Technical Manual

July 2025

Glen-Gery

SK1N

–

Terracotta Cladding

What's inside

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Overview

SK1N is an adaptive building envelope solution suitable for installation on walls of new and existing buildings. Horizontal channel (hat) furring is installed over an assembly's air/water control membrane before each SK1N tile is fastened at preformed holes. Each row of tiles overlaps the row below, while vertical joints are variable for maximum visual effect. SK1N is a rear-vented rainscreen cladding system and must be installed onto a weather-resistant structural wall.

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

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

Contemporary Yet Enduring Beauty

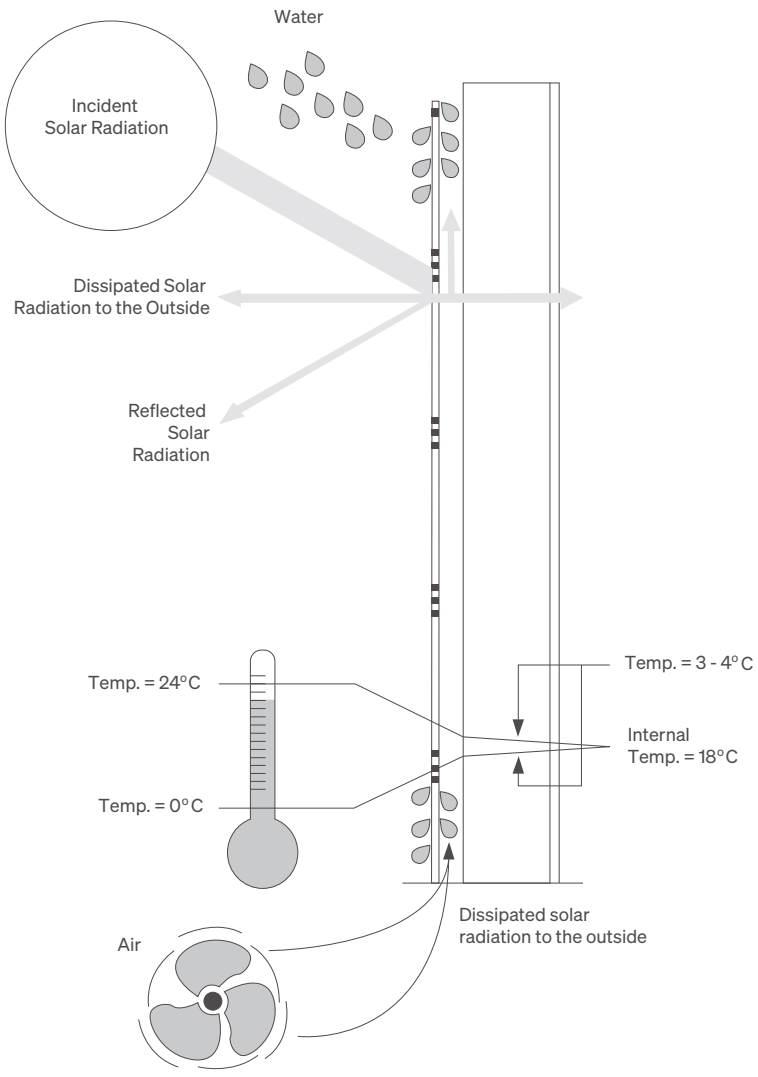
Developed in Italy – SK1N's DNA is intimately connected to timeless and iconic European craftsmanship.

Combining the enduring beauty of terracotta with contemporary ceramic techniques and colors, it has a range of imaginative and unique façade applications, 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 while dissipating moisture and condensation out of the building. Each component in the SK1N system contributes to its performance.

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

Mounting the SK1N tiles on channel (hat) furring provides the tile with adequate slope and an 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 manufactured to physical properties ensuring that they can be used in all environments, including severe coastal areas with suitable support and fasteners.

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 Pavers and Flags. SK1N is deemed non-combustible under AS 1530.1: Combustibility Test for Materials and was tested to ASTM E330 in a typical assembly to evaluate structural performance.

Flexibility

Timeless colors, 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 functionality makes it ideal for vertical applications.

Bold color 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 color 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-vented façade offers great thermal benefits.

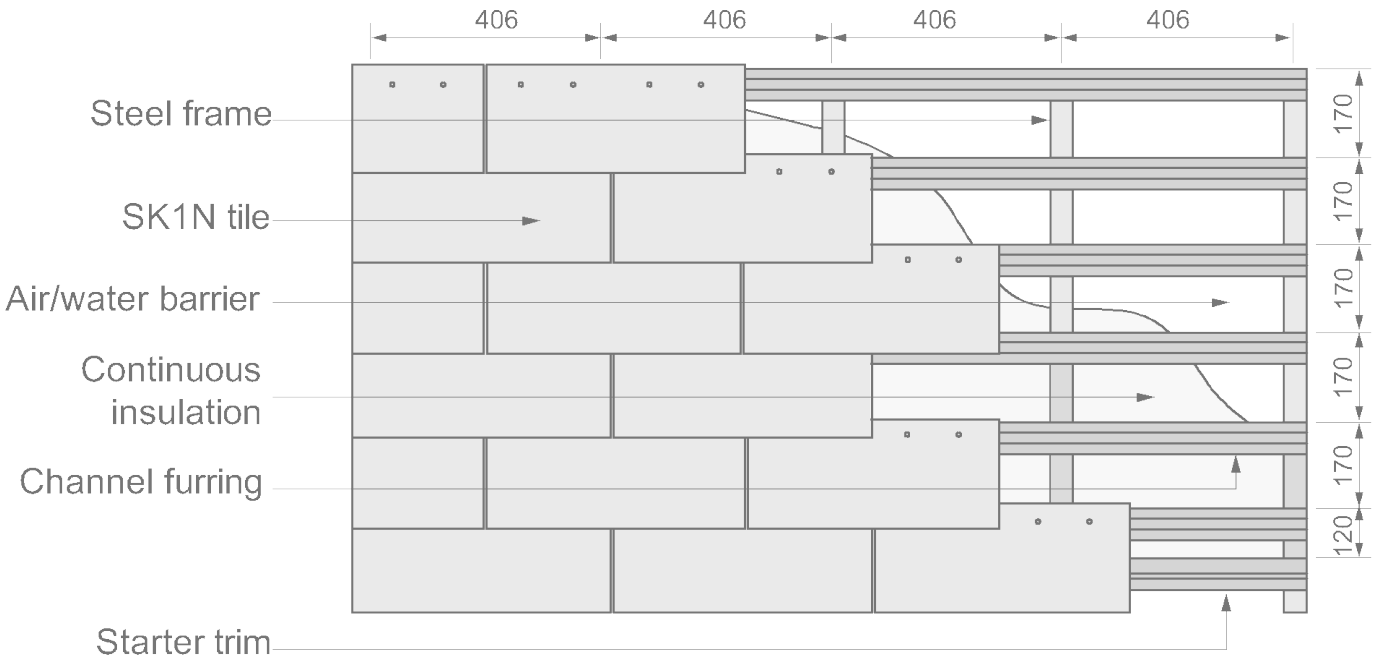
Easy installation
SK1N is fast, secure, and genuinely uncomplicated to install.

