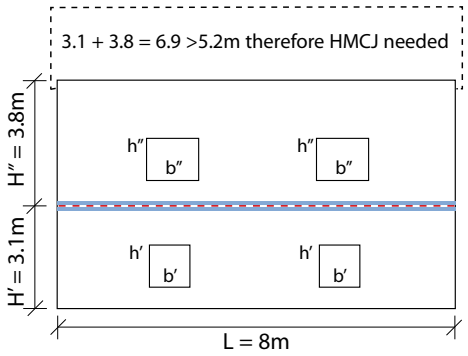
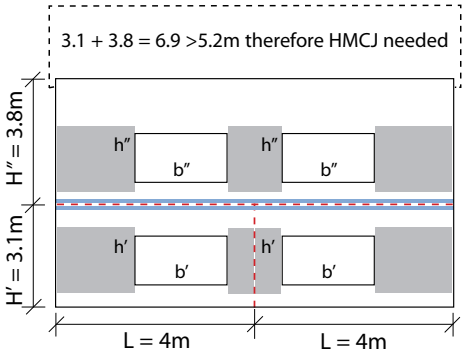
- L = Width of MCL® Stucco Rite® Wall Panel
- H = Average Panel Height
- H′ = Lower Panel Height
- H″ = Upper Panel Height
- h = Opening Heights - Single Level
- Σh = Sum of Opening Heights
- h′ = Opening Height - Lower Level
- h″ = Opening Height - Upper Level
- R = Rise of Gable
- b = Opening Width - Single Level
- Σb = Sum of Opening Widths
- b′ = Opening Width - Lower Level
- b″ = Opening Width - Upper Level
- He = Eaves Height
- VMCJ or HMCJ
- Floor / Wall Junction

MCL® Fibre Glass Mesh in base coat extending 300mm above and below opening

* = VMCJ's required by Rules 2 or 8 and placed at min separation distance i.e. 175mm

* = VMCJ's required by Rules 2 or 8 and placed at max separation distance i.e. 300mm

TABLE G

Wall Type Two Level	Wall & Small Openings	Wall & Medium Windows
G.13 • Two Level & Maximum Panel Size	**G.13A** for h″ = h′ = 0.95m for b″ = b′ = 1.55m Ratio $\frac{\Sigma h}{H}$ = 2 x 0.95/5.2 = 0.37 Σb/L = 1.55 x 2/8 = 0.39 	**G.13B** for h″ = h′ = 2.2m for b″ = b′ = 2.2m Ratio $\frac{\Sigma h}{H}$ = 2 x 2.2/5.2 = 0.85 b/L = 2.2/2.55 = 0.86 b/L = 2.2/2.8 = 0.79 
G.14 • Two Level Gable End & Monoslope	**G.14A** for h″ = h′ = 1.2m for b″ = b′ = 1.55m Ratio $\frac{\Sigma h}{H}$ = 0.40 Σb/L = 1.55 x 2/8 = 0.39 	**G.14B** for h″ = h′ = 1.4m for b″ = b′ = 2.2m Ratio $\frac{\Sigma h}{H}$ = 0.46 b/L = 2.2/6 = 0.37 
G.15 • Two Level High Intermediate Height Floor/Floor	**G.15A** for h′ = 1.2m for h″ = 1.3m for b″ = 1.6m for b′ = 1.25m Ratio $\frac{h''}{H''}$ = 0.34 Ratio $\frac{h'}{H'}$ = 0.39 Σb″/L = 1.6 x 2/8 = 0.40 Σb′/L = 1.25 x 2/8 = 0.31 	**G15B** for h″ = h′ = 1.5m for b″ = b′ = 2.6m Ratio $\frac{h''}{H''}$ = 0.39 Ratio $\frac{h'}{H'}$ = 0.48 Σb″/L = 2.6 x 2/8 = 0.65 Σb′/L = 2.6/4 = 0.65 

Key:

L = Width of MCL® Stucco Rite® Wall Panel
H = Average Panel Height
H′ = Lower Panel Height
H″ = Upper Panel Height
h = Opening Heights - Single Level
Σh = Sum of Opening Heights
h′ = Opening Height - Lower Level
h″ = Opening Height - Upper Level
R = Rise of Gable
b = Opening Width - Single Level
Σb = Sum of Opening Widths
b′ = Opening Width - Lower Level
b″ = Opening Width - Upper Level
He = Eaves Height
VMCJ or HMCJ
Floor / Wall Junction

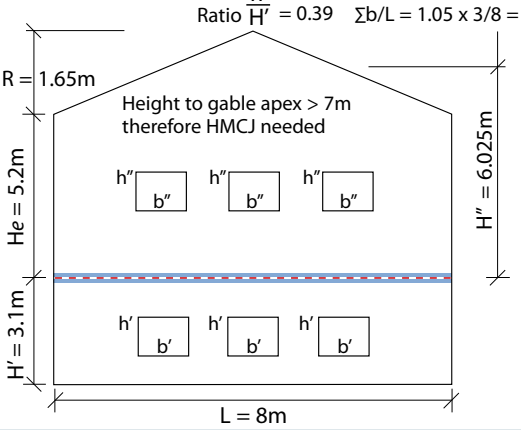
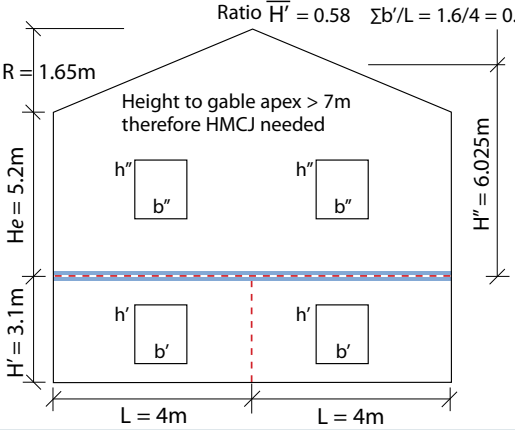
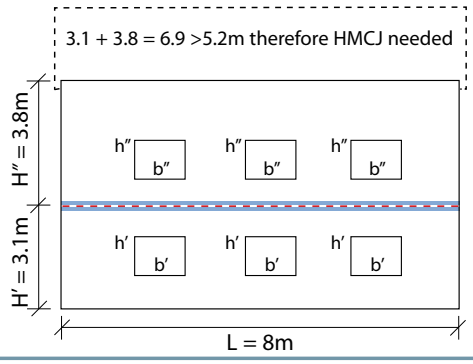
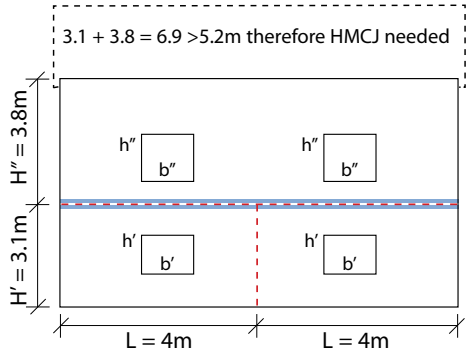
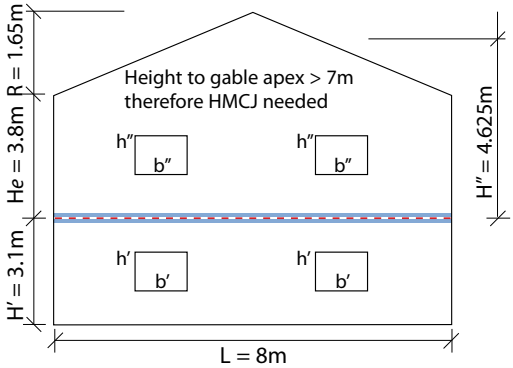
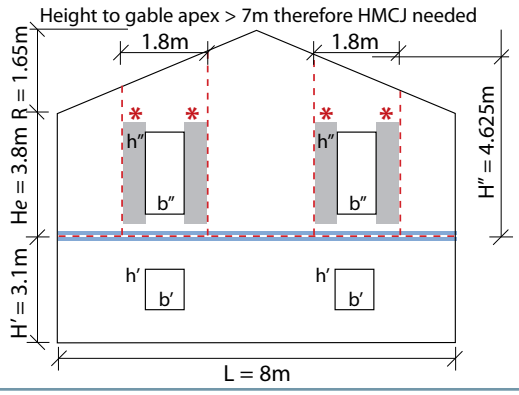
MCL® Fibre Glass Mesh in base coat extending 300mm above and below opening

