

SmartStone Systems
External Wall Cladding System
Technical and Installation Manual

System Compliant with
NCC 2016, BCA Volume 2

Stone Clad Pty Ltd

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1 Introduction

1.1 SmartStone Systems External Wall Cladding System

SmartStone Systems is a lightweight mechanically fixed weatherproof ventilated façade comprising a natural stone, reconstituted stone or porcelain veneer bonded to a backing panel and aluminium fixing components. It is designed to be fixed directly to a structural wall made of timber, steel, masonry, concrete or any other substrate that allows for mechanical restraint with screws or anchors.

SmartStone Systems Residential product has been designed to meet the Performance Requirements specified in the NCC 2016 Volume 2 with respect of exterior cladding products for Class 1 and Class 10 buildings.

- **Structure: (P2.1 Structural stability and resistance to actions)**
Tested and appraised for serviceability and strength under wind actions up to and including AS 4055 Wind Class N4.
- **Weatherproofing and Dampness: (P2.2.2 Weatherproofing, P2.2.3 Dampness)**
Tested and appraised for resistance to penetration of water and moisture from the ground.
- **Fire Safety: (P2.3.1 Fire Separation)**
SmartStone Systems External Wall Cladding System is combustible as defined by the NCC 2016 BCA Volume 2 and must not be located less than 900mm from boundaries or 1800mm from another building, as defined in Part 3.7.1.3.
- **Energy Efficiency: (P2.6.1 Building)**
SmartStone Systems External Wall Cladding System incorporates insulation and has Total R-values which may be used to demonstrate compliance with Part 3.12.1.4 wall insulation requirements.

2 System Summary

The SmartStone Systems natural stone, reconstituted stone, or porcelain veneer of 6 mm to 15 mm thickness is bonded to a backing panel using a chemically set industrial polyurethane adhesive less than 1mm thick with high pressure under factory controlled conditions. The system is fixed to a structural wall using a series of continuous rail and clip extrusions made from 6063 grade aluminium that fit into a 4mm wide slot cut into the backing panel. The panels are sealed at the edges and between the blocks by way of aluminium and/or plastic extrusions that provide a physical water barrier and silicone or polyurethane sealant to ensure any gaps between these elements are filled.

The system provides a lightweight, weatherproof, ventilated facade that may be fixed directly to a structural frame. Once installed SmartStone Systems design provides a thermal break between the interior of the building and the external stone skin, and the backing panel provides insulation. Its design also allows for movement of the structure while maintaining its weatherproofing integrity and thermal performance. It may also be used for internal applications as a decorative finish.

The variety of possible veneer finishes available are too numerous to be described here. For the purposes of calculation, the nominal maximum veneer density is 2800 kg/m³, which represents the saturated mass of the heaviest veneer material. The overall maximum system weight is 42kg/m².

Product selection, and incorporation into the building design, must be made by a person who is conversant with the application and technical aspects of the product, and has ready access to the relevant technical information related to the product use.

Product installation must be carried out by a competent carpenter or other tradesman under the direction of a builder, both of whom are conversant with the method of product installation, and have access to all relevant technical information on product installation.

3 Materials

No component substitution is permitted on any design. Installation of any non-standard or non-approved SmartStone Systems External Wall Cladding System components will void any product warranty or claims in relation to product performance.

3.1 SmartStone Systems Residential Panel Components

- Natural stone laminated to Foamular XPS backing foam with polyurethane
- Veneer thickness between 6 mm and 15 mm thick depending on material
- 50mm thick Foamular XPS Thermoplastic Extruded Insulation sheet Backing Board
Where the XPS varies from this specification, the mechanical, dimensional and thermal properties must be verified prior to incorporation into any structure.
 - Density of XPS panel 43 to 45 kg/m³
 - Thermal Conductivity 0.028 W/(m.K)
 - Flexural Strength 962 kPa
 - Dimensional Stability 0.7 %
 - Compressive Strength 590 kPa
 - Fire Retardant chemicals added in production
- Maximum weight of system including veneer, extrusions & sealant 42 kg/m²
- Maximum size of individual panel 300 high x 1200 wide
- Overall system thickness (back of clip to face of veneer) nominally 80mm.

3.2 Damp Proof Course

Minimum 300mm wide to be made of non-permeable material, e.g. Consolidated Alloys Plascourse 300mm x 500µm Polyethylene Dampcourse. Damp proof course (DPC) must meet the requirements of AS/NZS 2904.

3.3 Flashing

“Parapet-to-Wall” flashing shall be installed (see Installation Item # 20), conforming to the requirements of AS 2904:1995. E.g. Consolidated Alloys Group (CAG) Weatherflash Flashing, 300 mm x 0.3 mm.

“Bottom-Edge” flashing as shown in Construction Details 7.1 and 7.2 shall be installed e.g. “Damp Proof Course” as identified above

3.4 Fixing Screws

'Type 17' 12g 50mm long timber screw with rubber seal were used to fix to MGP10 pine studs and noggins. For steel frame or masonry fixing an alternative fixing with minimum pull-out strength of 3900 N, single shear strength of 8400 N, axial tensile strength 13.9 kN and torsion strength 13.5 Nm may be used. When installed in high corrosion zones such as coastal locations, fasteners must be made of materials appropriate to the desired life of the system and geographical location. Class 4 Screws may be necessary in these zones. The advice of the fastener supplier should be sought. Class 3 screws (Class 4 or 304 or 316 stainless steel for corrosive environments). Screws must comply with the corrosion protection requirements of AS 4773 (Part 4 and Appendix C).

3.5 Building Wrap (Breathable)

Sarking (Wall Wrap) – medium-duty breathable compliant with AS/NZS 4859.1, AS/NZS 4200.1 and AS 3959. It must have a Flammability Index (FI) not greater than 5 in accordance with AS 1530.2. E.g. Ametalin MD-40-B.

3.6 SmartStone Systems Continuous Reveal Rail Extrusion

Proprietary aluminium extrusion to seal the bottom edge of the panel, provide weep holes for drainage and support the bottom edge of the construction.

3.7 SmartStone Systems Residential Joiner Extrusion

PVC or 6063 grade aluminium

3.8 Clip Bracket

Extruded 6063 grade aluminium

3.9 Continuous Batten (see window jamb detail)

Extruded 6063 grade aluminium

3.10 End Cap Extrusion

Extruded 6063 grade aluminium

3.11 Packing (see window jamb detail)

Packing is Aerobolt JDV01 and JDV02 plastic packing shims or similar made and tested in accordance with ASTM695 and compliant with AS3850.

3.12 Window / Door Flashing

Window & door flashing uses the SmartStone Systems Reveal Extrusion with all weep holes blocked with silicone or polyurethane sealant, and the top edge sealed to the sarking using the Ametalin IDT-5050 tape. Silicone or polyurethane sealant is applied between the reveal extrusion and the window or door frame.

3.13 Sill Block

Sill is 25mm thick x 115mm deep x nominally 600mm long solid stone sill block to match cladding selection with locating groove to underside and drip line 15mm from front edge.

3.14 Flashing Tape

Flashing Tape (e.g. Ametalin Foil Insulation Tape) for weatherproofing Building Wrap at all openings, penetrations, connections.

3.15 Backing Rod

The 'backing rod' material is a closed-cell polyethylene foam, 10 mm diameter as 'back-blocking' for flexible adhesive sealants placed in joints.

3.16 Adhesive Sealant

Neutral cure silicone or polyurethane adhesive sealant, e.g. B&L clear & dark grey neutral cure silicone.

3.17 Caulking

Caulking to be neutral cure silicone or polyurethane sealant in colour to match stone selection. E.g. B&L BLN192 translucent neutral cure silicone.

4 National Construction Code (NCC) 2016

The National Construction Code is a performance based code that does not limit the use of new and innovative systems. It allows a building to be constructed to achieve so long as the relevant performance requirements are met. This may be demonstrated through compliance with an existing Deemed-to-Satisfy Solution, or by a Performance Solution (previously known as an Alternative Solution).

Any building system that is not described in the Deemed-to Satisfy provisions can only demonstrate compliance via a Performance Solution. This applies to External Wall Cladding Systems that are not listed in BCA Volume 2, Part 3.5.3.

4.1 Structural Performance

SmartStone Systems External Wall Cladding System is suitable for use in AS 4055 Wind Classifications N1, N2, N3 and N4 (and excludes AS 4055 Wind Classifications N5, N6, C1, C2, C3 and C4). Wind Classification is determined by the site and the height of the building in accordance with AS 4055.

SmartStone Systems External Wall Cladding System is non-load-bearing and not intended to act as wall bracing or to resist any other actions which must be designed into the wall framing prior to installation of the panels.

Control joints are required at regular intervals to allow for building movement. In all cases, SmartStone Systems External Wall Cladding System may only be installed on buildings that conform to the requirements of AS 4055 including;

- distance from ground level to the underside of eaves shall not exceed 6.0m,
- distance from ground level to the highest point of the roof, not including chimneys, shall not exceed 8.5m,
- width including roofed verandas, excluding eaves, shall not exceed 16.0m, and the length shall not exceed five times the width, and
- roof pitch shall not exceed 35 degrees pitch.

4.2 Dampness and Weatherproofing Performance

SmartStone Systems External Wall Cladding System complies with the NCC 2016 performance requirements for weatherproofing and dampness confirmed by testing in accordance with the verification method V2.2.1 in the NCC 2016. Full-scale testing has been performed to check the performance of;

- vertical and horizontal control joints; and
- wall junctions; and

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- windows or doors; and
- electrical boxes; and
- balcony drainage and parapet flashings; and
- footer and header termination systems.

4.3 Fire Safety Performance

As a combustible external wall system, SmartStone Systems External Wall Cladding System may not be installed less than 900mm from an allotment boundary or 1800mm from another building, as defined in NCC 2016 Part 3.7.1.3.

Heat producing appliances e.g. BBQ's & Patio Heaters, Hot Water Services, Flues from Heating Appliances, all must be installed in accordance with manufacturers' requirements for combustible building materials.

4.4 Thermal Performance

SmartStone Systems External Wall Cladding System incorporating a breathable reflective wall wrap and 10mm plasterboard lining achieves Total R-values in accordance with AS/NZS 4859.1.

External Wall Cladding	Total R-value (m ² .K/W)	
	Winter (Heat flow outwards)	Summer (Heat flow inwards)
50 mm XPS	3.1	2.9

Increased thermal performance can be achieved by adding insulation between the wall studs.

5 Specifications

SmartStone Systems Residential product may be installed to steel or timber frame and masonry construction that have been constructed to comply with relevant performance requirements of the National Construction Code 2016 Volume 2 for Class 1 & 10 Buildings.

5.1 Prior to installation

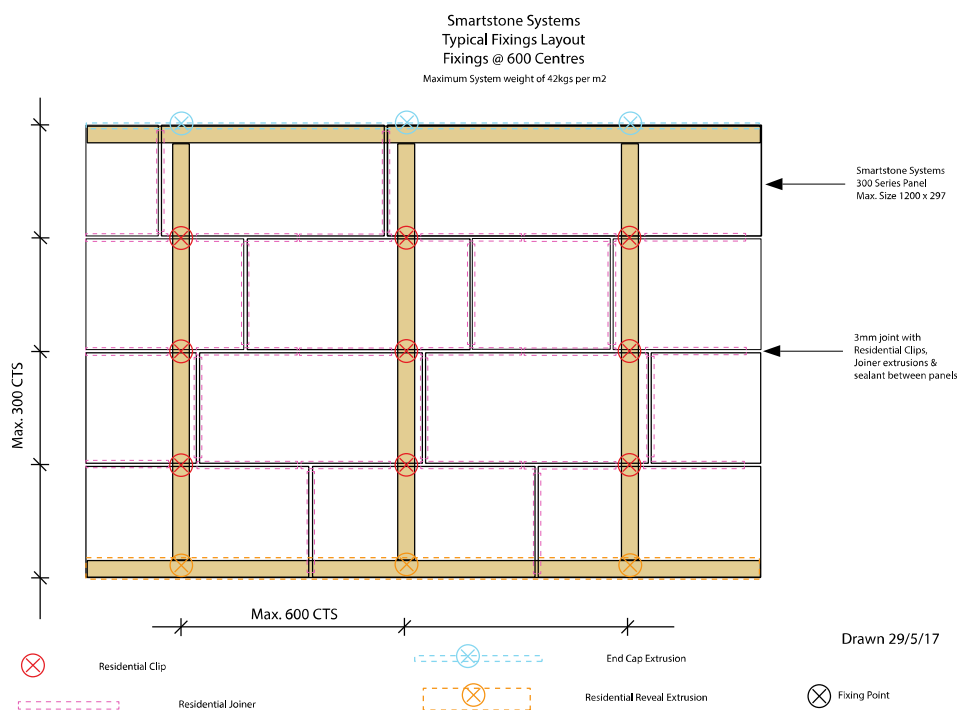
All walls must be checked to ensure they are straight. Maximum stud spacing is 600mm. Eave linings, damp proof course, flashings, sarking, box guttering, windows, waterproof membranes, and any penetrations such as pipes, meter boxes, drain pipes and the like should be fixed in position prior to commencement of installation of SmartStone Systems product. Care should be taken to ensure that any additional studs and nogging that may be required to ensure that expansion joints and clips used to fix the system are in place prior to installation.

6 Installation

SmartStone Systems External Wall Cladding System must be installed only by qualified and experienced carpenters or other tradesmen, who are conversant with the installation techniques set out in this, SmartStone Systems External Wall Cladding System Technical Manual.

6.1 Typical Panel Layout for 600mm Stud Wall

The following diagram shows the typical panel layout of the SmartStone Systems product:



SmartStone Systems Reveal Rail should be used as a starting rail and must be cut to ensure that it runs the entire length of the structural wall so that the DPC and sarking may be taped onto it. A minimum of 10mm gap should be left below the starting rail to ensure the egress of any water that may be in the cavity. In all other areas a minimum of 5mm gap should be left between the SmartStone Systems product and any adjoining vertical or horizontal structural or cladding materials. The gap between SmartStone Systems product and any of these materials should be sealed after installation.

6.2 Step-by-Step Installation Method

1) SmartStone Systems Reveal Rail is fixed to frame ensuring it is straight, and level. The bottom of the rail must be a minimum of 10mm below the lowest interior floor level and have minimum 10mm gap below the extrusion to ensure water can drain away.



2) Care should be taken to ensure each rail is closely fitted to the next, and a maximum gap between any two extrusions of 10mm is allowed for expansion joints.

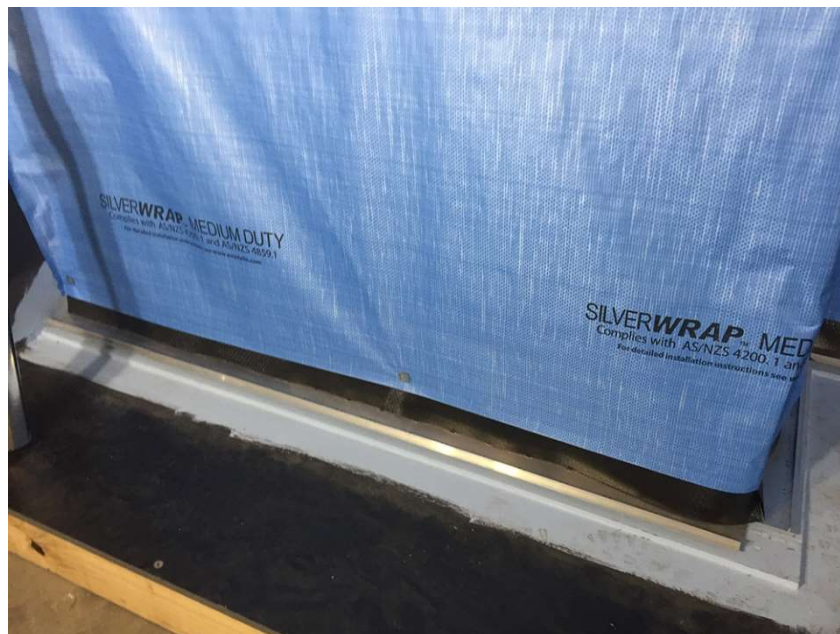


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3) Once the Reveal Rail extrusion has been fitted dampcourse is fixed to the frame ensuring that the bottom edge extends below the level of the fixing screws.

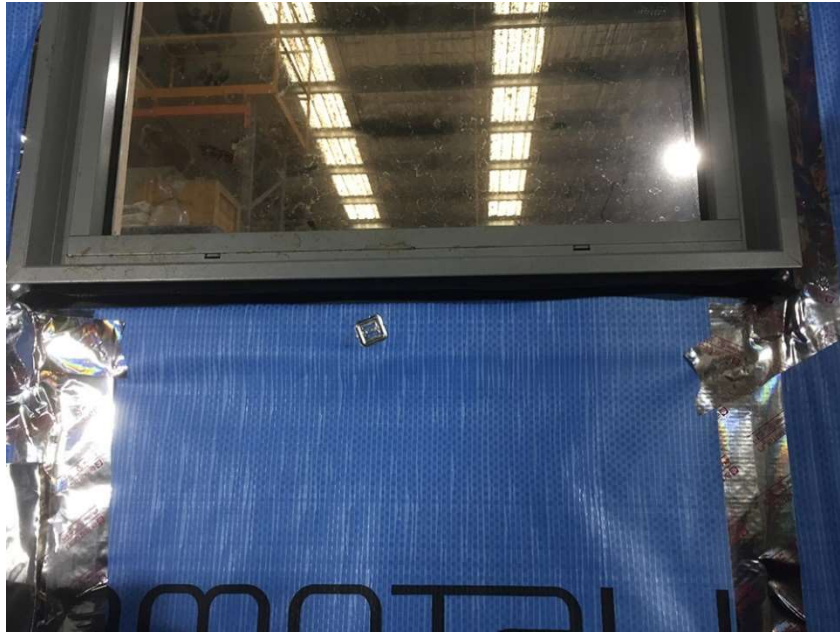


4) Sarking is then fixed to the frame according to manufacturer's directions taking care to ensure it overlaps the dampcourse by a minimum of 150mm.



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5) All joints in sarking should be lapped a minimum of 50mm and taped.



6) The first block is placed on the reveal extrusion so the locating fin sits in the groove in the backing board. PVC or aluminium joiner extrusions are inserted in vertical joints with maximum 10mm spaces between them



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7) Neutral cure silicone or polyurethane sealant is applied between all vertical and horizontal joints before the next block is laid taking care to bridge any gaps between the joiners and clips.



8) Clips are fixed at maximum 600mm centres and joiner extrusions placed in horizontal joints.



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9) External corners may be one-piece premade units (as seen on top in the picture below) or made up with standard blocks on site with a 'quirk mitre' detail.

