

Specifying White Cladding Installations



Kestrel's cladding systems are ideal for a wide variety of internal and external applications. The system is offered complete with all trims, fixings and components to ensure a high aesthetically appealing finish.

Cladding is an ideal means of covering large areas with a durable, maintenance free solution which will stay looking good for years. It never needs painting and is highly suitable for areas where future access could prove difficult or costly. The design features within the system mean that cladding offers a visually appealing alternative to traditional materials, whether in domestic or commercial applications.

Popular products within the cladding range and the principal elements of installation are detailed here.

TECHNICAL CONSIDERATIONS -

Installation

The Kestrel co-extruded PVC-UE cladding system is suitable for horizontal, vertical and diagonal fixing, as a decorative & protective external facing, over a timber stud or masonry wall. When used over a sheathed timber stud frame or over a masonry or block substrate, the cladding should be fixed to preservative treated, good quality timber battens (measuring not less than 19mm by 38mm) rigidly fixed to the substrate at 600mm centres or closer.

Installation takes place by fixing trims around the periphery of the area to be clad followed by installation of the cladding planks. Planks are fixed using stainless steel annular ring shank nails positioned in the groove which runs along the length of the cladding plank. Nailing takes place from the centre of each plank working outwards.

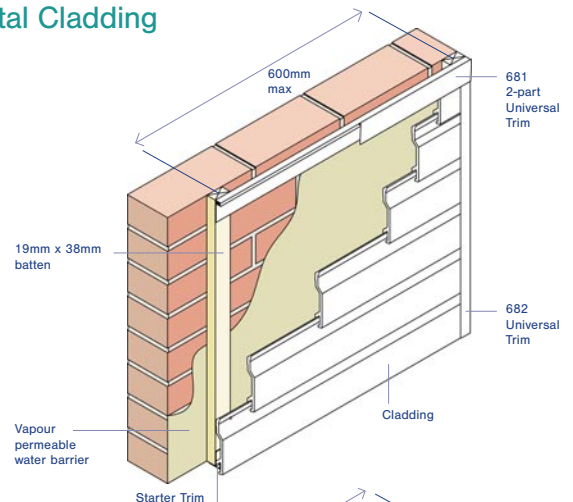
Subsequent planks are fitted over the preceding planks ensuring that the tongue-and-groove joint is firmly closed so that the nail heads are concealed by the overlap. To avoid distortion in service, care should be taken not to install the cladding in extremes of temperature (i.e. below 5°C or above 25°C) and to allow adequate expansion gaps of 5mm per plank end for expansion.

The cladding must be installed to provide a minimum ventilated air space of 19mm between the cladding and the backing wall. This satisfies both NHBC requirement for a minimum 10mm wide ventilation cavity and the Foundation 15 clause for a minimum 19mm cavity to be maintained between claddings and sheathing.

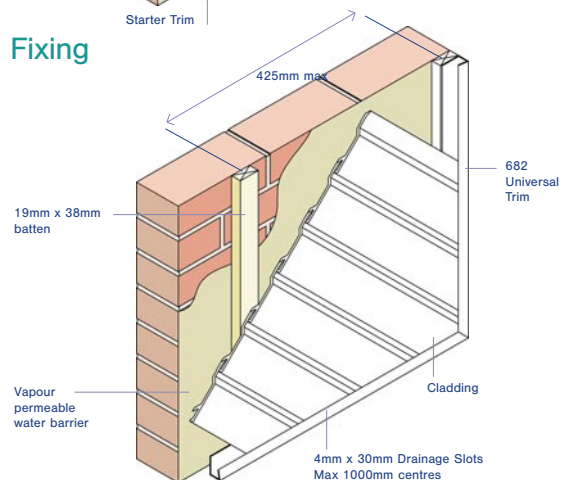
Horizontal battens used to support trims at the base of installations or at window heads, require 10mm diameter drainage holes at 1000mm centres.

When installed in accordance with Kestrel installation requirements onto battens at maximum 600mm centres, on buildings up to 10 metres in height, the cladding is suitable for use as shown in the table.