Enduring quality
With a 100 year warranty, SK1N tiles are colorfast, durable and low maintenance.

100 YEAR
PRODUCT WARRANTY

Components

SK1N System Assembly



SK1N System Properties

		U Shape
Dimensions	500 x 210 x 35 mm	19-5/8” x 8-1/4” x 1-3/8”
Tiles/unit area	11.8 pcs/m²	1.1 pcs/ft^2
Weight per tile	3.8 kg	8.4 lb.
Weight/unit area (Inc. 43 mil [18 ga.] channel (hat) furring)	48.3 kg/m^2	10.46 lb./ft^2
Tile overlap	40 mm	1-9/16"
Horizontal furring/batten distance	170 mm	6-11/16"

SK1N System Material List

Component	Material List	Supplied by
Tiles	Fired clay	Glen-Gery
Starter trim	26-gauge G90 galvanized steel or equivalent	Others
Channel (hat) furring	18-gauge G90 galvanized steel or equivalent	Others
Air/Water Barrier	Cross-woven polyolefin or equivalent	Others

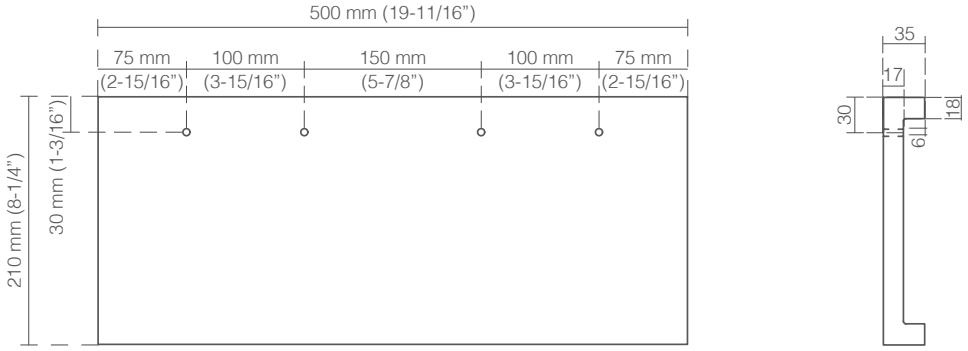
Tiles

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

U Profile

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

Dimensions of a SK1N Tile



Tile Properties

Property	Value		Standard
	SI	US	
Dimensions (L x H x T)[1]	500 x 210 x 35mm	19-11/16" x 8-1/4" x 1-3/16"	AS ISO 10545.2:2020
Water absorption	< 12%	< 12%	AS ISO 10545.3:2020
Bulk density	2.5 g/cm³	156.1 lb/ft³	AS ISO 10545.3:2020
Modulus of rupture	> 7 MPa	>1015 psi	AS ISO 10545.4:2020
Mean coefficient of restitution	0.55	0.55	AS 4459.5-1999
Linear thermal expansion	8.21 x 10 $^{-6}$/ºC	4.56 x 10 $^{-6}$/ºF	AS ISO 10545.8:2020
Modulus of elasticity	3.1 MPa	450 psi	AS 4459.14-1999
Moisture expansion	0.56	0.56	AS/NZS 4456.11:2003

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 fasteners (refer to fastener recommendations table) and should be installed with adequate clearance from the ground.

Colors

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 colored tile a delightfully softer and subtly variable tone.

Please Note:

The product images in this manual give a general indication of color for your preliminary selection. We recommend current product samples be viewed before making your final selection. All SK1N colors will feature natural variation between tiles in the blend. Crafted from natural clay that 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 color creates a delicate color plane.

Potenza

–

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

Chienti

–

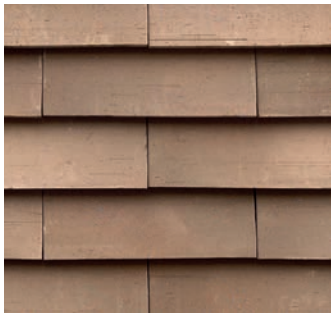
Chienti's light brown tone is reminiscent of aged natural wood, exuding a highly appealing and timeless natural ambience.

Piave

–

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






Light Reflectance Values and Solar Absorption of SK1N Products[1]

Tile	Light Reflectance Values (LRV)	Solar Absorption (SA)	Solar Reflective Index (SRI)
Alento	48.4	0.32	82.4
Livenza	40.5	0.59	45.0
Savio	21.5	0.68	34.1
Tesino	15.6	0.61	42.9
Potenza	11.0	0.67	34.4
Chienti	13.8	0.79	19.0
Piave	6.8	0.83	13.2

[1] Per ASTM E903

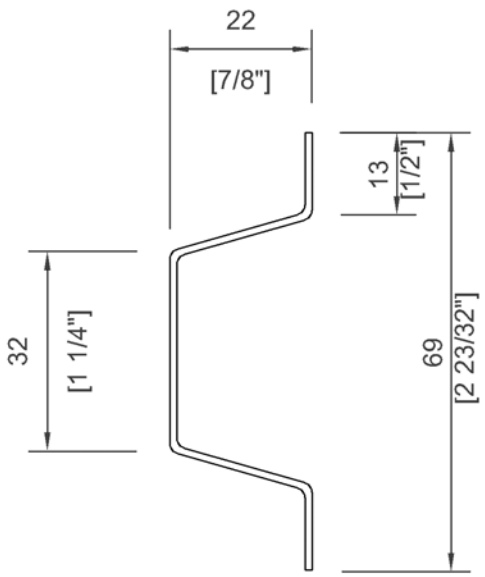
Tile Support Options

Horizontal furring/battens provide the basis for support of the SK1N system.

