

Real stone made simple



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‘Specific Design’

The Designa Schist is a concrete masonry product, installed as a normal veneer attached to a timber or metal structural supporting frame. As such, it is covered by the general requirements of External Moisture-Acceptable Solution 1 (E2/AS1 Masonry –Dec.2011). However, due to the nature and configuration of the product, some details and installation aspects have been subject to ‘Specific Design’.

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GENERAL OVERVIEW

This document is to provide a guideline for the building industry and associated trades and authorities on the installation of the Designa Schist product and system.

1.1 Technical Details

The information and technical details provided in this manual correlate with all legislative requirements and generally accepted good trade practice. Although provided as a guide only, common sense and job specific detailing can be added by qualified designers.

1.2 Limitations

The Designa Schist cladding product is limited in its use by the restraints that apply in NZS3604, Timber Frame Buildings, NZS 4229, Concrete Masonry Buildings (not requiring Specific Design), and NZS 4210, Masonry Materials and Workmanship in regard to the installation of masonry veneer.

1.3 Acceptable Solution

The Designa Schist product meets the requirements of NZBC Clause B2, based on the in service history of other masonry units and veneers constructed using a drained and ventilated cavity. The Designa Schist units themselves have been manufactured to AS/ NZS4455 and can be used for providing adequate means of weather tightness as a cladding to both residential and commercial buildings in New Zealand.

1.4 Product Specifics

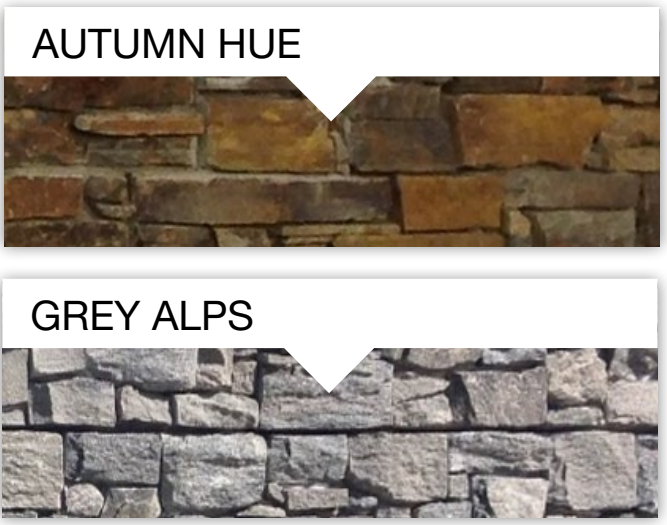
To enable a cost effective and aesthetically pleasing result, it is important to consider the dimensions of the Designa Schist when designing the project. This will avoid unnecessary cutting of pieces to fit available spaces. Designs using full modules where possible will avoid wastage, extra cutting time, and maximise the natural look without excessive mortar joints. Builders need to be aware of the optimum dimensions during the construction phase (foundation preparation), and bricklayers need to be fully aware of the module sizes when setting out and laying. All people involved in the whole process should be made aware of the details and instructions provided in this document.

1.5 Colour Variation

Schist is a natural stone which varies in texture and colour. This variety provides the rugged beauty sought by customers worldwide. The full range of possible colours within each batch cannot be fully captured by one or a few photographs. These can provide a good indication of what tones and shades will be present in the schist stock, as will physical samples. Consistency of colour is a high priority during the manufacturing process, but being a natural product, this can vary. Any questions regarding the colour or quality of the schist product should be raised at the time of delivery. The relevant distributor of the Designa Schist should be contacted immediately. A Designa Schist laid is a Designa Schist accepted.

1.6 Product Volumes and Colours

It is recommended that once a final plan is available for a project using Designa Schist, a copy be given to your closest Designa Schist distributor for taking off the optimum Designa Schist pieces and quantities. A full quotation can then be provided for the specific job. Designa Schist are sold by the square metre, while sill capping and square column caps are sold per piece. Prices are uniform for all colour options within the DesignaSchist range, which currently includes:





2.0 Handling, Installation and Maintenance Instructions

2.1 Handling

- Ensure the area where the Designa Schist are being set-out is clean and dry (and ideally even).
- Use gloves and avoid using all metal carrying devices to move Designa Schist
- Carry the Designa Schist by the concrete portion, not by gripping the stone face
- Keep the Designa Schist apart to avoid damage when moving and placing the Designa Schist
- It is preferable that Designa Schist being set-out for laying are placed on their backs to protect the stone face and edges.

2.2 Product Preparation

- Designa Schist should be dry and clean.
- Remove any residual packaging used to protect the Designa Schist in transit.
- Examine Designa Schist to ensure there are no cracks or damage prior to laying.
- Some small stone pieces may come loose during transit.
- If kept with the Designa Schist they came from, these can often be glued or mortared on and still be used.
- Contact your local Designa Schist distributor with any concerns you may have prior to laying.

2.3 Laying of Product

- Designa Schist should be laid in a tradesman like manner.
- Mortar joints should be 9mm +/- 2mm.
- Due to the weight of the Designa Schist being heavier than normal veneer products, it is important that the mortar is quite firm as courses are laid. This will prevent the mortar being squashed down and out of the joints. It is important that the mortar joint does not go down below 7mm in thickness. It is strongly recommended that 120mls/mix of Cemix 'Multibond' be added to the mortar.
- If required, install 'Control Joints'. Refer Technical Details.
- Often there are situations where full Designa Schist modules do not perfectly fit the space allowed (see 1.4

Product Specifics). For example, between windows/ doors and the nearest corner. Where this occurs, schist units can be cut by a brick saw to fit the required dimension. These need to remain in the same Z pattern as the full unit.

- Use clean water and brush to promptly remove any fresh mortar that splashes onto the Designa Schist.

Brick Ties

- Brick ties are to be a minimum of Earthquake Medium (EM) galvanised screw-fixed ties. Use Stainless Steel ties in a sea-spray zone.
- Ties must be installed in accordance with the building code which states that they must be every 400mm vertically and into studs that are a maximum of 600mm horizontally. Any bricks over 4.8m must have brick ties every course.
- The brick tie must be a minimum of 40mm into the mortar bed – check the cavity width to ensure the correct length of tie is used.

Veneer Cavity

- The minimum cavity width permitted is 40mm to a maximum of 75mm.
- A standard 85mm long brick tie cannot be used on a cavity that exceeds 45mm to comply with the requirement that the tie is 50% into the bed mortar. In this case, Long brick ties (110mm) should be used.

2.4 Cleaning

- Use clean water promptly and remove any fresh mortar splashes using a stiff bristle brush.
- On completion wash all surfaces with clean water.
- A light acid wash can be used if cement/mortar stains are too heavy for water to remove. Refer to instructions on the use of acid for cleaning (2.7).
- The finished appearance of the stone can be permanently spoiled, and impossible to rectify, by leaving mortar residue on the surface too long.

2.5 Maintenance

- Designa Schist is virtually maintenance free.

- An annual check should be made to clean out the weep holes, brush the surface using a soft bristle brush and hose off with water.

2.6 Lichen and Moss

- The growth of lichens and mosses can occur when stonework is continually damp. They can be treated using an application of copper or ammonium sulphate or alternatively, a propriety product designed for this purpose. If the stone veneer is subject to continual moisture issues, consideration should be given to waterproofing the veneer with Surfapore C available from Lifetime Promotions Ltd (09 624 4045).

2.7 Acid Washing Information

- If acid cleaning is required, refer to the manufacturer's instructions. Acid attacks the mortar first. This means the mortar in the joints as well as any mortar smeared on the surface. Remove as much mortar as possible first. It is recommended that all chemicals added to the surface be washed off with large volumes of water as soon as practical.
- 1:20 (one part acid and 20 parts water) may be strong enough to remove most light cases of mortar stains, but you can go up to 1:10 for stubborn or heavy stains.
- The most common acid to use is Hydrochloric Acid, or Spirit of Salts. Other products can do this job, but check manufacturer's instructions carefully prior to use.

Procedure:

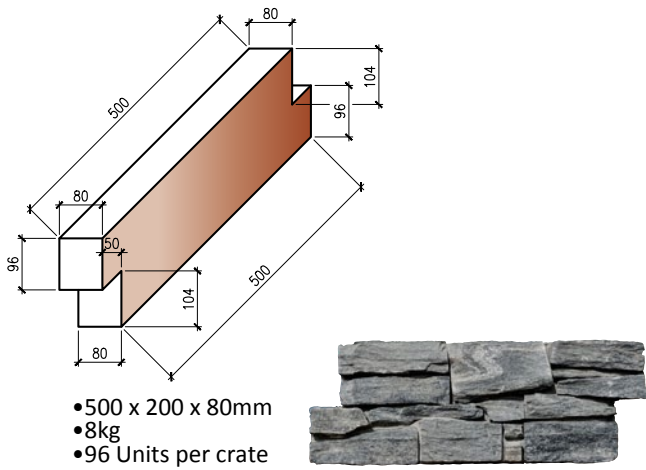
- Wet the area concerned prior to applying the acid
- Use safety equipment (thick rubber gloves, boots, flesh covered etc)
- Choose an inconspicuous area to test the strength of the acid to remove the mortar.
- Use a medium bristle brush (too stiff and the acid will not stay on the bristles and too soft and the brush will not remove the mortar).
- If using acid on wall or column areas above finished sealed surfaces, keep a running hose on the area the Designa Schist are being washed down onto.
- On completion wash the area with plenty of water.

Note: After the bubbling has stopped, do not let the acid scum dry on the surface, clean off immediately as it may prove difficult to remove once it has begun to dry.

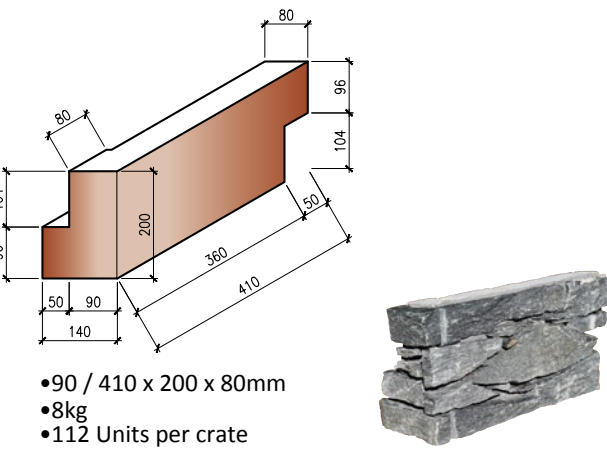


Product Sizes

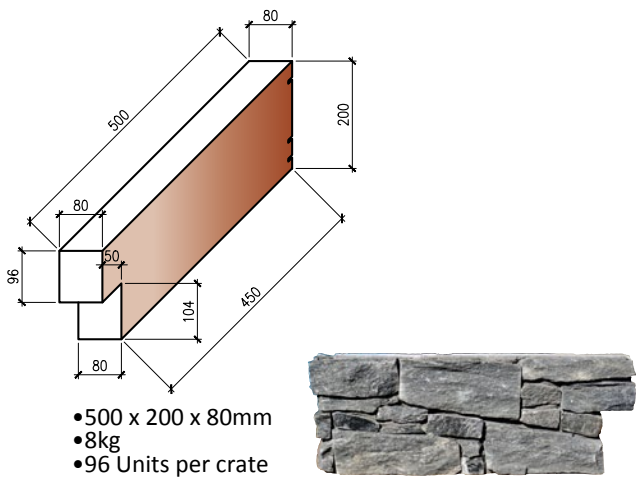
3.1 Type 1 – Full Size Z Brick (ZB)