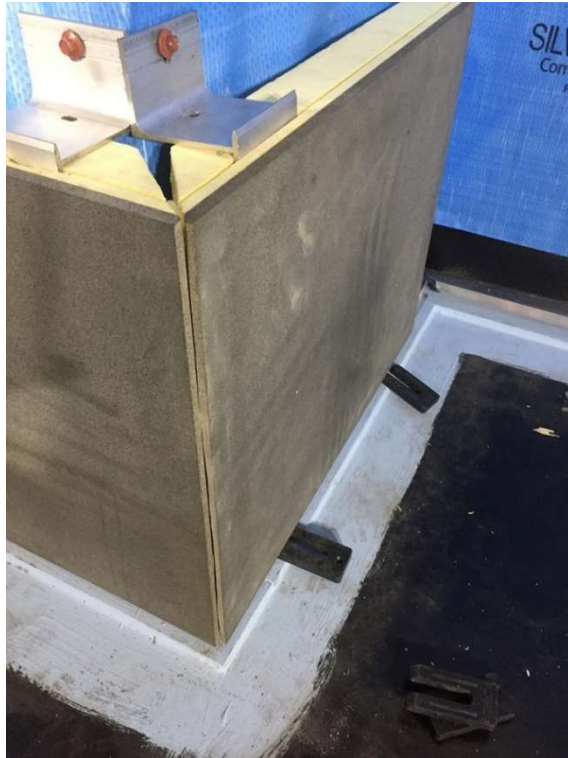


10) To make the quirk mitre detail the end of the block is cut back on a 45 degree angle a set distance from the face. Once one block is laid sealant is applied to the surface adjoining the second block.



SmartStone Systems– External Wall Cladding System

11) The second block is fixed into place leaving an internal 90 degree angle quirk detail with even side length each way on the external corner.



12) Once the quirk detail is caulked in a complementary colour the external joint is complete.



SmartStone Systems– External Wall Cladding System

13) Internal corners should have the blocks overlapped and sealant applied in vertical joints.

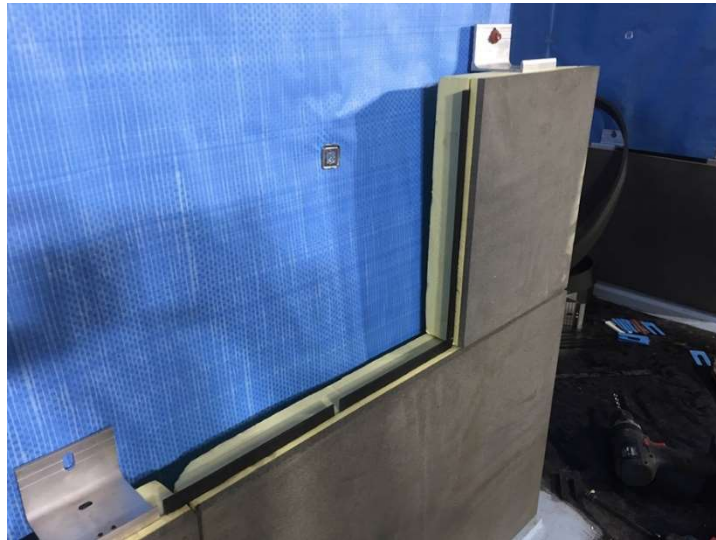


14) Where expansion joints are specified for structural purposes a 10mm gap is left that must have backing rod inserted before being filled with flexible sealant.



SmartStone Systems– External Wall Cladding System

15) Each long run should be started by laying the exterior corners first to set the height. Lines may be run between these corner blocks. It is advised that one or two blocks be laid against the corner blocks before lines are set to help support it and prevent its being moved by the tensioned line.



16) A helpful tip is to 'dry lay' each block before applying sealant. This helps ensure a proper fit before sealant is used, and adjustments can be made if necessary without creating mess. It is important to avoid having the sealant contacting the face, particularly for darker coloured stones. Note below how a mark has been made where the dry laid block finished which gives a guide to where the sealant should stop before the block is laid.

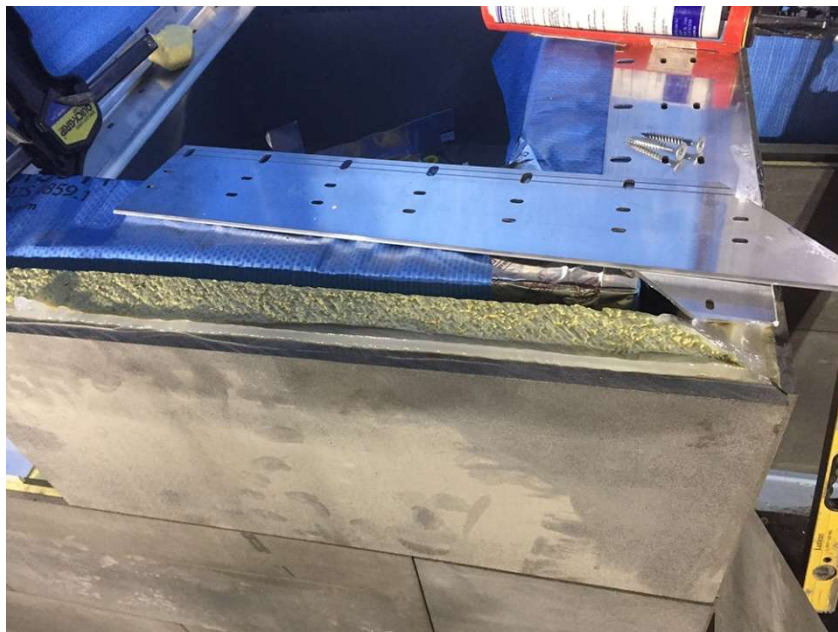


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17) Sarking should wrap parapet walls completely into box gutters, lap onto penetrations such as windows and meter boxes, and tape used to seal joints in sarking and to all penetrations.



18) The End Cap extrusion is used to provide support to the edge of blocks wherever they terminate at parapets or vertical joints. Sealant should be applied to the locating groove prior to installation of the End Cap extrusion.



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19) Should the wall continue above a box gutter or flashing to a roof the Reveal Rail extrusion is fixed to the structure ensuring the bottom of the rail laps a minimum of 10mm onto the upstand of the gutter or flashing to ensure any water exiting the weep holes is caught.



20) Flashings over parapet walls are required to ensure water tightness of the wall.

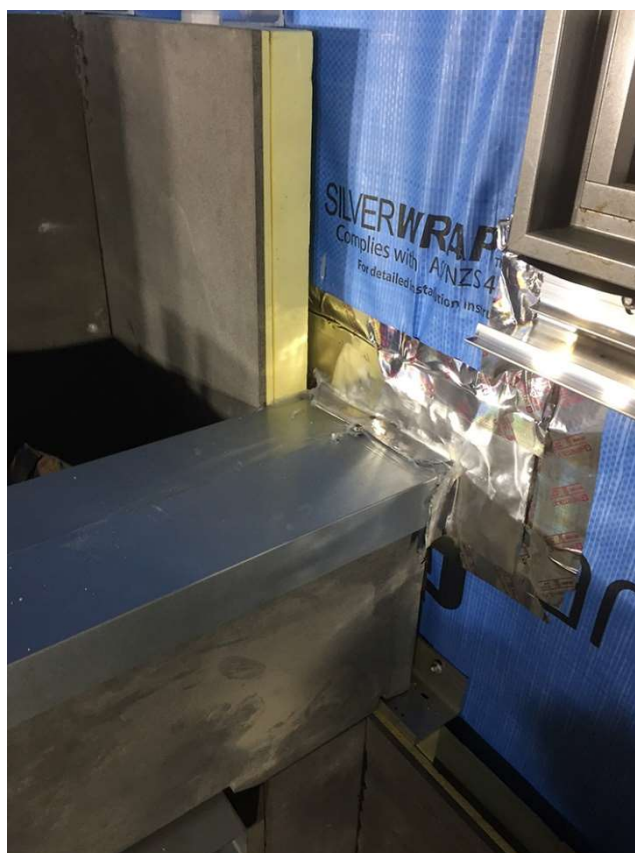


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21) Where stone will be running over a parapet that intersects a wall the flashing should extend to the structural wall and turn up a minimum of 30mm.

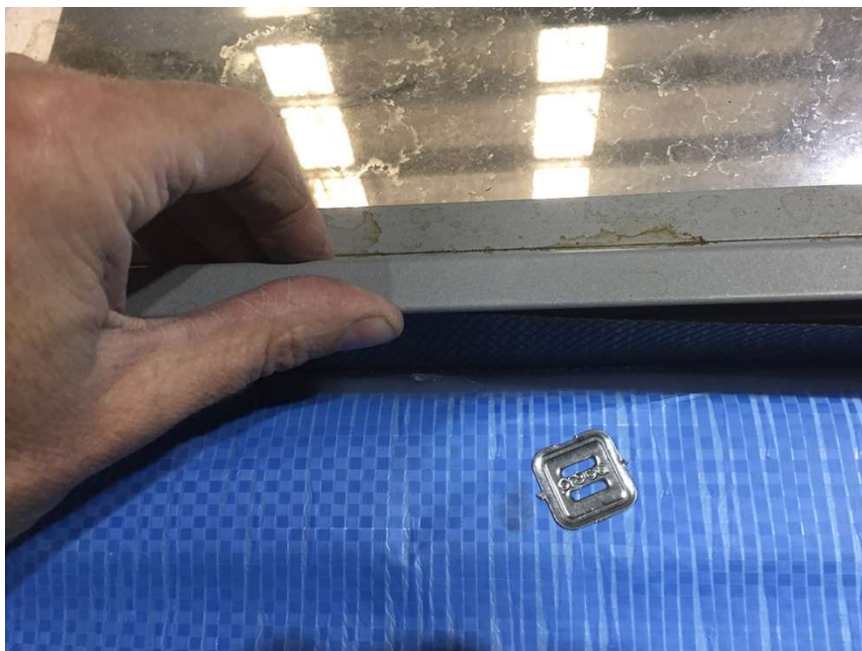


22) Flashing should be taped to sarking to ensure water tightness.

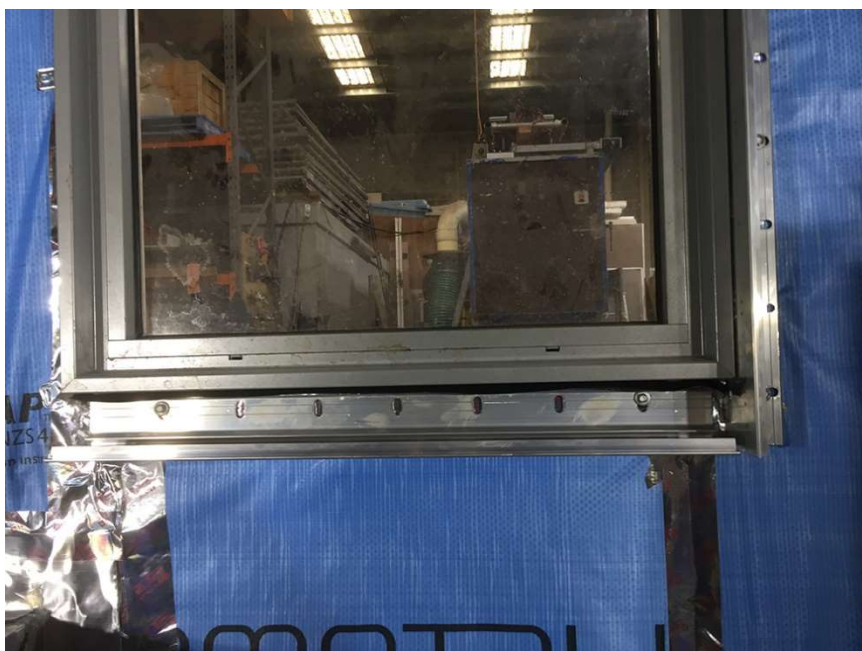


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23) Windows should have flashing applied according to manufacturers' instructions and sealant should be applied between it and sarking below.

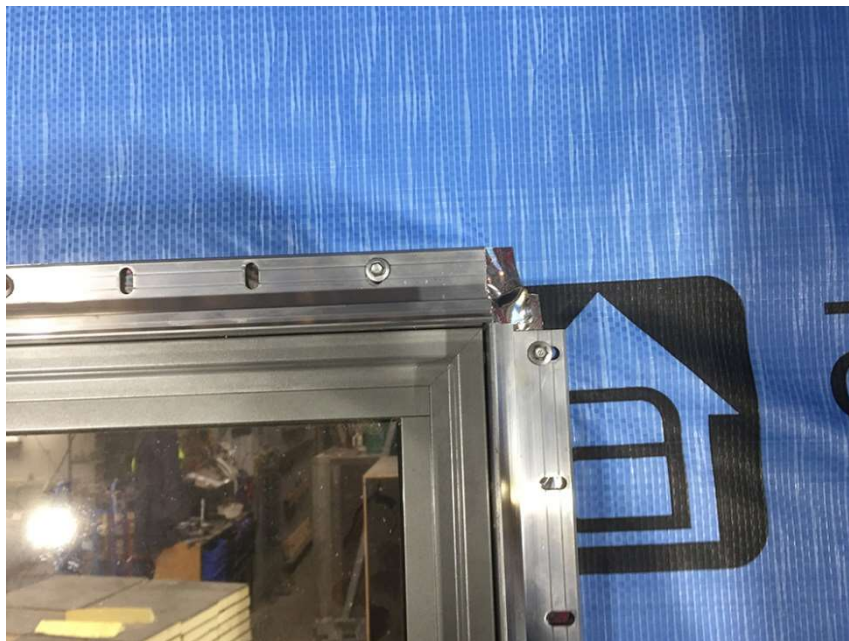


24) The Reveal Rail extrusion may be fixed below a window or door to support a SmartStone Systems sill, and may also be used vertically to close off the cavity beside the window as seen to the right of the window in the picture below.



SmartStone Systems– External Wall Cladding System

25) The same extrusion may be used as a lintel above the window. The junction between the vertical and horizontal extrusions should be closely fitted with the horizontal lintel above the vertical reveal as seen below.



26) There a block runs below a window is should be cut to fit underneath the Reveal extrusion that will support the sill. A groove must be cut into the vertical part of the cut to accept the locating flange on the Reveal extrusion that runs up the side of the window.



SmartStone Systems– External Wall Cladding System

27) The portion of the block that will fit on the wall below the Reveal extrusion that will support the sill should have the backing board cut back at an angle to ensure it will not impede fitting of the block.



28) Tilting the top of the block forward, place the block on the locating groove below and push down to height before standing block up to ensure it is in line with the vertical wall face.



SmartStone Systems– External Wall Cladding System

29) Once it is at the right height the block can be pushed up against the Reveal extrusion fitted to the side of the window to ensure a tight seal and then fixed in place with a bracket.

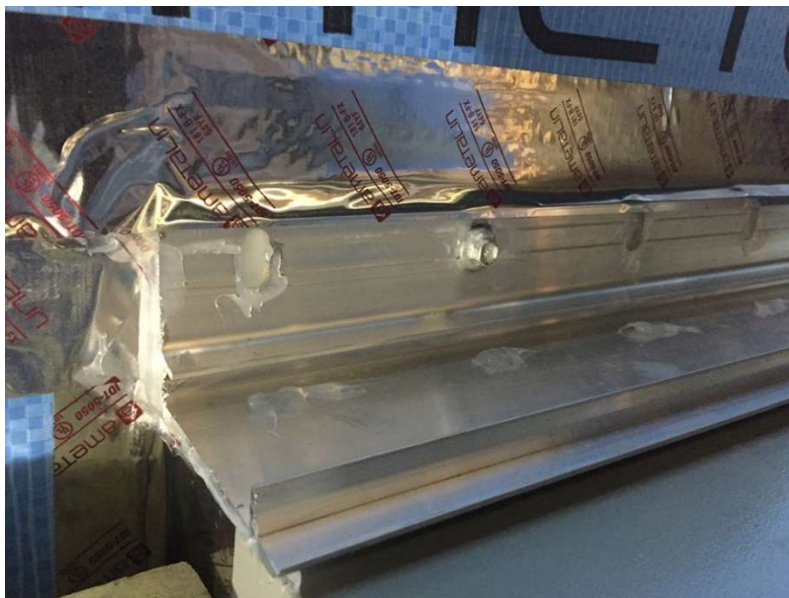


30) Tape should be applied to the top edge of the Reveal extrusion that forms the lintel, and the junction between the vertical and horizontal Reveal extrusions sealed with silicone.



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31) All screw holes, fixings and all weep holes on the Reveal extrusion used as a lintel over an opening must be filled with silicone to ensure water tightness. Note that above meter boxes and other penetrations that do not have self-draining design features a 5-10mm gap should be left between blocks and extrusions that must then be filled with backing rod and sealant.



32) Blocks that are to go over the top of windows or doors must have grooves cut into them to accept the locating flanges on the Reveal extrusion both across the top and down the side of opening.



SmartStone Systems– External Wall Cladding System

33) Any groove that is cut over size on site should be filled with silicone or polyurethane sealant prior to installation to ensure it fits snugly to the locating flange on brackets and extrusions.



34) Sealant may also be applied to Reveal extrusion locating flanges prior to installation of the block.



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35) Once installed should any sealant squeeze out of joints as the block is installed it is best left to go hard before being cut back with a sharp knife.



36) Should horizontal expansion joints be required or where blocks must be fitted up to an eave the clips may be used in vertical joints. At the ends short sections of wall up against block work or other adjoining cladding materials the Reveal extrusion may be cut to act as a starting clip as shown on the right in the image below.



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37) Brackets may be used in vertical configuration as shown below. When working between two fixed points it is best to leave the corner block to be the last one set in place.



38) It may be necessary to provide nogging at the back of stud walls to take the brackets set in vertical joints. Be careful to ensure they are at a height that will allow for the brackets to be fixed without extending above the top of the blocks. The black marks seen in the image below are 60mm below the height of the horizontal expansion joint. Additional nogging has also been placed below the top plate to take vertical brackets below the eave lining.



SmartStone Systems– External Wall Cladding System

39) Once the course below the expansion joint has been fixed a Reveal or Bracket extrusion is set with a minimum 10mm gap between its horizontal element and the block below to allow for expansion.

