

SK1N



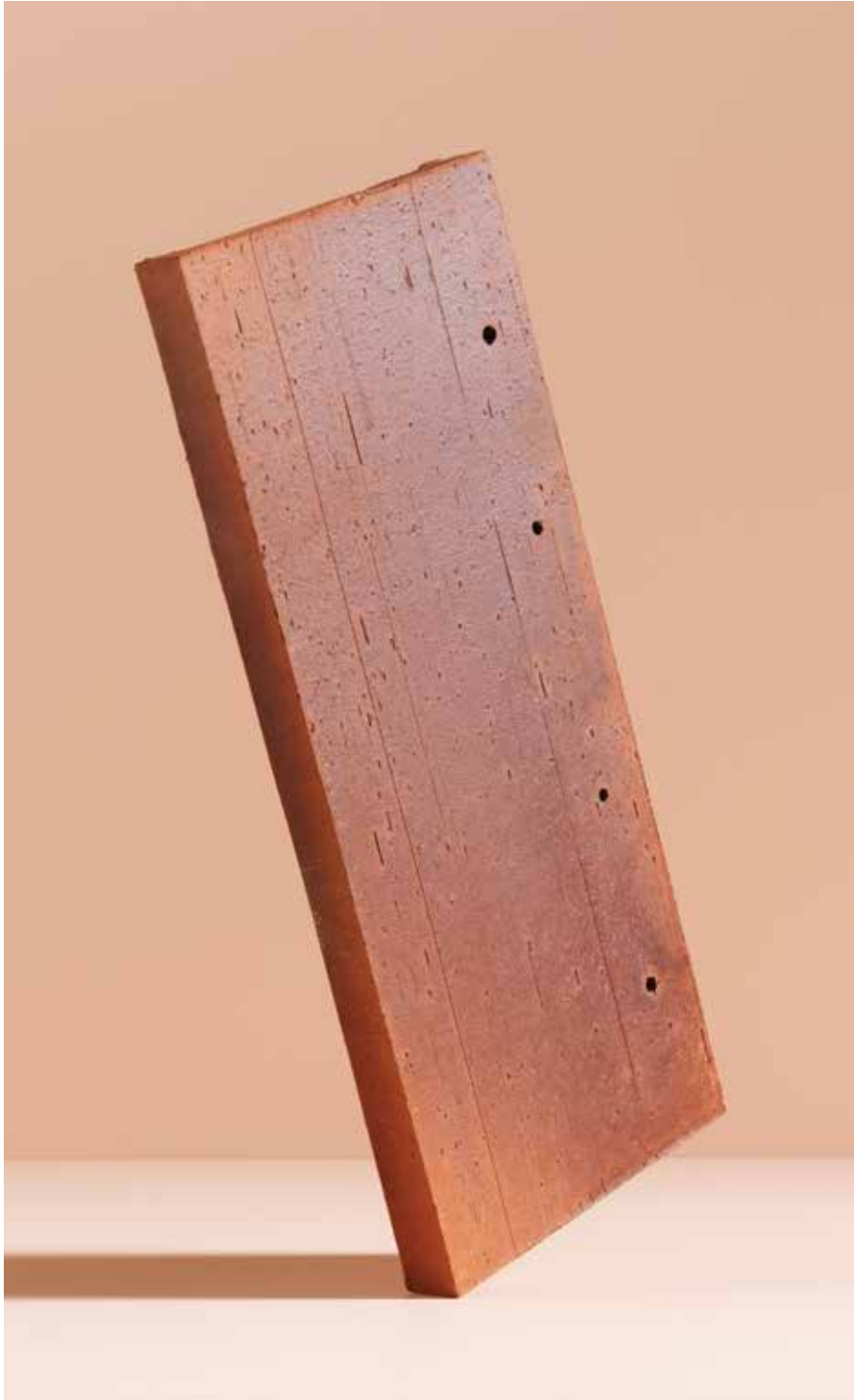
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BRICKWORKS





SK1N

Overview

1

Overview

SK1N is an adaptive building envelope solution suitable for installation on walls and sloping gable roofs as well as onto new and existing buildings. Horizontal SK1N top hats or traditional timber battens are installed over a breathable membrane before each SK1N tile is fixed at preformed holes. All horizontal joints are overlapped, while vertical joints are variable for maximum visual effect. SK1N is a rear ventilated rainscreen cladding system and must be installed onto a waterproofed structural wall or roof.

Designed from Every Angle

Created to flow across any surface, SK1N is a unifying design system that adapts to your architectural vision and the environment it lives within.

Infinite Expression

Characterised by genuine versatility and simple installation – SK1N is the perfect solution for both expressive creativity and streamlined efficiency.

Contemporary Yet Enduring Beauty

Developed in Italy – SK1N's DNA is intimately connected to timeless and iconic European craftsmanship.

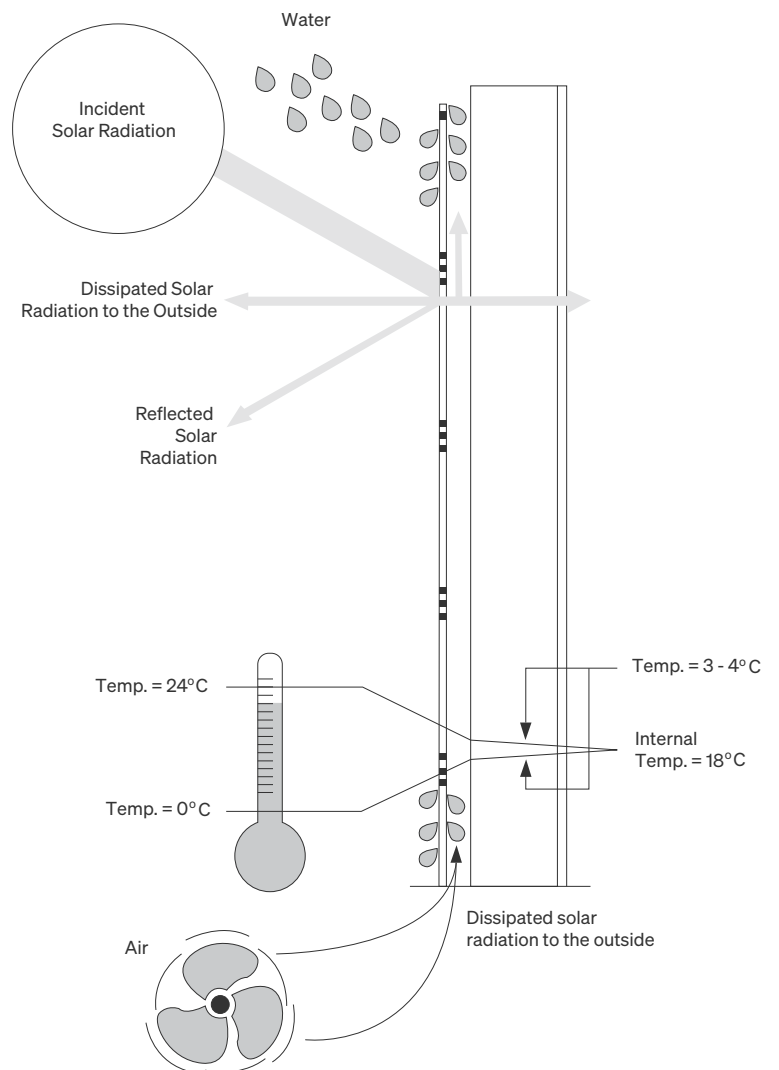
Combining the enduring beauty of terracotta with contemporary ceramic techniques and colours, it has a range of imaginative applications, from unique façades to distinctive roof lines – all united in one seamless material expression.

Multilayered Defence Against the Elements

A properly designed and installed rain screen acts as a barrier against water ingress whilst dissipating moisture and condensation out of the building. Each component in the SK1N system is engineered for performance and comprises of:

- the SK1N tiles,
- horizontal battens, either aluminium or timber,
- and a breathable membrane.

The SK1N system can be installed directly onto the frame or with an additional vertical batten creating a vented cavity. This airspace facilitates the removal of excess heat, humidity and moisture through natural convective air movement.



Benefits

Moisture Management

The proprietary aluminium SK1N top hat dictates the ideal tile slope and 40 mm overlap. The result is a continuous drainage plane which deflects impeding rain away from critical structural members.

Thermal Efficiency

SK1N has a high thermal mass giving it the ability to absorb and store heat from direct sunlight during the day. This slows down the rate of heat transfer thus moderating internal temperatures and comfort.

Durable

SK1N tiles are classified as exposure grade so that they can be used in all environments, including severe coastal areas with suitable fixings.

Tested Performance

The SK1N system has been rigorously tested by accredited laboratories to ensure that each tile will last. The tiles have been assessed under AS 4459: Methods of sampling and testing ceramic tiles and AS 4455: Masonry units, segmental paves and flags. SK1N is deemed non-combustible under AS 1530.1: Combustibility test for materials and was tested for a strength limit state pressure to AS 4284: Testing of building facades.

Flexibility

Timeless colours, decades of durability, and with a strong horizontal design emphasis, SK1N combines thoughtful design with extraordinary versatility.