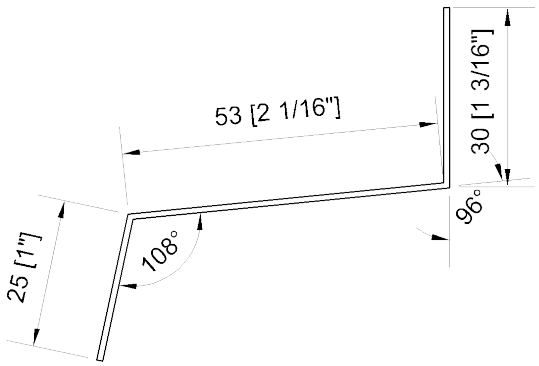
Batten Options

	Material	Thickness	Coating Specification
SK1N top hat	Galvanized steel, 7/8” depth	43 mil (18 ga)	G90
Starter trim	Galvanized steel	26 ga	G90

Typical channel (hat) furring dimensions, mm [in.]



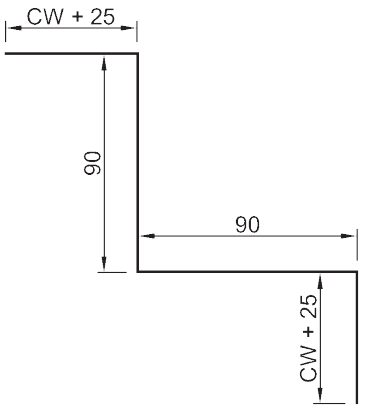
Starter dimensions, mm [in.]



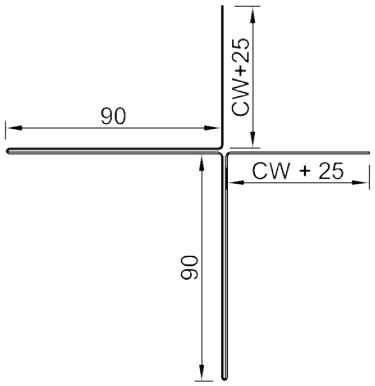
Corner Trim

Corner Trim Options

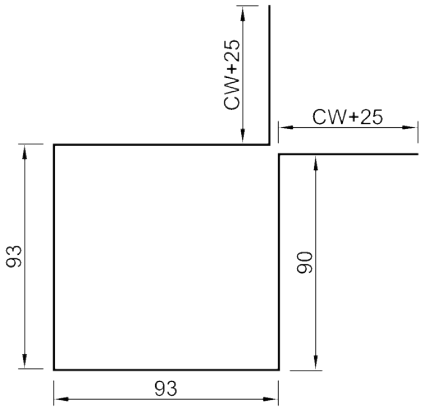
Internal Corner Trim



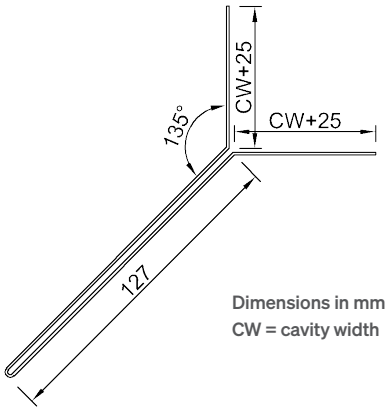
Inwards External Corner Trim



Outwards External Corner Trim



Y Fin External Corner Trim



Dimensions in mm
CW = cavity width

Air/Water-Resistive Barrier

Air/Water-resistive Barrier

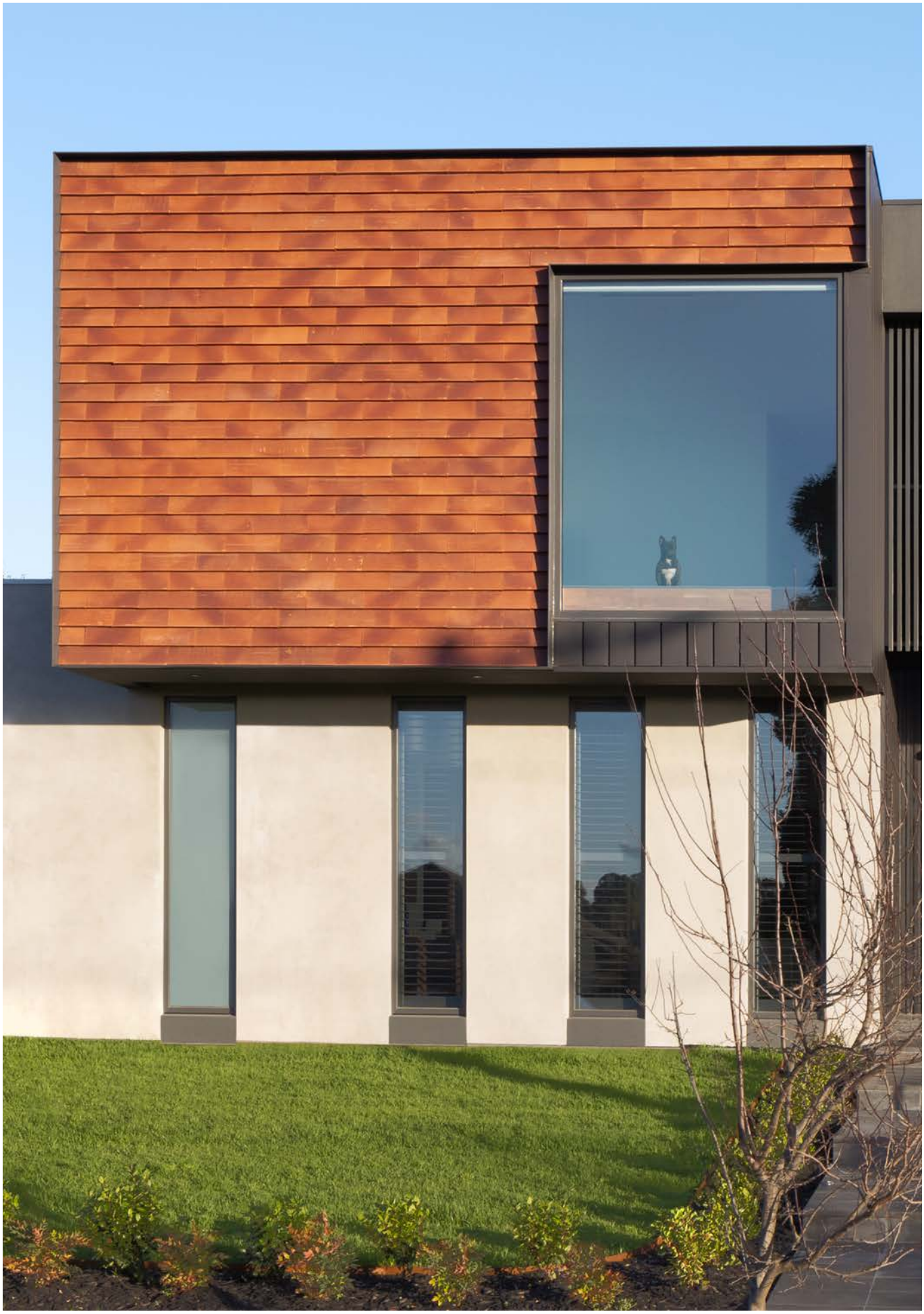
Moisture management and condensation control is critical in maintaining building longevity and comfort. A suitable water-resistive barrier should be installed under SK1N which prevents the ingress of liquid water, as well as an air barrier to control the movement of air through the wall assembly.