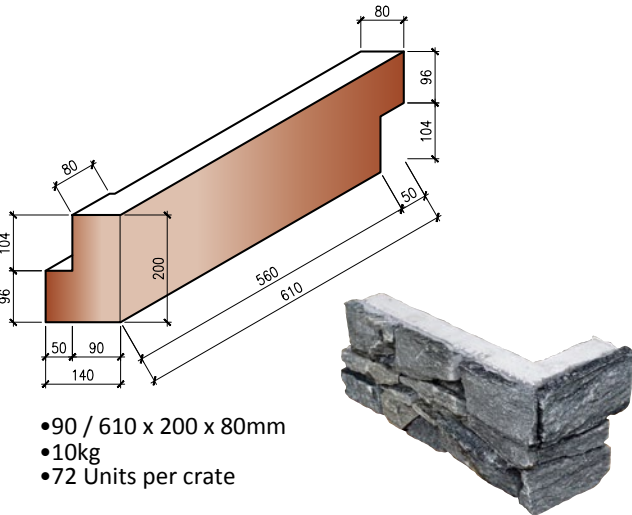
3.4 Type 4 – Small Corners 410mm Column Block (ZBSCE)



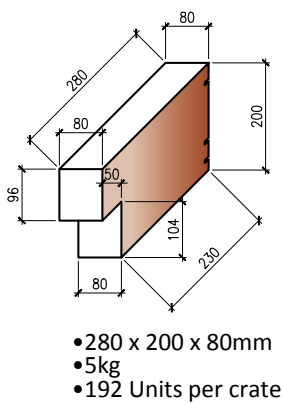
3.2 Type 2 – Full Size End Brick (ZBE)



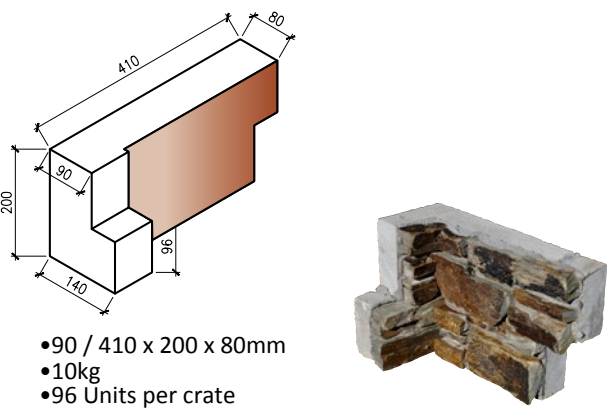
3.5 Type 5 – Large Corners 610mm Column Block (ZBLCE)



3.3 Type 3 – Half Size End Brick (ZBHE)

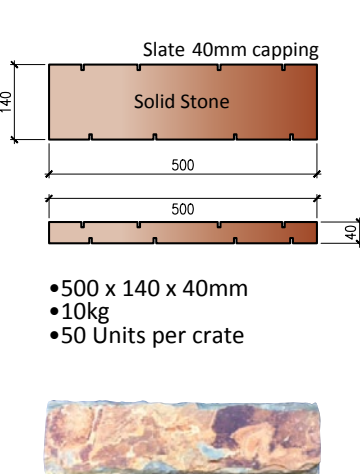


3.6 Type 6 – Internal Corner 410mm Column Block (ZBSCI)

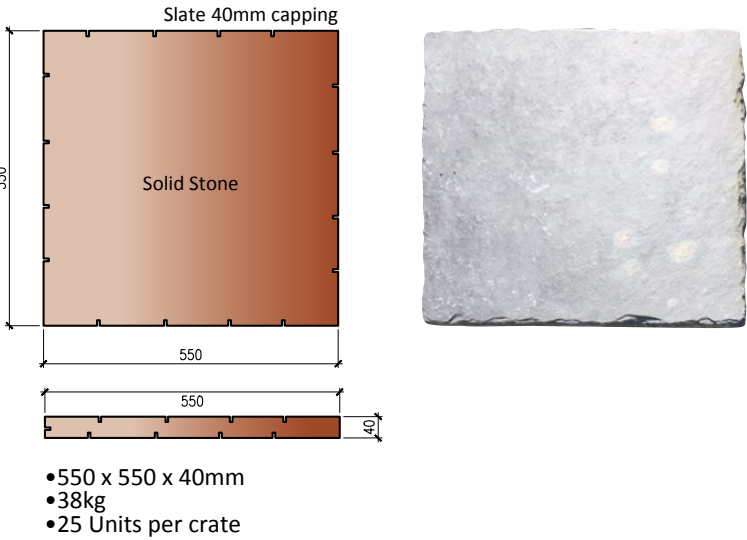


Product Sizes

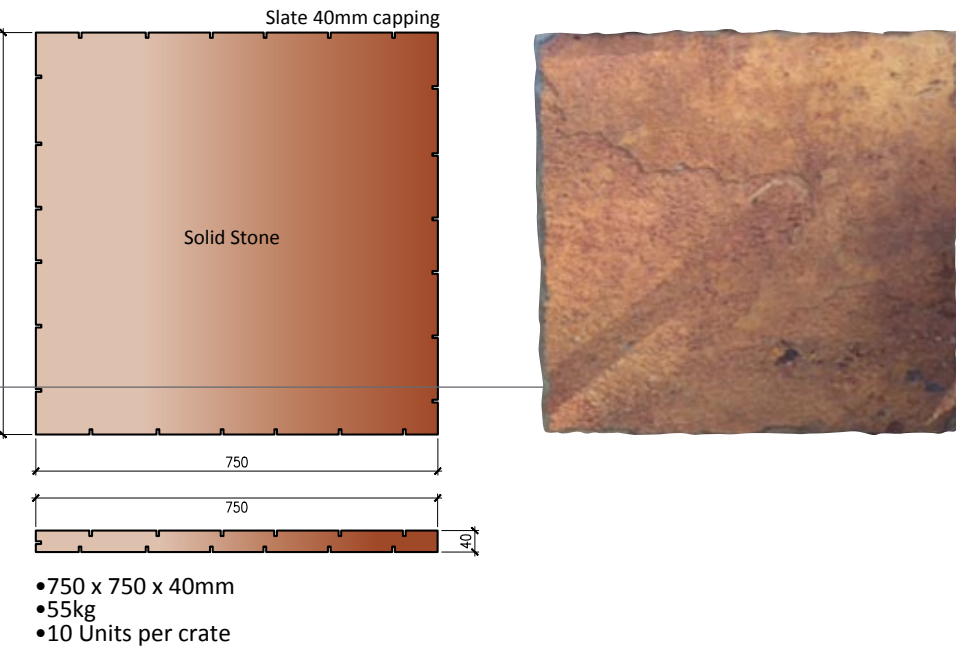
3.7 Type 7 – Sill Cap (CS140)



3.8 Type 8 – 550mm Column Caps (CS550)



3.9 Type 9 – 750mm Column Caps (CS750)

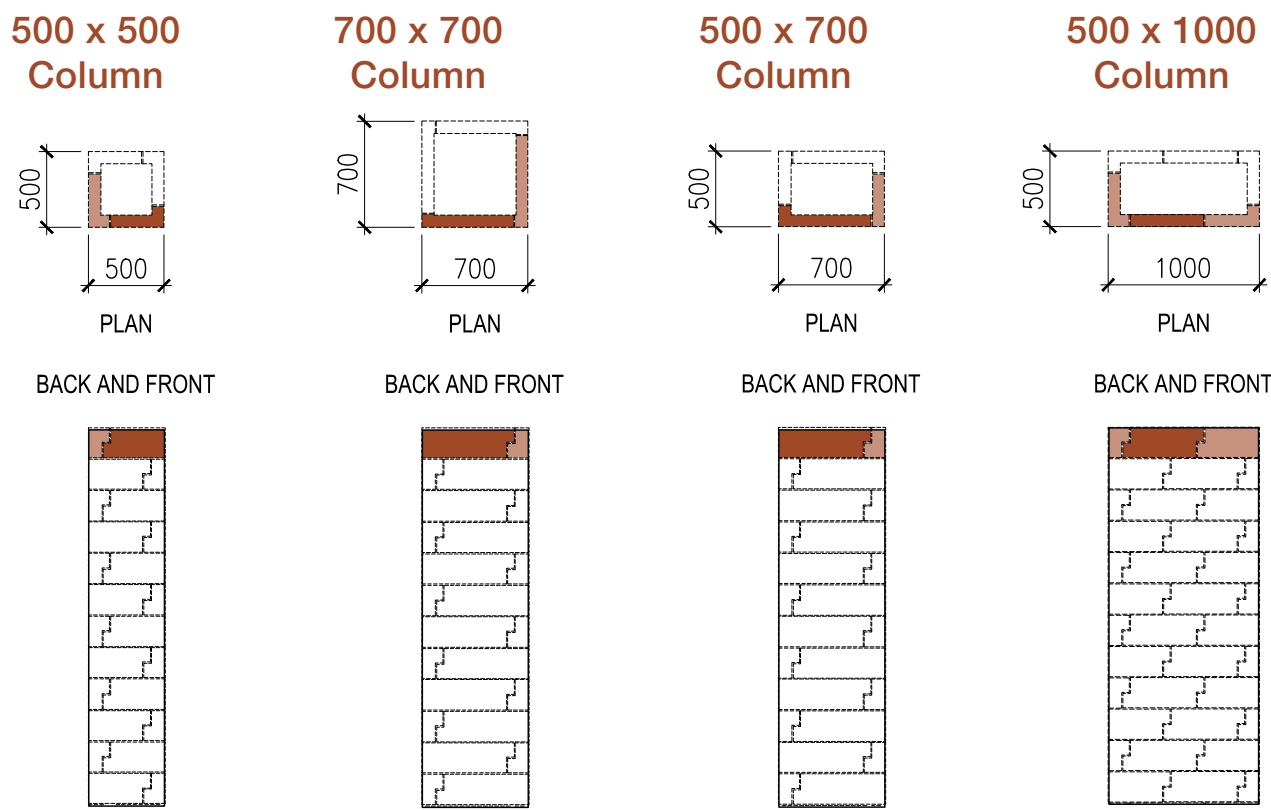


Unit Size & Tolerance

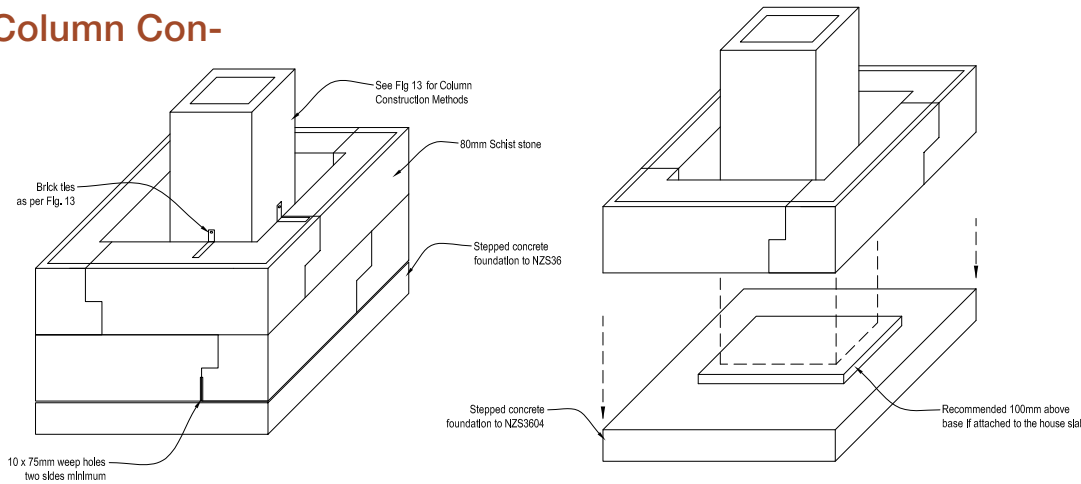
Dimensional Tolerances

- Each component to the range will be +/- 5mm from the stated 'nominal size' with the exception of the front face width (80mm).
- The concrete component shall not be less than 50mm thick around the perimeter of each unit, with the combined front face thickness not being less than 80mm.
- Some stone pieces may protrude from the Designa Schist face. The combined concrete and stone dimension can go up to 88mm.
- All Designa Schist have a mortared look, with a 7mm - 9mm min. mortared gap between stones.