Here's what makes SK1N so unique:

- Adaptable application**
SK1N's dual-aspect functionality makes it ideal for vertical and sloping gable roof applications.
 - Bold colour for life**
Offering seven highly appealing colours, SK1N's original palette of fired clay tiles is inspired by nature.
 - Location flexibility**
Offers outstanding design potential for urban or rural projects.
 - Bespoke finishes**
Each SK1N tile is truly unique due to diversity of colour and texture.
-

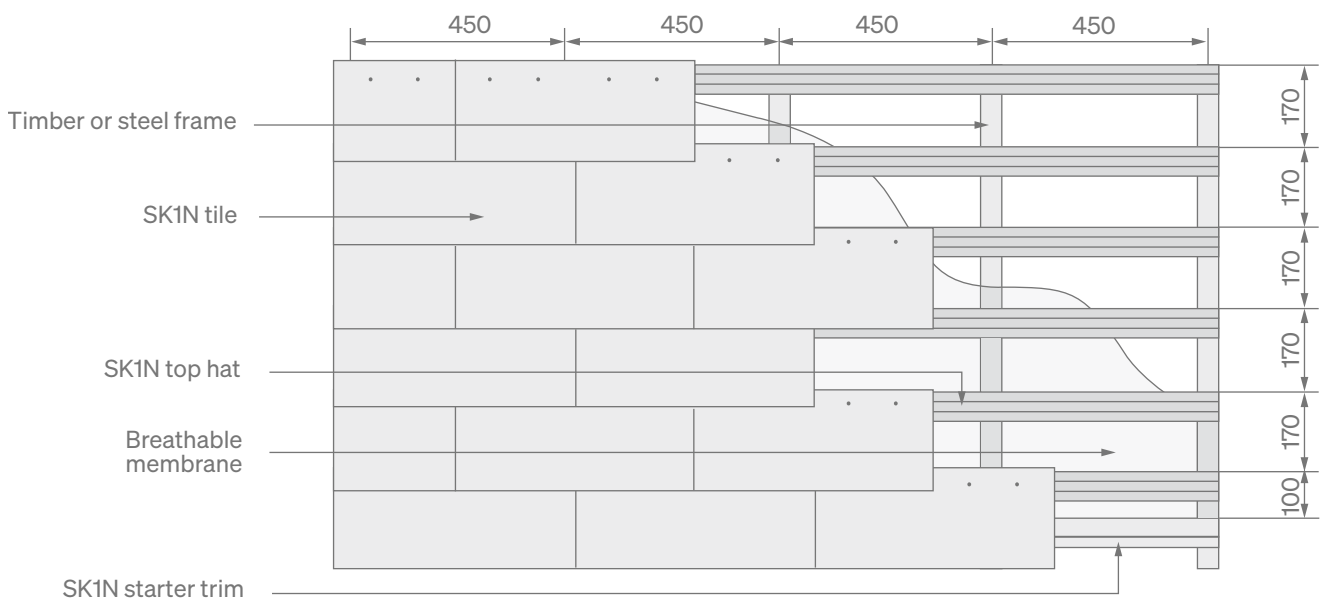
- Non-combustible**
SK1N tiles are made from fired clay so they are non combustible.
 - Natural**
Made from natural materials, SK1N emits no VOCs.
 - Sustainably thoughtful**
SK1N is entirely recyclable and reusable.
 - Rain screen**
Rear ventilated facade offers great thermal benefits.
-

- Easy installation**
SK1N is fast, secure, and genuinely uncomplicated to install.
- Enduring quality**
With a 100 year warranty, SK1N tiles are colourfast, durable and low maintenance.



System Overview

System Overview



SK1N System Properties

	L Shape	U Shape
Dimensions	500 x 210 x 35 mm	500 x 210 x 35 mm
Tiles/m ²	11.8 pcs/m ²	11.8 pcs/m ²
Weight per tile	3.2 kg	3.8 kg
Weight/m ² (Inc SK1N top hat)	41.2 kg	48.3 kg
Weight/m ² (Inc 38 x 38 mm F5 timber batten)	43.1 kg	50.2 kg
Tile overlap	40 mm	40 mm
Horizontal batten distance	170 mm	170 mm

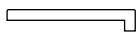
SK1N System Material List

Component	Material List
Tiles	Fired clay
SK1N starter trim	Aluminium grade 6060-T66
SK1N top hat	Aluminium grade 6060-T66
Breathable membrane	Spunbonded polypropylene material or equivalent grade
Timber batten and starter	Minimum F5 (supplied by builder as per details)

Components

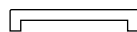
SK1N tiles are extruded from traditional clay and fired at extreme temperatures providing a low maintenance cladding which is non-combustible, durable and colour fast. The end result is a natural aesthetic, bound to outlast the harsh weathering of any environment.

L Profile



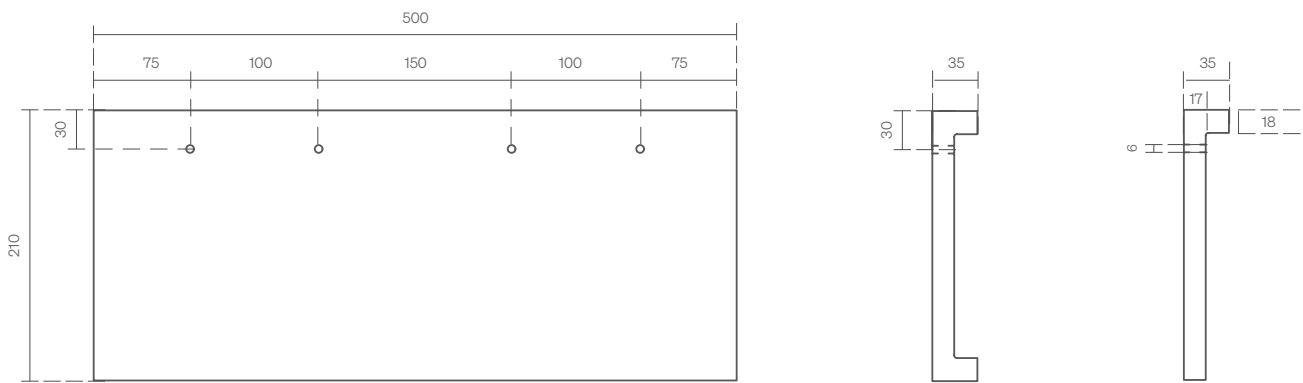
The L profile allows the product to sit flatter across the facade and results in subtle lines running across the facade.

U Profile



When using the U profile, the product's nose sits more pronounced and creates greater emphasis on horizontal lines running across the facade.

Dimensions of a SK1N Tile



Tile Properties

Property	Specification	Standard
Dimensions (L x H x T) ¹	500 x 210 x 35mm	AS 4459.2
Water absorption	< 12 %	AS 4459.3
Bulk density	2.5 g/cm ³	AS 4459.3
Modulus of rupture	> 7 MPa	AS 4459.4
Mean coefficient of restitution	0.55	AS 4459.5
Linear thermal expansion	8.21 x 10 ⁻⁶ / °C	AS 4459.8
Modulus of elasticity	3.1 MPa	AS 4459.14
Durability classification ²	Exposure	AS/NZS 4455.1
Moisture expansion	0.56	AS 4456.11

1. SK1N terracotta tiles are formed from natural raw materials and dimensions may vary +/- 5mm

2. SK1N tiles are suitable for coastal regions with compatible fixings (refer to Table 8) and should be installed with adequate clearance from the ground.

Overview Colours

Alento

—

Dappled sunlight on silver sands was the inspiration for the tactile and relaxing tones embodied in each tile. Perfect for beachside projects or at home anywhere.



Livenza

—

Elegant and gentle, this tranquil grey lifts solid forms to give the impression of gently floating planes.



Savio

—

A subtle grey surface wash effect gives this classic terracotta coloured tile a delightfully softer and subtly variable tone.



Please Note:

The product images in this manual give a general indication of colour for your preliminary selection. We recommend current product samples to be viewed before making your final selection. All SK1N colours will feature natural variation between tiles in the blend. Crafted from natural clay which is kiln fired, there will be some variation between product batches which should be understood when ordering the product.

Tesino

–

Vibrant and welcoming, this classic terracotta orange colour creates a delicate colour plane.

Potenza

–

A warm, inviting, and comforting classical terracotta tone that originated in Sienna, Italy during the Renaissance.

Chienti

–

Chienti's light brown tone is reminiscent of aged natural wood, with a highly appealing and timeless, natural feel.

Piave

–

A rich, earthy charcoal tone which works across cool and warm colour schemes to create a subtly variegated impression.



Light Reflectance Values and Solar Absorption of SK1N Products

Tile	Light Reflectance Values (LRV)	Solar Absorption (SA)
Alento	50.9	25.1
Livenza	29.5	70.4
Potenza	13.8	62.0
Piave	7.0	85.5
Savio	22.5	72.1
Chienti	11.6	79.0
Tesino	16.9	58.0

Overview

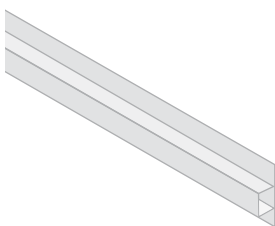
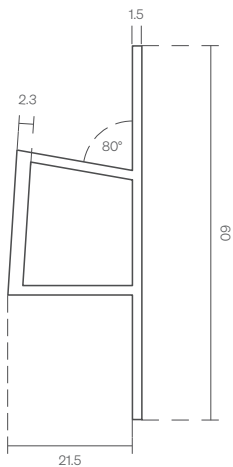
Batten Options

A proprietary aluminium starter trim and top hat provide the basis for the SK1N system and is suitable for both wall and roof installations. Traditional 38 x 38 mm timber battens can also be used.

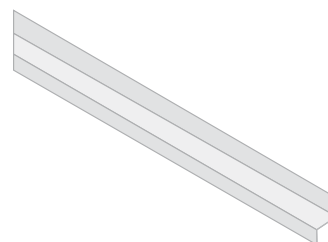
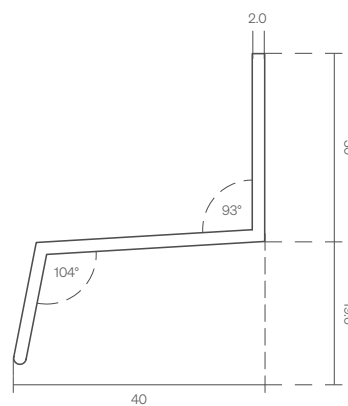
Batten Options

	Material	Nominal Length (mm)
SK1N top hat	EN AW 6060-T66	3000
SK1N starter trim	EN AW 6060-T66	3000
Timber batten	F5 or above	-
Timber starter	F5 or above	-

SK1N Top Hat



SK1N Starter Trim



Breathable Membrane

Moisture management and reducing condensation build up is critical in maintaining building longevity and comfort. A suitable water control membrane should be installed under SK1N which prevents the ingress of liquid water whilst allowing for water vapour to escape. This is especially critical in humid climate zones and must comply with AS/NZS 4200.2 Pliable building membranes and underlays – Installation as well as any NCC requirements.

Membrane specifications for wall installations of SK1N are detailed in table opposite. This may be substituted with another membrane with equivalent or better properties.