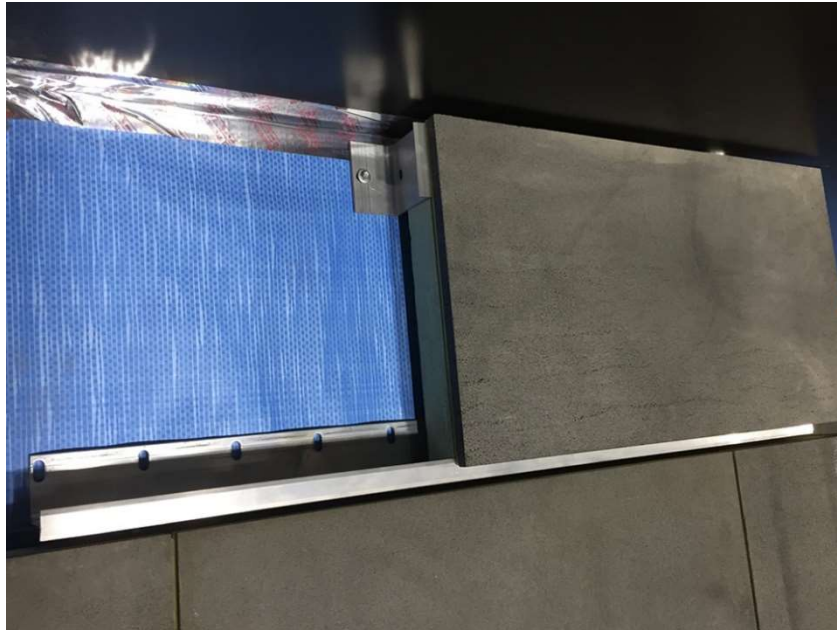


40) The next course is then set the same way the first course was laid at the bottom of the wall. Where a block is up against an overhanging soffit note in the image below that the backing board has been cut back on an angle across the top to allow it to be positioned without getting jammed.



SmartStone Systems– External Wall Cladding System

41) The top course below an eave or soffit requires brackets to be used in vertical joints.



42) Joiner extrusions and silicone or polyurethane sealant is to be applied to fill the vertical joint.



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43) Horizontal and vertical expansion joints and anywhere that the system abuts other materials should have a minimum 10mm gap that is to be filled with backing rod before sealant is applied. Low-tack masking tape is used to protect the surface of the stone prior to sealant being applied. The tape should be removed as soon as sealant has been applied to ensure no residue is left on the face.



44) Sills come with a locating groove that ensures it cannot come loose once installed. The groove allows the sill to lock onto the locating flange on the Reveal extrusion. The sill may also have a 'drip-line' cut approximately 15mm back from the front edge either in the factory or done on site.



SmartStone Systems– External Wall Cladding System

45) Before placing the sill in position, a bead of silicone or polyurethane sealant should be applied along the locating groove, and a few spots on the support ledge at the back of the Reveal extrusion. The support ledge the sill is set at an angle of 10 degrees.



46) Place the sill below the window and lower the back edge onto the support ledge at the back of the Reveal extrusion. This will keep the back up and maintain the angle of the sill as you lower it onto the locating flange on the bottom of the Reveal extrusion.



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47) Once installed sealant should be inserted between the flashing and the back of the sill to ensure water cannot be blown up and over the back of the sill.



48) When applying sealant, it is advisable to protect the sill to ensure it is not accidentally marked.



SmartStone Systems– External Wall Cladding System

49) The junctions between windows, doors, sills, blocks and Reveal extrusions should be sealed.



SmartStone Systems– External Wall Cladding System

50) To install a soffit framing that has been designed to take the weight of the system should be securely installed. Short sections of Reveal extrusions may be used to start, and nogging to take brackets placed are fixed securely to the frame at joint locations.



51) Once a block is cut to produce the same 'quirk mitre' detail as described previously along one edge a bracket is pushed into the locating groove prior to installation.



SmartStone Systems– External Wall Cladding System

52) The block is then fitted to the Reveal extrusion already in place and the bracket fixed to frame.



53) It is useful to mark the line of the soffit and vertical elements to help positioning of the brackets.

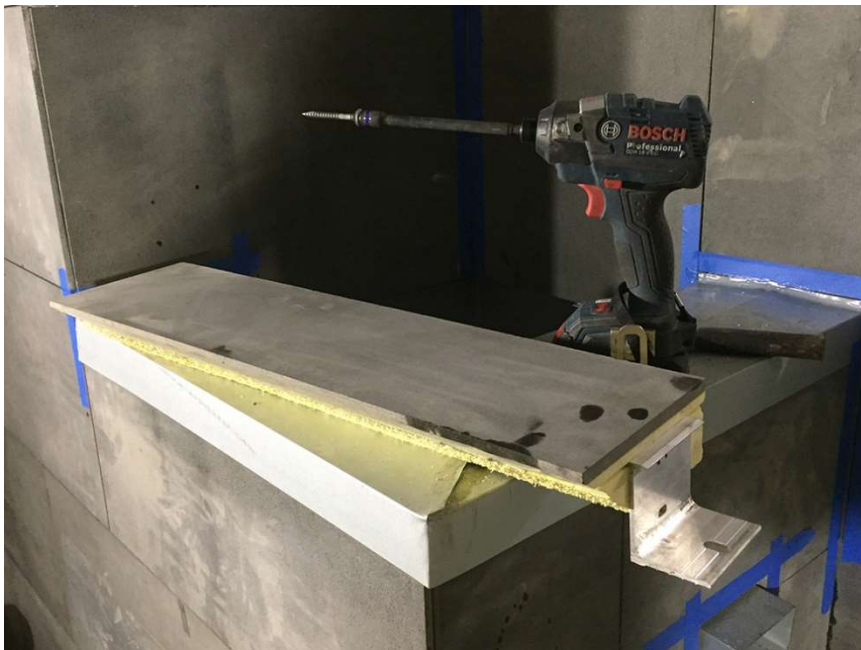


SmartStone Systems– External Wall Cladding System

54) Once the horizontal elements are installed silicone or polyurethane sealant is applied to the surface of the backing board that will meet the adjoining vertical block.



55) Prior to installation of the vertical adjoining piece a bracket is fitted into the locating groove. A tip is to ensure you have your fixing ready to go before you place the block.



SmartStone Systems– External Wall Cladding System

56) The vertical block is then fixed into place and the internal angle may be caulked in a complementary colour to complete the 'quirk mitre' joint.



57) It is best to leave to last one of the blocks that is towards the centre rather than at the extreme end of the soffit section.



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58) The final blocks forming the soffit should be cut exactly to size and pre-assembled to form the 'quirk mitre' detail, then allowed to cure fully. Once this is done the backing board on the vertical part must be cut to allow the block to be slid into position along the horizontal locating grooves without being fouled by the vertical brackets. Prior to installation sealant should be applied to the areas that will contact the brackets once in place.



59) An 18mm thick block should be fixed to the frame and adhesive sealant applied to it and the vertical bracket flanges. The block will provide additional support to the vertical block.



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60) The pre-made block is slid horizontally into place. Vertical joints may be filled but it is important that not all horizontal joints in the soffit are filled so that any water that may accumulate within the soffit can escape.



61) Ensure that all penetrations should have had backing rod inserted and are sealed.

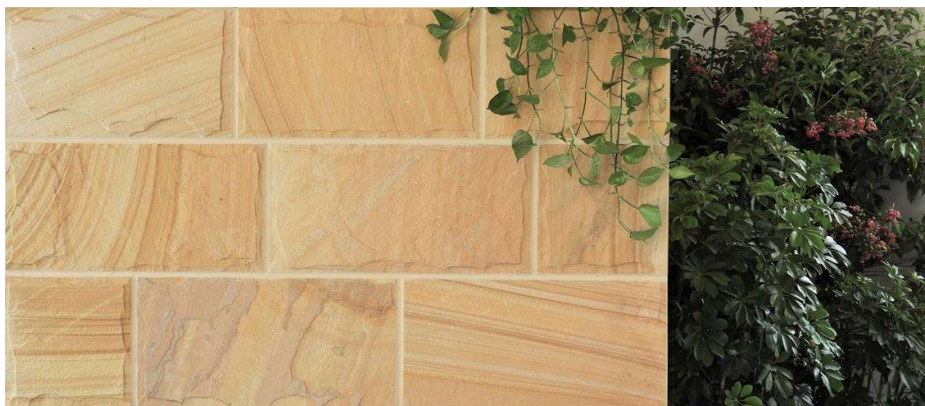


SmartStone Systems– External Wall Cladding System

62) Expansion joints and joints between blocks should have a backing rod inserted and be sealed with neutral cure silicone or polyurethane. It is suggested that a complementary colour be selected for all visible joints.



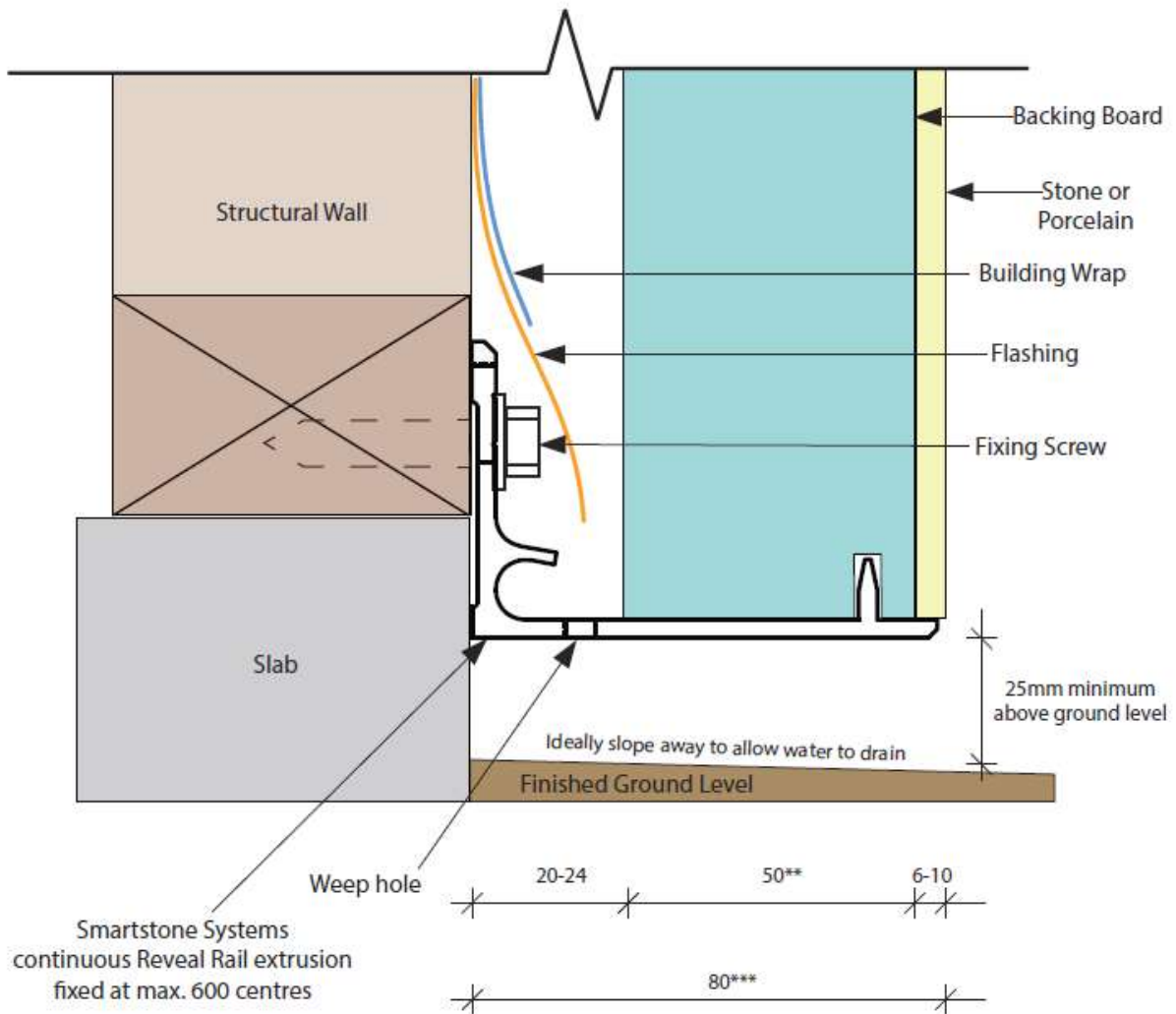
The product is weatherproof if installed according to the above instructions, even though the nominal 3mm joint will appear to be open once finished. This 'open' joint may be caulked or grouted in a complementary colour once the wall is finished without affecting its performance. Should a traditional 'mortar joint' be desired a bevel is machined on the blocks and flexible sanded grout used to fill the joint, giving it the appearance of having been laid with mortar as seen below.



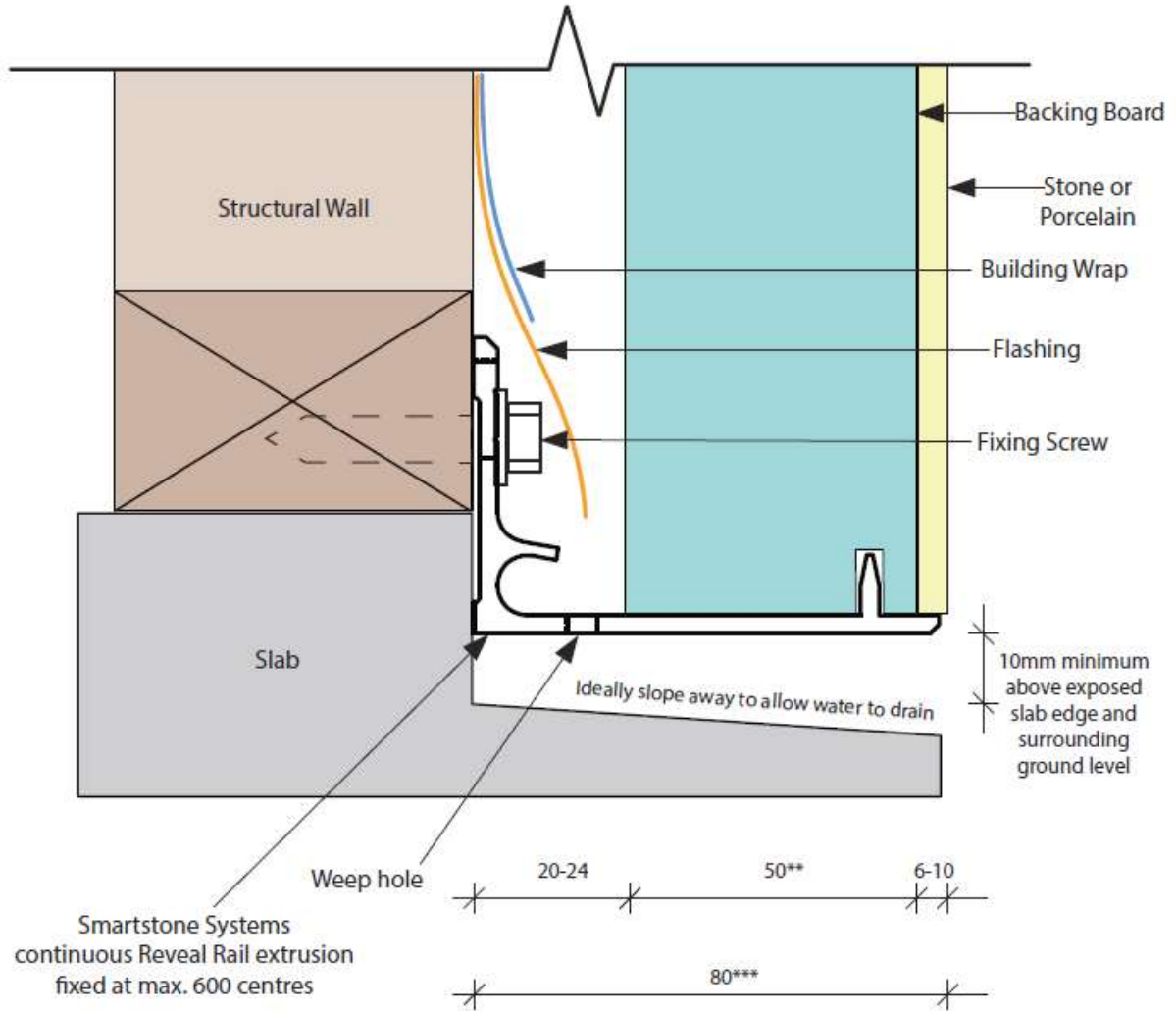
7 Construction Details

SmartStone Systems External Wall Cladding System must be installed in strict accordance with this Technical Manual and be in full accordance with all relevant building codes and regulations. Typical construction details are provided as a guide for construction industry professionals. These details do not constitute a project specific specification and should only be made use of within the context of the entire project specific specifications. Modifications to these drawings shall not be made without the written approval of SmartStone Systems.