Water-resistive barriers and air barriers must meet the requirements of governing building codes. The SK1N system is compatible with and suitable for installation over common code-conforming water-resistive barrier and air barrier membrane types.

Several products are capable of functioning as both an air barrier and water-resistive barrier. Specifications for an air/water-resistive barrier supplied by Glen-Gery for wall installations of SK1N are detailed in the table opposite.

Membrane Properties

Roll dimensions (ft.)	9 x 105
Weight of complete roll (lb.)	20
Thickness (in.)	0.02
Water Resistance (min.)	>120
Water Resistance (15 min. @27 Pa/15 mph)	Pass
Water Penetration Resistance (cm H_2O)	>600
Water vapor permeability (perm) Dessicant/Water Method)	16/18
Water vapor transmission rate (g/m^2/24 hr.)	111/125
Air permeance (L/x/m^2 75 Pa) cfm/ft^2 @ 1.57 psi)	0.001 0.000
Tensile Strength MD/TD (lb./in.)	56/30
Trapezoid Tearing Strength MD/TD (lb./in.)	25/41
Flame Spread	0 (Class A)
Smoke developed	15
Allowable UV exposure prior to installation of cladding	4 months



Designing with SK1N

Tiles, channel (hat) furring and structural framing are required to resist wind loads that are specific to the building site. It is recommended that the architect/building designer assigns the responsibility for the façade design to a structural engineer. The SK1N system has been tested for structural performance per ASTM E330.

Transverse load tests (negative and positive) were conducted on the SK1N system in accordance with ASTM E330. The tested assemblies included supporting 43 mil (18 ga.), 3-5/8" x 1-5/8" cold-formed steel framing (8 ft. studs) spaced at 16" (406 mm) on center. 43 mil (18 ga.) steel zee furring, 2" deep with 1-1/2" and 3/4" flanges were oriented vertically and spaced at 16" o.c. with the 1-1/2" flange fastened through fiberglass mat-faced sheathing to studs with #10 x 1-1/2" (hex head) self-drilling channel @ 12" o.c. 43 mil (18 ga.) steel channel (hat) furring, 7/8" deep were oriented horizontally, spaced at 170 mm (6-11/16") and fastened with two #10 hex head or pancake head self-drilling screws to each zee (16" o.c.) Each SK1N tile was fastened to the channel (hat) furring with two #10 x 2" self-drilling fasteners.

The tables below present the average ultimate and suggested allowable wind loads for installations following the attachment methods described in this manual. These are presented to assist the designer in determining appropriate support and attachment for the SK1N system in various exposure conditions. A structural engineer should be consulted for assemblies that vary from the above. Different design pressures may be selected using different safety factors as determined by the Engineer of Record according to construction documents and local code requirements.

Ultimate Load (Average)

Structural Backing	Negative Load		Positive Load	
	psf	kPa	psf	kPa
Steel Framing, Vertical Zees +Horizontal Hats (43 mil)	181.7	8.7	193.6	9.3

Suggested Maximum Design Load (Factor of Safety = 3)

Structural Backing	Negative Load		Positive Load	
	psf	kPa	psf	kPa
Steel Framing, Vertical Zees +Horizontal Hats (43 mil)	61	2.9	65	3.1

Fastener Recommendation for Zee Furring to Studs

Support Type	Max. Fastener Spacing (in.)	Type	Size	Embedment	Grade [1,2]
43 mil (18 ga.) steel zee furring	12	Hex head, self-drilling	#10	3 threads	SS 304

Fastener Recommendation for Channel (Hat) Furring to Zee Furring

Support Type	Max. Fastener Spacing (in.)	Type	Size	Embedment	Grade [1,2]
43 mil (18 ga.) steel zee furring	16 (two at each zee)	Pancake, wafer or button head, self-drilling	#10	3 threads	SS 304

Fastener Recommendation for Tile to Channel (Hat) Furring

Support Type	Max. Fastener Spacing (in.)	Type	Size	Embedment	Grade [1,2]
	16 (two at each tile)	Countersunk or pancake head, self-drilling	#10	3 threads	SS 304

1. For projects within coastal regions or areas subject to salt spray, support/structural components and fasteners with enhanced corrosion resistance are recommended.
2. Fasteners 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

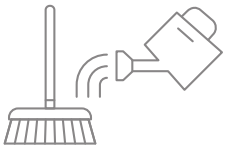
Recommended Safety Equipment

Fitted face masks approved to the relevant standards.

Safety Googles approved to the relevant standards.

Hearing Protection approved to the relevant standards.

Dispose of contaminant of dust.



Clean up, wet down or vacuum.

Wall Installation

Wall Installation

The SK1N system is suitable for installation on building walls with metal stud backings. Steel channel (hat) furring is installed over a water-resistive barrier membrane before tiles are fastened with two screws.

1.

SK1N may be specified for steel framed structures.

2.

a. Install a suitable water-resistive barrier and/or air barrier membrane, as required by code, underneath all areas to be clad with SK1N.

b. Wall openings such as doors, window edges and penetrations should be flashed appropriately to prevent moisture ingress into the building frame.

c. The membrane should be installed in accordance with the manufacturer's instructions and applicable building code requirements.

3.

Install starter trim at appropriate height to ensure that the bottom of the SK1N tile is a minimum distance to the ground slab of:

a. 50 mm above impermeable (paved or concreted) areas that slope away from the wall

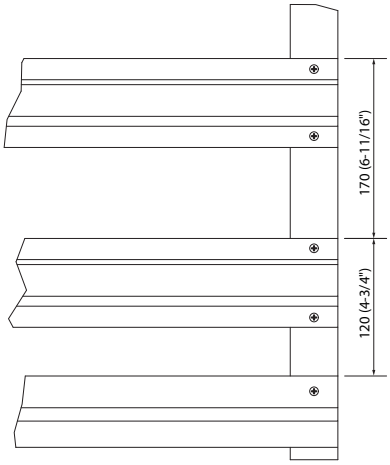
b. 100 mm in low rainfall intensity areas or sandy, well-drained areas

c. 150 mm in any other case

4.