* = VMCJ's required by Rules 2 or 8 and placed at min separation distance i.e. 175mm

* = VMCJ's required by Rules 2 or 8 and placed at max separation distance i.e. 300mm

Note: Figures on this page assume floor and wall framing has a moisture content of 18% or less

TABLE G

Wall Type Two Level	Wall & Small Openings	Wall & Medium Windows
G.16 • Two Level & Gable End	**G.16A** for h″ = h′ = 1.2m, for b″ = b′ = 1.05m; Ratio $\frac{h''}{H''}$ = 0.20; Ratio $\frac{h'}{H'}$ = 0.39; Σb/L = 1.05 x 3/8 = 0.39 	**G.16B** for h″ = h′ = 1.8m, for b″ = b′ = 1.6m; Ratio $\frac{h''}{H''}$ = 0.30; Ratio $\frac{h'}{H'}$ = 0.58; Σb″/L = 2 x 1.6/8 = 0.4; Σb′/L = 1.6/4 = 0.4 
G.17 • Two Level Building	**G.17A** for h″ = h′ = 1.2m, for b″ = b′ = 1.05m; Ratio $\frac{h''}{H''}$ = 0.32; Ratio $\frac{h'}{H'}$ = 0.39; Σb/L = 1.05 x 3/8 = 0.39 	**G.17B** for h″ = 1.45m, for h′ = 1.3m, for b″ = b′ = 1.6m; Ratio $\frac{h''}{H''}$ = 0.38; Ratio $\frac{h'}{H'}$ = 0.42; Σb″/L = 1.6 x 2/8 = 0.4; Σb′/L = 1.6/4 = 0.4 
G.18 • Two Level & Gable End	**G.18A** for h″ = h′ = 1.2m, for b″ = b′ = 1.6m; Ratio $\frac{h''}{H''}$ = 0.26; Ratio $\frac{h'}{H'}$ = 0.39; Σb/L = 1.6 x 2/8 = 0.40 	**G.18B** for h″ = 2.5m, for h′ = 1.25m, for b″ = b′ = 1.2m; Ratio $\frac{h''}{H''}$ = 0.54; Ratio $\frac{h'}{H'}$ = 0.40; Σb″/L = 1.2/1.8 = 0.67; Σb′/L = 1.2 x 2/8 = 0.30 

Key:

- L = Width of MCL® Stucco Rite® Wall Panel
- H = Average Panel Height
- H′ = Lower Panel Height
- H″ = Upper Panel Height
- h = Opening Heights - Single Level
- Σh = Sum of Opening Heights
- h′ = Opening Height - Lower Level
- h″ = Opening Height - Upper Level
- R = Rise of Gable
- b = Opening Width - Single Level
- Σb = Sum of Opening Widths
- b′ = Opening Width - Lower Level
- b″ = Opening Width - Upper Level
- He = Eaves Height
- VMCJ or HMCJ
- Floor / Wall Junction