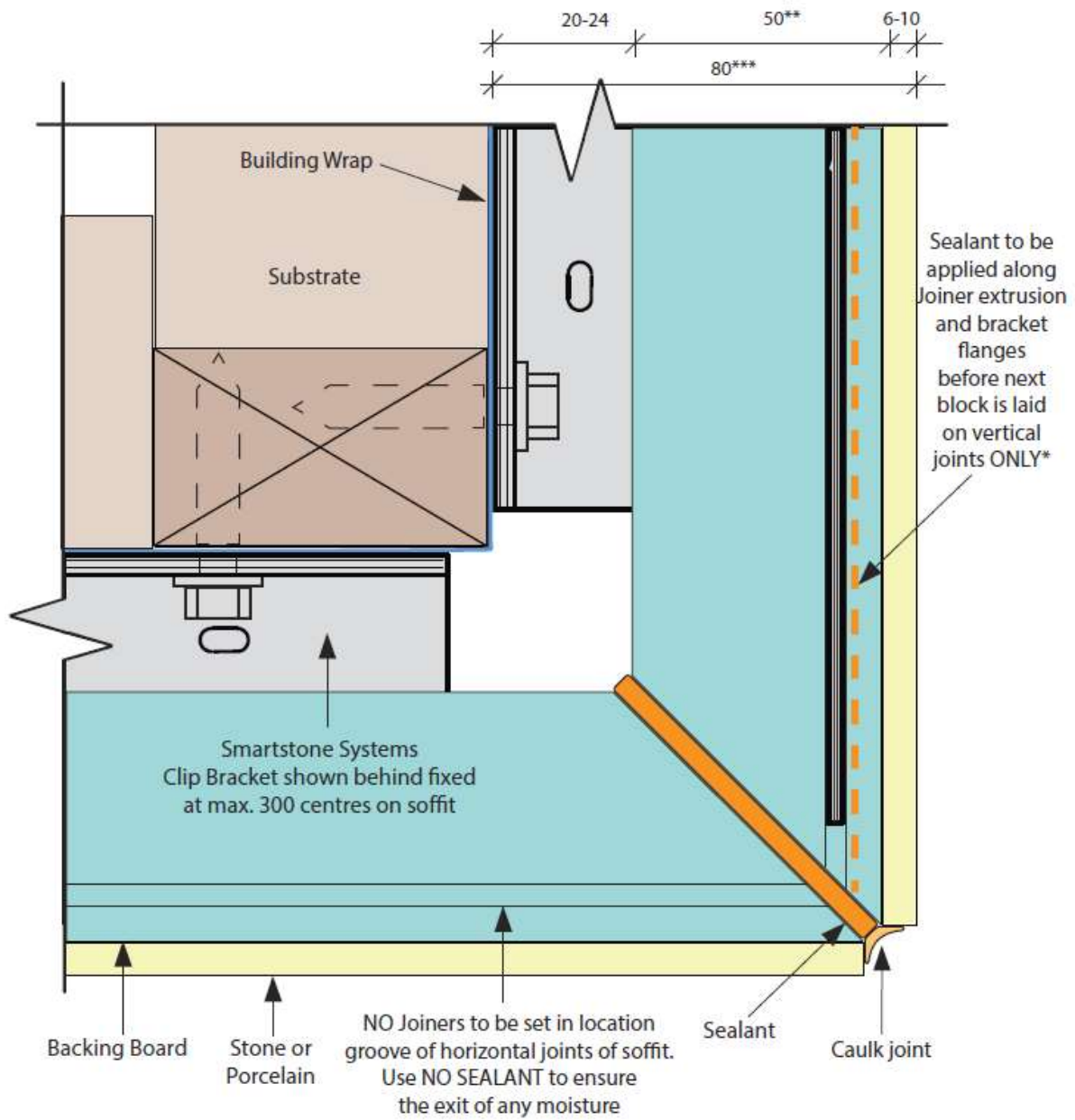
7.1 Concrete Slab Over Edge



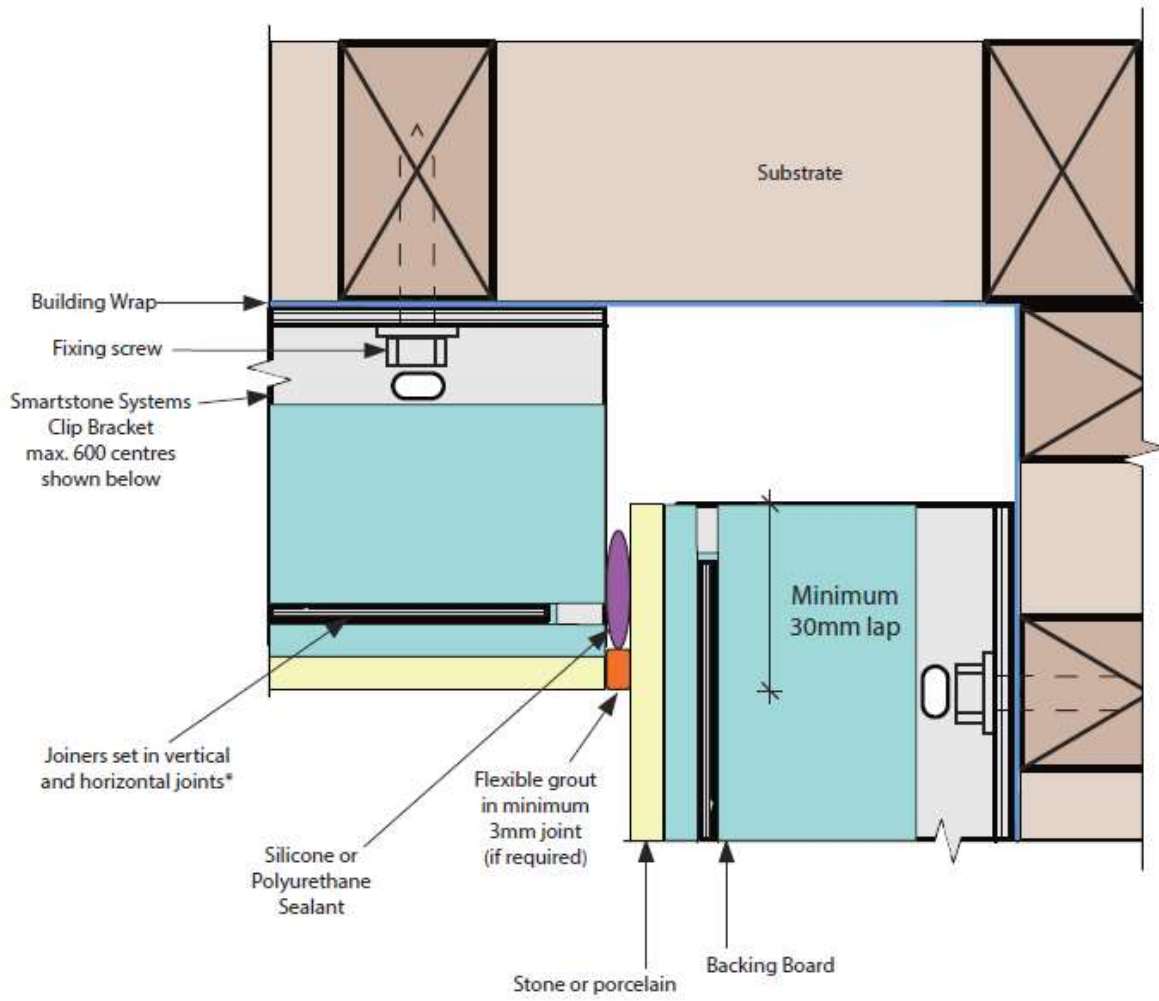
7.2 Concrete Slab Rebate



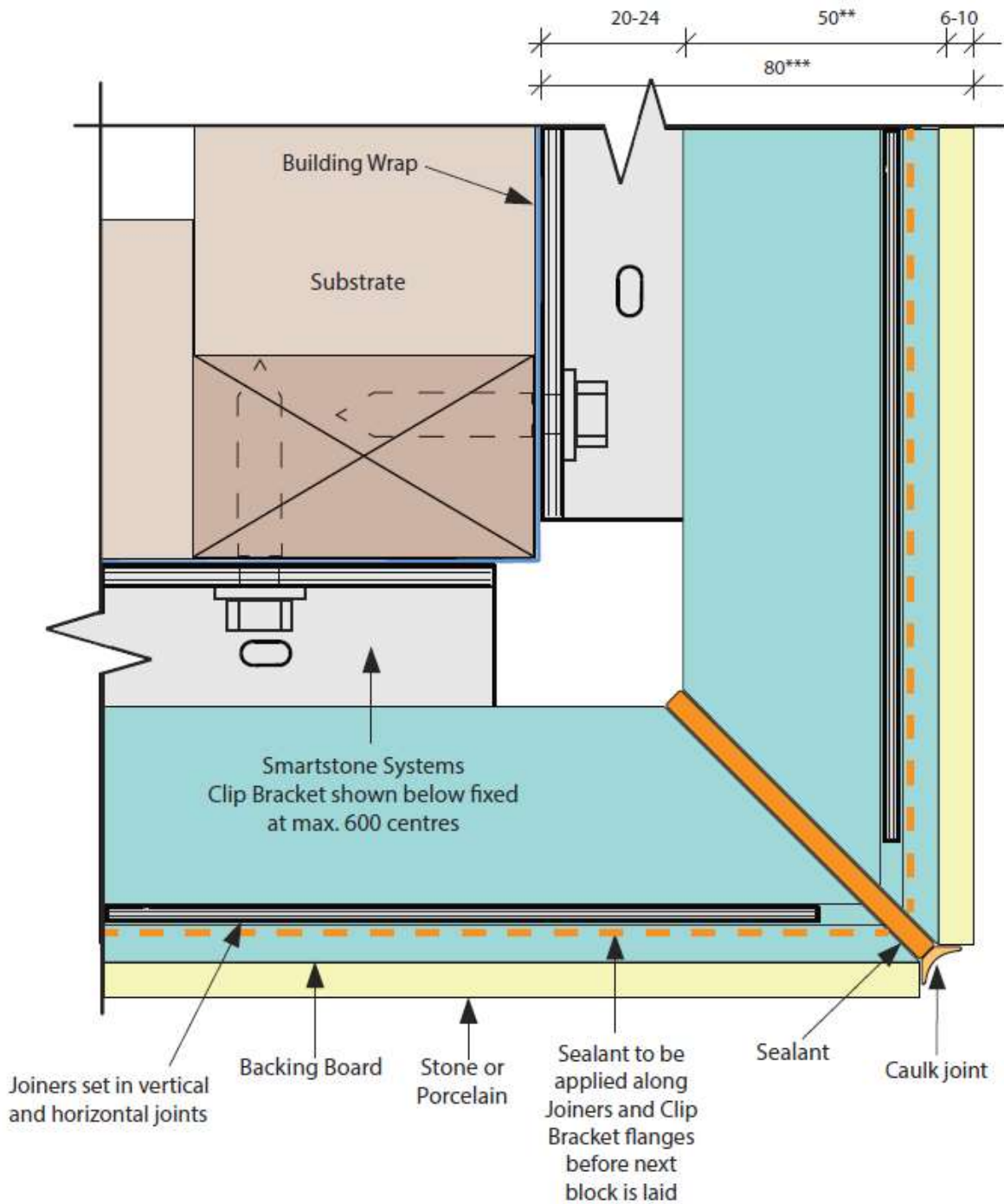
7.3 Soffit Detail – Section View



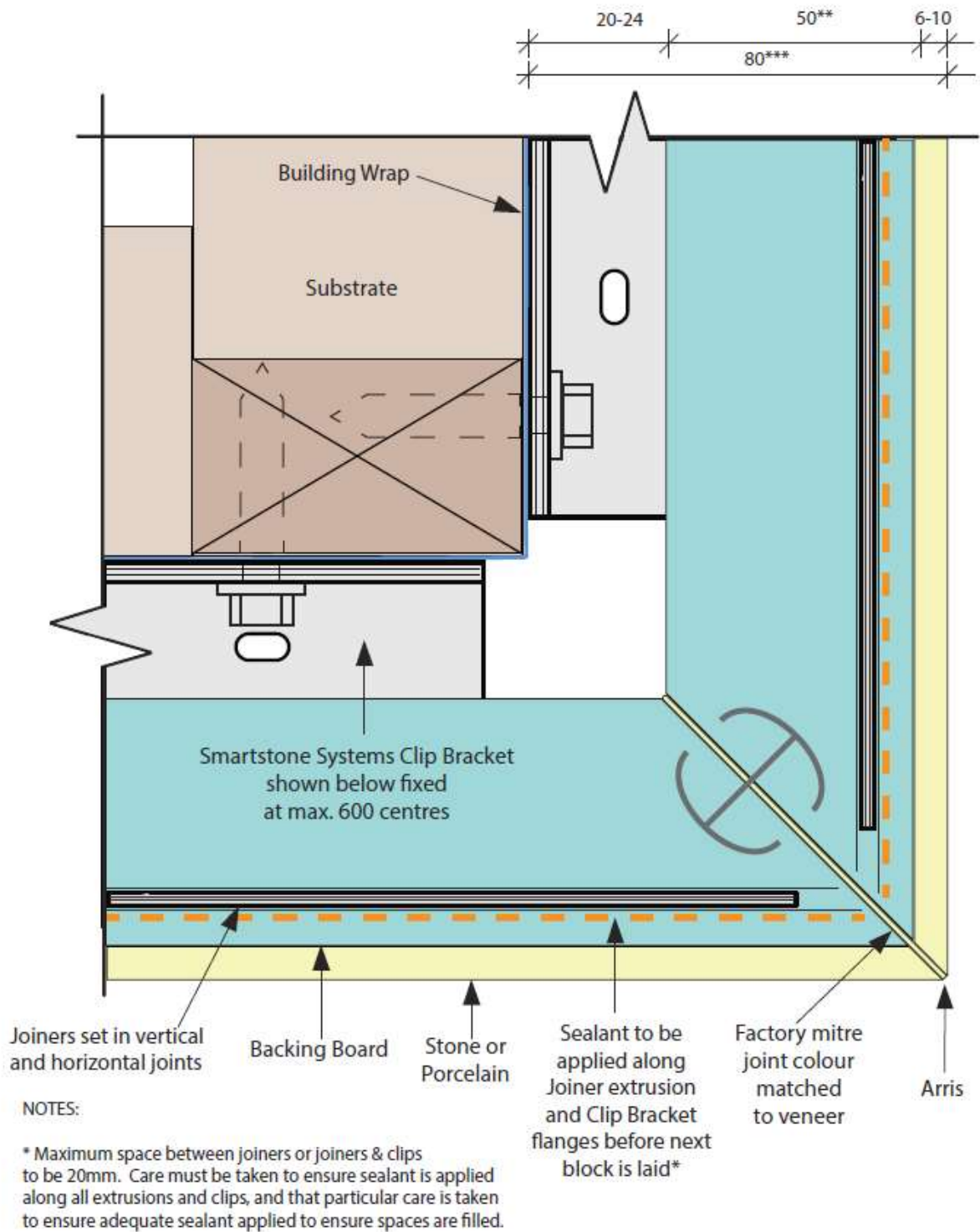
7.4 Internal Corner



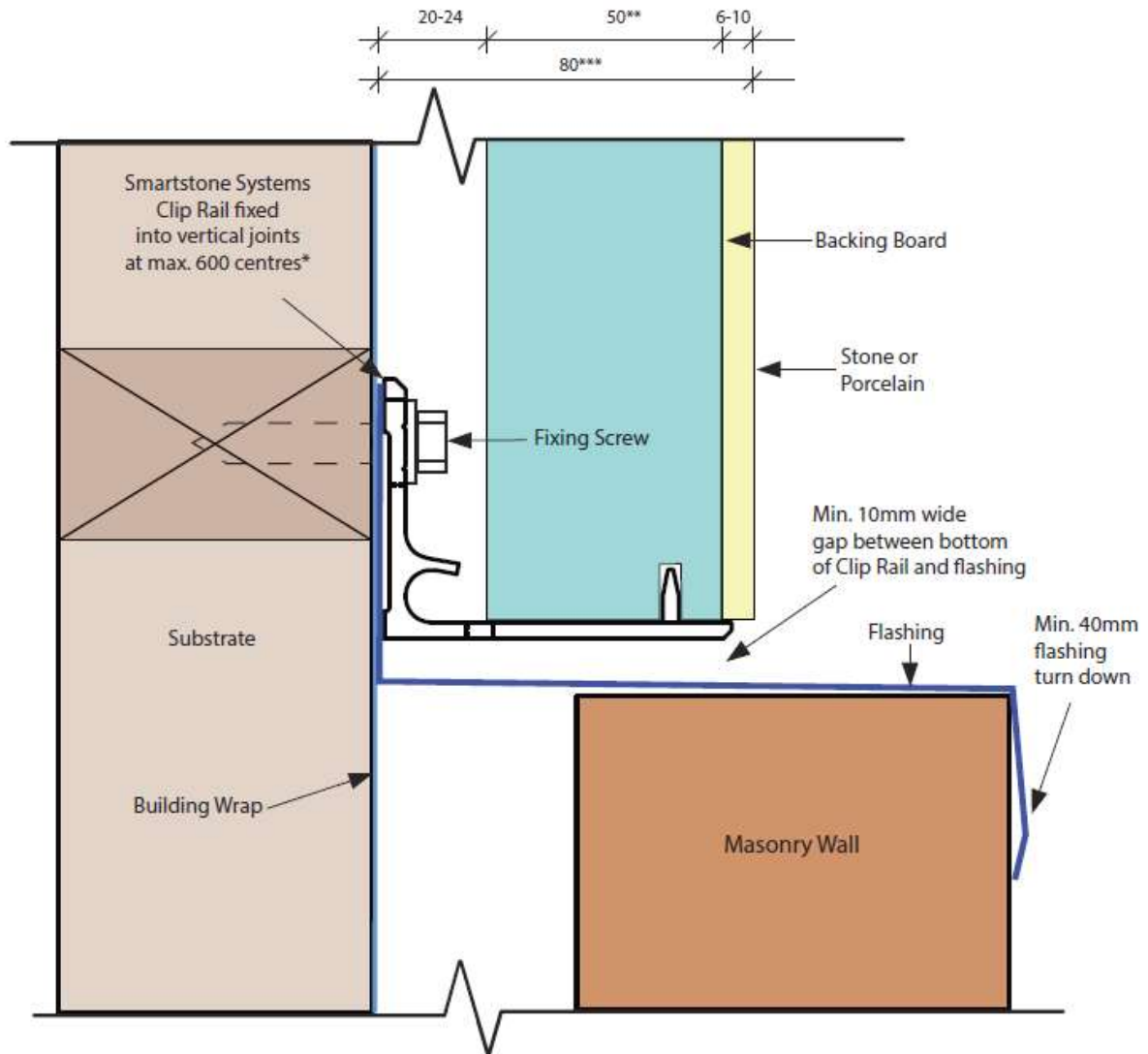
7.5 External Corner - Quirk Mitre / Birdsmouth Detail – Plan View