Install channel (hat) furring / horizontal battens, at the top and bottom of every stud to ensure adequate structural support for the SK1N tiles.

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



5.

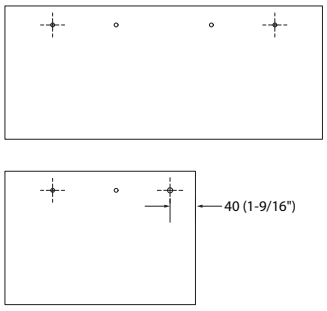
Hang tile onto the channel (hat) furring /batten and fasten through the two outermost preformed fastener holes.

a. Note that tiles are a fired clay natural product and thus variations in edge straightness will be present.

b. It is good practice to partially fix the tile at two locations then tighten evenly just until the tile is firmly gripped.

c. Overtightening will cause uneven installation of tiles and can lead to fractured tiles.

d. Additional holes can be formed for cut tiles and must be at least 40 mm from the cut edge.

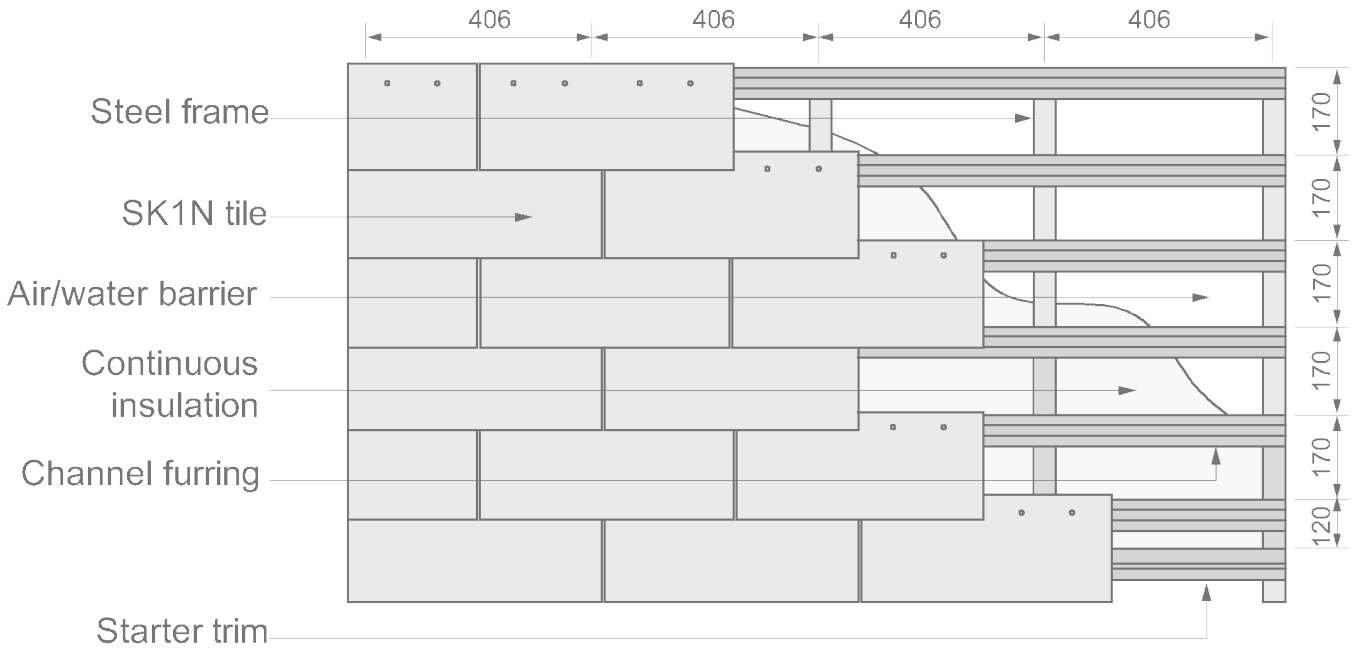


System Details

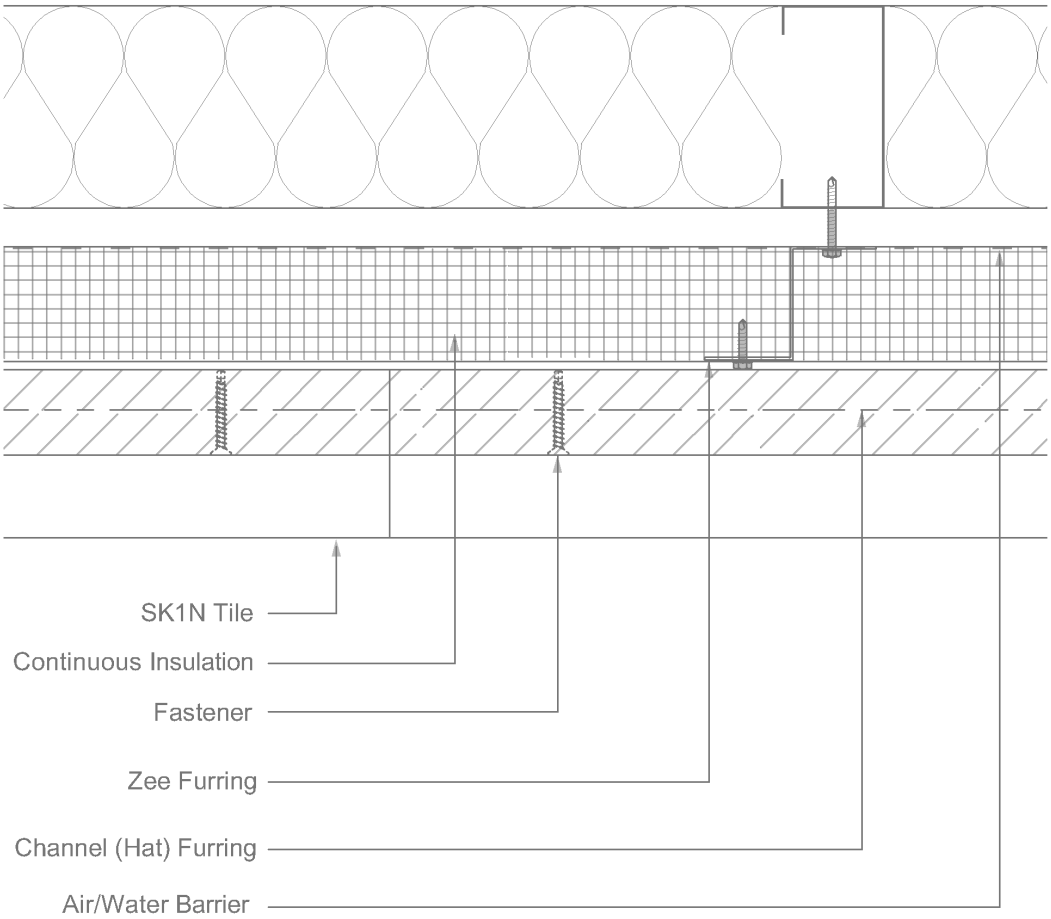
Wall Installation

Design Details

Elevation of SK1N System



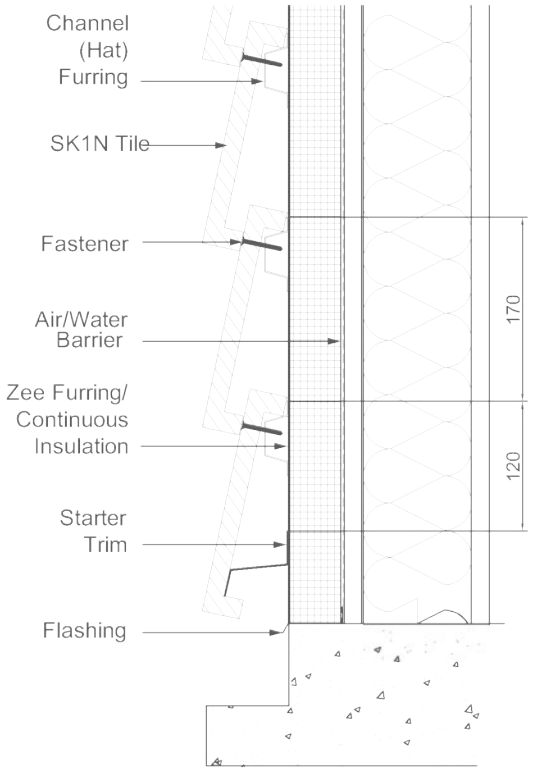
Typical Plan View of SK1N System



Design Details

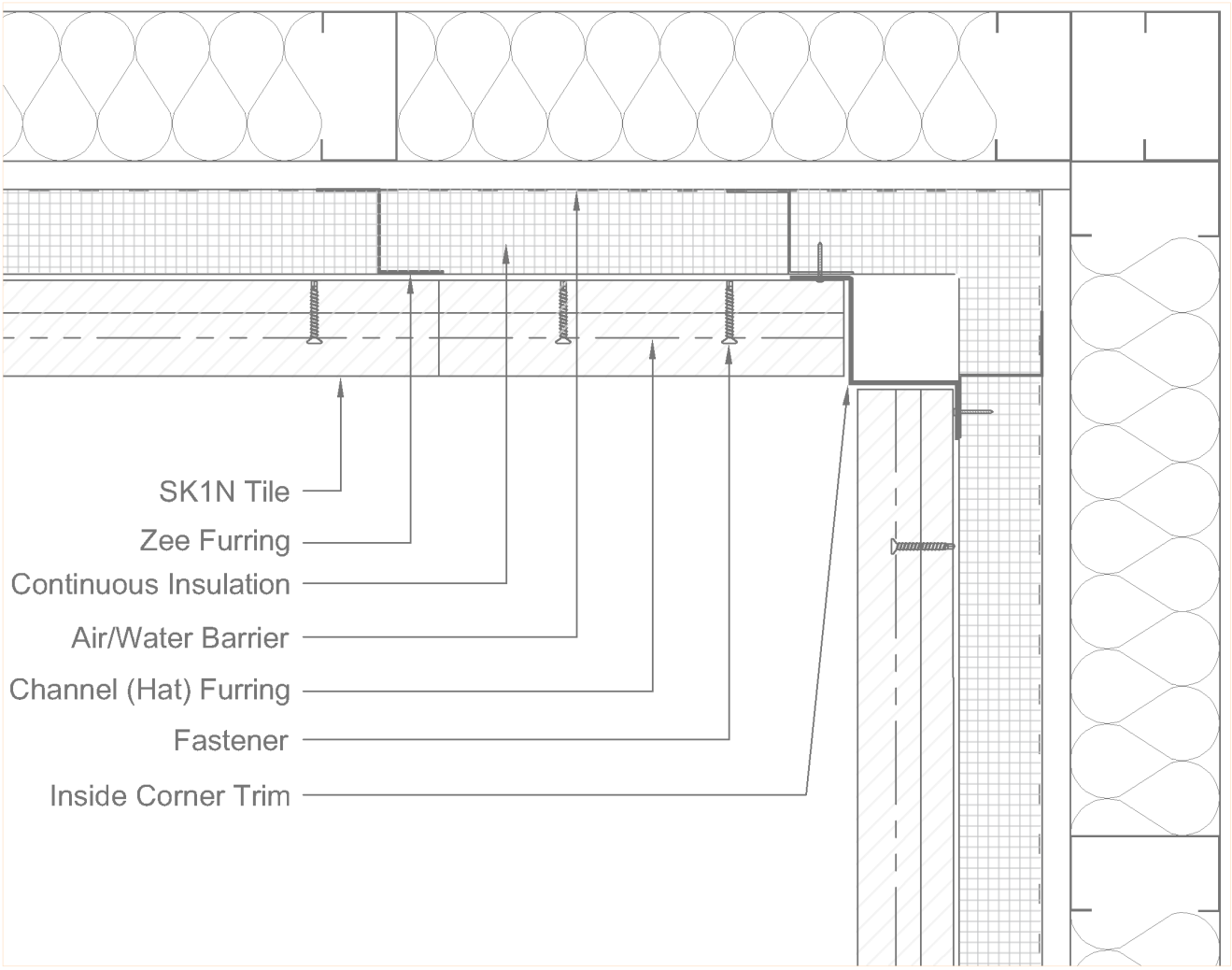
Typical Section View of U Profile on Channel (Hat) Furring