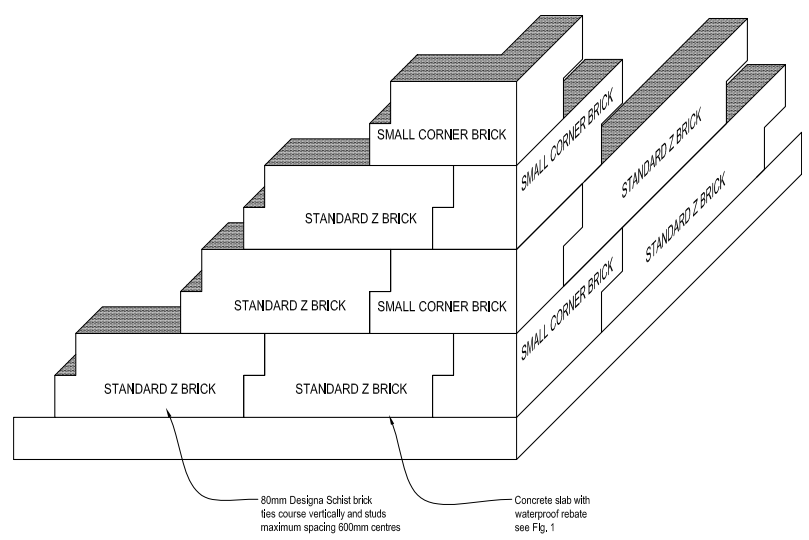
Column Elevations – Layout Plan



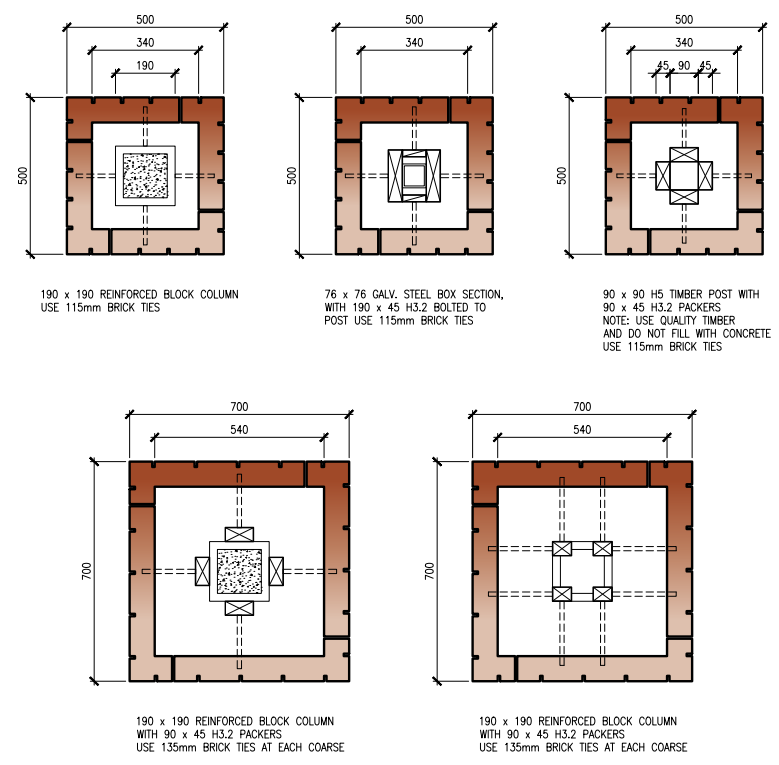
Example of Column Construction



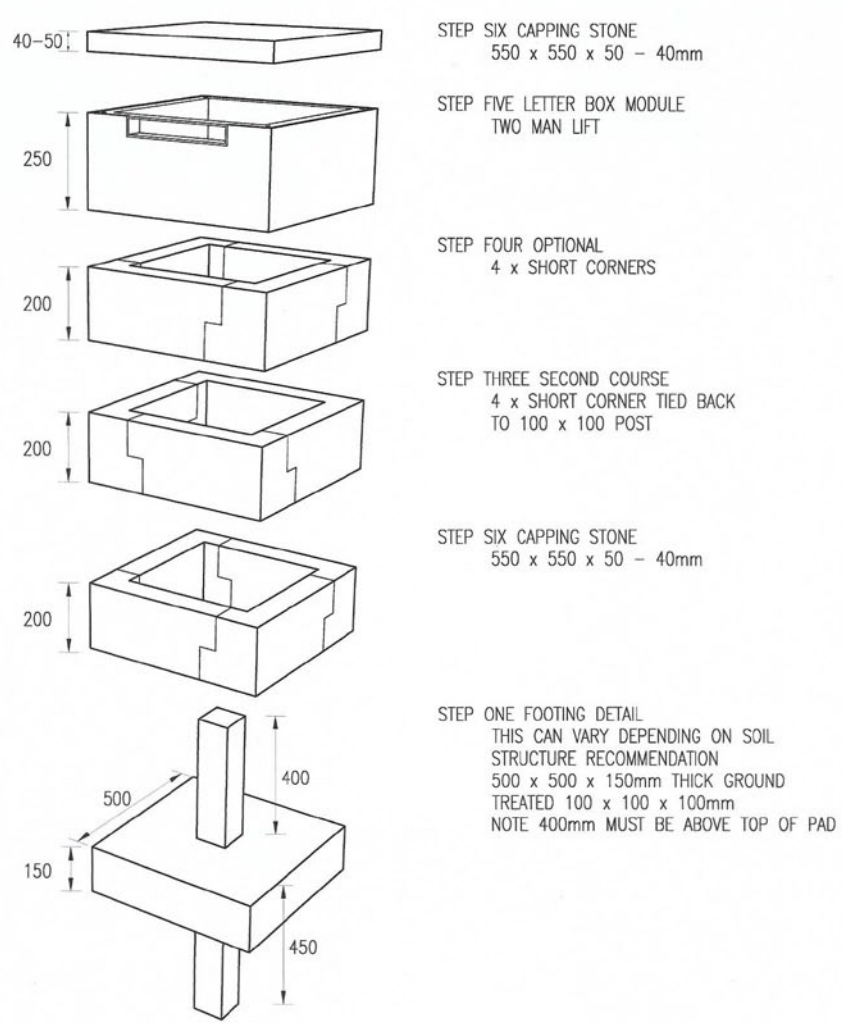
Example of Corner Construction



Column Installation Method



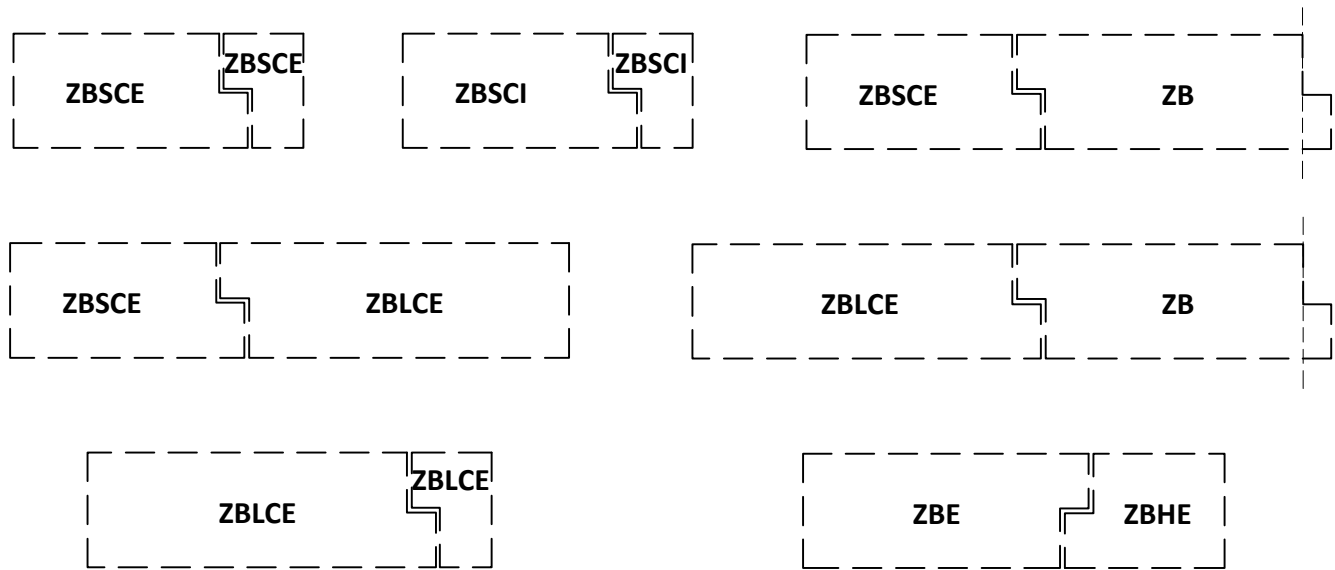
Letterbox Details



Modular Sizing Chart

NEW SIZE BRICK 2017											
	LENGTH / MORTAR THICKNESS / LENGTH		PLUS 1 ZB	(+2)	(+3)	(+4)	(+5)	(+6)	(+7)	(+8)	(+9)
ZBSCE / ZBSCE	410 / 3 / 90	503	1006	1512	2015	2518	3021	3524	4027	4530	5033
	410 / 7 / 90	507	1014	1521	2028	2535	3042	3549	4056	4563	5070
ZBSCE / ZBLCE	410 / 3 / 610	1023	1526	2029	2532	3035	3538	4041	4544	5047	5550
	410 / 7 / 610	1027	1534	2041	2548	3055	3562	4069	4576	5083	5590
ZBLCE / ZBLCE	610 / 3 / 90	703	1206	1709	2212	2715	3218	3721	4224	4727	5230
	610 / 7 / 90	707	1214	1721	2228	2735	3242	3749	4256	4763	5266
ZBSCE / ZB	410 / 3 / 500	913	1416	1919	2422	2925	3428	3931	4434	4937	5440
	410 / 7 / 500	917	1424	1931	2434	2937	3440	3943	4446	4949	5452
ZBLCE / ZB	610 / 3 / 500	1113	1616	2119	2622	3125	3628	4131	4634	5137	5640
	610 / 7 / 500	1117	1115	1113	1111	1109	1107	1105	1103	1101	1099
ZBE / ZBHE	500 / 3 / 280	783	1283	1783	2283	2783	3283	3783	4283	4783	5283
	500 / 7 / 280	787	1287	1787	2287	2787	3287	3787	4287	4787	5287
ZBSCA / ZBSCI	410 / 3 / 90	503	1006	1512	2015	2518	3021	3524	4027	4530	5033
	410 / 7 / 90	507	1014	1521	2028	2535	3042	3549	4056	4563	5070