Membrane Properties

Roll dimensions	1.5 m x 50 m
Weight of complete roll	7.5 kg
Thickness	0.5 mm
Weight	100/m ²
Resistance to water penetration	Pass
Water vapour permeability	7.5 µg/Ns
Vapour resistance	0.13 MNs/g
Burst strength, wet dry	294 N
Duty	Light
Flammability index	Low
Air permeability	Air permeable
Allowable UV exposure prior to installation of cladding	2 months
Tensile strength	MD 3.8 kN/m CD 3.1 kN/m



Designing With SK1N

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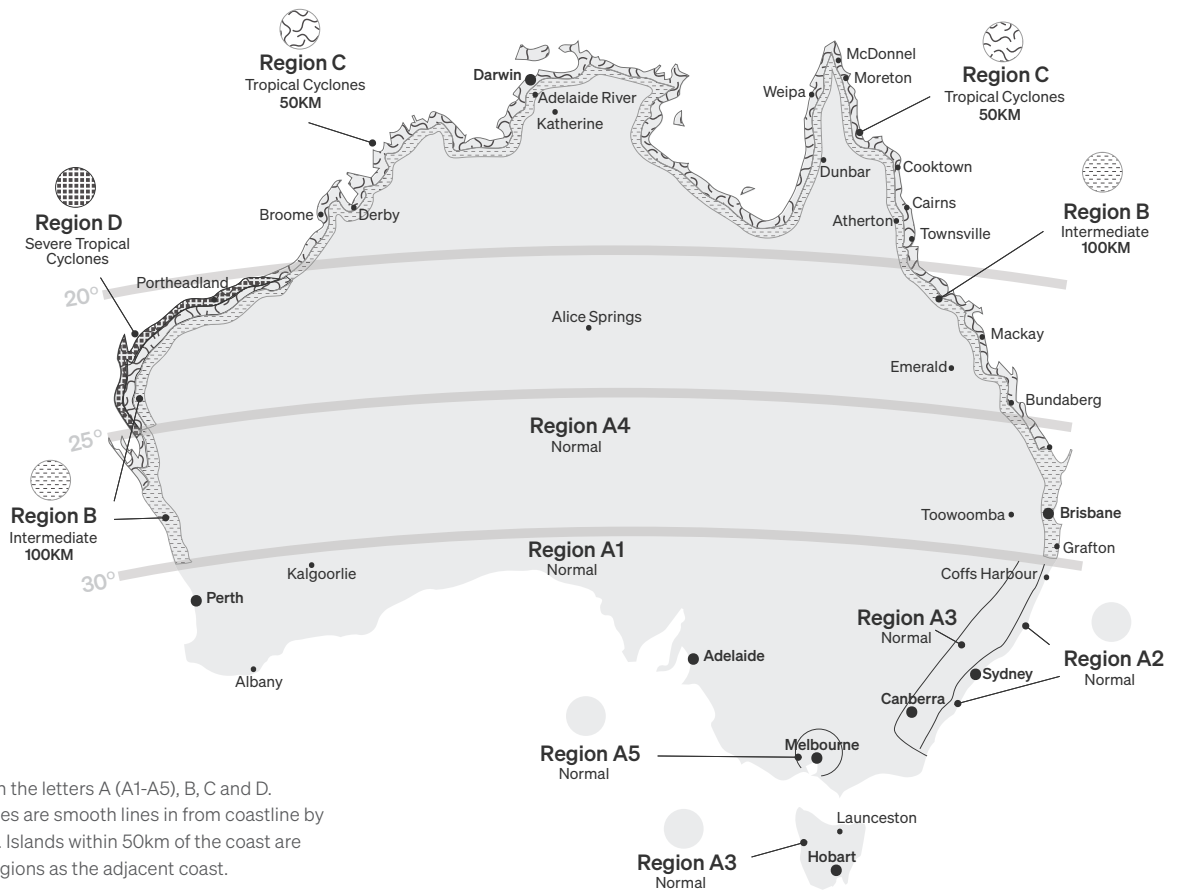
Designing with SK1N

The installation requirements of the SK1N system are influenced by the wind loads and must comply with either AS 4055: Wind loads for housing or AS/NZS 1170.2: Structural design actions - Part 2: Wind actions

Brickworks Building Products consulted Rickard Engineering to provide the following guide for installing the SK1N system in respect to terrain category, building height and wind region. Please note that further engineering may be required to

consider topography, shielding and building orientation as well as any state and/or local council requirements.

Step 1 - Determine Wind Region



Regions are marked with the letters A (A1-A5), B, C and D. Coastal region boundaries are smooth lines in from coastline by 50, 100, 150 and 200km. Islands within 50km of the coast are designed in the same regions as the adjacent coast.

Step 2 - Terrain Category Region Definitions as per 1170.2:2011 Clause 4.2.1

Terrain, over which the approach wind flows towards a structure, shall be assessed on the basis of the following category descriptions:

1. Terrain Category 1 (TC1)

Very exposed open terrain with few or no obstructions and enclosed, limited-sized water surfaces at serviceability and ultimate wind speeds in all wind regions, e.g. flat, treeless, poorly grassed plains; rivers, canals and lakes; and enclosed bays extending less than 10 km in the wind direction.

2. Terrain Category 1.5 (TC1.5)

Open water surfaces subjected to shoaling waves at serviceability and ultimate wind speeds in all wind regions, e.g. near-shore ocean water; large unenclosed bays on seas

and oceans; lakes; an enclosed bays extending greater than 10 km in the wind direction. The terrain-height multipliers for this terrain category shall be obtained by linear interpolation between the values for TC1 and TC2 in Table 4.1.

3. Terrain Category 2 (TC2)

Open terrain, including grassland, with well-scattered obstructions having heights generally from 1.5 m to 5 m, with no more than two obstructions per hectare, e.g. farmland and cleared subdivisions with isolated trees and uncut grass.

4. Terrain Category 2.5 (TC2.5)

Terrain with a few trees or isolated obstructions. This category is intermediate between TC2 and TC3 and represents the terrain in developing outer urban areas with scattered houses, or large

acreage developments with fewer than ten buildings per hectare. The terrain-height multipliers for this terrain category shall be obtained by linear interpolation between the values for TC2 and TC3 in Table 4.1.

5. Terrain Category 3 (TC3)

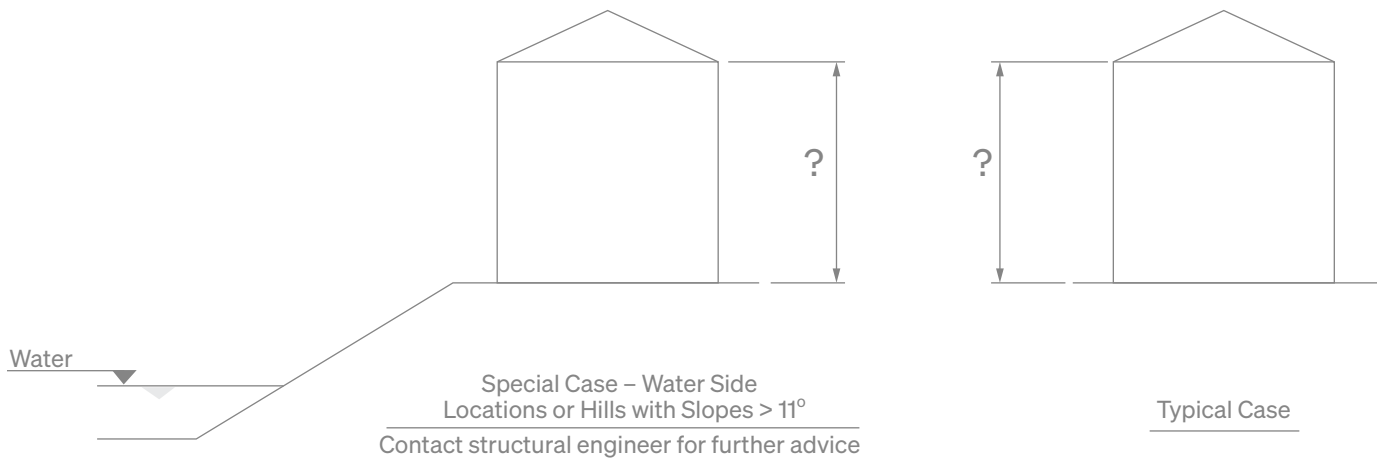
Terrain with numerous closely spaced obstructions having heights generally from 3 m to 10 m. The minimum density of obstructions shall be at least the equivalent of 10 house-size obstructions per hectare, e.g. suburban housing, light industrial estates or dense forests.

6. Terrain Category 4 (TC4)

Terrain with numerous large, high (10 m to 30 m tall) and closely-spaced constructions, such as large city centres and well-developed industrial complexes.

Designing with SK1N

Step 3 - Determine Maximum Height of Installation



**Step 4 - Determine Maximum
Wind Pressure for Corresponding Region, Terrain Category
and Maximum Building Height**

Maximum Design Wind Pressure

Limiting Height (m)	Terrain Category	Wind Pressures (kPa)		
		Region A	Region B	Region C
7	4	1.3	2.1	3.2
	3	1.6	2.6	3.9
	2.5	1.9	3	4.4
	2	2.1	3.4	5
	1.5	2.4	3.9	5.8
	1	2.8	4.4	6.5
	15	4	1.3	2.1
3		1.9	3	4.5
2.5		2.2	3.6	5.3
2		2.6	4.2	6.2
1.5		2.9	4.6	6.9
1		3.2	5.1	7.6
25		4	1.4	2.2
	3	2.1	3.4	5.1
	2.5	2.5	4	5.8
	2	2.8	4.5	6.7
	1.5	3.1	5	7.3
	1	3.4	5.4	8