Horizontal Cladding

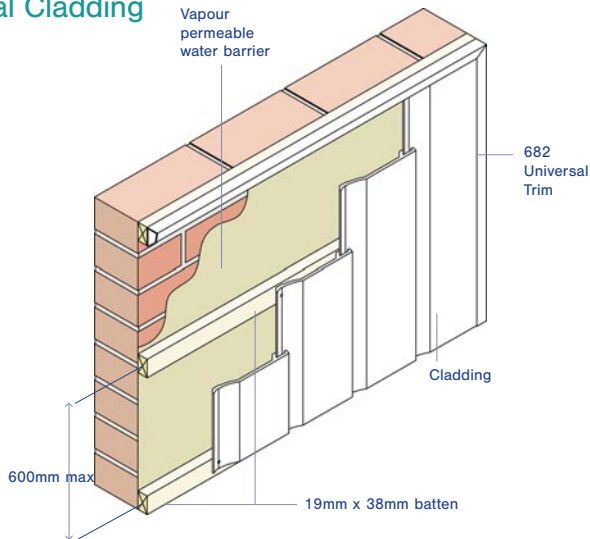


Diagonal Fixing



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Vertical Cladding



When cladding is used in exposed locations (eg buildings above 10 metres in height, buildings on unprotected sites or in open countryside) it is recommended that batten spacing be reduced, particularly at the corners of the building, in order to increase the resistance to wind suction. The cladding is suitable for use above ground-floor level, and at ground-floor level in private areas where there is some incentive to exercise care.

It is not recommended for use at ground-floor level in public areas where it may be exposed to vandalism and general misuse. PVC-UE cladding installations are not air, water or water vapour tight. When used on timber stud walls the product must be backed by a breather membrane acting as a vapour-permeable water barrier, incorporated behind the cladding under the supporting battens.

This barrier must meet the requirements of BS4016: 1972 and have a vapour resistance less than 0.6 MNsg-1 when calculated from results carried out at 25°C and a relative humidity of 75%, in accordance with BS3177: 1959.

Where the product is used as a decorative facing attached to weathertight masonry walls, a water barrier is not necessary as the amount of water that will penetrate the cladding will be small and will not have an adverse effect on the wall.

Behaviour in relation to fire

When tested to BS476: Part 6: 1981 Kestrel white PVC-UE cladding planks achieved a fire propagation index of 15.4 with sub indices and of 7.6, 6.4 and 1.4 respectively.

Kestrel PVC-UE cladding is suitable for use as cladding on the external walls of buildings less than 20m in height (England & Wales) or 15 metres in height (Scotland) provided that the wall is 1 metre or more from the relevant boundary.

The product is suitable for use on the external walls of buildings in Northern Ireland less than 15 metres in height provided the wall is 1 metre or more from the relevant boundary, but excluding use on buildings of purpose group VII (assembly buildings) having more than one storey, at situations up to 7.5m above the finished surface of any adjoining roof or other part of the building to which persons have access.

The product is suitable for use as a cladding on the external walls of buildings 20 metres or more in height (England & Wales) or 15 metres or more in height (Scotland) provided that the wall is 1 metre or more from the relevant boundary and the cladding does not extend higher than 20 metres (England & Wales) or 15 metres (Scotland).

The product is suitable for use on external walls of buildings in Northern Ireland which are 15 metres or more in height provided the wall is 1 metre or more from the relevant boundary and the cladding does not extend higher than 15 metres, but excluding use on buildings of purpose group VII (assembly buildings) having more than one storey, at situations up to 7.5 metres above the finished surface of any adjoining ground, or of any adjoining roof or other part of the building to which persons have access.

When tested in accordance with BS476: Part 7: 1987, the white co-extruded material achieved a Class 1Y rating.

Although the surface spread of flame across the surface of the PVC is limited, the material does tend to char and may fall away when exposed to fire. Due consideration should always be given to any combustible material behind the cladding, which may become exposed in the event of a fire.