Measurement unit used is mm



4.0 Technical Details

Fig.1 – 120mm Rebate Foundation

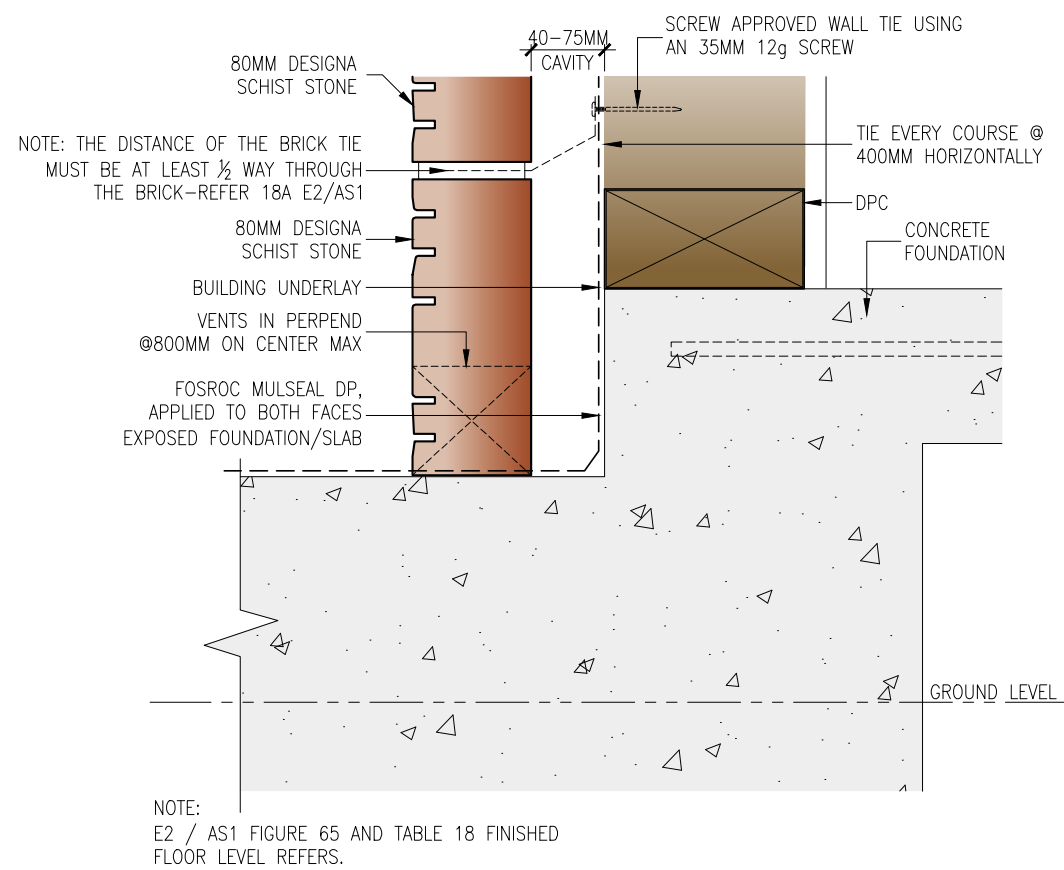
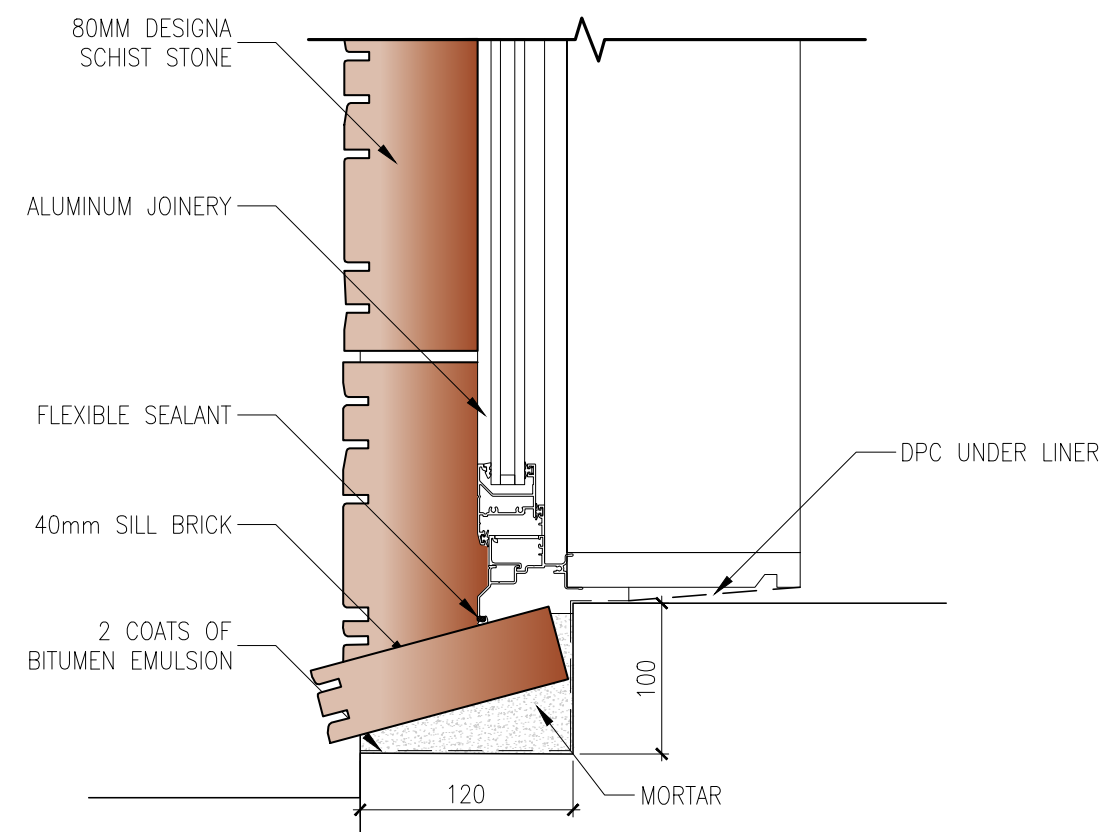


Fig.2 – Door Sill



4.0 Technical Details

Fig.3 – External 90° Corner for Small & Large Corners

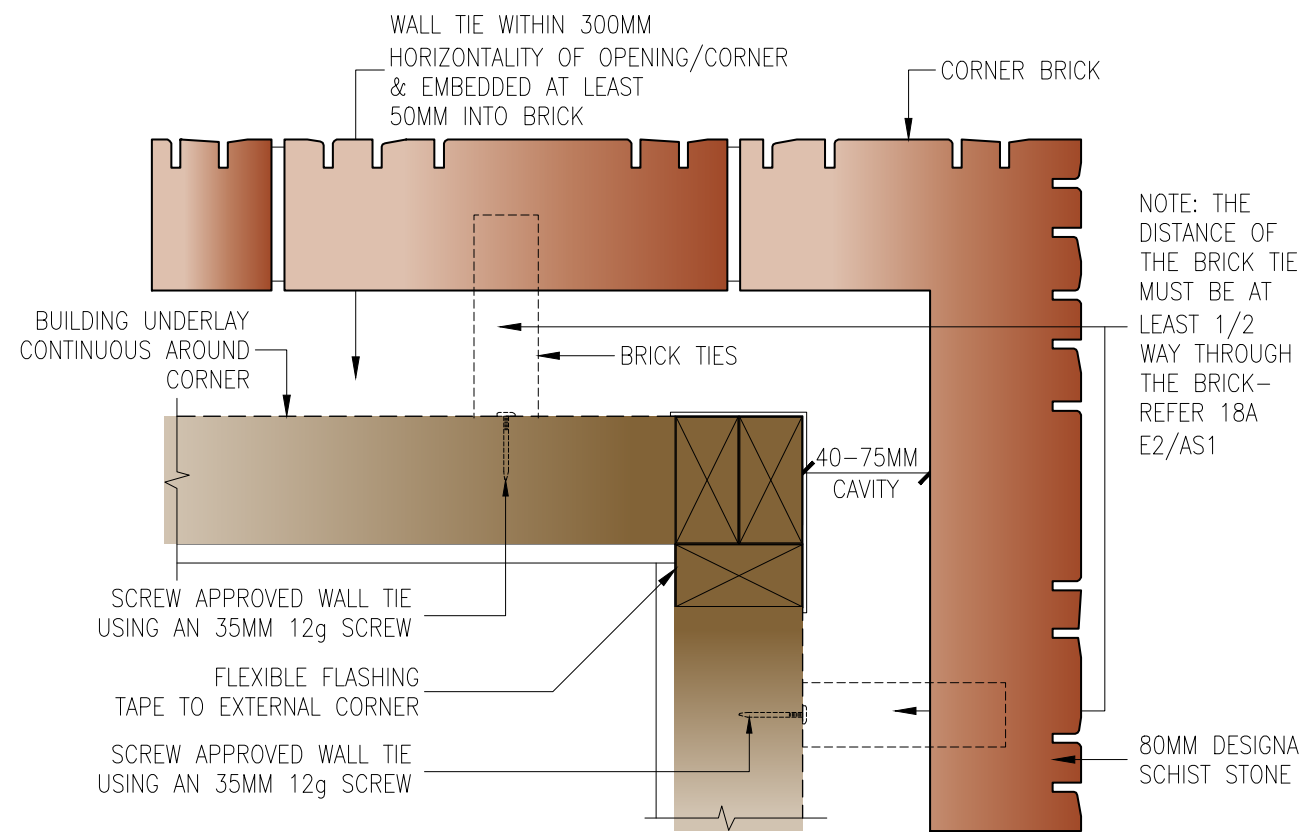
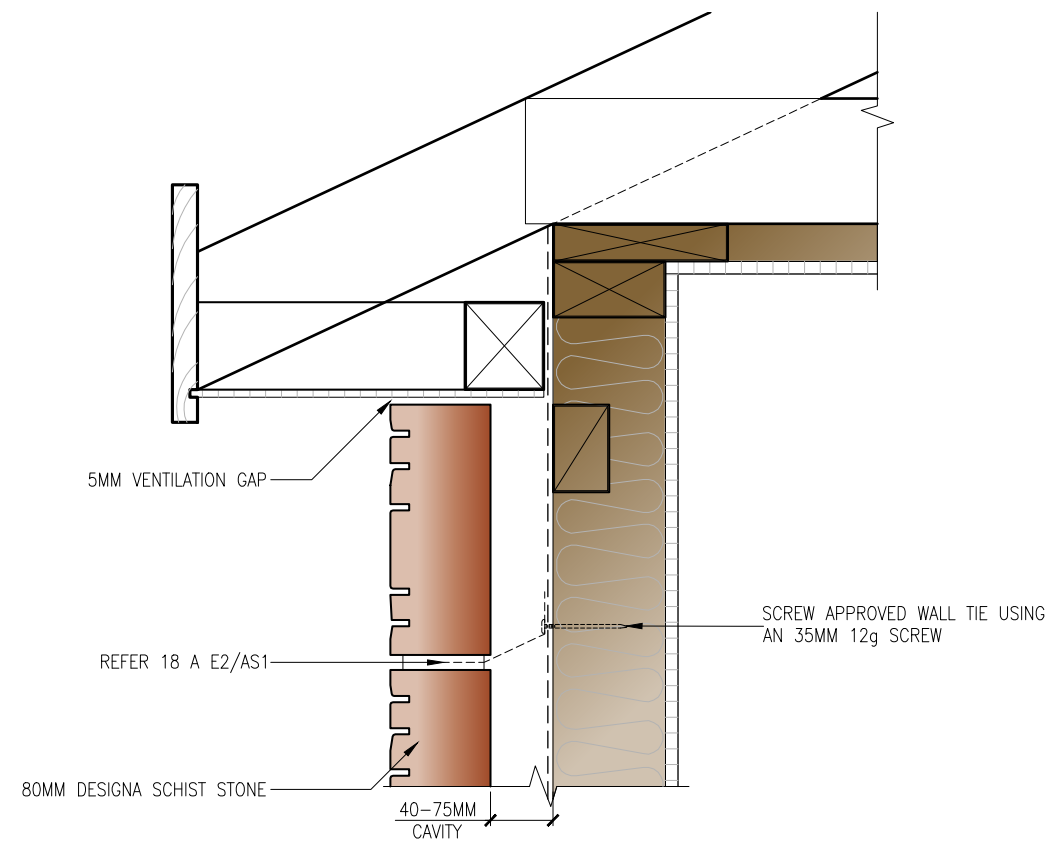