Designing with SK1N

Step 5 - Check SK1N Assembly

Recommended Fixing for Tile to Batten

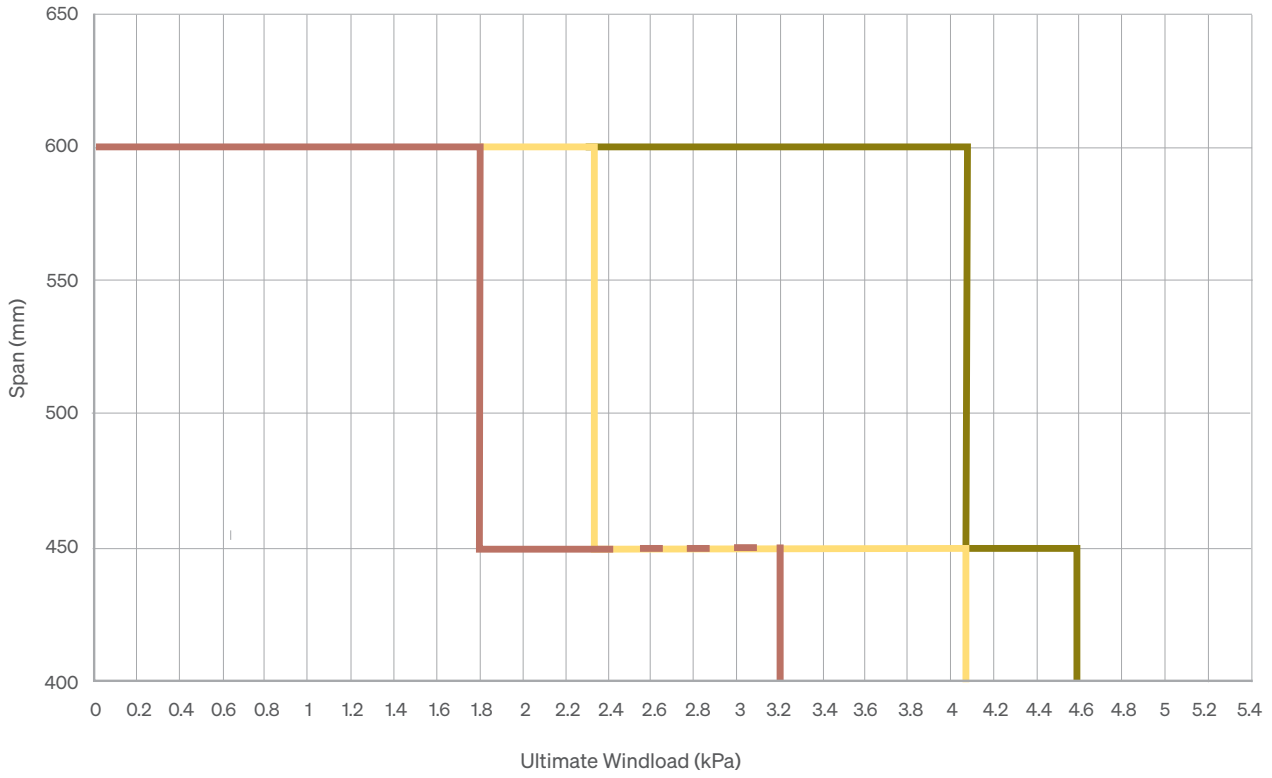
Tile Profile	Batten Type	Ultimate Windload (kPa)	Maximum Stud Spacing (mm)	Size	Type	Grade ¹
U Shape	SK1N top hat	4.08	600	#10 × 40mm	Countersunk head screw	SS 304
	F5 Timber	4.60	450	#10 × 50mm	Type 17 Countersunk head	External Grade or SS 304
	F11 and above	4.60	600			
L Shape	SK1N top hat	3.19	450	#10 × 40mm	Countersunk head screw	SS 304
		1.80	600	#12 × 40mm		
	F5 Timber	3.40	450	#10 × 50 mm	Type 17 Countersunk head	External Grade or SS 304
F11 and above	3.60	600				
L Shape 4 fixings	SK1N top hat	4.08	450	#10 × 40mm	Countersunk head screw	SS 304
		2.33	600	#10 × 40mm		
	F5 Timber	5.14	450	#10 × 50 mm	Type 17 Countersunk head	External Grade or SS 304
	F11 and above	6.50	600			

Notes:

1. For projects within coastal regions or areas subject to salt spray, it is recommended to utilise SS 316 fixings.

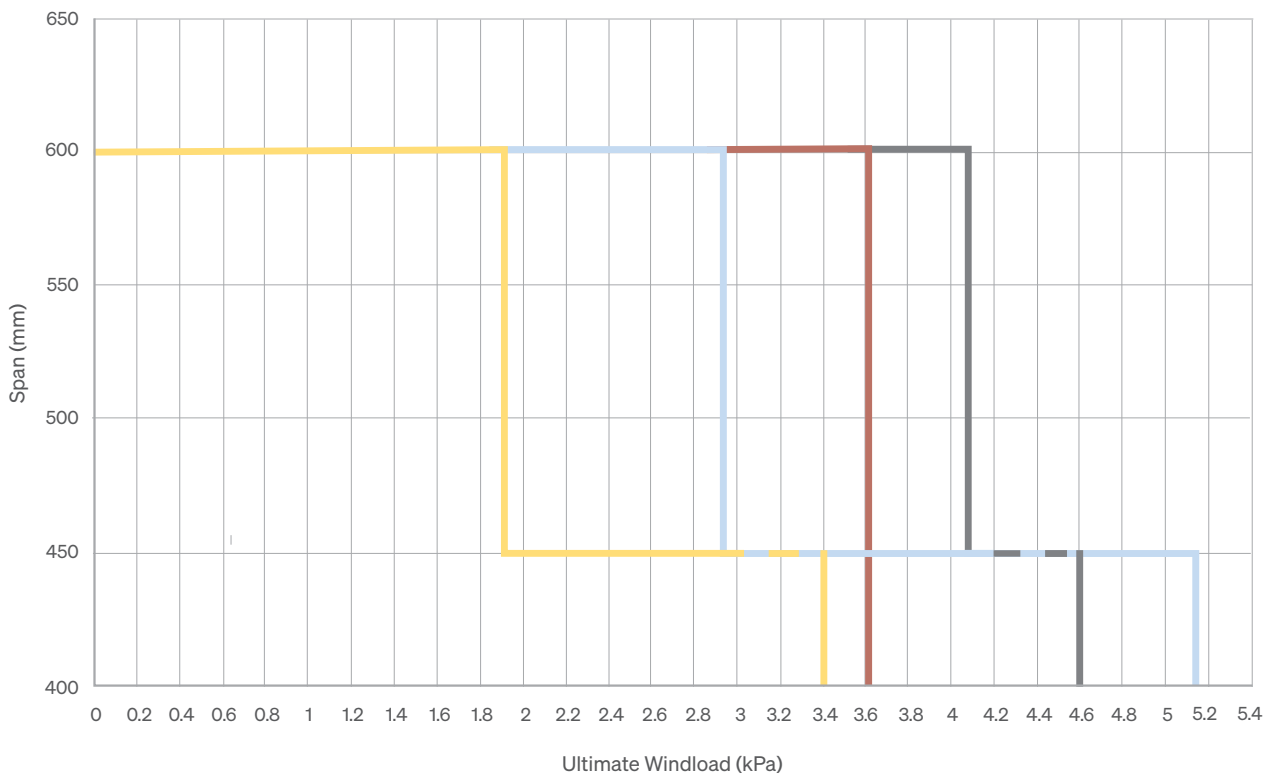
Minimum Span for SK1N Aluminium Top Hat

- U Shape Al Top Hat
- L Shape Al Top Hat With Four Fixings
- L Shape Al Top Hat



Minimum Span for Timber Battens

- U Shape F5/F11 Timber
- L Shape F11 Timber
- L Shape with Four Fixings
- L Shape F5 Timber



Designing with SK1N

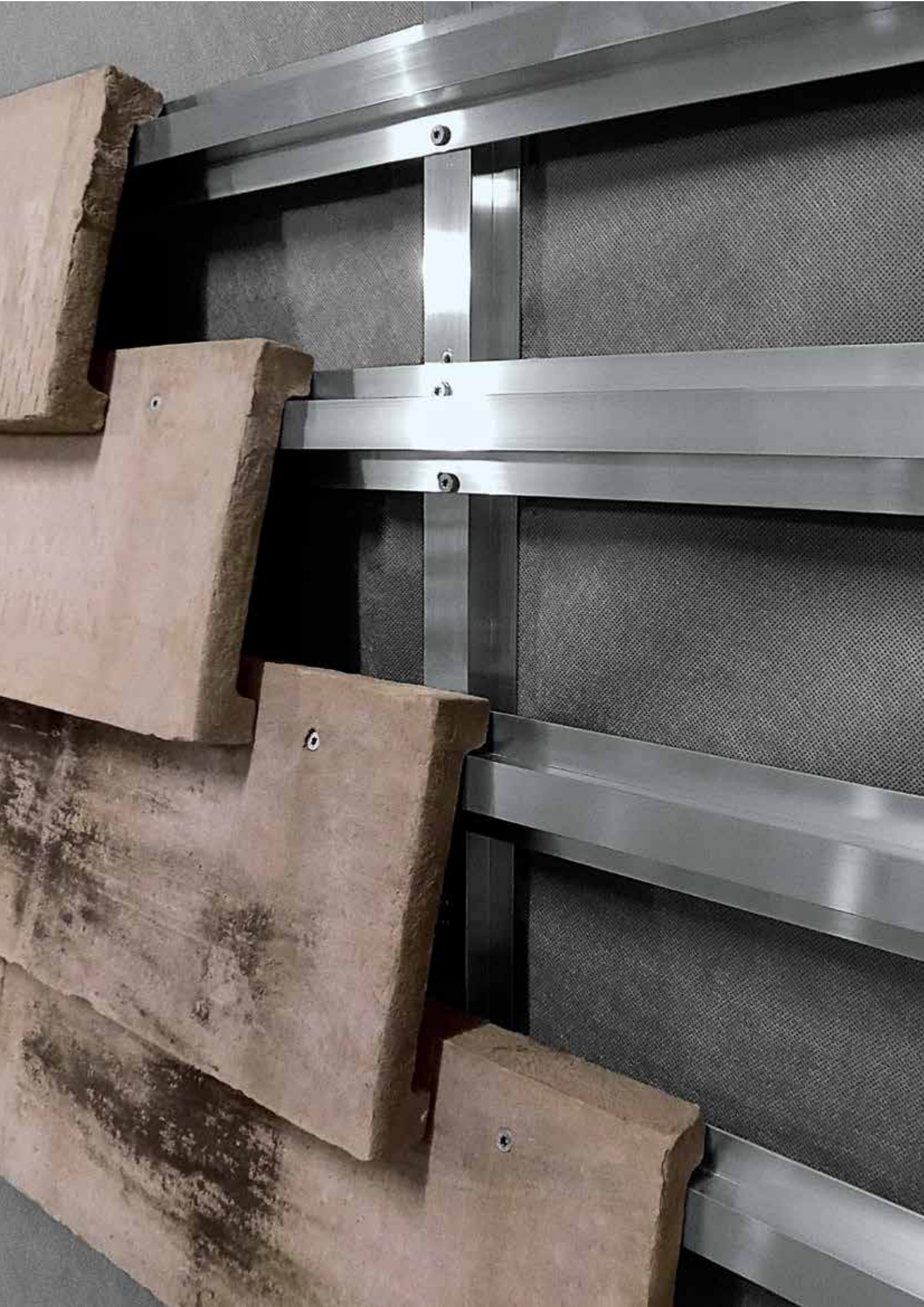
Step 5 - Check SK1N Assembly

Screw Gauge Recommendation for Battens to Studs

Batten	Substrate	Size	Type	Grade ²
SK1N Top Hat	Timber ¹	#12	Type 17 wafer or button head screw	SS 304
	Steel	#14	Wafer or button head metal screw	SS 304
Timber Batten	Timber ¹	#14	Type 17 wafer or button head screw	External grade or SS304
	Steel	#14	Countersunk metal screw	External grade or SS304

Notes:

1. Embedment length should be ≥ 30 mm for 38 x 38 mm timber battens.
2. Fixings must be suitable for the corresponding substrates as well as the appropriate level of durability required for the intended project



Safe Working Instructions

Crystalline silica dust can be liberated from SK1N tiles and repeated inhalation has been associated with impaired lung function. Safe work procedures should be taken to reduce inhalation of silica dust which include:

- The use of a wet saw or dust extraction equipment when reworking tiles
- Wearing appropriate personal protective equipment such as dust mask and safety goggles
- Ensuring adequate ventilation

Recommended Safety Equipment



Face Masks P1 or P2 type approved to the relevant Australian Standards.