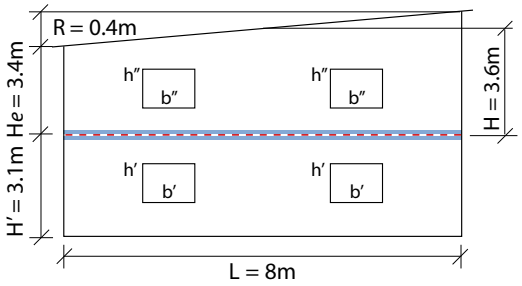
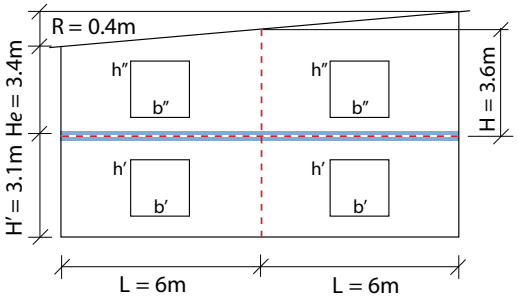
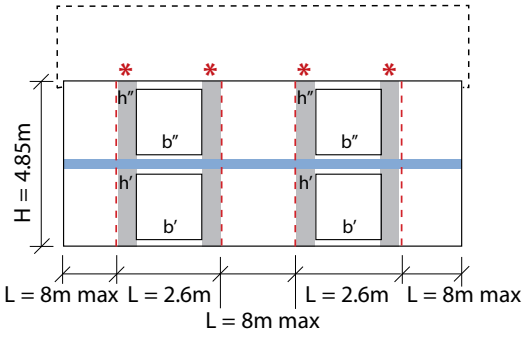
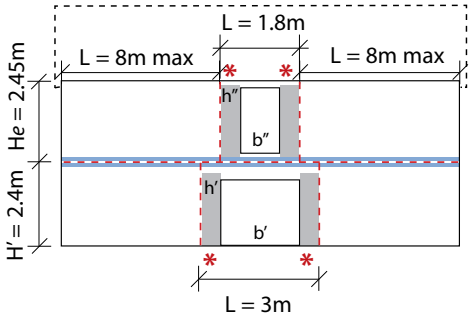
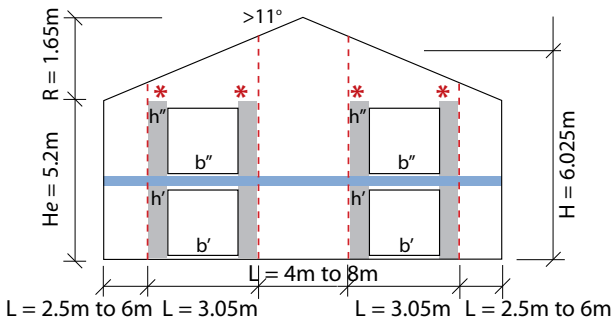
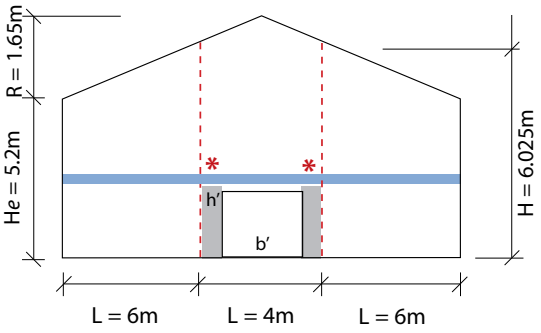
MCL® Fibre Glass Mesh in base coat extending 300mm above and below opening

* = VMCJ's required by Rules 2 or 8 and placed at min separation distance i.e. 175mm

* = VMCJ's required by Rules 2 or 8 and placed at max separation distance i.e. 300mm

Note: Figures on this page assume floor and wall framing has a moisture content of 18% or less

TABLE G

Wall Type Two Level	Wall & Large Openings	Wall & Windows & Doors From Slab
G.19 • Two Level Monoslope	**G.19A** for h″ = 1.2m for h′ = 1.2m for b″ = b′ = 1.6m Ratio $\frac{h''}{H}$ = 0.33 Ratio $\frac{h'}{H'}$ = 0.39 ∑b/L = 1.6 x 2/8 = 0.4 3.1 + 3.6 = 6.7 > 5.2m therefore HMCJ needed 	**G.19B** for h″ = 1.9m for h′ = 1.9m for b″ = b′ = 1.8m Ratio $\frac{h''}{H}$ = 0.53 Ratio $\frac{h'}{H'}$ = 0.61 b/L = 1.8/6 = 0.30 3.1 + 3.6 = 6.7 > 5.2m therefore HMCJ needed 
G.20 • Two Level & Maximum Panel Size	**G.20A** for h″ = h′ = 2.0m for b″ = b′ = 2.0m Ratio $\frac{\sum h}{H}$ = 0.82 b/L = 2.0/2.6 = 0.77 	**G.20B** for h″ = h′ = 2.0m for b″ = 1.2m for b′ = 2.4m Ratio $\frac{h''}{H''}$ = 0.82 Ratio $\frac{h'}{H'}$ = 0.83 b″/L = 1.2/1.8 = 0.67 b′/L = 2.4/3.0 = 0.80 
G.21 • Two Level Gable End	**G.21A** for h″ = h′ = 2.0m for b″ = b′ = 2.45m Ratio $\frac{\sum h}{H}$ = 0.66 b/L = 2.45/3.05 = 0.80 	**G.21B** for h′ = 2.0m for b′ = 2.4m Ratio $\frac{h}{H}$ = 0.3 b/L = 2.4/4 = 0.60 