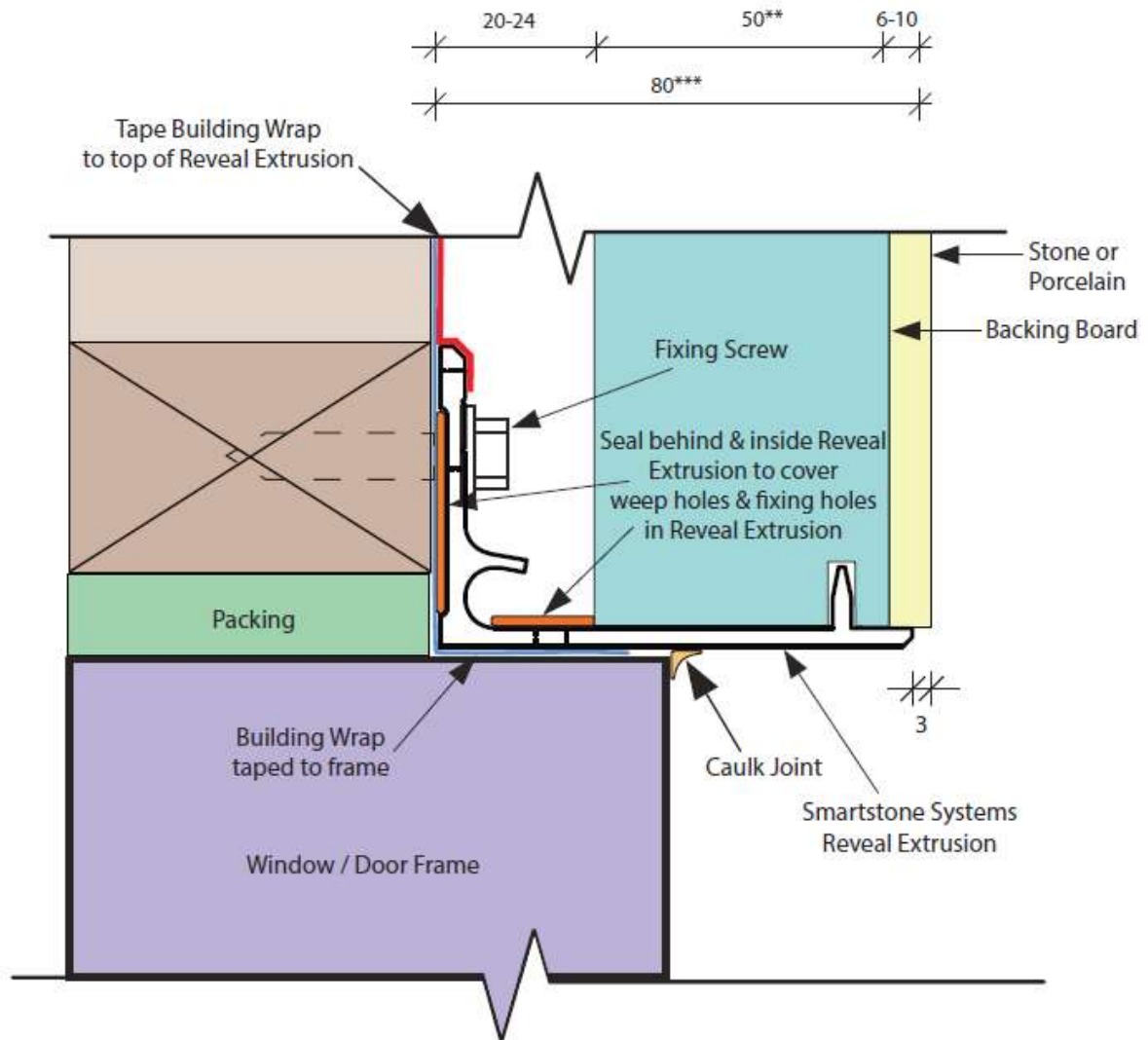
7.6 External Corner – Block Detail



7.7 Junction to Masonry Wall

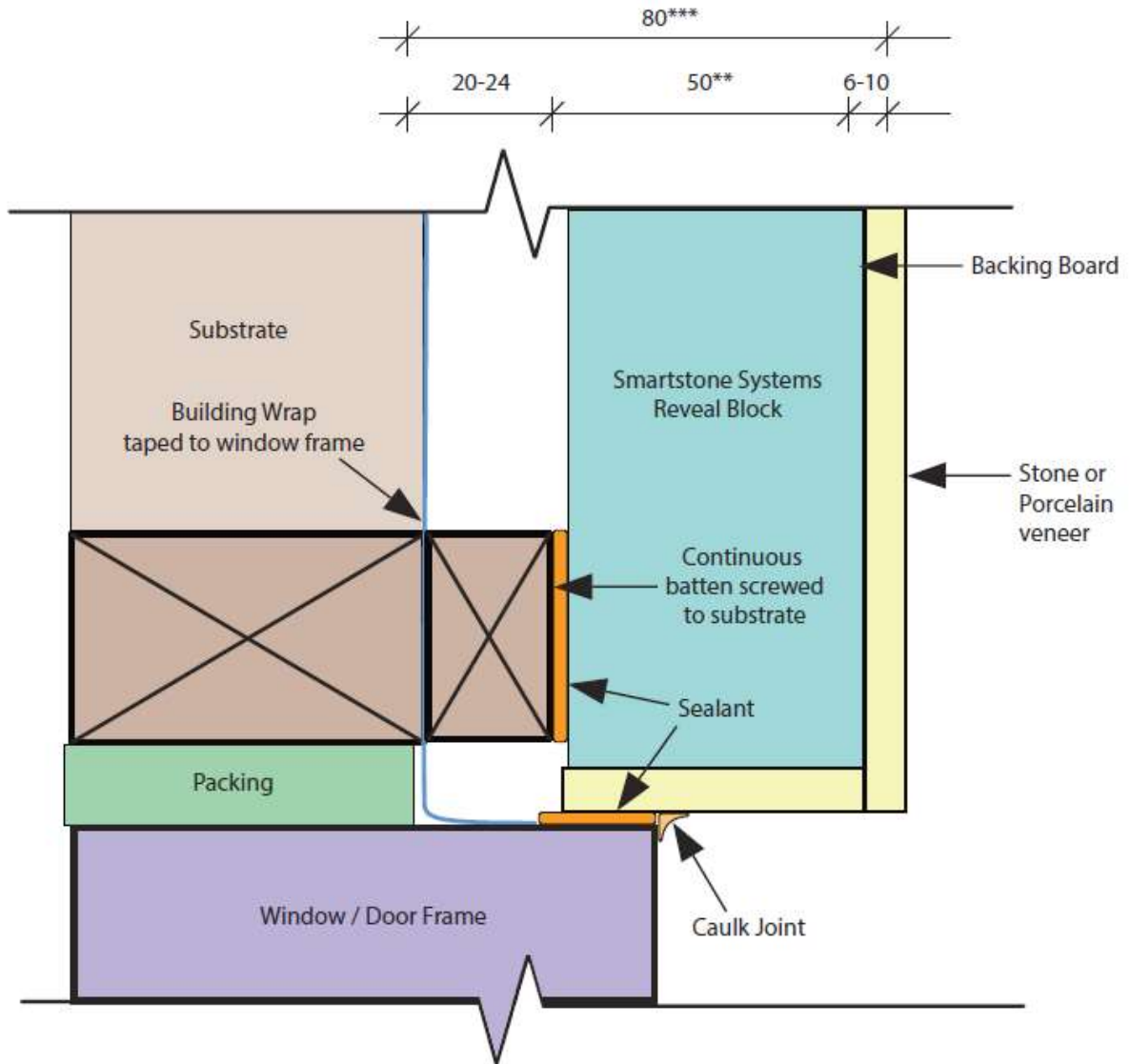


7.8 Window Head – Section View



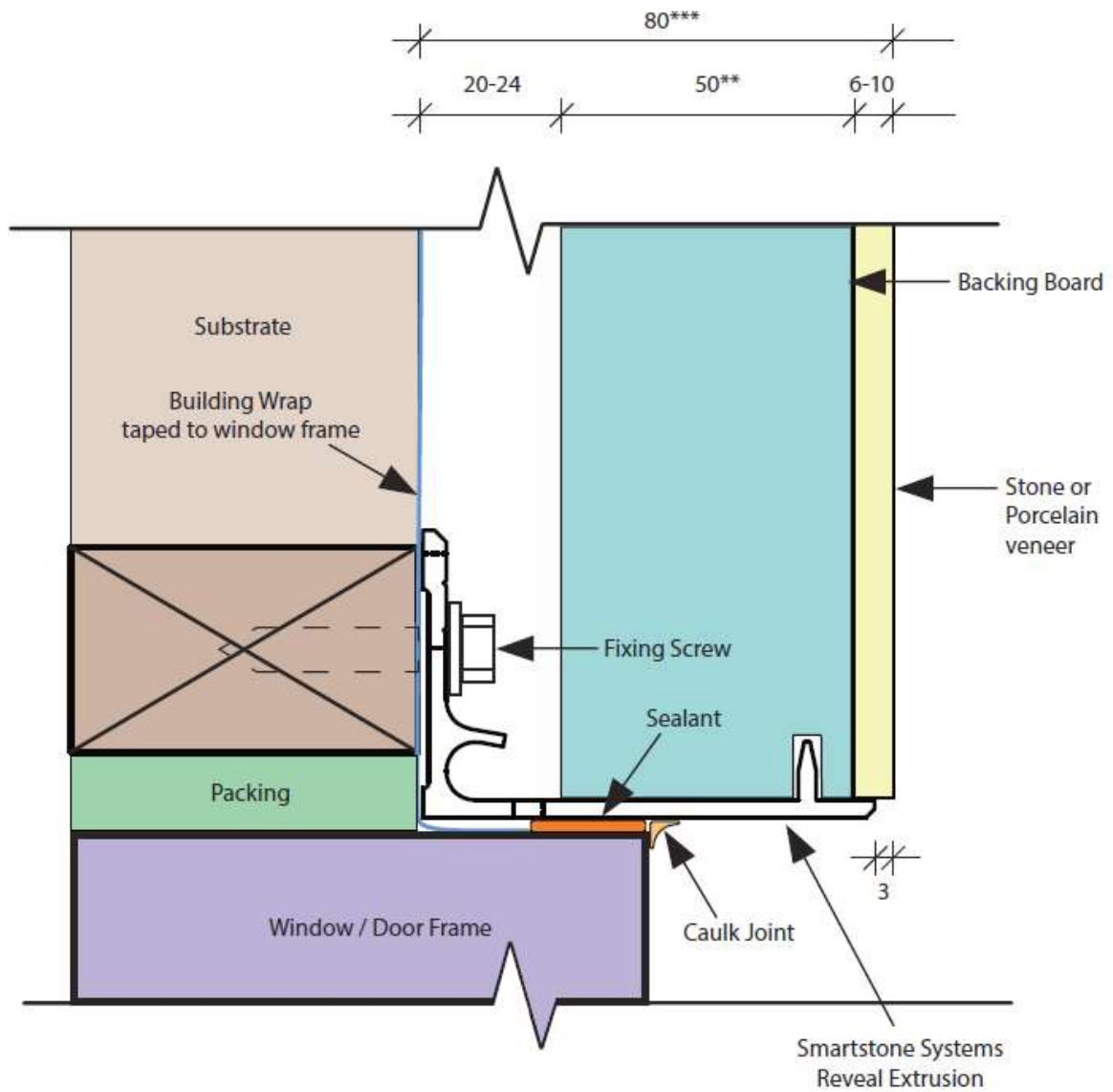
7.9 Window Jamb

Window Jamb Option A:

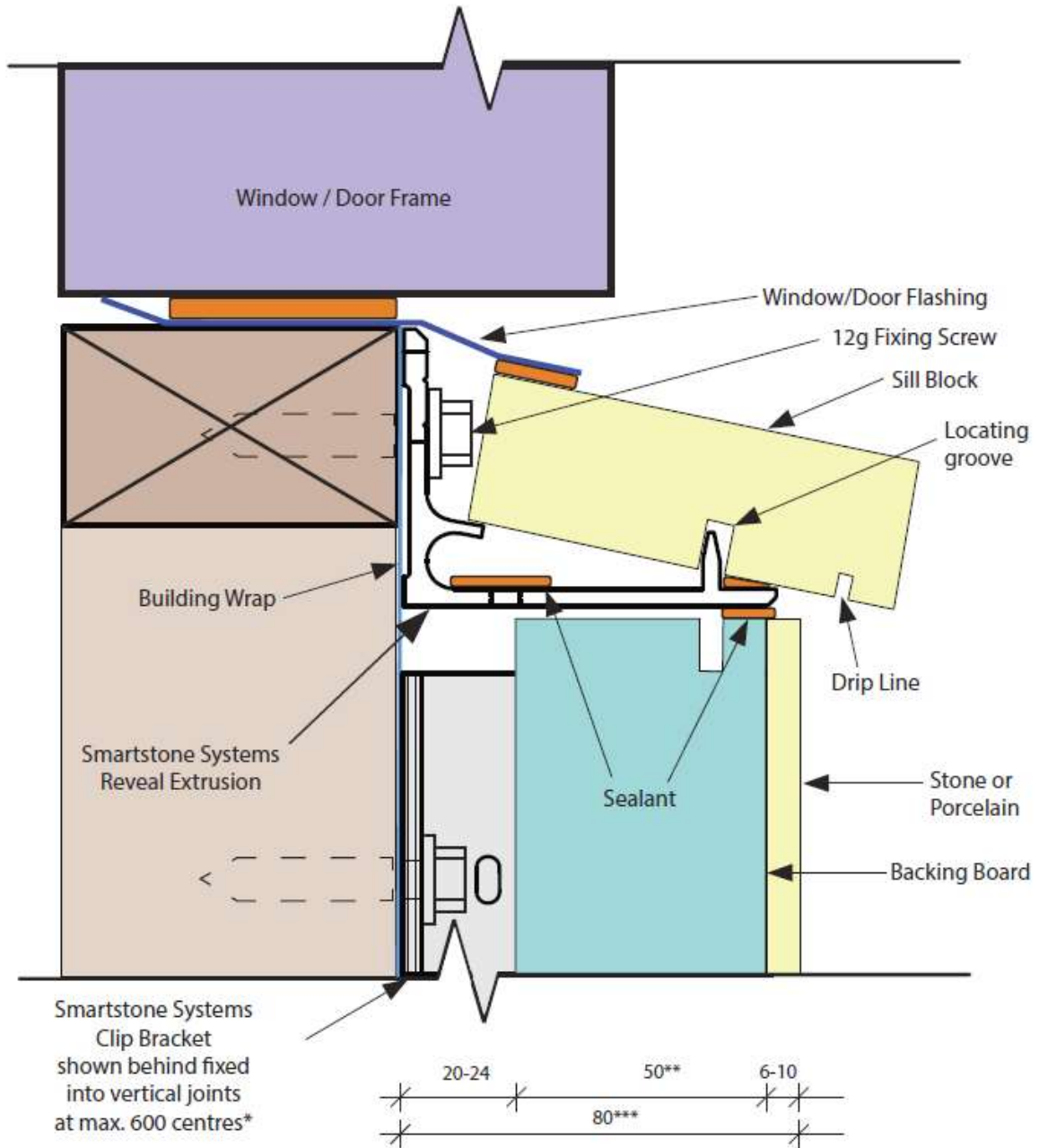


SmartStone Systems– External Wall Cladding System

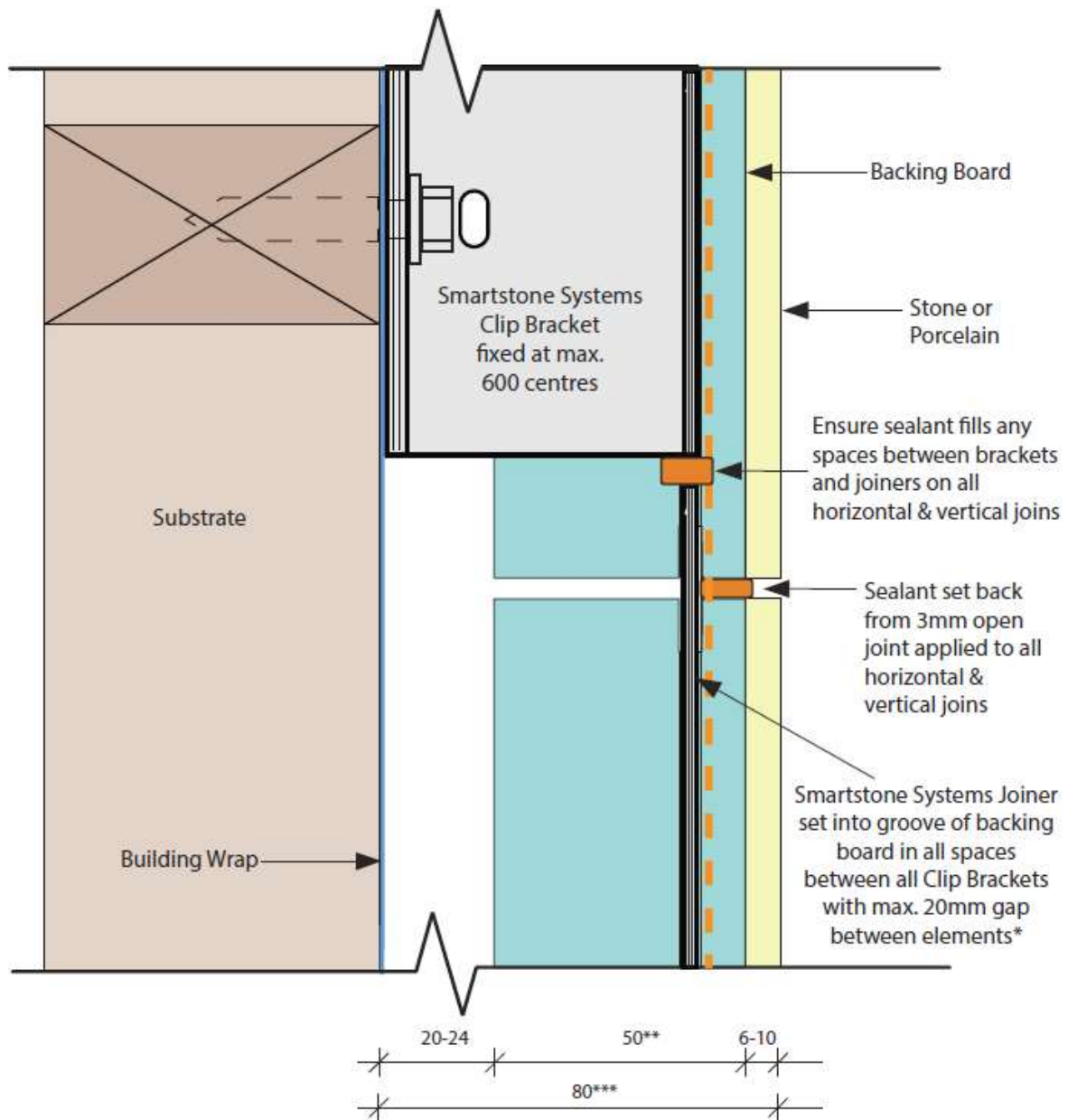
Window Jamb Option B:



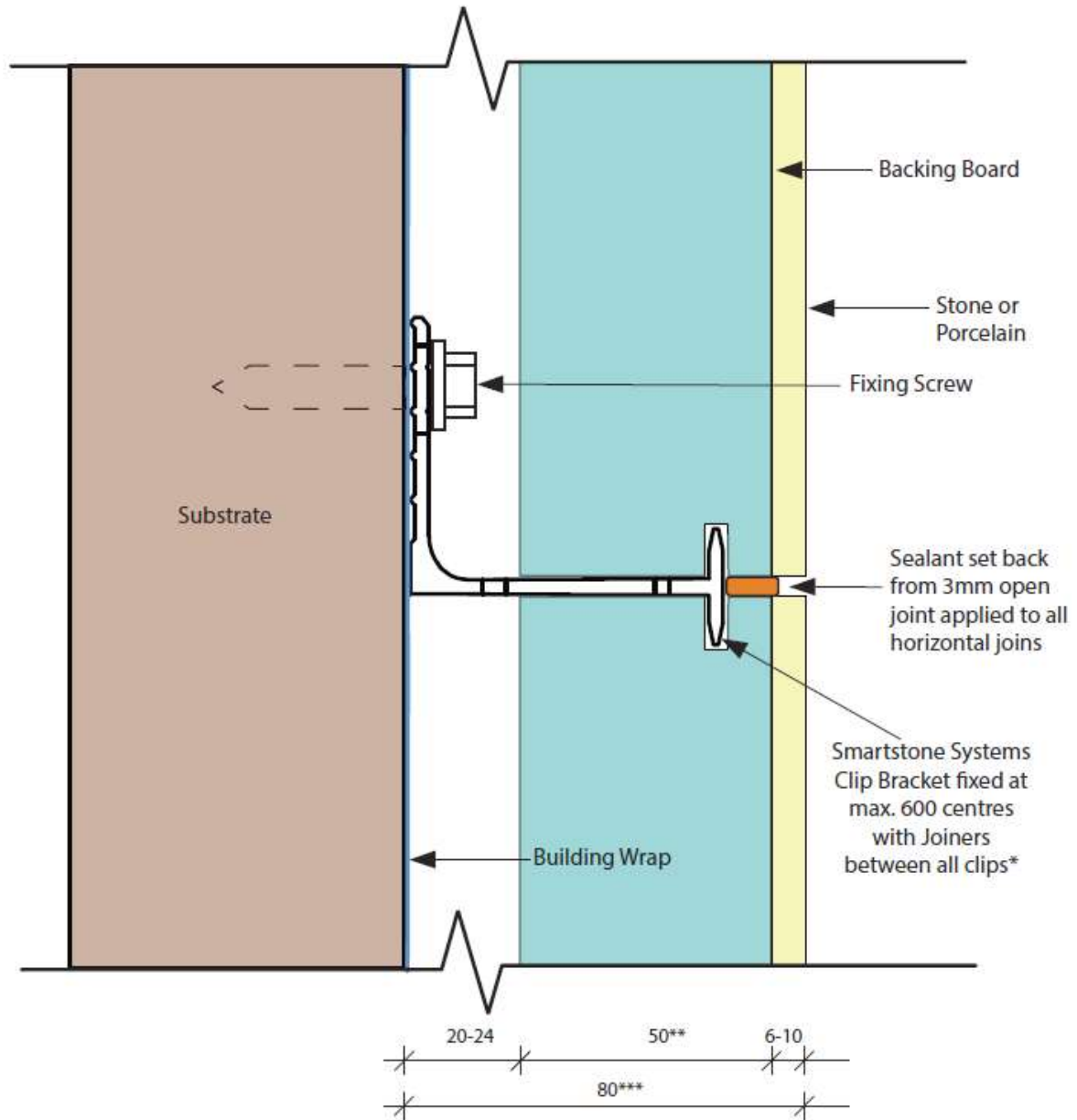
7.10 Window Sill



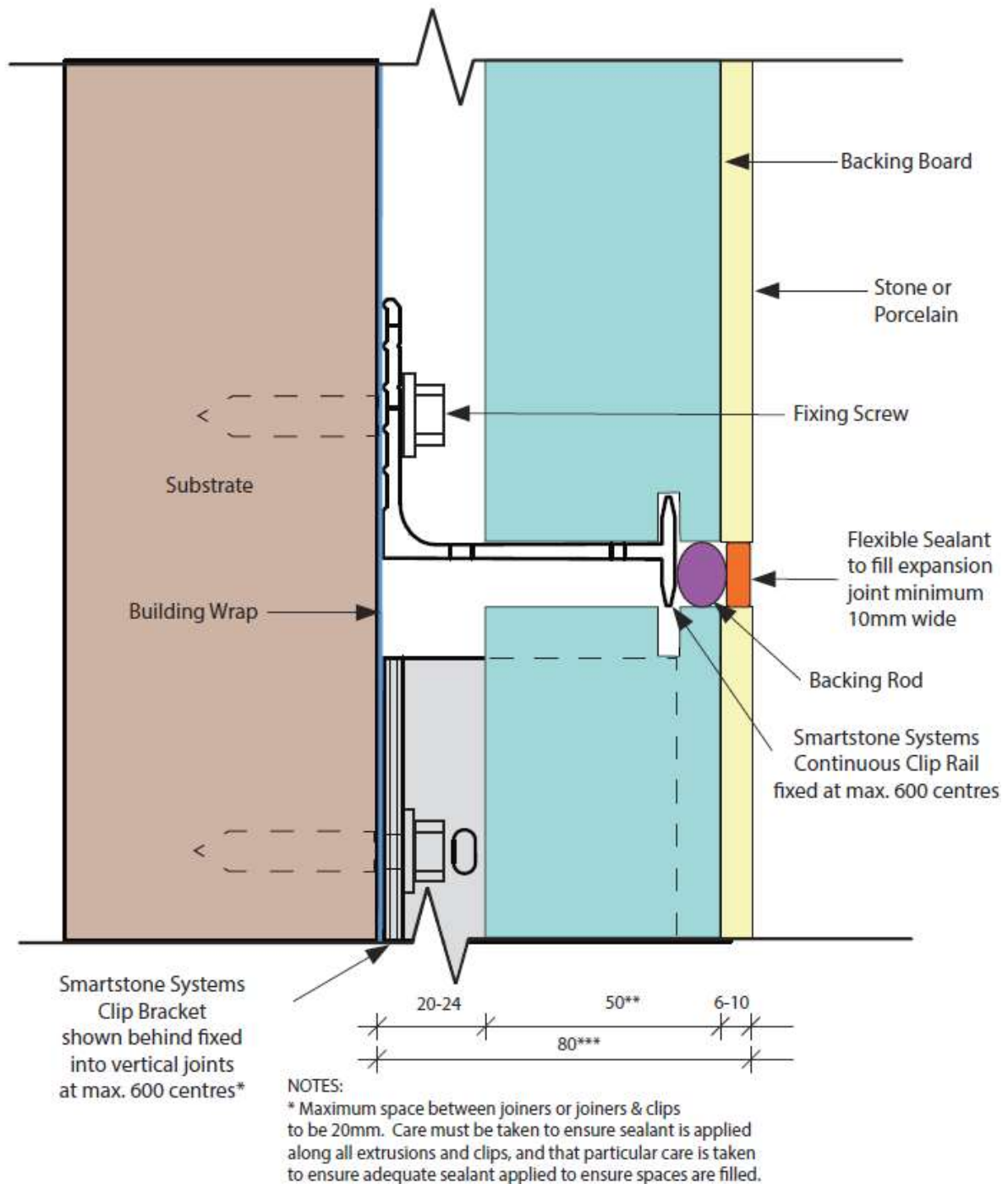
7.11 Typical Horizontal Joint Detail showing Bracket and Joiner (Plan view)



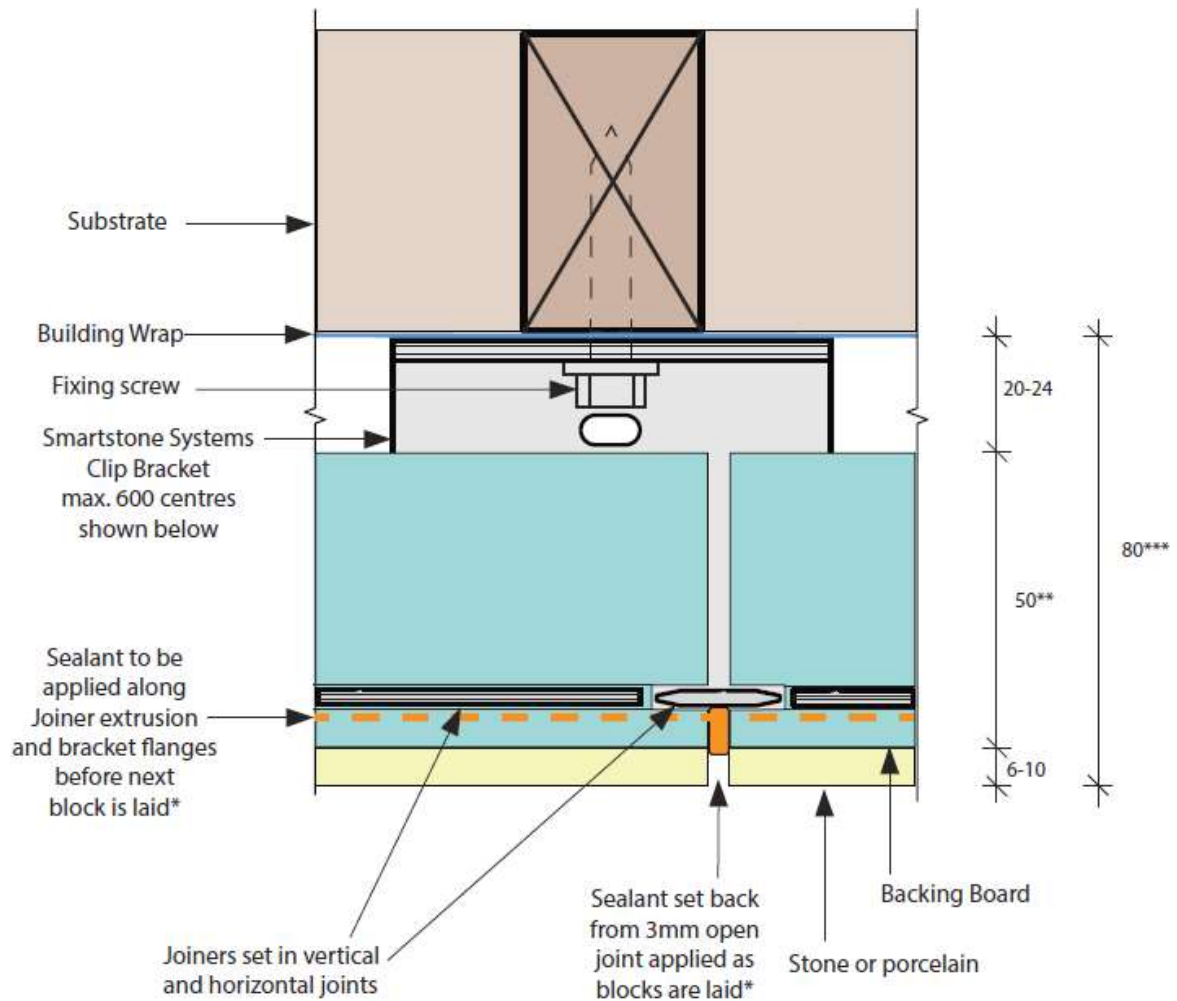
7.12 Typical Horizontal Joint Detail – Joiner (Elevation)



7.13 Horizontal Expansion Joint



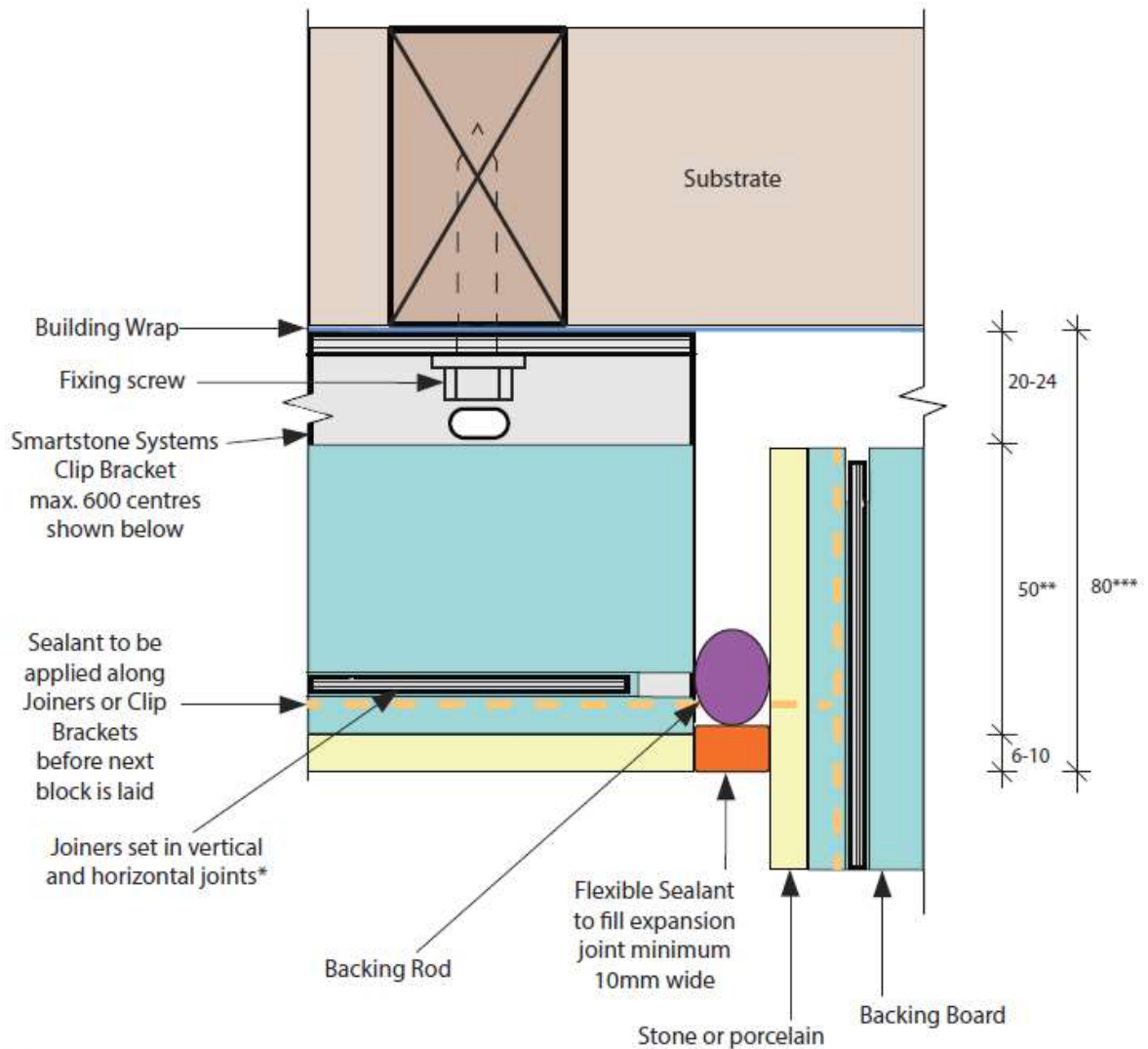
7.14 Typical Vertical Joint – Plan View



NOTES:

* Maximum space between joiners or joiners & clips to be 20mm. Care must be taken to ensure sealant is applied along all extrusions and clips, and that particular care is taken to ensure adequate sealant applied to ensure spaces are filled.

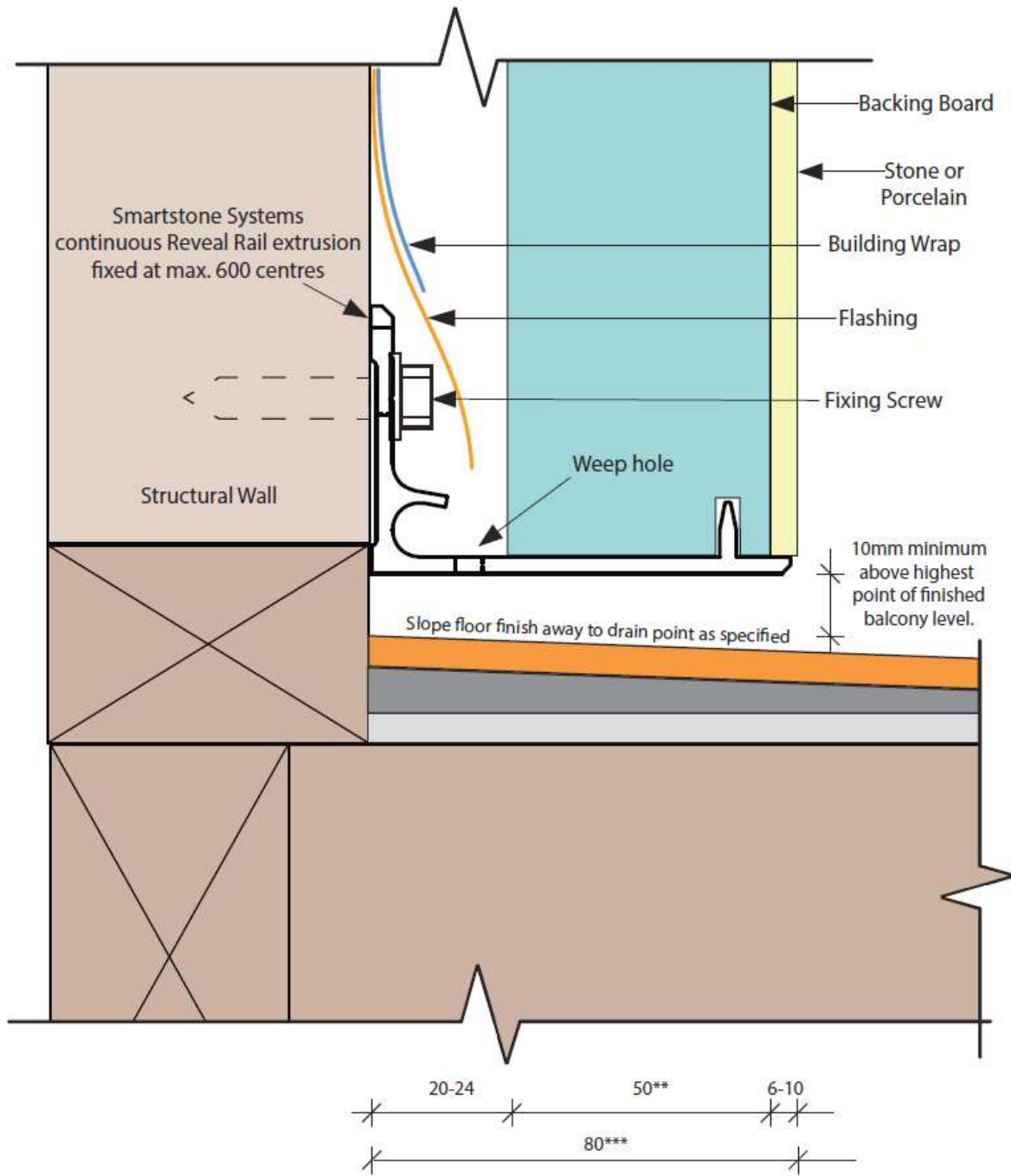
7.15 Vertical Expansion Joint – Plan View



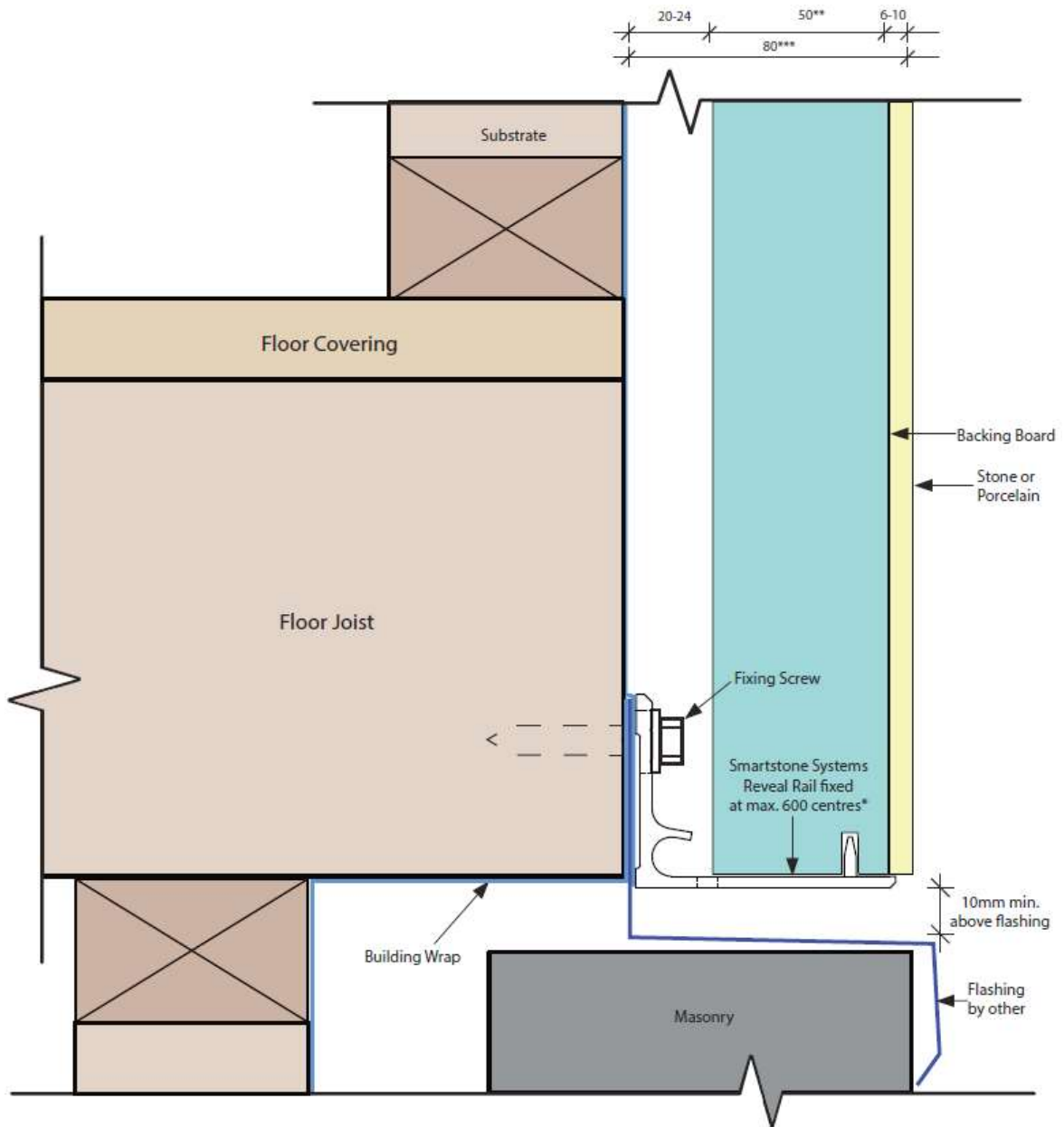
NOTES:

* Maximum space between joiners or joiners & clips to be 20mm. Care must be taken to ensure sealant is applied along all extrusions and clips, and that particular care is taken to ensure adequate sealant applied to ensure spaces are filled.