Fig.4 – Flat Soffit



4.0 Technical Details

Fig.5 – Flat Soffit and 150mm Frieze Board

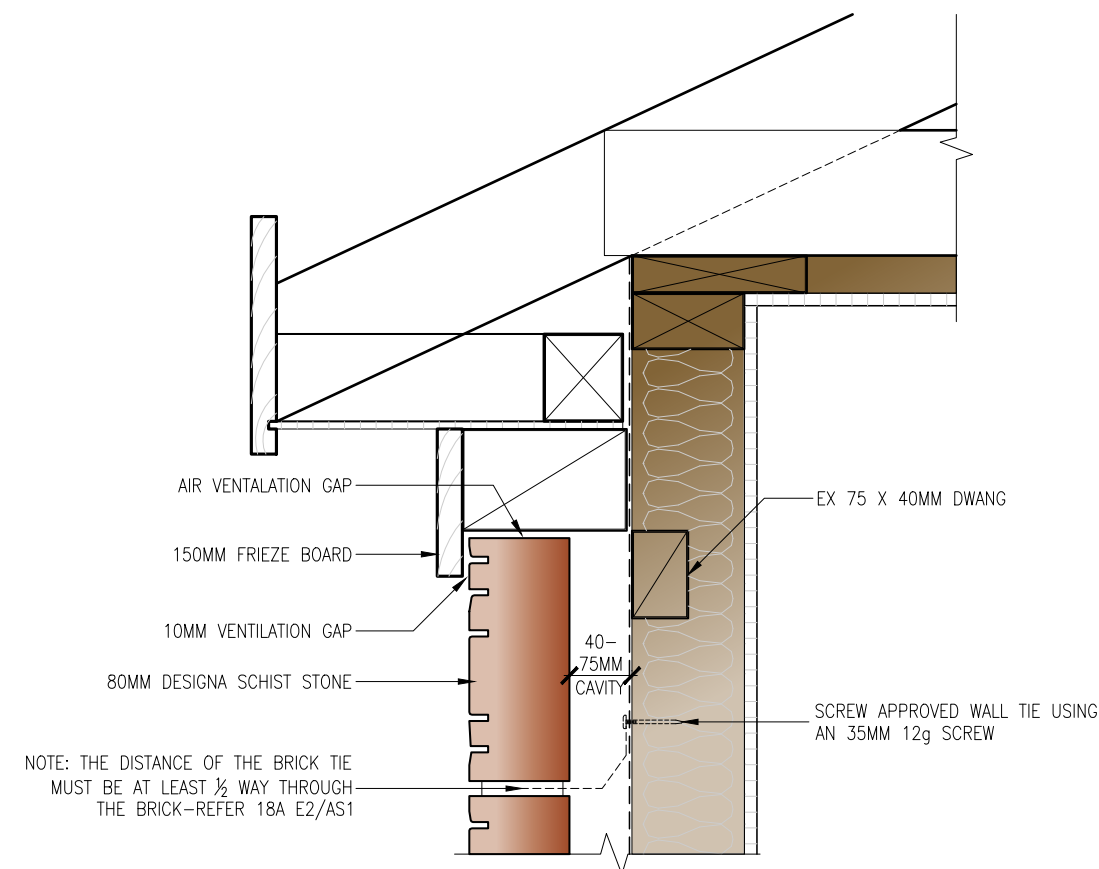
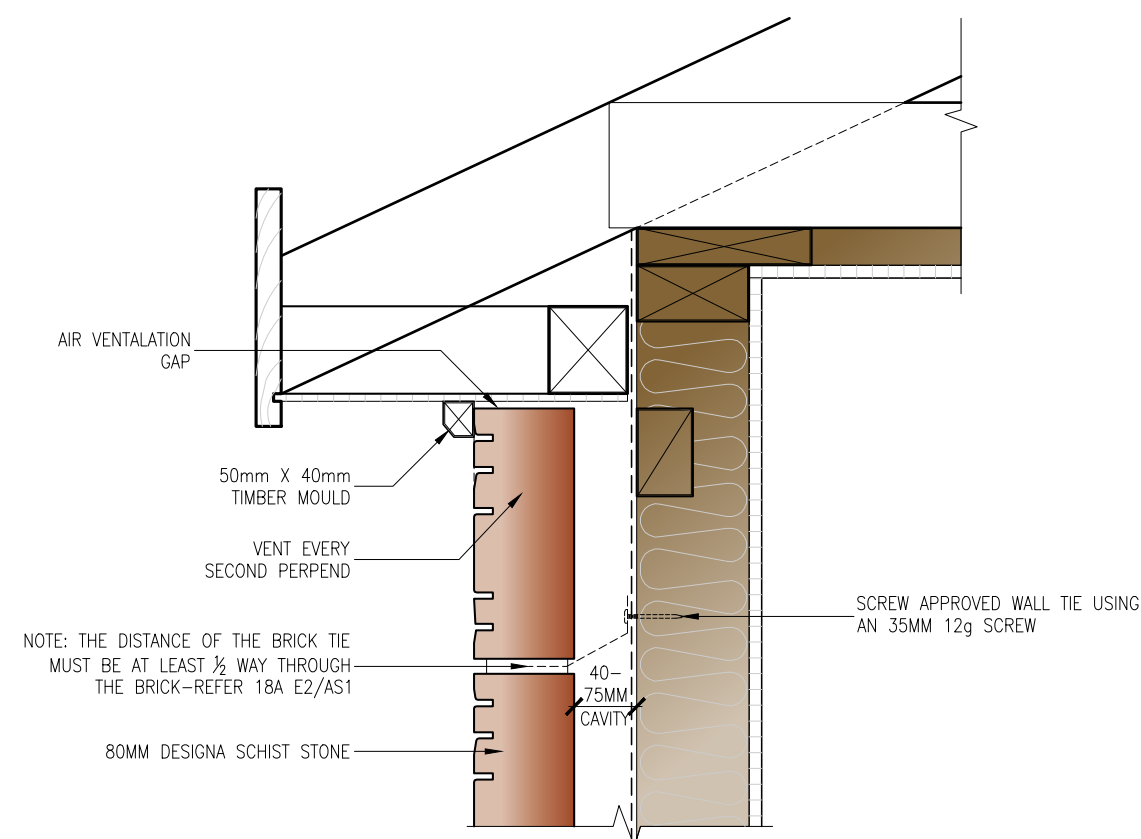


Fig.6 – Flat Soffit with Timber Mould



4.0 Technical Details

Fig.7 – Garage Door Jamb

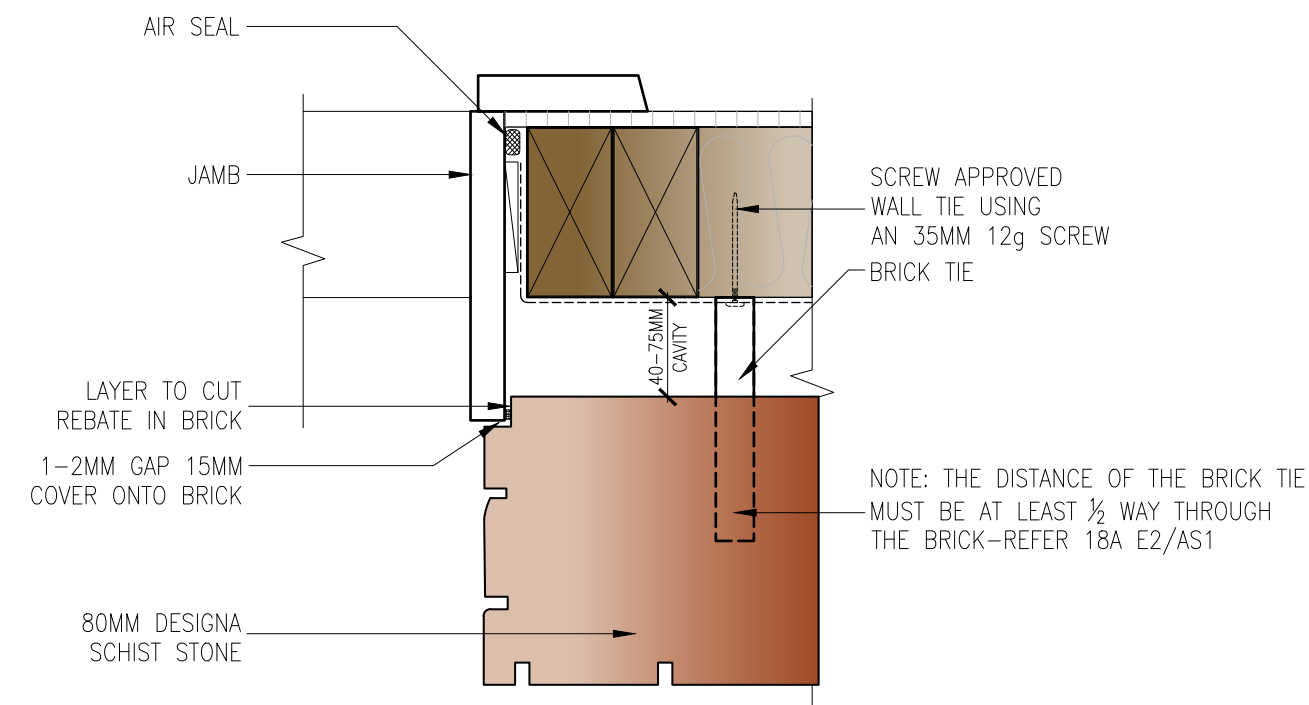
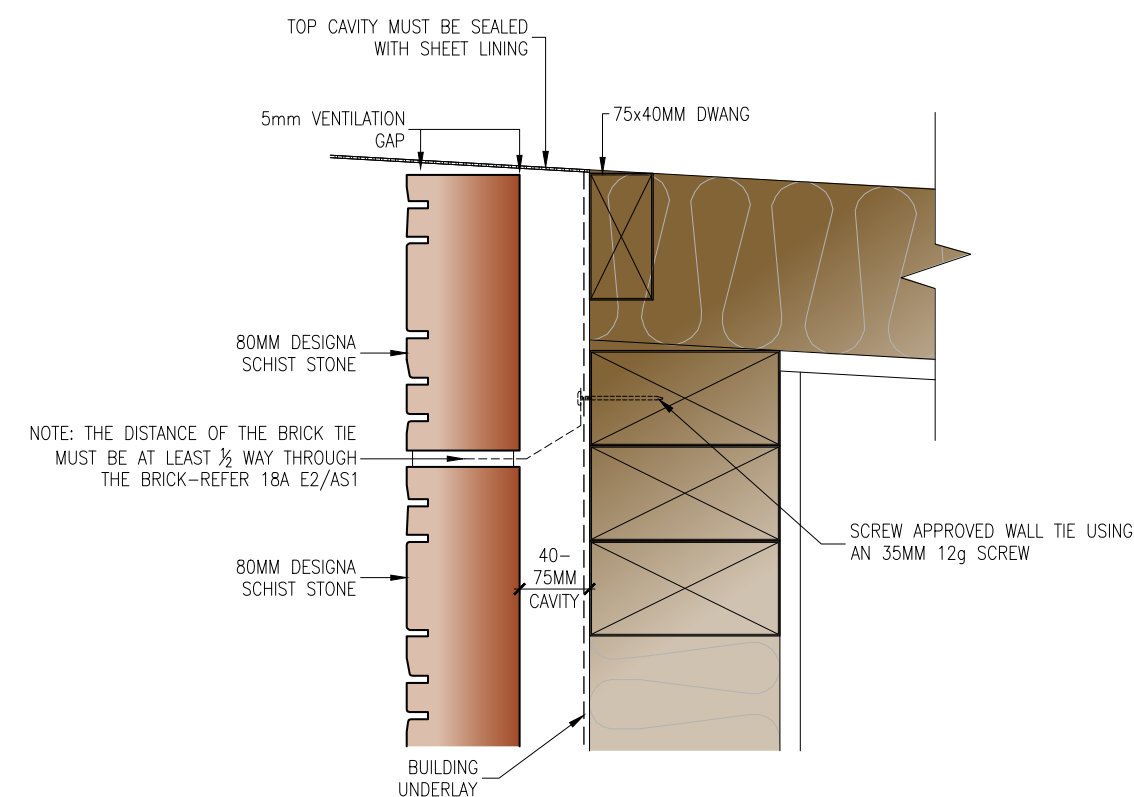