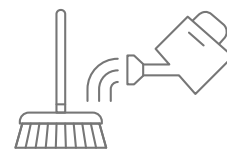
Safety Goggles approved to the relevant Australian Standards.



Hearing Protection approved to the relevant Australian Standards.



Dispose of contaminant of dust.



Clean up, wet down or vacuum.





SK1N

Installation

3

Walling Installation

Walling Installation

The SK1N system is suitable for installation on building walls up to 25 metres and can be installed over traditional stud configurations. Proprietary aluminium top hats or timber battens are installed over a waterproof membrane before tiles are fixed with two screws.

1.

SK1N may be specified for timber or steel framed structures.

2.

Install a suitable waterproof membrane underneath all areas where SK1N will be clad.

- a. Wall openings such as doors, window edges and penetrations should be flashed appropriately to prevent moisture ingress into the building frame.
- b. The membrane should be installed in accordance with AS/NZS 4200.2:2017 Pliable Building Membranes and Underlays and/or as per the specifiers installation instructions. A compliant installation can include:
 - i. A minimum of 150 mm overlap between membrane joints and wall corners
 - ii. All overlaps and punctures to be taped or sealed and, where possible, align with a wall stud
 - iii. Minimum fixing distances with mechanical fasteners or adhesive.



SK1N is suitable for timber and steel framed structures.

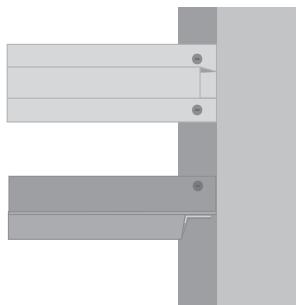
3.

Install starter trim at appropriate height to ensure clearance from ground slab and fixed at every stud.

4.

Fix horizontal battens, either timber or aluminium top hats, top and bottom at every stud to ensure adequate structural support for the SK1N tiles.

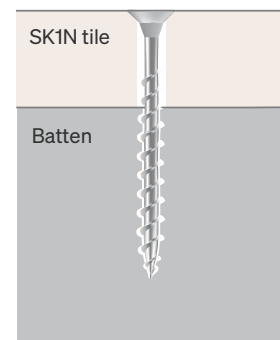
- a. A 170 mm vertical spacings between the battens allow for a 40 mm tile overlap concealing screw locations.



5.

Hang tile onto the batten and fasten at a minimum two of four preformed fixing holes.

- a. Note that tiles are a fired clay natural product and thus variations in edge straightness will be present.
- b. Ensure holes are sufficiently countersunk and large enough for screws to pass cleanly.
- c. It is good practice to partially fix the tile at two locations then tighten evenly just until the tile is firmly gripped.
- d. Over tightening will cause uneven installation of tiles and can lead to fractured tiles.



Roofing Installation

Roofing Installation

SK1N is suitable for gable and skillion roof applications only and must be installed onto a waterproof metal or marine ply underlay. For gable roofs, a metal dry verge should be used. Roof spacings must be adequate for the wind conditions and loads subjected to the SK1N installation. It should also be in accordance with AS 1562.1:2018 Design and installation of sheet roof and wall cladding.

1.

Install all necessary guttering, fascia boards and guard rails

2.

A metal or marine ply roofing underlay is to be installed to provide weather tightness to the structure

For a metal underlay

- a Supporting top hats are fixed to the roof structure before installing the metal roof sheeting.

For ply underlay

- b Sheath roofing structure with marine ply and ensure structure is continuously joined at rafters or trusses
- c Fix 30 x 10 mm counter battens on top of the ply layer to simulate typical 600 mm spaced rafters
- d Install a waterproof membrane, compliant with AS 4654.1, on top of the counter battens

3.

Install starting tilt batten to allow for a 50 mm tile overhang for the first course

4.

Fix horizontal battens, either 38 x 38 mm timber battens or SK1N top hat at 170 mm centres on top of the water proof underlay

5.

Screw each tile with two 10 gauge type 17 counter sunk head screws into the central preformed holes

- a. SK1N tiles are installed with a 40 mm overlap and are recommended to be side laid in stretcher bond pattern working up and across the roof minimising the traffic on the tiles and potential breakage
- b. For durability, fixing screws are required to be stainless steel grade 304
- c. The embedment length of the screw should be ≥ 30 mm into the 38 x 38 mm batten

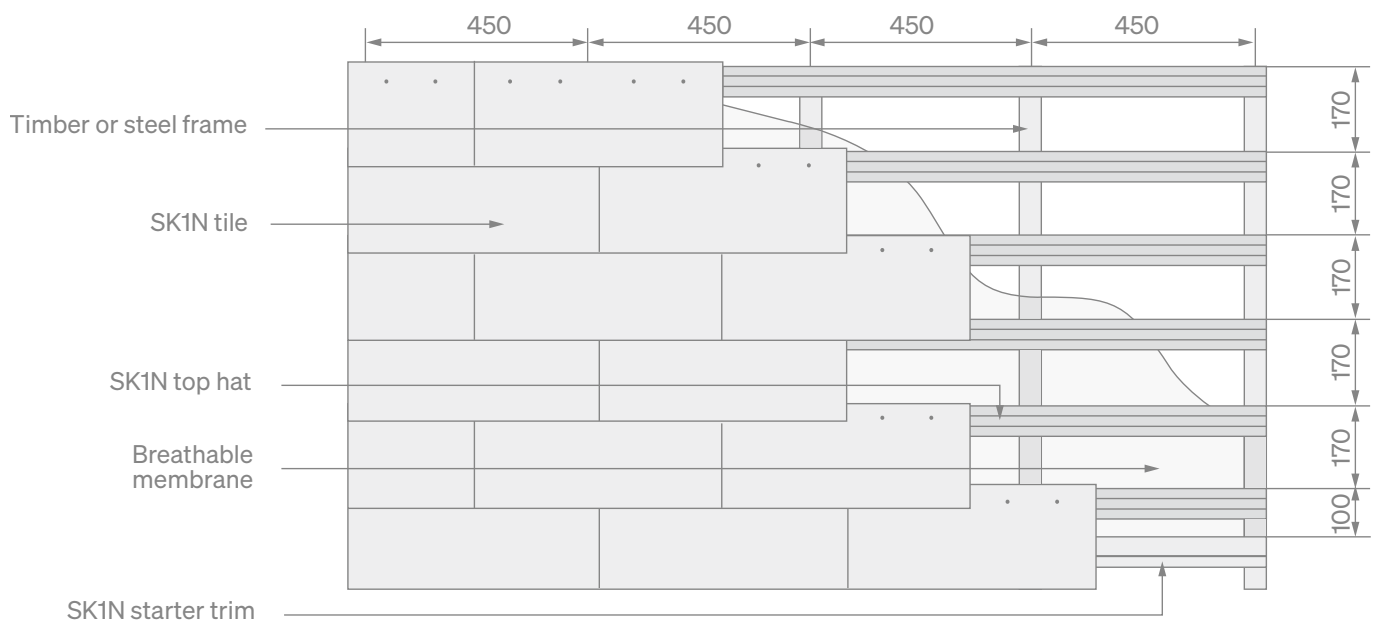


Design Details

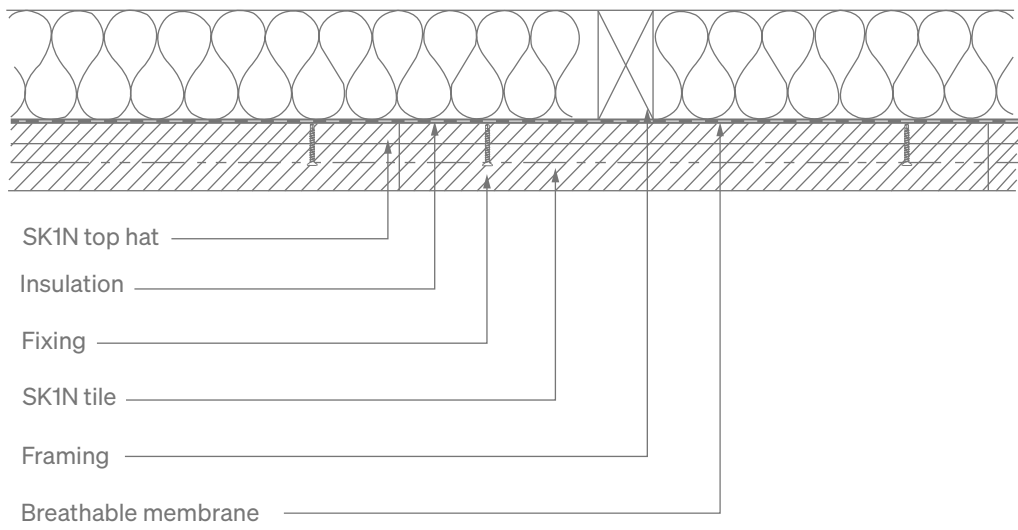
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Design Details

General Walling Front View of SK1N System



Plan View of SK1N System

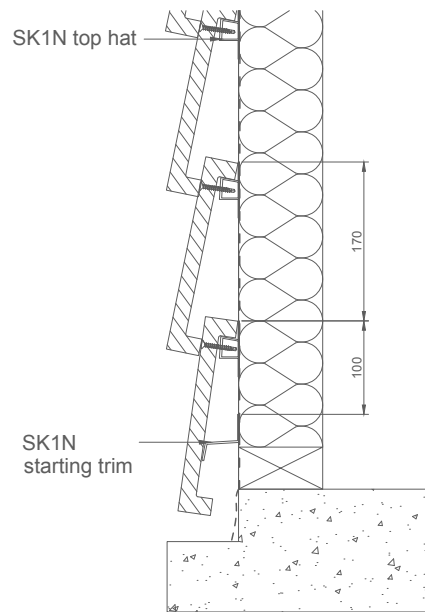
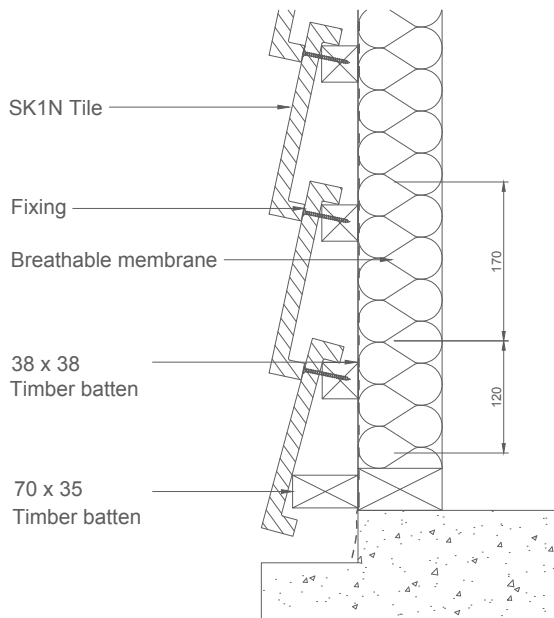