Key:

L = Width of MCL® Stucco Rite® Wall Panel
H = Average Panel Height
H′ = Lower Panel Height
H″ = Upper Panel Height
h = Opening Heights - Single Level
∑h = Sum of Opening Heights
h′ = Opening Height - Lower Level
h″ = Opening Height - Upper Level
R = Rise of Gable or Roof
b = Opening Width - Single Level
∑b = Sum of Opening Widths
b′ = Opening Width - Lower Level
b″ = Opening Width - Upper Level
He = Eaves Height
VMCJ or HMCJ
Floor / Wall Junction

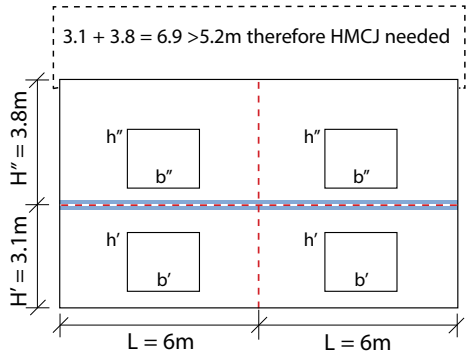
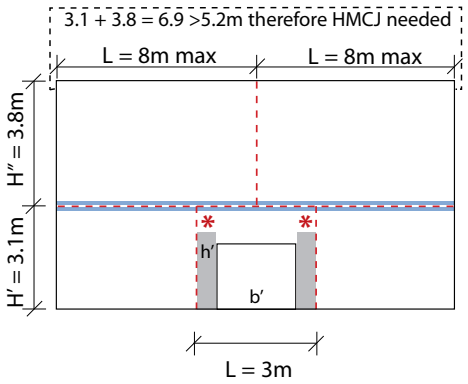
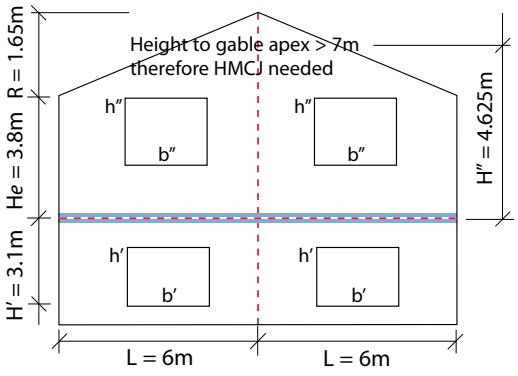
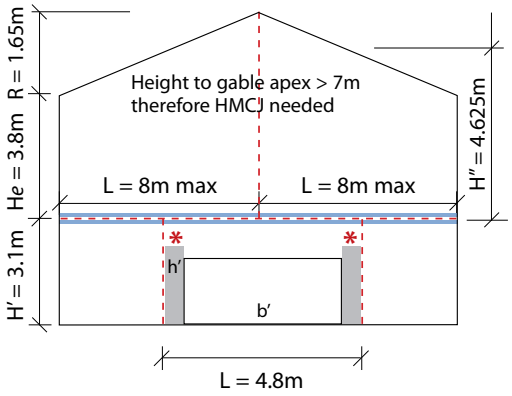
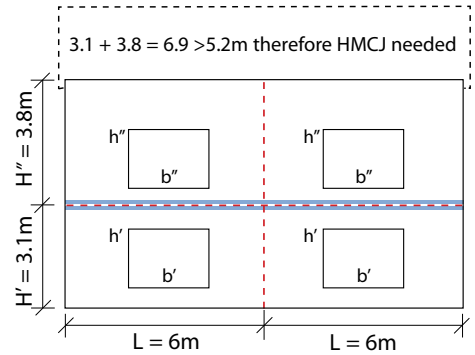
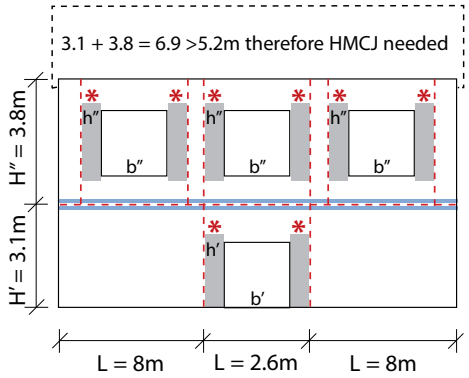
MCL® Fibre Glass Mesh in base coat extending 300mm above and below opening