Fig.8 – Negative Soffit



4.0 Technical Details

Fig.9 – Typical Aluminium Window Jamb

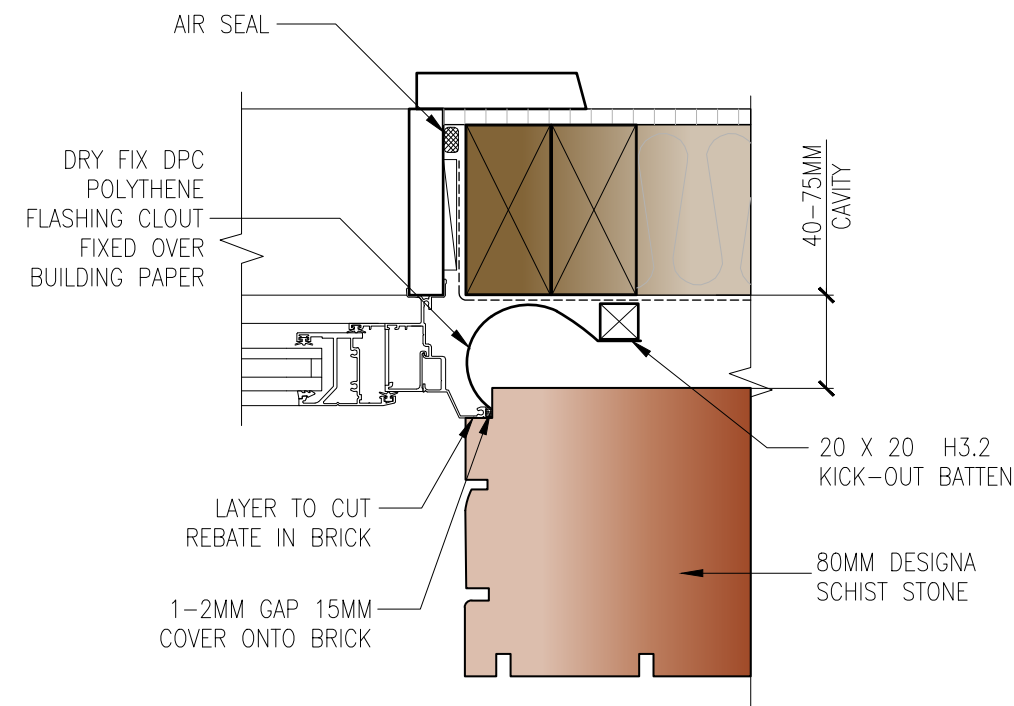
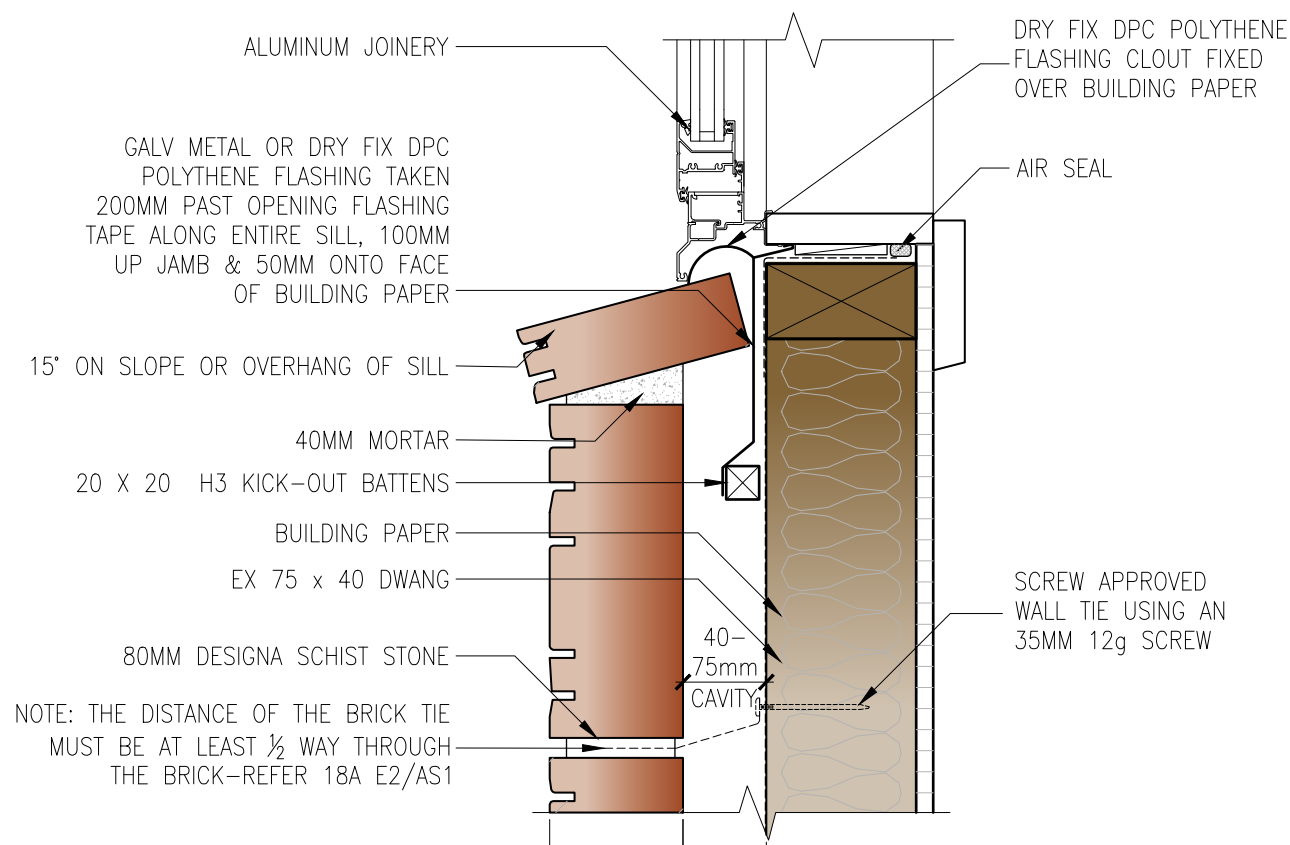


Fig.10 – Window Sill Aluminium



4.0 Technical Details

Fig.11 – Window Head (OPTION 1)

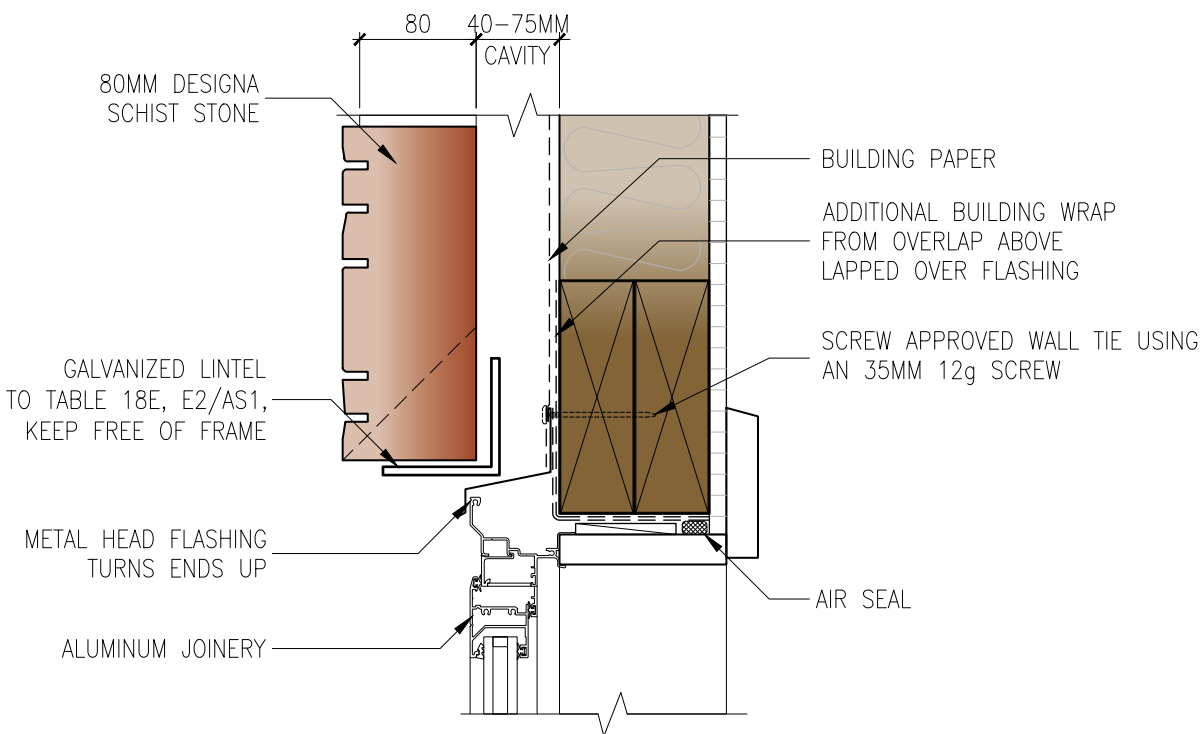
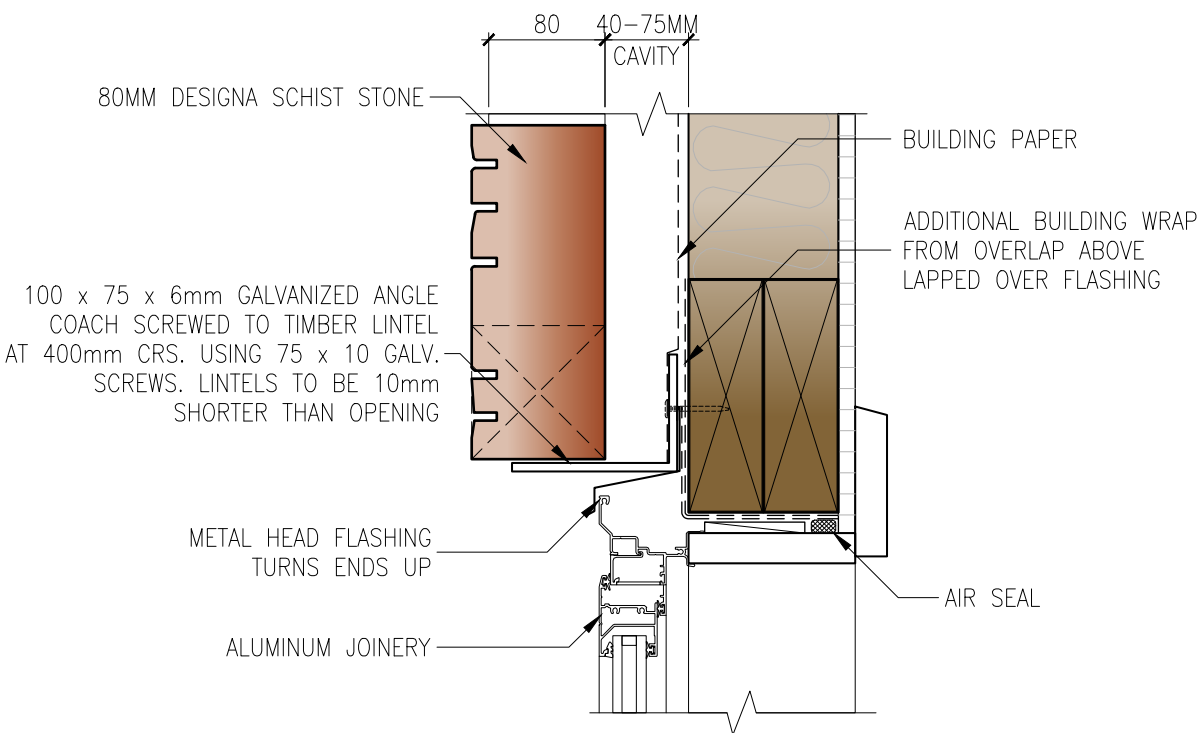