Design Details

Section View of U Shape on Timber Battens or SK1N Top Hats

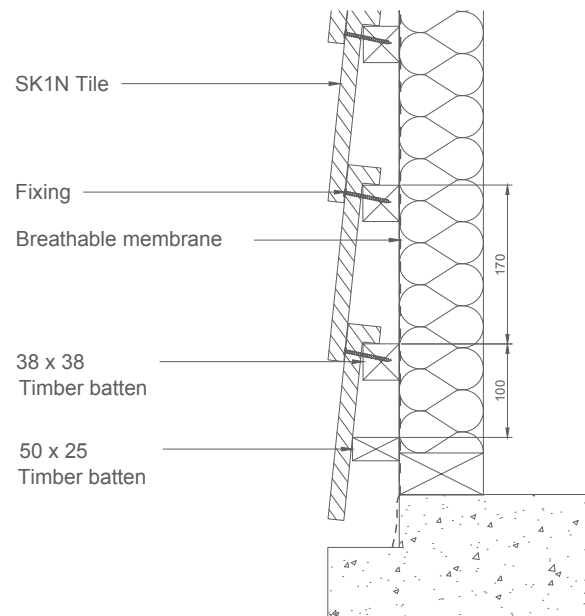
U Profile with Timber Battens

U Profile with SK1N Top Hats

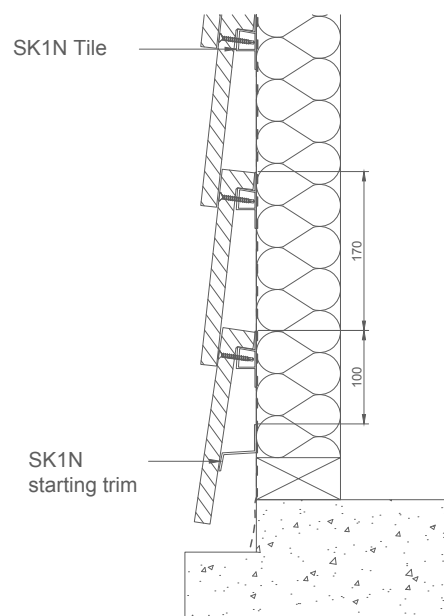


**Section View of L Shape on
Timber Battens or SK1N Top Hats**

L Profile with Timber Battens



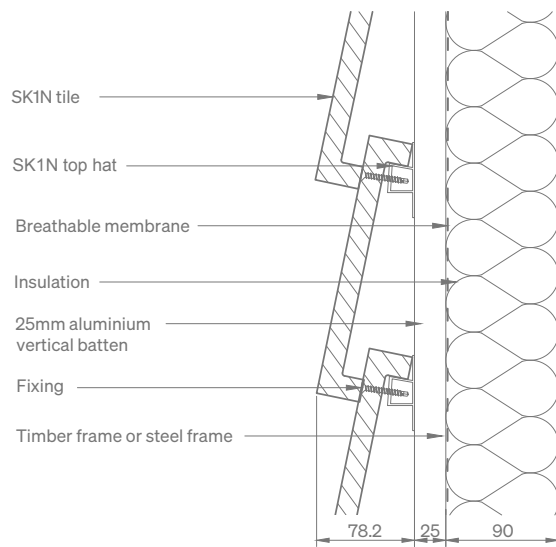
L Profile with SK1N Top Hats



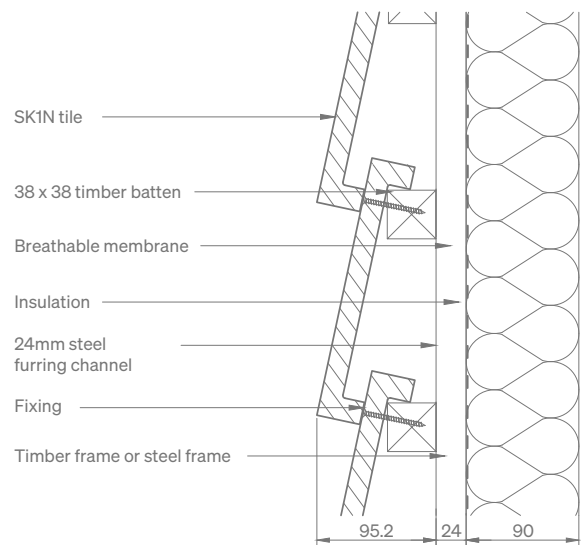
Design Details

Cavity Options

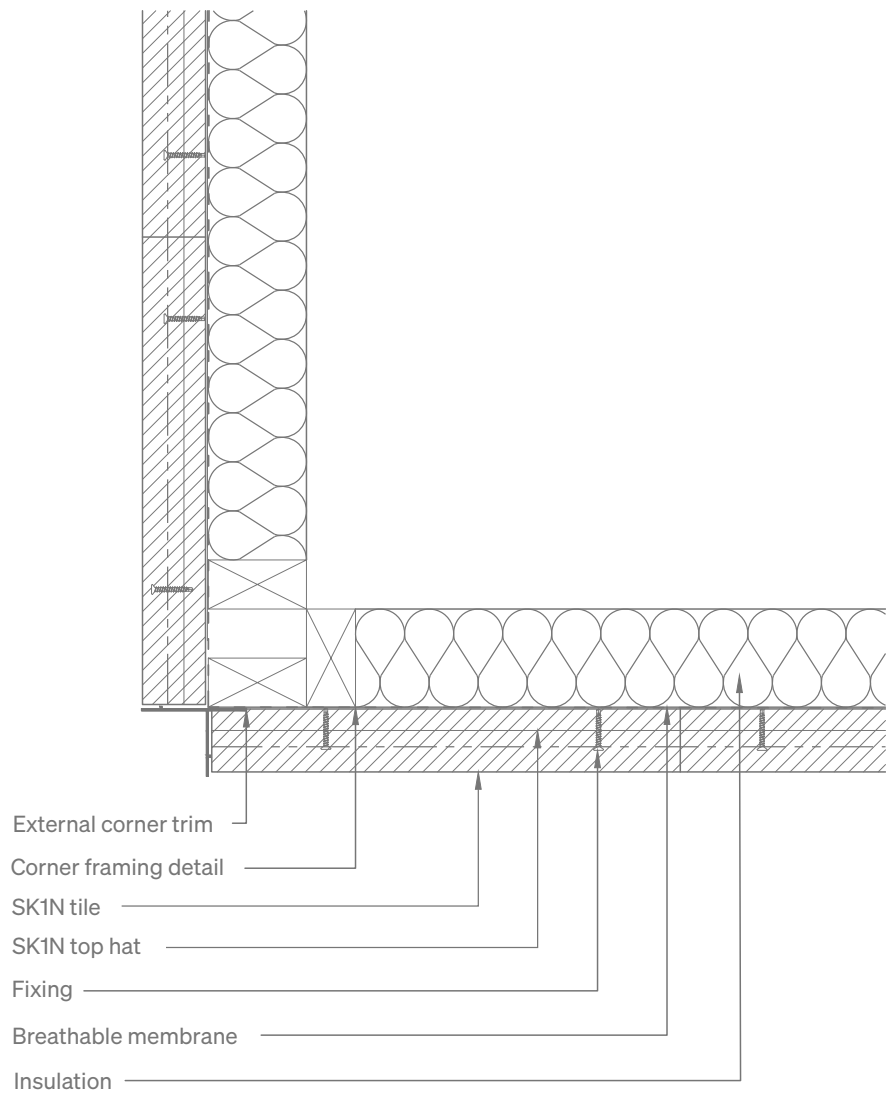
Cavity Fix with SK1N Top Hats



Cavity Fix with Timber Battens