7.16 Wall to Balcony

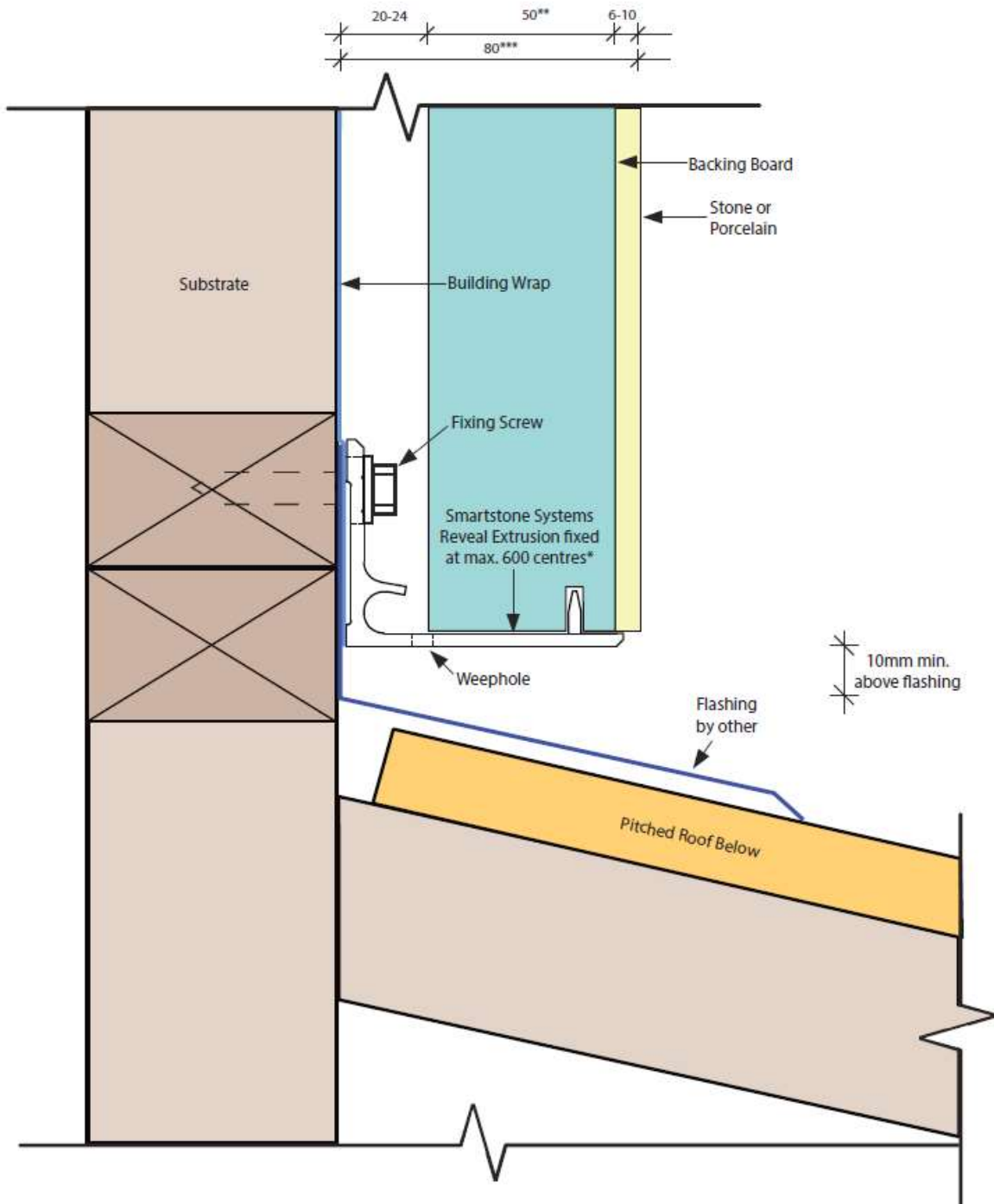


7.17 Panel Over Masonry Wall

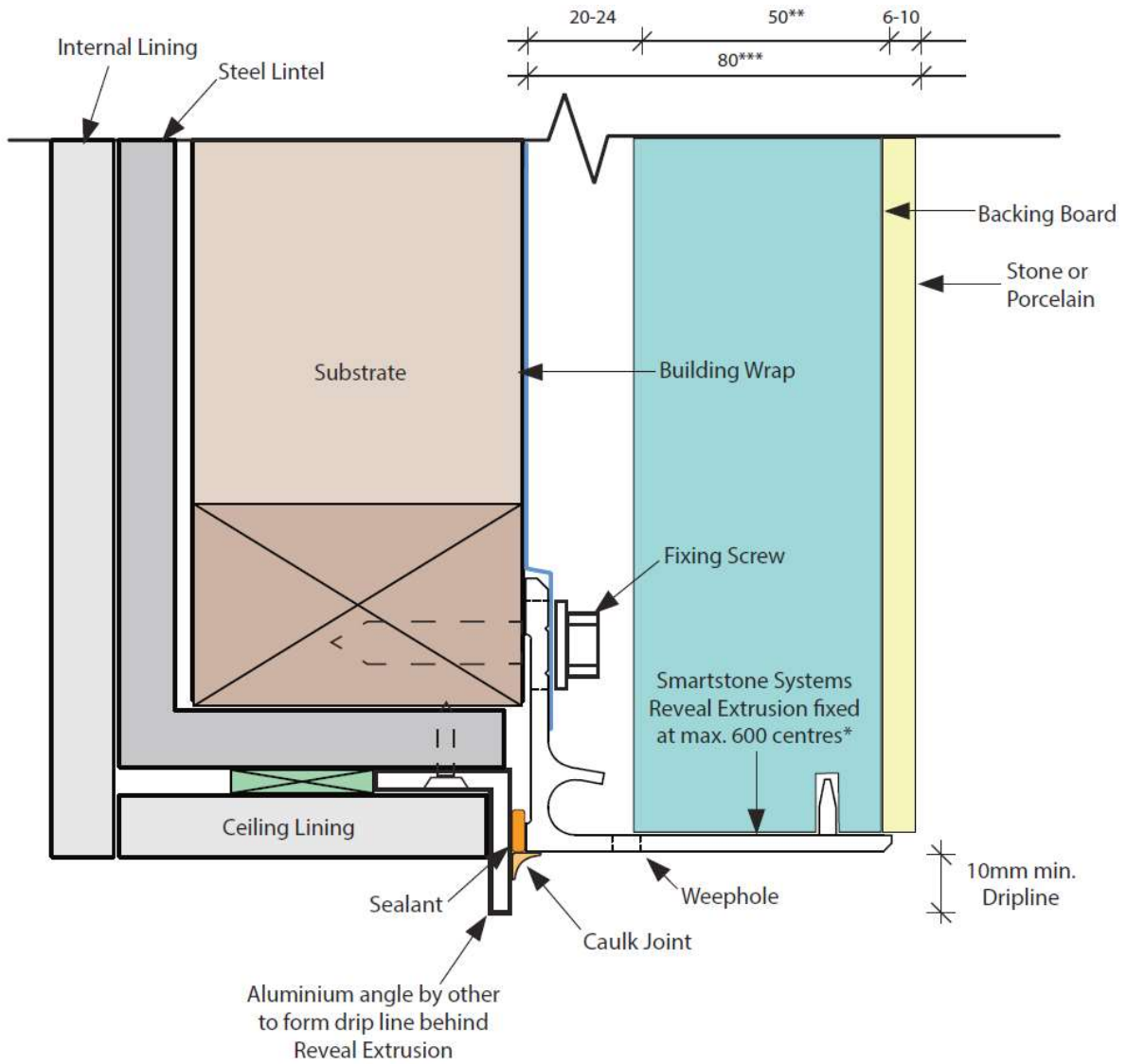


NOTES:
* Care must be taken to ensure sealant is applied along all extrusions and clips, and that particular care is taken to ensure adequate sealant applied to ensure spaces are filled.

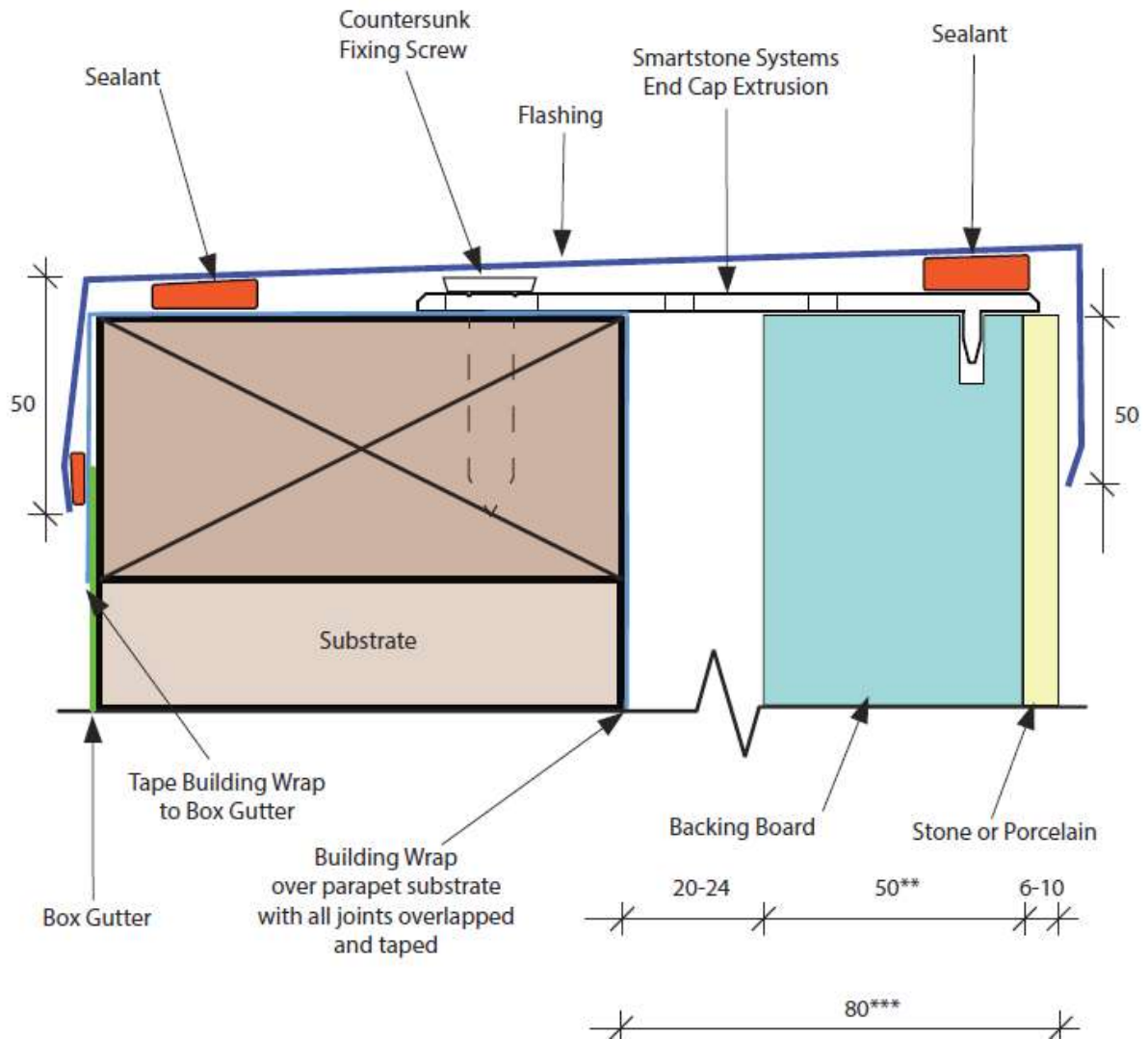
7.18 Wall Over Roof



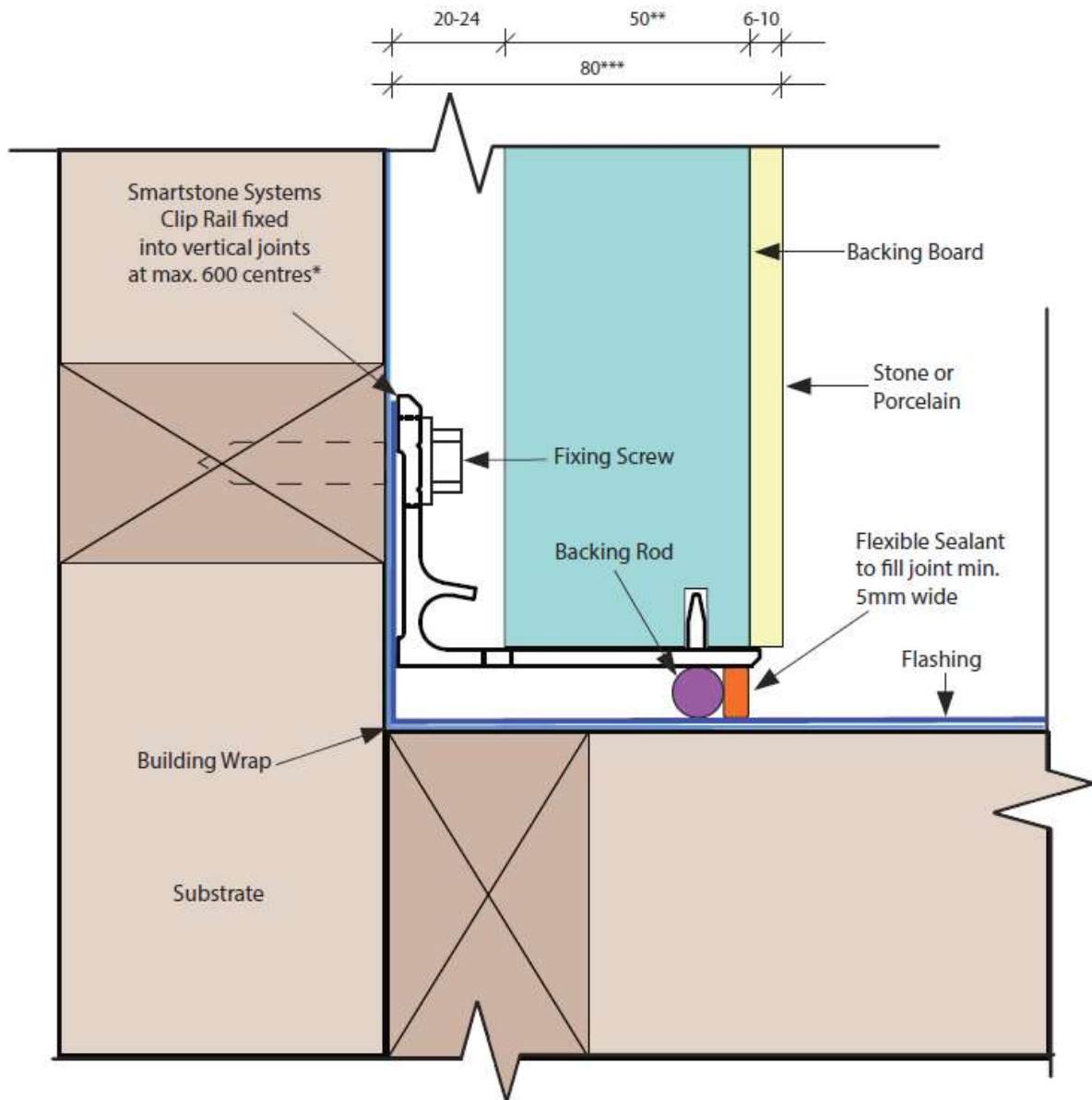
7.19 Garage / Bulkhead / Overhang / Drip