U Profile with Channel (Hat) Furring



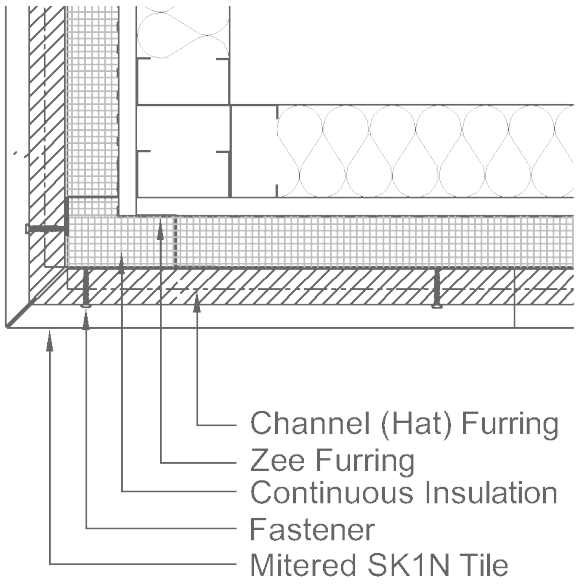
For minimum height above slab, see page 23.

Internal Corner

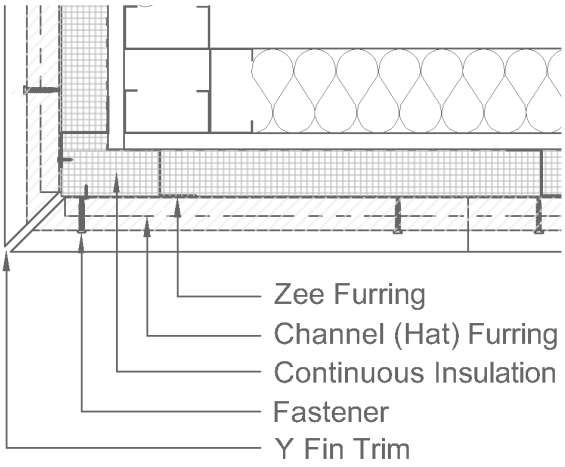


External Corner Options

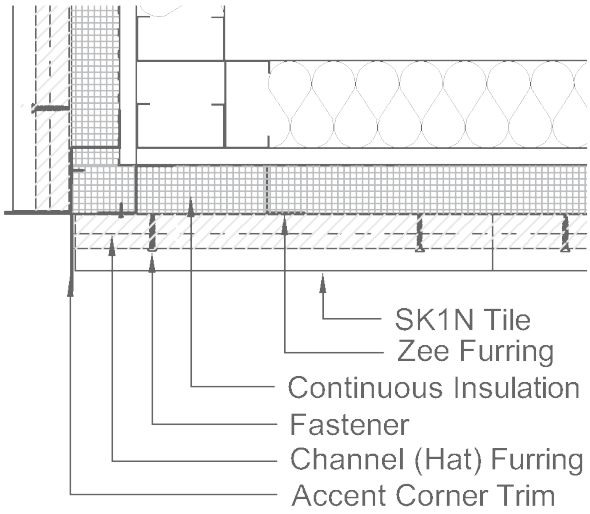
External Corner with Miter



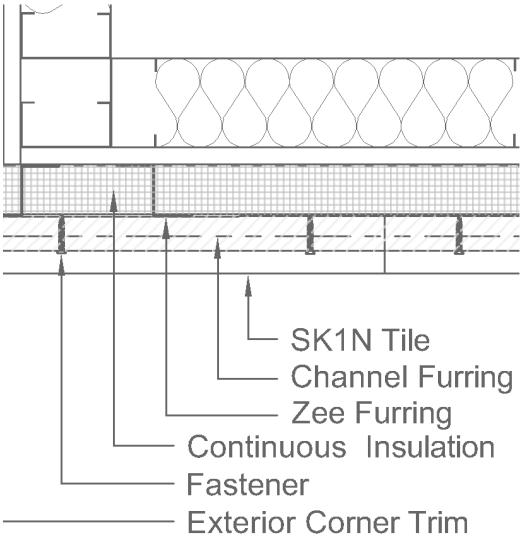
Mitred External Corner with Y Fin Trim



External Corner with Accent Trim

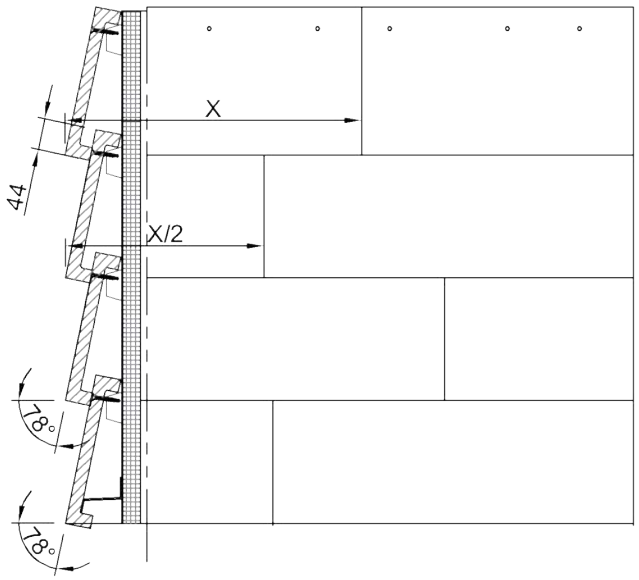


External Corner with Box Trim