* = VMCJ's required by Rules 2 or 8 and placed at min separation distance i.e. 175mm

* = VMCJ's required by Rules 2 or 8 and placed at max separation distance i.e. 300mm

Note: Figures on this page assume floor and wall framing has a moisture content of 18% or less

TABLE G

Wall Type Two Level	Wall & Large Openings	Wall & Windows & Doors From Slab
G.22 • Two Level High Intermediate Height Floor/Floor	**G.22A** for h″ = h′ = 1.8m for b″ = b′ = 2.2m Ratio $\frac{h''}{H''}$ = 0.47 Ratio $\frac{h'}{H'}$ = 0.58 b/L = 2.2/6 = 0.37 	**G.22B** for h′ = 2.0m for b′ = 2.4m Ratio $\frac{h}{H}$ = 0.65 b/L = 2.4/3.0 = 0.80 
G.23 • Two Level & Gable End	**G.23A** for h″ = 2.05m for h′ = 1.8m for b″ = b′ = 2.5m Ratio $\frac{h''}{H''}$ = 0.44 Ratio $\frac{h'}{H'}$ = 0.58 b/L = 2.5/6 = 0.42 	**G.23B** for h′ = 2.0m for b′ = 4.2m Ratio $\frac{h'}{H'}$ = 0.65 b/L = 4.2/4.8 = 0.88 
G.24 • Two Level Building	**G.24A** for h″ = h′= 1.8m for b″ = b′ = 2.45m Ratio $\frac{h''}{H''}$ = 0.47 Ratio $\frac{h'}{H'}$ = 0.58 b/L = 2.45/6 = 0.41 	**G.24B** for h″ = h′= 2.0m for b″ = 2.0m for b′ = 2.0m Ratio $\frac{h''}{H''}$ = 0.53 Ratio $\frac{h'}{H'}$ = 0.65 b″/L = 2.0/2.6 = 0.77 b′/L = 2.0/2.6 = 0.77 

Key:

L = Width of MCL® Stucco Rite® Wall Panel
H = Average Panel Height
H′ = Lower Panel Height
H″ = Upper Panel Height
h = Opening Heights - Single Level
Σh = Sum of Opening Heights
h′ = Opening Height - Lower Level
h″ = Opening Height - Upper Level
R = Rise of Gable
b = Opening Width - Single Level
Σb = Sum of Opening Widths
b′ = Opening Width - Lower Level
b″ = Opening Width - Upper Level
He = Eaves Height
VMCJ or HMCJ
Floor / Wall Junction