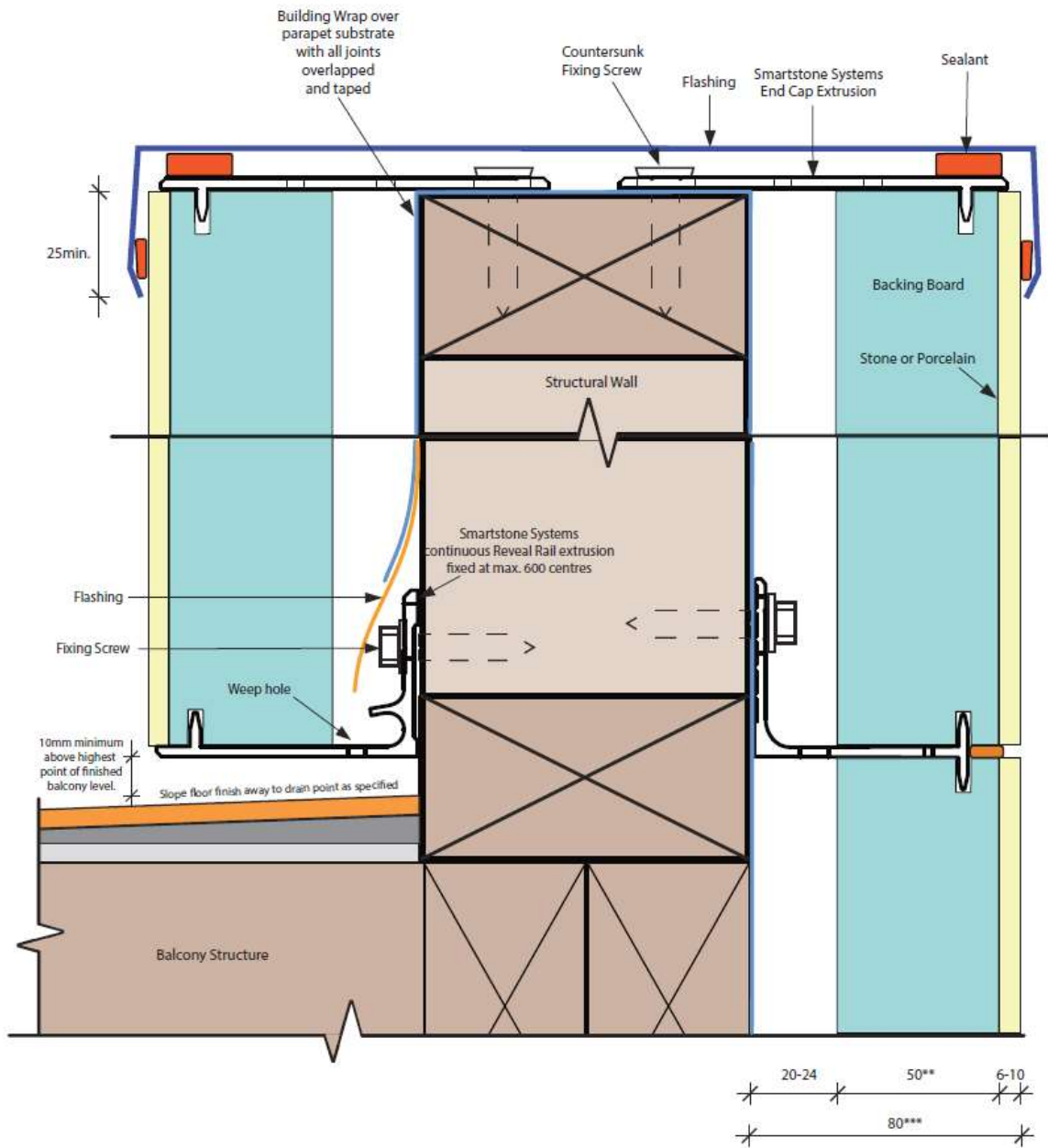
7.20 Parapet Wall



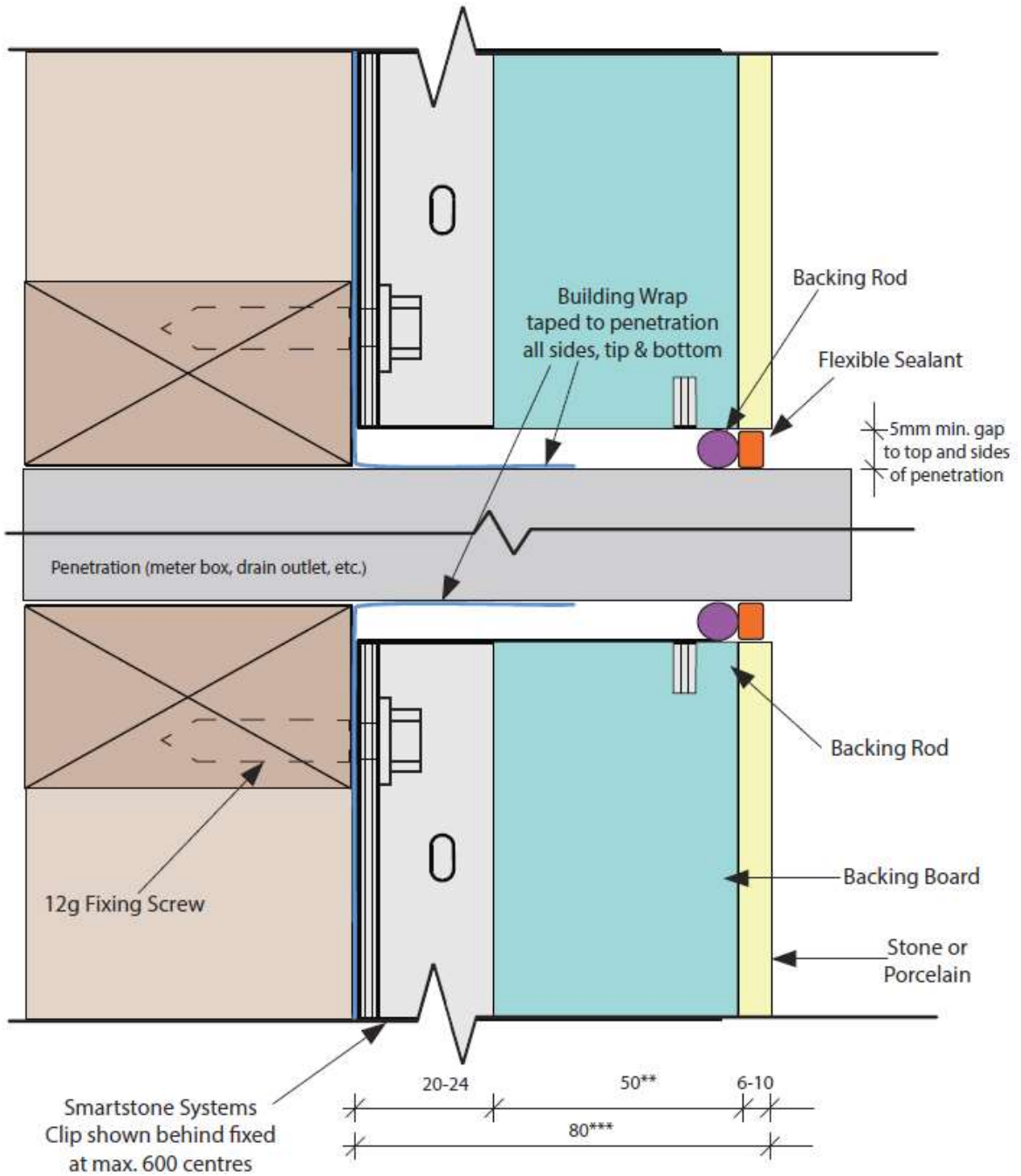
7.21 Parapet to Wall Detail – Section View



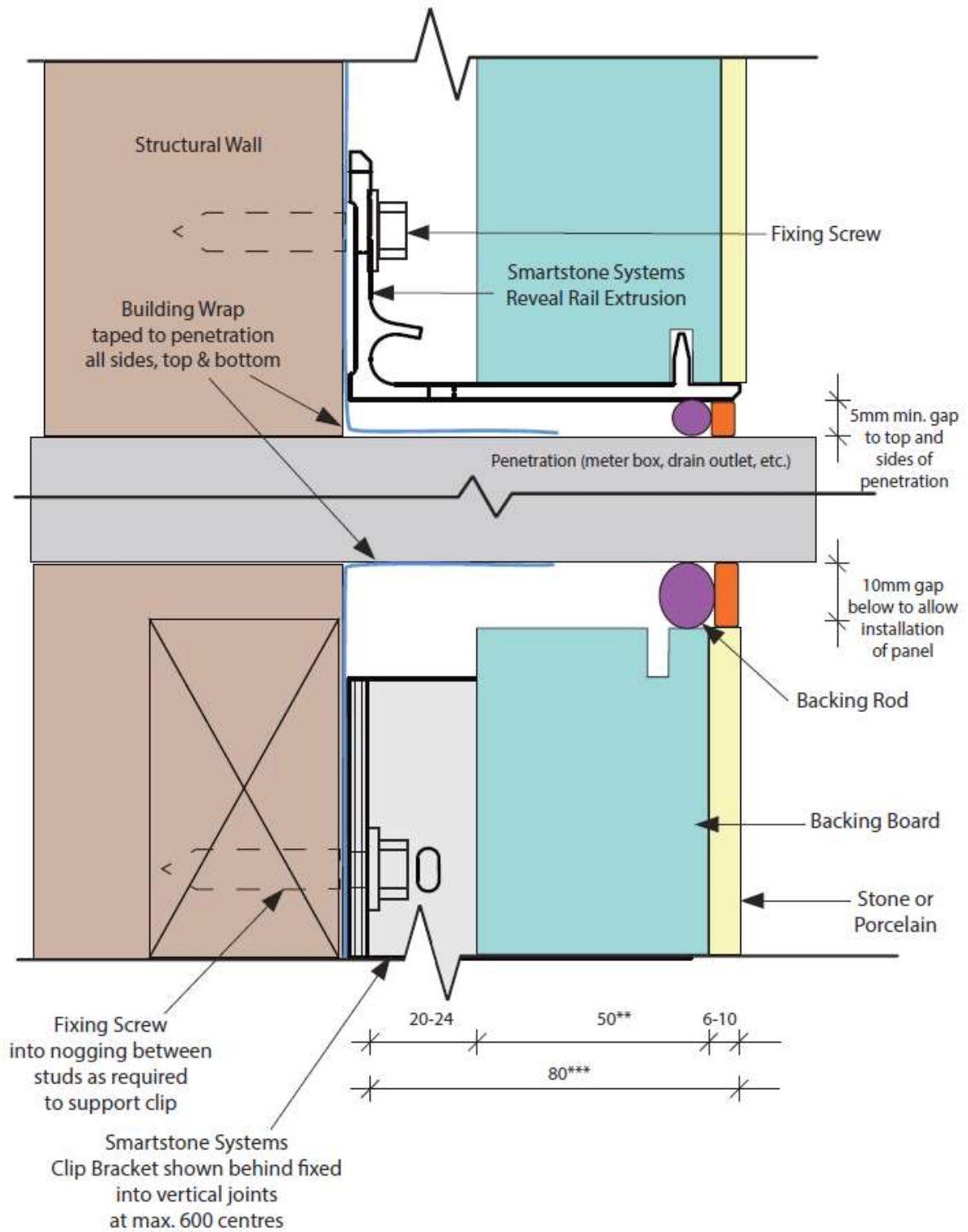
7.22 Balustrade Wall



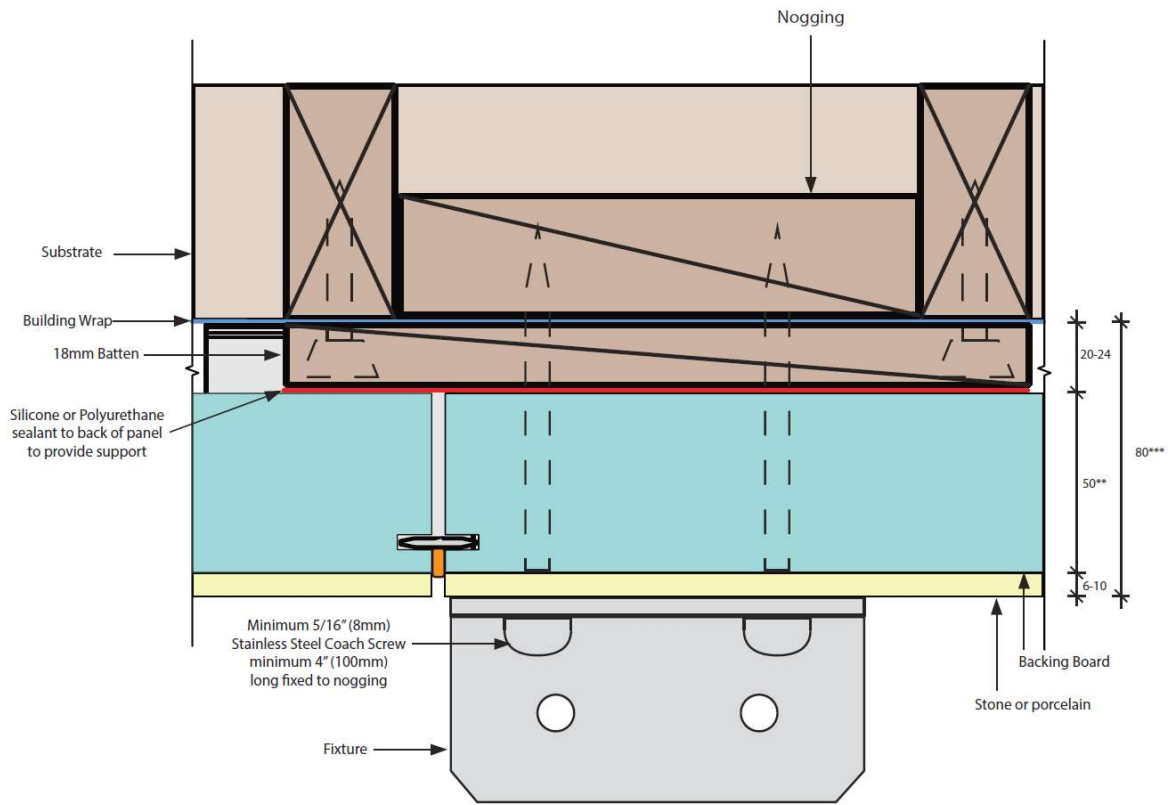
7.23 Penetration Detail – Plan View



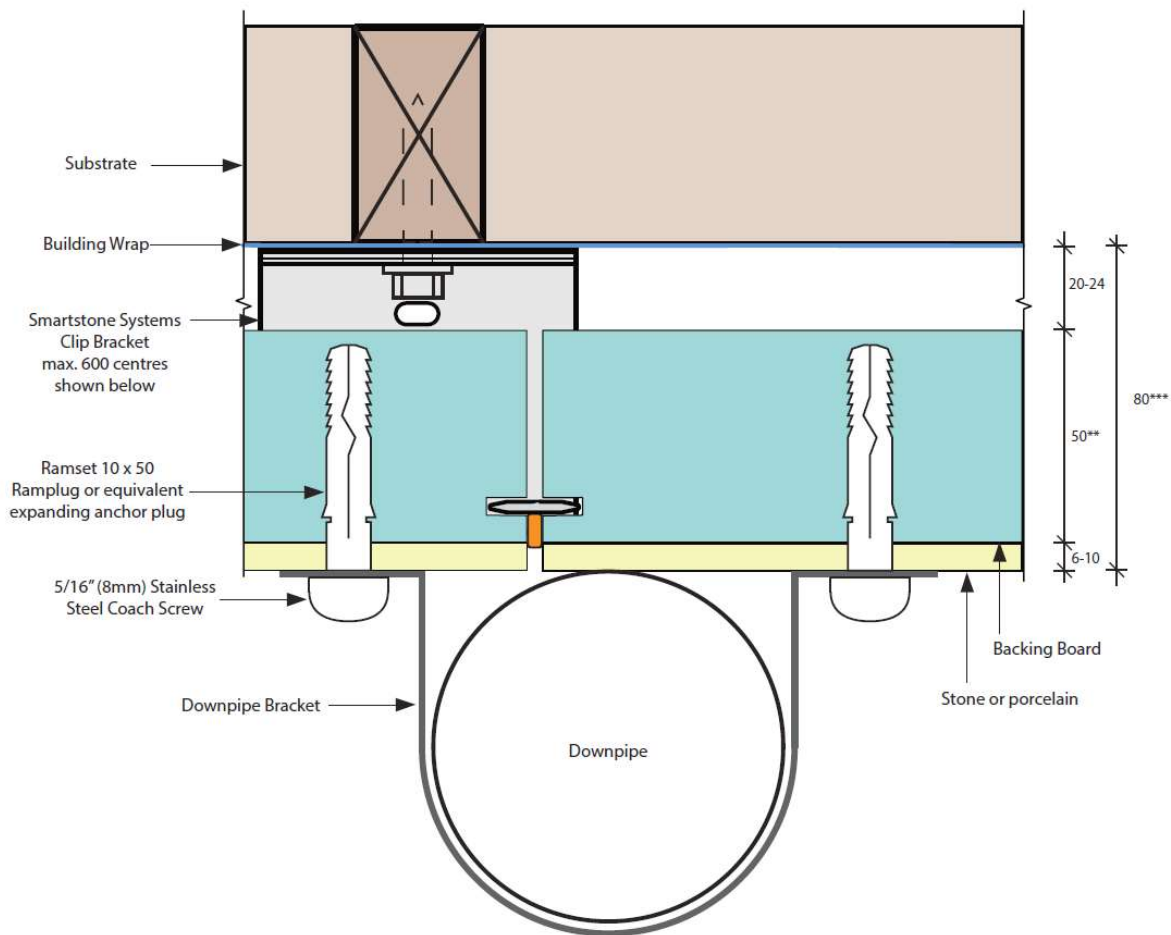
7.24 Penetration Detail – Section View



7.25 External Fixture



7.26 Downpipe Fixing



8 Product Warranty

Stone Clad Pty Ltd is the Exclusive Australian Distributor of SmartStone Systems Limited products designed for the purpose of cladding homes and buildings. Those product brands include EcoSmart Stone, TechStone, and MEGAclad. Stone Clad as the Agent warrants those products when purchased for the purposes they are designed and marketed for, and when installed for their intended application or purpose by qualified and / or licensed companies or tradespersons in accordance with all Data Sheets, Guidelines, Recommendations and other relevant Standards, for a period of Ten (10) Years from date of purchase.

To the maximum extent permitted by law, the liability of the Company, arising out of the supply or use of any SmartStone Systems product is limited to resupply of materials only.

The Company shall have no liability whatsoever and the Purchaser shall at all time keep the Company full indemnified against any damage caused or loss suffered by third parties arising directly or indirectly from the products supplied or the installation thereof.

The Warranty includes any backing materials, and the adhesion of same to facing materials, all brackets, returns, custom extrusions, fittings and fixtures, but specifically excludes the performance of Natural Stone facing materials. No Warranty can attach to Natural Stone facing components.

The appearance retention of the Natural or Recomposed Stone facing component is dependent on the application, installation, fixing, sealing and maintenance. This Warranty does not cover natural weathering, undue natural wear and tear, nor damage by natural or man-made accidents or disasters.

Any warranty claim shall be absolutely voided by reason of any movement of or damage to the foundations, substrate or structure upon which the product is installed.

Any claims against faulty products and materials shall be accompanied by a copy of receipt for goods and / or installation evidencing payment in full of those items, along with the details of any tradesperson or company who performed said installation works.

Stone Clad reserves the right to inspect any applications or projects that are the subject of claim and that access be provided to our inspectors whenever reasonably necessary.

After such inspection and proof of materials and / or fixings defects being established Stone Clad will provide replacement materials and / or fixings as necessary, subject to availability and production and shipping lead times.

STONE CLAD PTY LTD

ABN 32 614 292 143

MELBOURNE, AUSTRALIA