Fig.12 – Window Head (OPTION 2)



4.0 Technical Details

Fig.13 – Weatherboard Wall

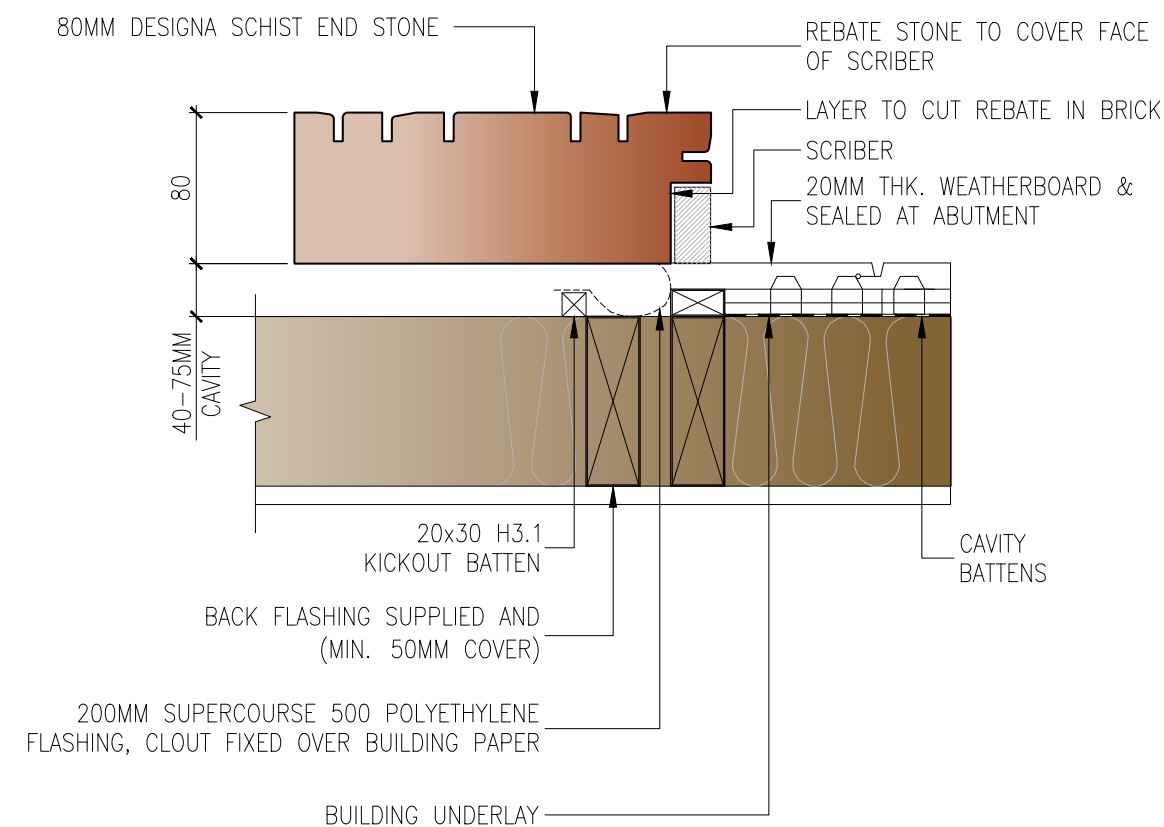
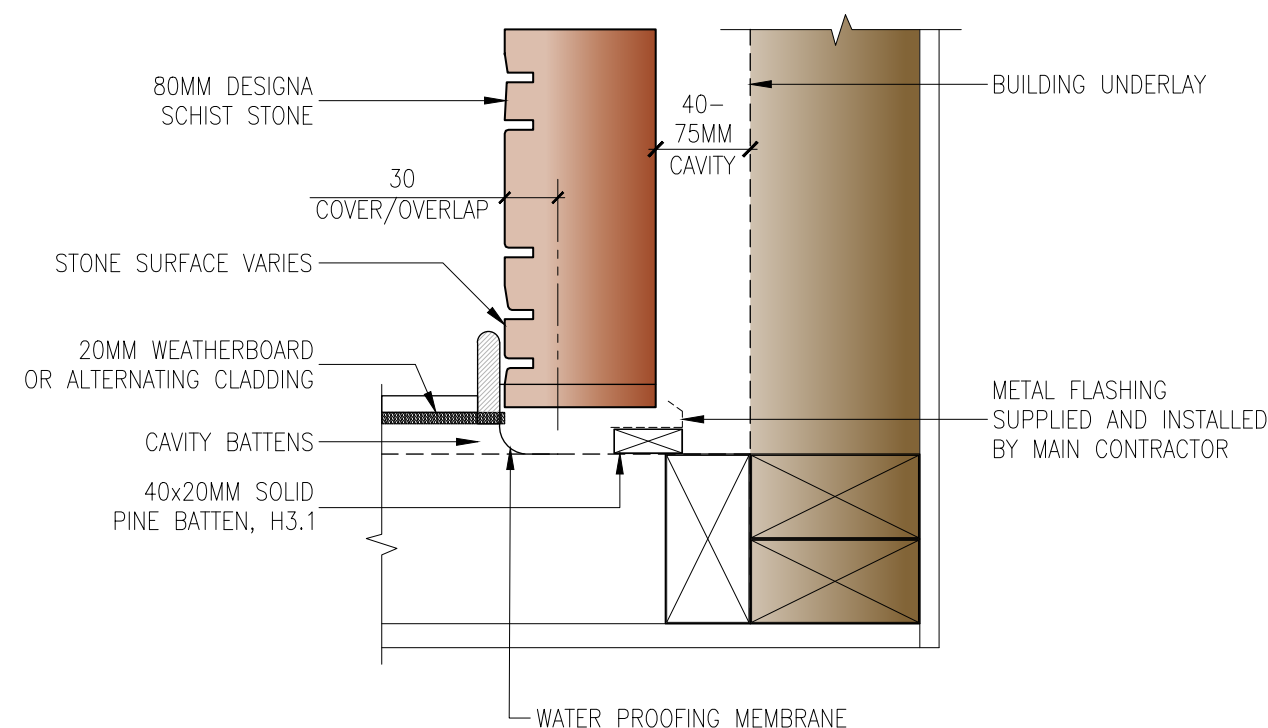


Fig.14 – Schist Weatherboard and Alternative Cladding Internal Corner



4.0 Technical Details

Fig.15 – Schist Joining Alternative Cladding

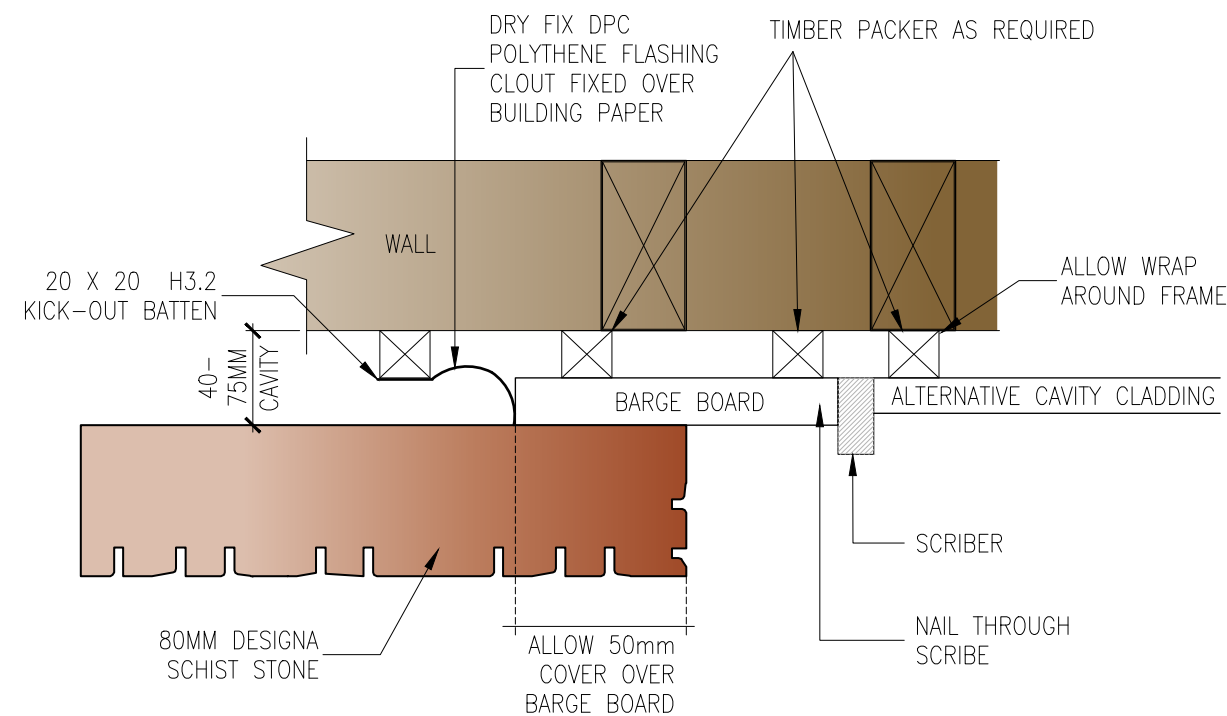
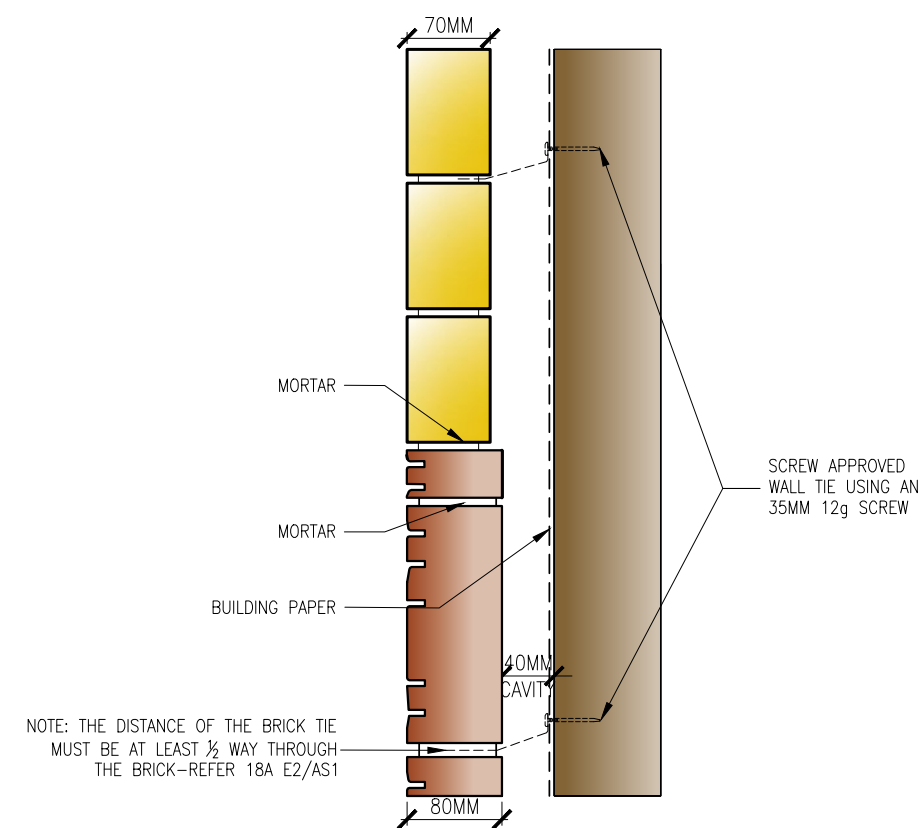