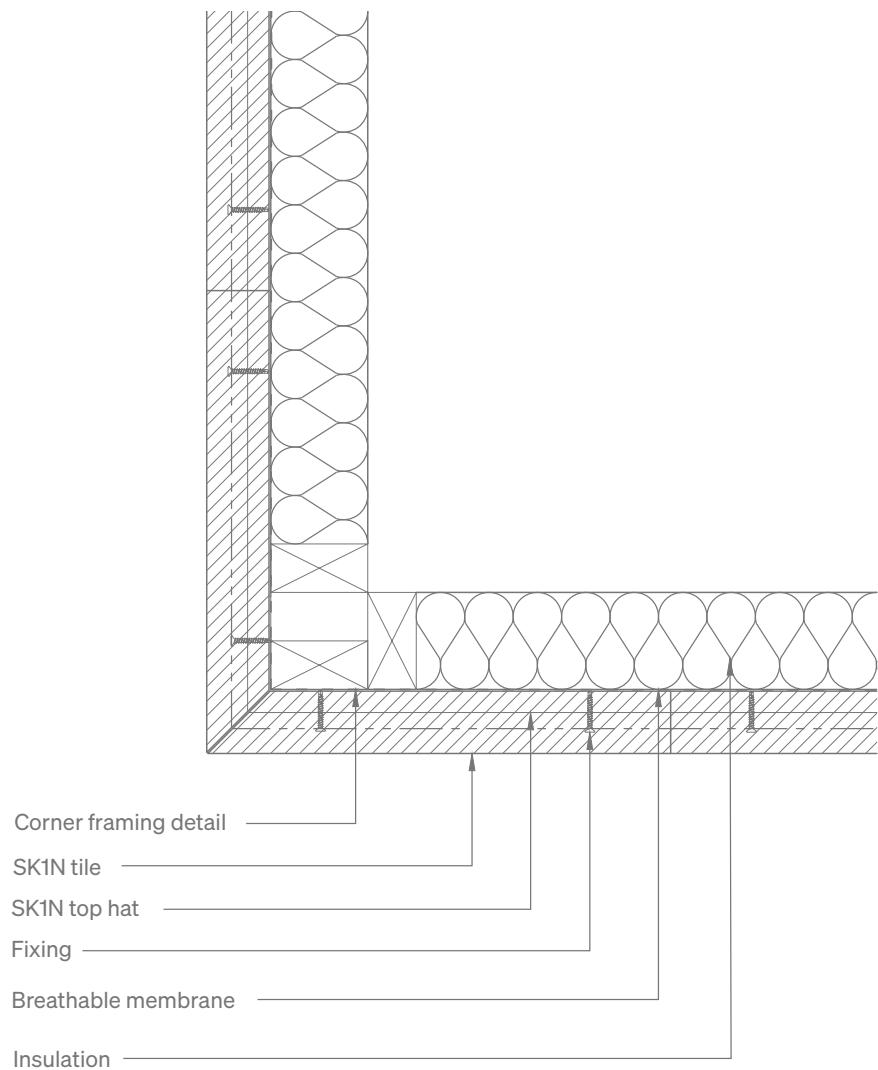


External Corner with Trim



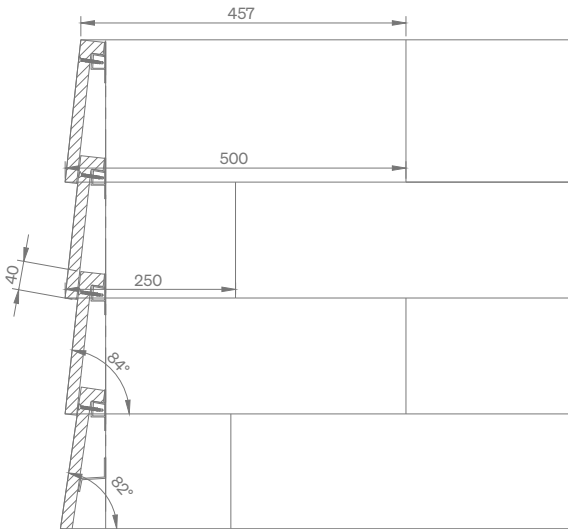
Design Details

External Corner with Mitred Tiles

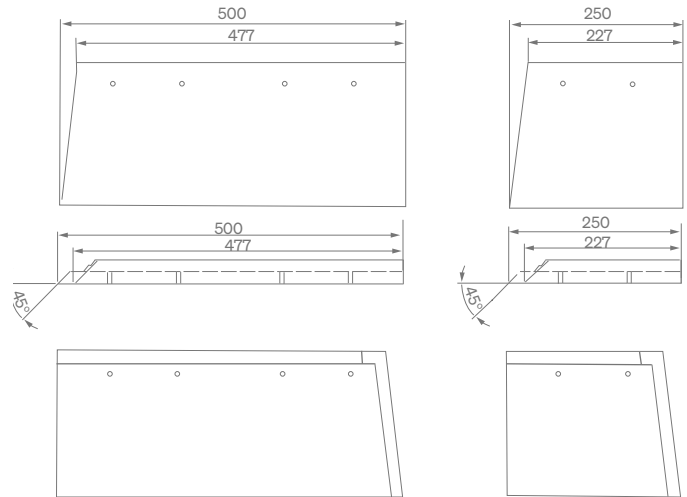


**Cutting guide for
external corner tiles**

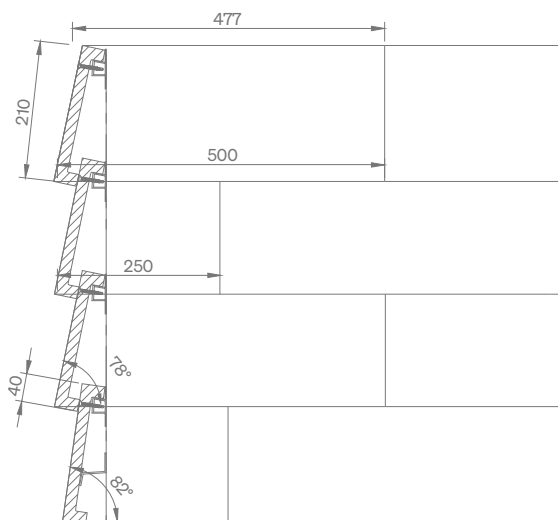
L Shape External Corner Assembly



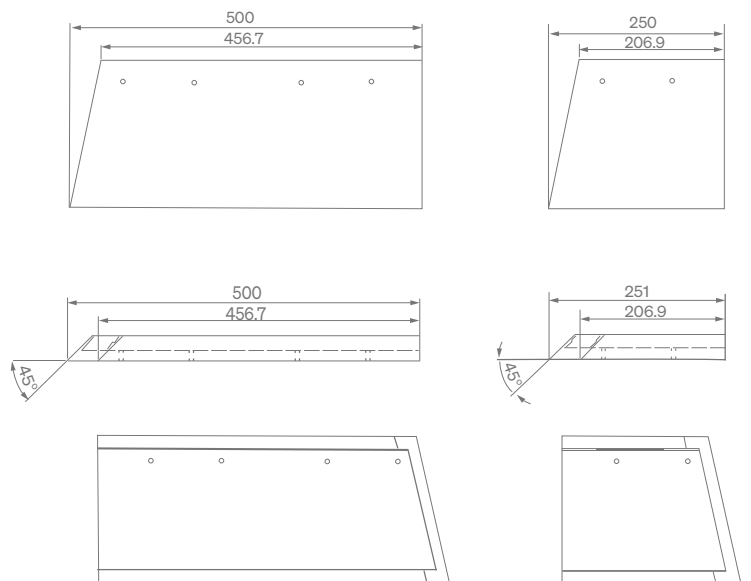
Corner Detail Cutting Guide for L Shape



U Shape External Corner Assembly

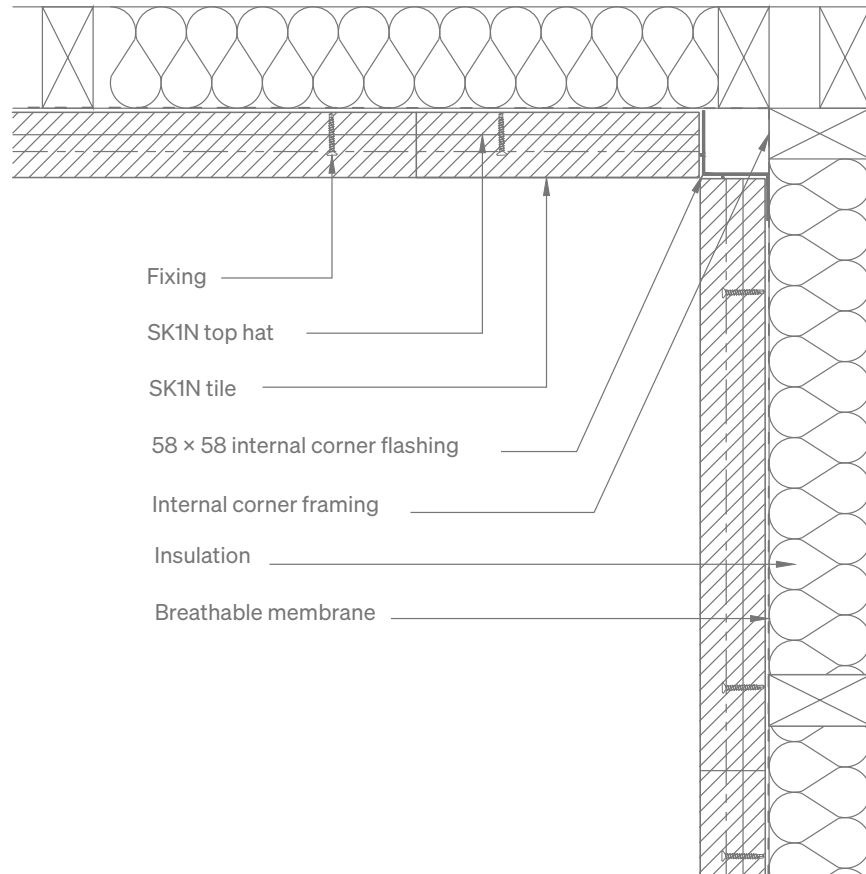


Corner Detail Cutting Guide for U Shape

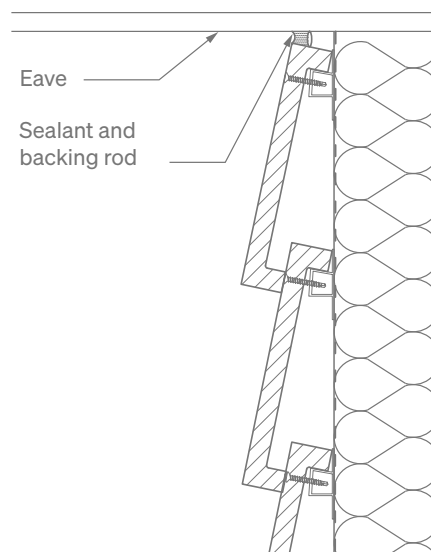