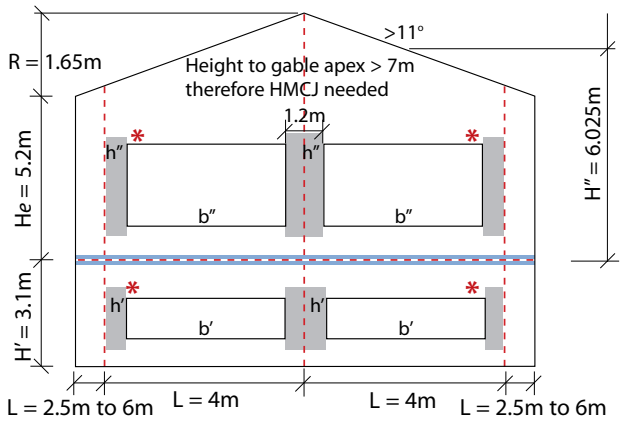
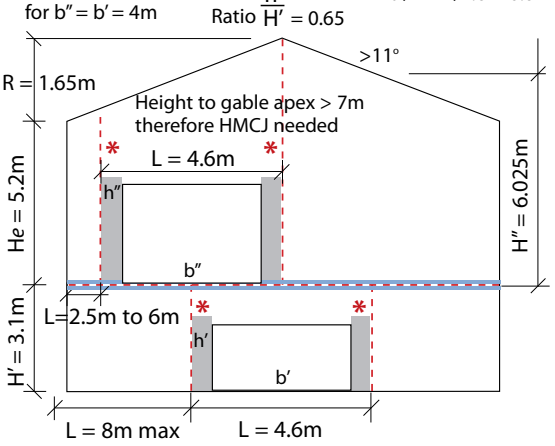
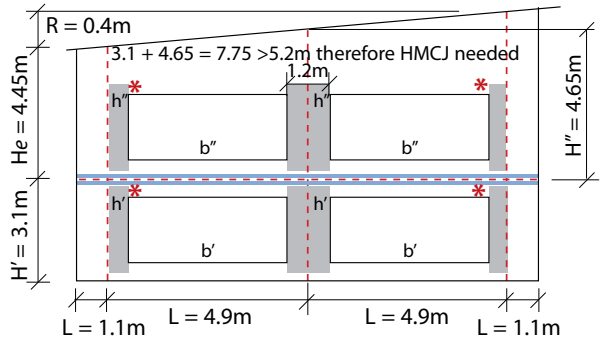
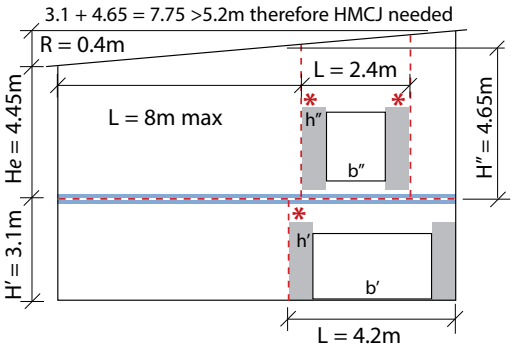
MCL® Fibre Glass Mesh in base coat extending 300mm above and below opening

* = VMCJ's required by Rules 2 or 8 and placed at min separation distance i.e. 175mm

* = VMCJ's required by Rules 2 or 8 and placed at max separation distance i.e. 300mm

Note: Figures on this page assume floor and wall framing has a moisture content of 18% or less

TABLE G

Wall Type Two Level	Wall & Large Openings	Wall & Windows & Doors From Slab
G.25 • Two Level & Gable End	**G.25A** for h″ = 2.6m for h′ = 1.3m for b″ = b′ = 3.1m Ratio $\frac{h''}{H''}$ = 0.43 Ratio $\frac{h'}{H'}$ = 0.42 b/L = 3.1/4 = 0.78 	**G.25B** for h″ = 3.0m for h′ = 2.0m for b″ = b′ = 4m Ratio $\frac{h''}{H''}$ = 0.5 Ratio $\frac{h'}{H'}$ = 0.65 b″/L = 4/4.6 = 0.87 b′/L = 4/4.6 = 0.87 
G.26 • Two Level Monoslope	**G.26A** for h″ = 2.0m for h′ = 2.0m for b″ = b′ = 4m Ratio $\frac{h''}{H''}$ = 2/4.65 = 0.43 Ratio $\frac{h'}{H'}$ = 0.65 b/L = 4/4.9 = 0.82 	**G.26B** for h″ = 2.1m for h′ = 2.0m for b″ = 1.8m for b′ = 3.6m Ratio $\frac{h''}{H''}$= 2.1/4.65 = 0.45 Ratio $\frac{h'}{H'}$ = 0.65 b″/L = 1.8/2.4 = 0.75 b′/L = 3.6/4.2 = 0.86 