Fig.16 – Clay Bricks Above Designa Schist



4.0 Technical Details

Fig.17 – Weatherboard Wall

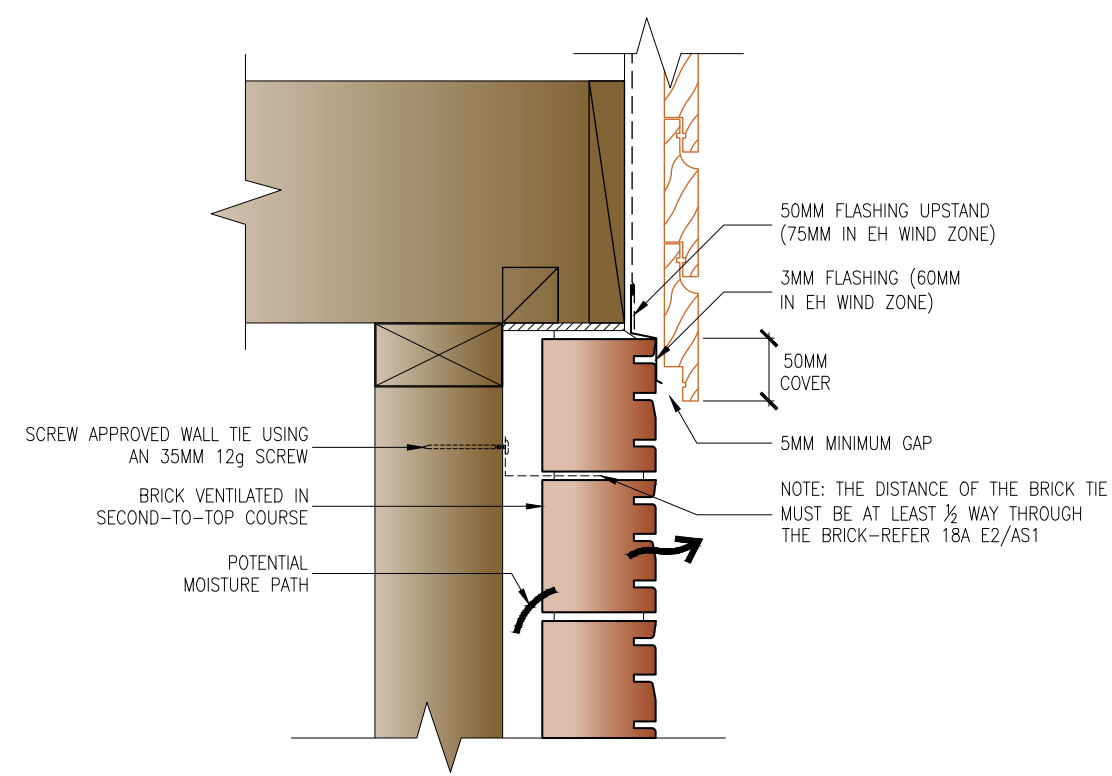
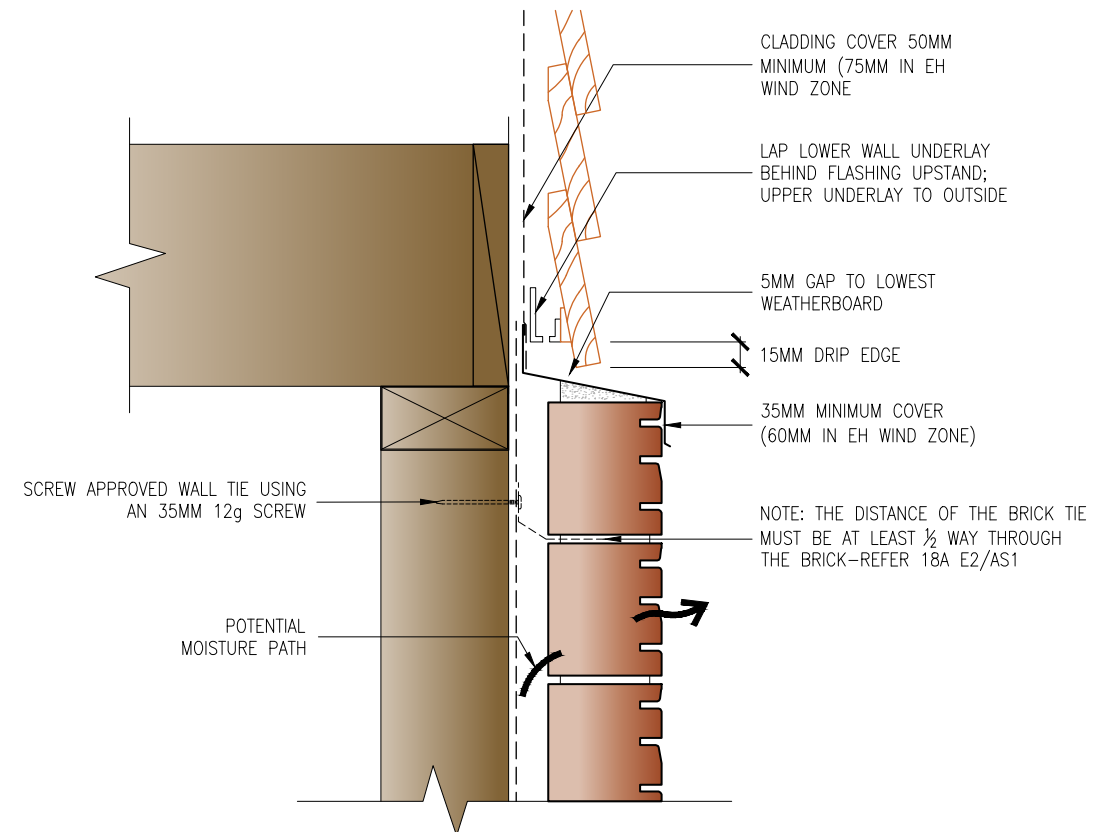


Fig.18 – Upper Floor Framing In Line With Lower Floor



4.0 Technical Details

Fig.19 – Plaster AAC / Designa Schist Bricks – Option 1

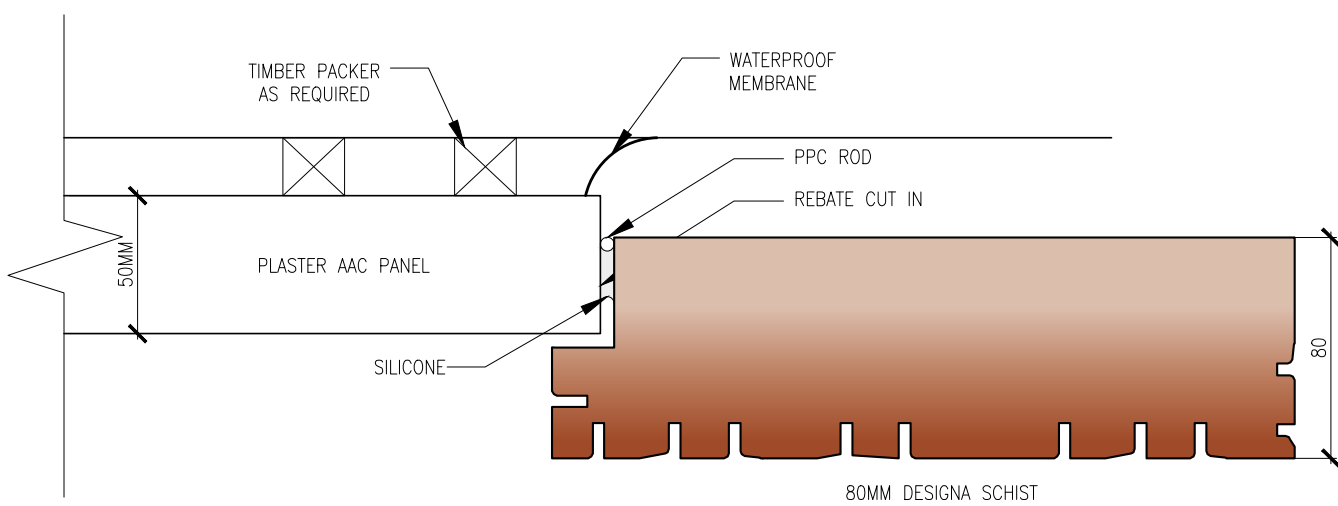
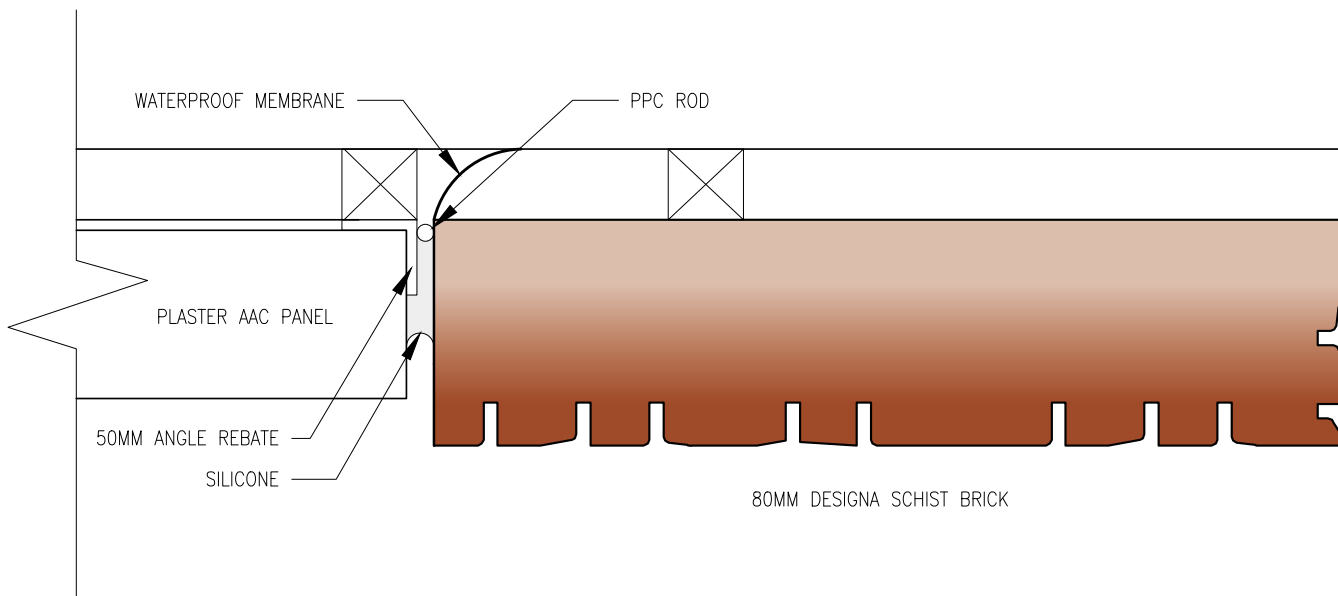


Fig.20 – Plaster AAC / Designa Schist Bricks – Option 2



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