Design Details

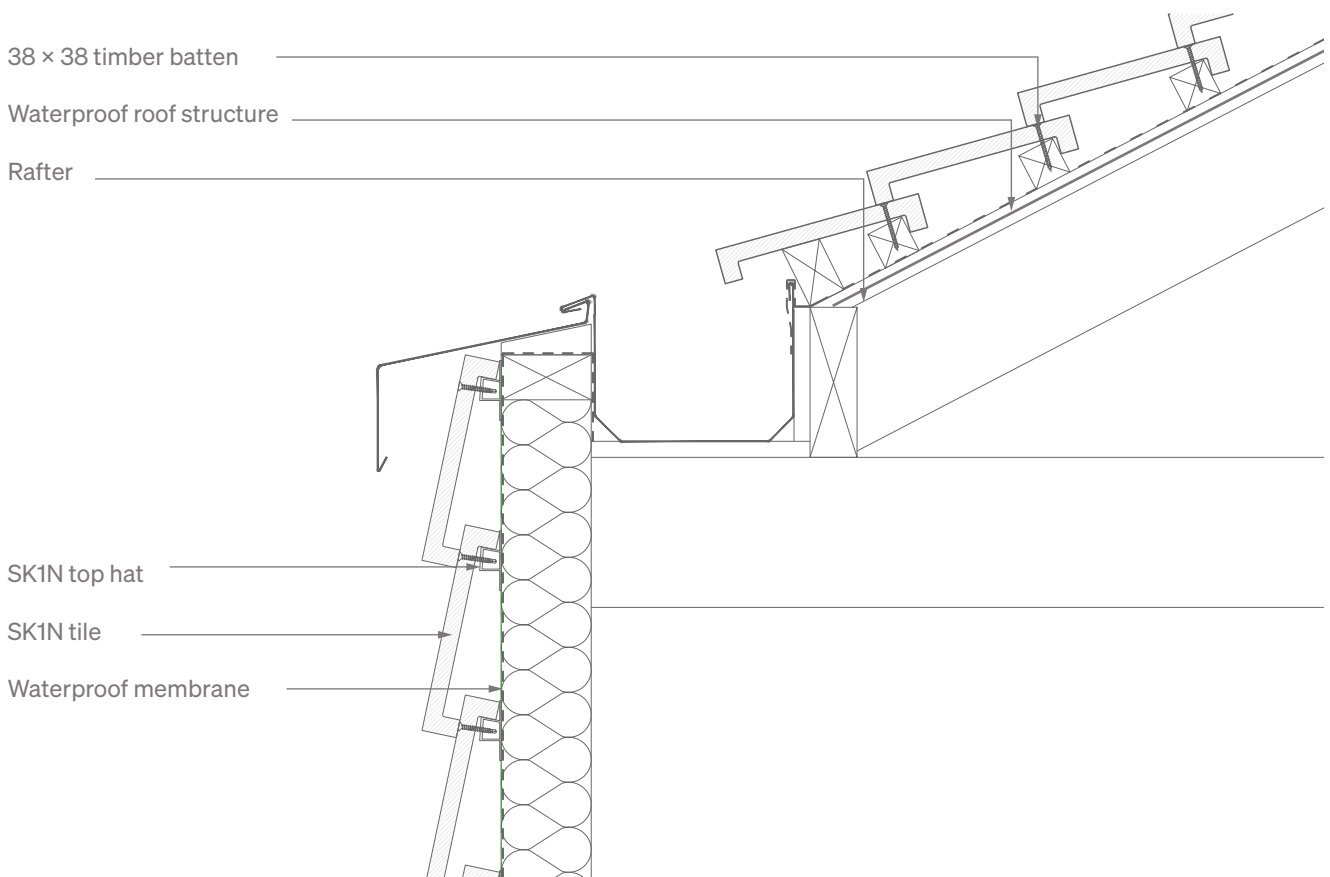
Internal Corner



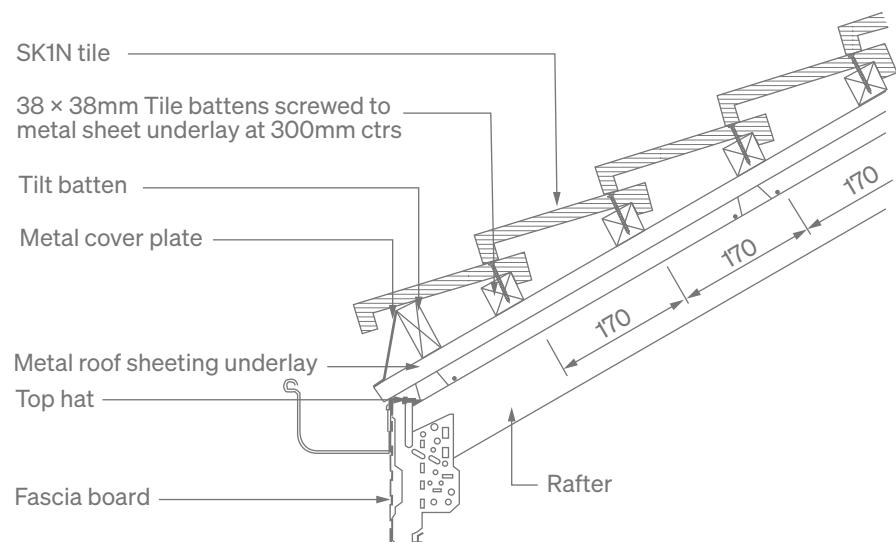
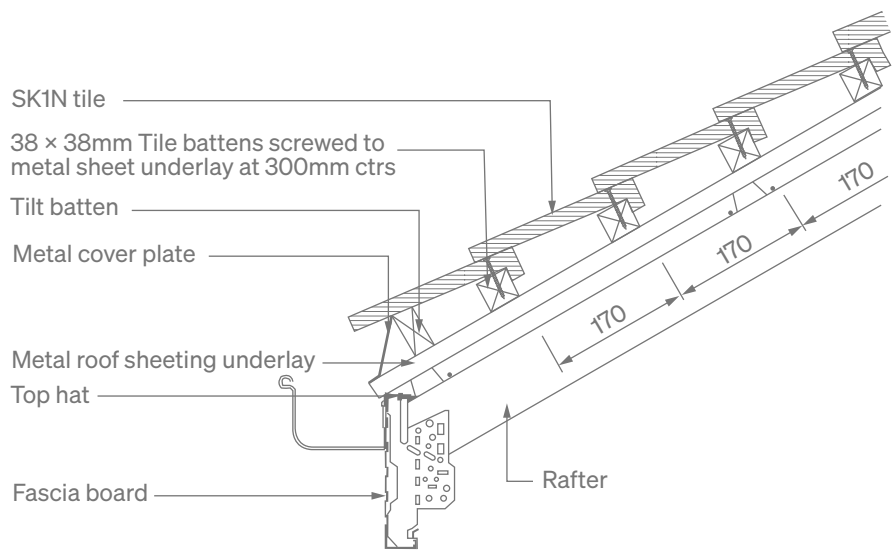
Roof/Eave Junction



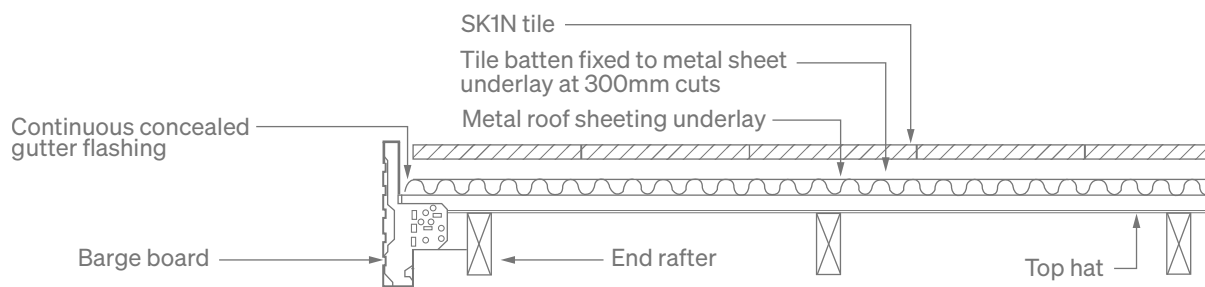
Roof with Box Gutter Detail



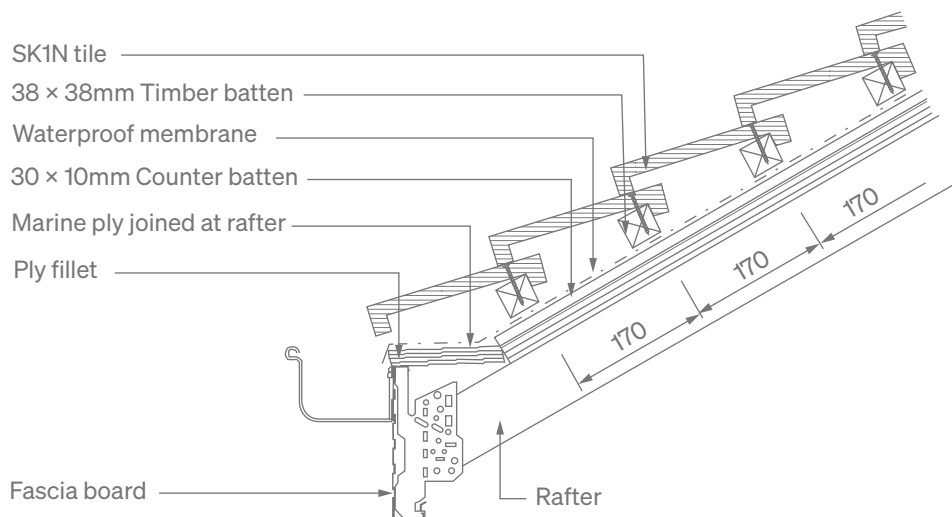
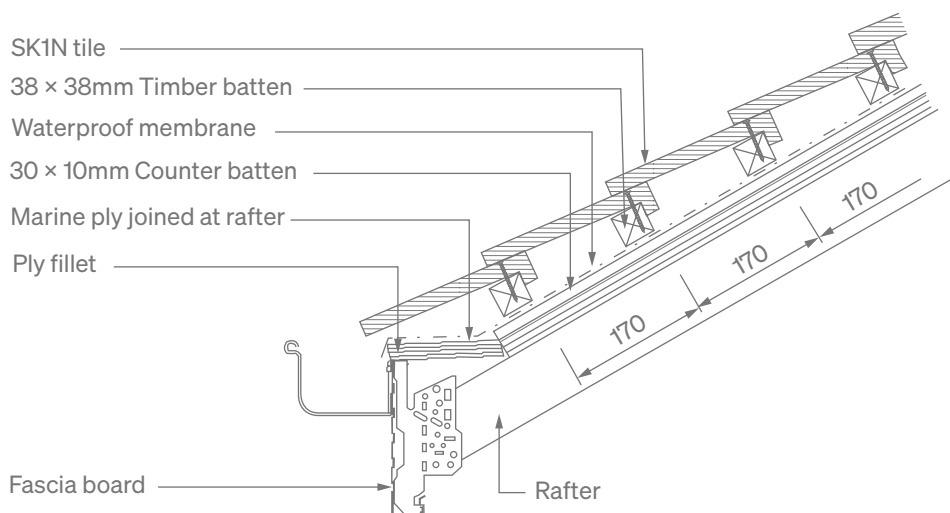
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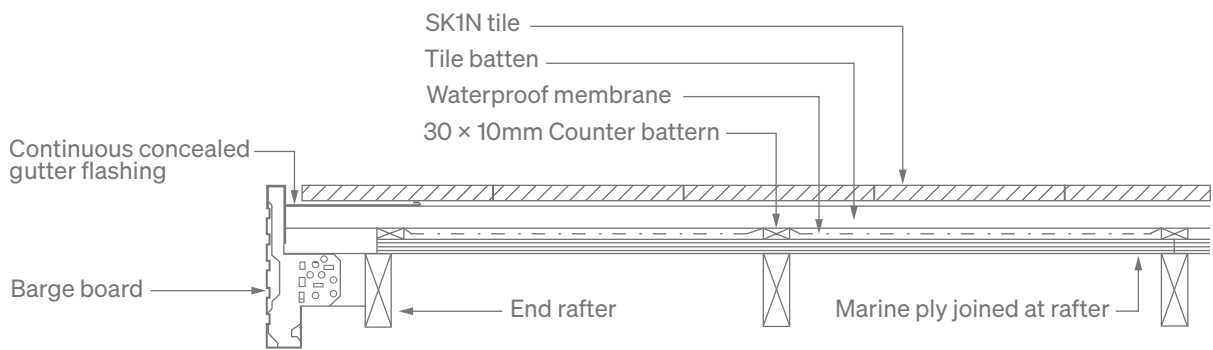
SK1N Roof with Metal Underlay



Design Details



SK1N Roof with Ply Underlay



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