Key:

L = Width of MCL® Stucco Rite® Wall Panel
H = Average Panel Height
H′ = Lower Panel Height
H″ = Upper Panel Height
h = Opening Heights - Single Level
Σh = Sum of Opening Heights
h′ = Opening Height - Lower Level
h″ = Opening Height - Upper Level

R = Rise of Gable or Roof
b = Opening Width - Single Level
Σb = Sum of Opening Widths
b′ = Opening Width - Lower Level
b″ = Opening Width - Upper Level
He = Eaves Height
VMCJ or HMCJ
Floor / Wall Junction

MCL® Fibre Glass Mesh in base coat extending 300mm above and below opening

* = VMCJ's required by Rules 2 or 8 and placed at min separation distance i.e. 175mm
* = VMCJ's required by Rules 2 or 8 and placed at max separation distance i.e. 300mm

Note: Figures on this page assume floor and wall framing has a moisture content of 18% or less

H Maintenance Requirements and Repairs

The MCL® Stucco Rite® System Requires Regular Maintenance

Inspections shall be made at least every 12 months to check the condition of the MCL® Stucco Rite® System. The inspection shall ensure that:

- The plaster and flashings are sound, with no structural damage, cracking or deterioration
- The paint coating continues to provide complete coverage and is not cracked or damaged
- The plaster and sealant at penetrations and EPS mouldings is free from cracking and deterioration
- Ground and roof clearances at the base of the MCL® Stucco Rite® System are maintained at all times.

After ensuring the MCL® Stucco Rite® System and coatings are sound, clean all plaster surfaces to remove any grime, dirt and dust particles. Cleaning shall be carried out with a soft brush using warm water and mild detergent. Clean off with fresh water afterwards. Do not use a water blaster to clean surfaces of the MCL® Stucco Rite® System.

Repaint and reseal as necessary to ensure that the integrity of the MCL® Stucco Rite® System and the waterproof coating is maintained at all times. Repainting must be accordance with Paragraph 9.3.7 of E2/AS1 and have a Light Reflective Value of 40% or more.

Repairs

Any damage or deterioration to the MCL® Stucco Rite® System or coatings must be repaired immediately.

Cracks larger than 1.5mm wide, areas of cracking other than single cracks up to 1.5mm, or structural damage must be repaired by a qualified plasterer as required in NZS 4251 to reinstate the MCL® Stucco Rite® System to the original condition as follows:

1. Remove all damaged plaster, and, as necessary, the MCL® Stucco Rite® Mesh Sheet and MCL® uPVC Kwik reinforcement, back to firm undamaged material salvaging at least one square of wire mesh (50mm) and at least 50mm of MCL® Fibreglass Mesh in the levelling and mesh coat.

2. Remove the waterproof coating for a distance of not less than 300mm beyond the repair.

3. If damaged, replace timber wall framing to the requirements of this Technical Manual and NZS 3604.

4. Replace wall wrap, overlaying at the base and under at the top and seal all joints with flashing tape.

5. Reinstate battens to the requirements of this Technical Manual.

6. Replace the MCL® Stucco Rite® Mesh Sheet (overlapping one square) and MCL® uPVC Kwik reinforcement and/or uPVC Mouldings and install to the requirements of this Technical Manual.

7. Apply three coats of MCL® Stucco Rite® Plaster as set out in this Technical Manual, including MCL® Fibreglass Mesh in the levelling and mesh coat overlapping existing mesh by 50mm and seal with MCL® Water Repellent Plaster Sealer and repaint. Repainting shall be in accordance with Paragraph 9.3.7 of E2/AS1 and have a Light Reflective Value of 40% or more.