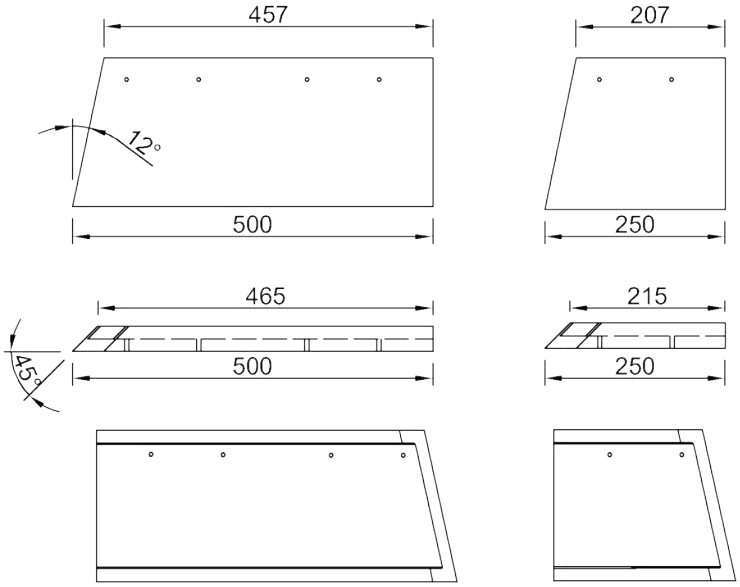


Cutting Guide for External Corner Tiles

U Shape External Corner Assembly

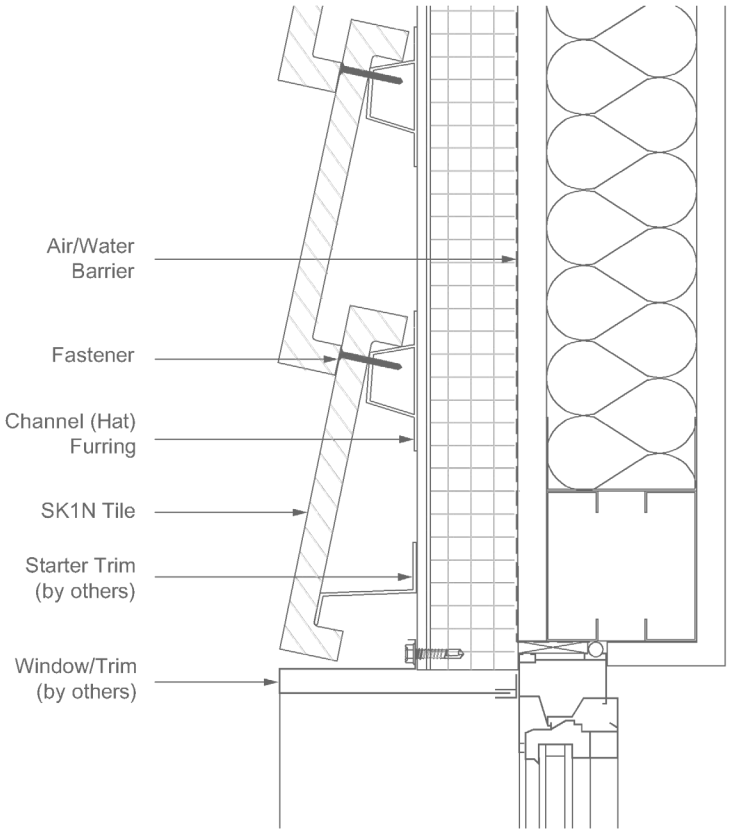


Corner Detail Cutting Guide for U Shape

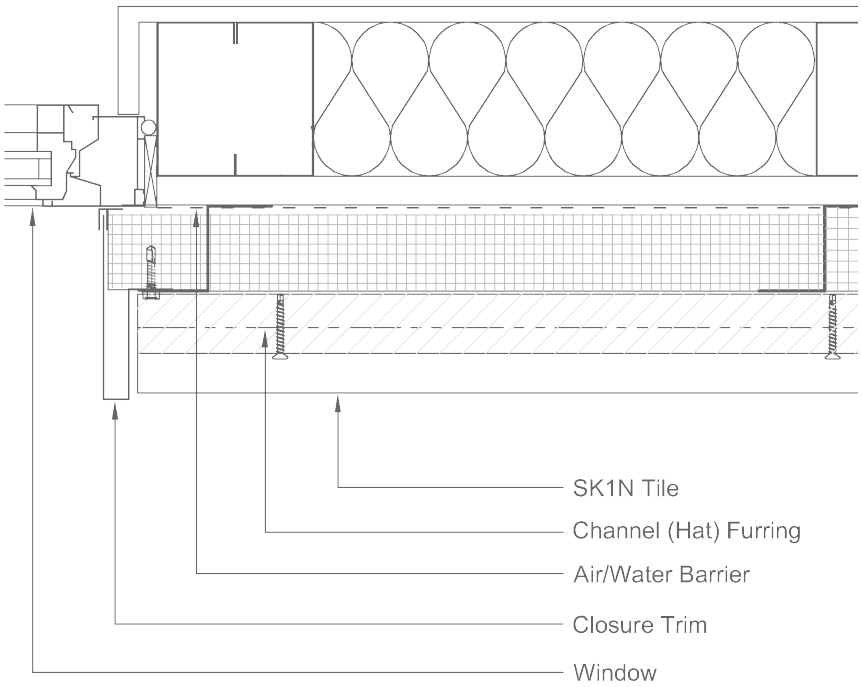


Design Details

Window Head

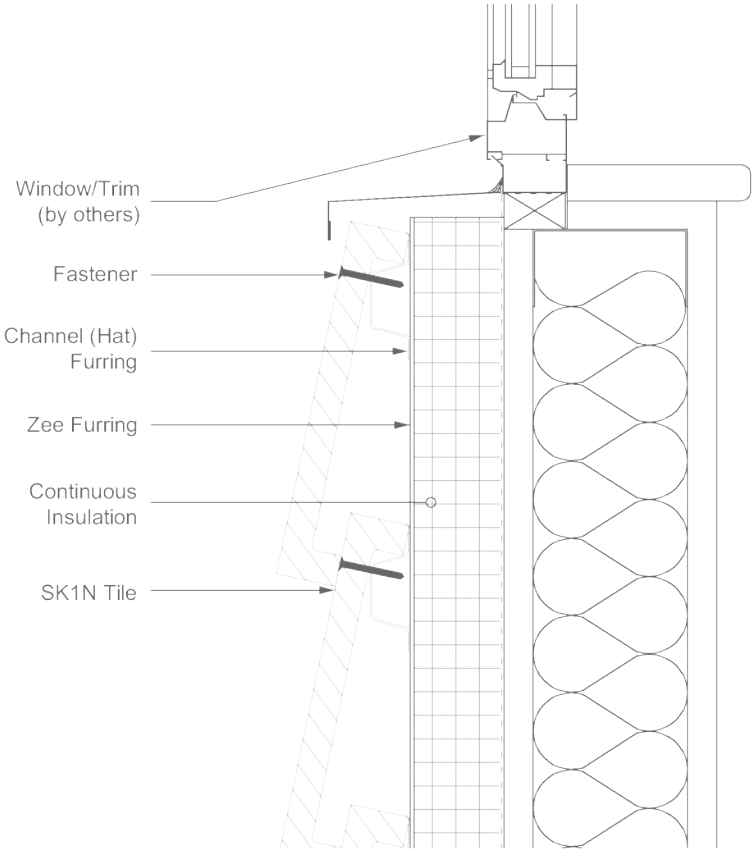


Window Jamb


SK1N Tile
Channel (Hat) Furring
Air/Water Barrier
Closure Trim
Window

Design Details

Window Sill



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