CE Marking

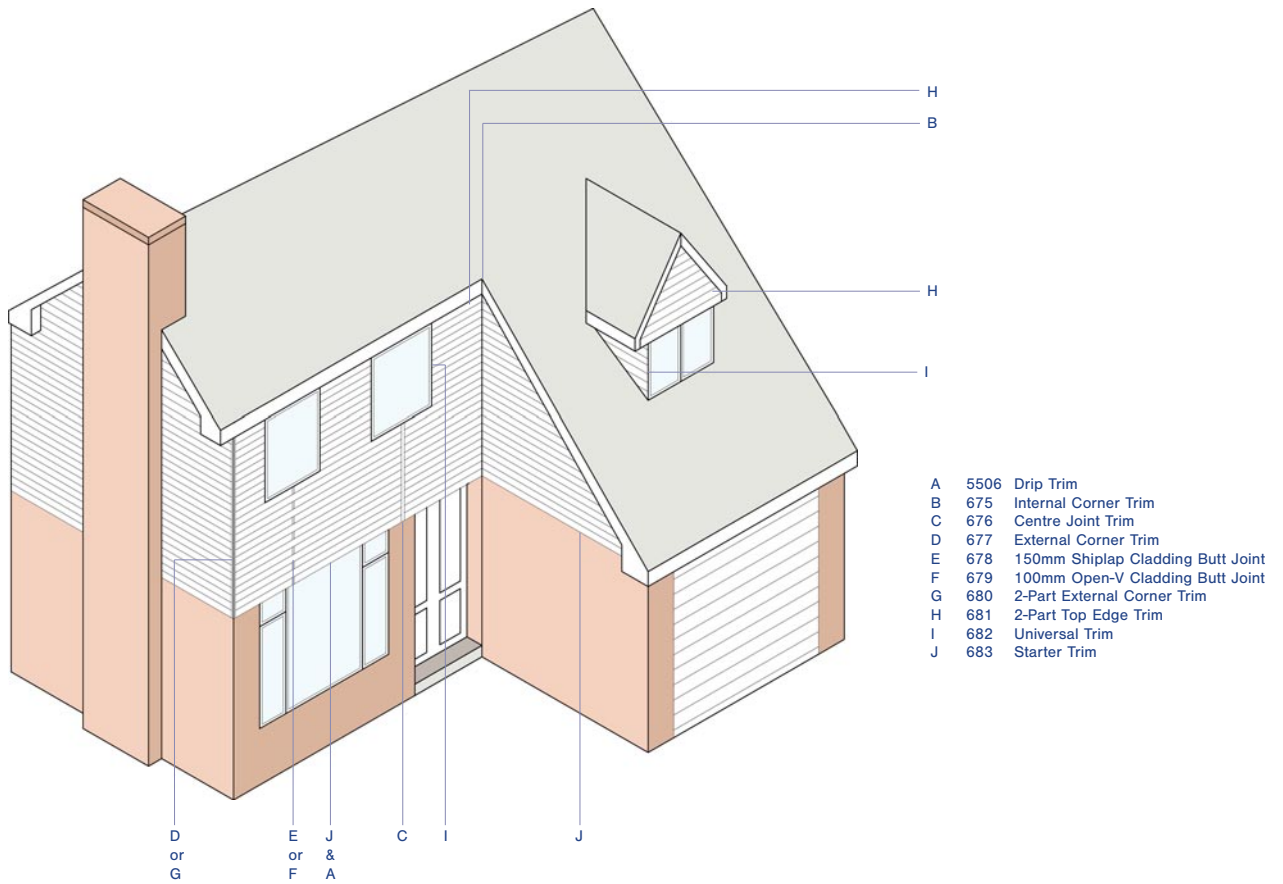
CE Marking requires that cladding be tested for its reaction to fire. Kestrel PVC-UE cladding with PVC-U skin achieves a Classification of Reaction to Fire Performance: D-s3, d2/AVM.

- PVC cladding installed over timber framing now carries BRE A+ rating. This allows the specifier to claim the maximum three points available under the CSH for just such an external wall system.

Permissible dynamic wind pressures (Pa)		
Length of fixing nail (mm)	Cladding Profile	
	100mm Open-V	150mm Shiplap
30	2650	1750
25	1750	1150

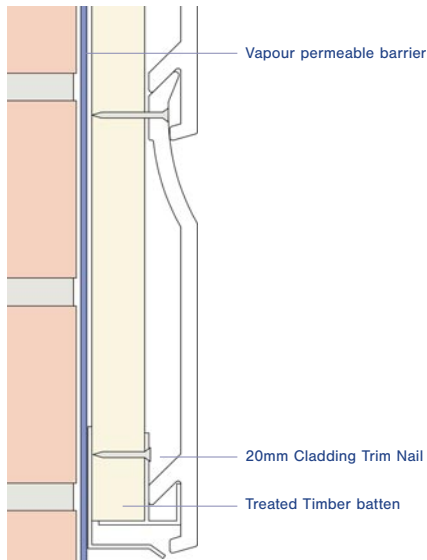
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Trim Locations and Installation

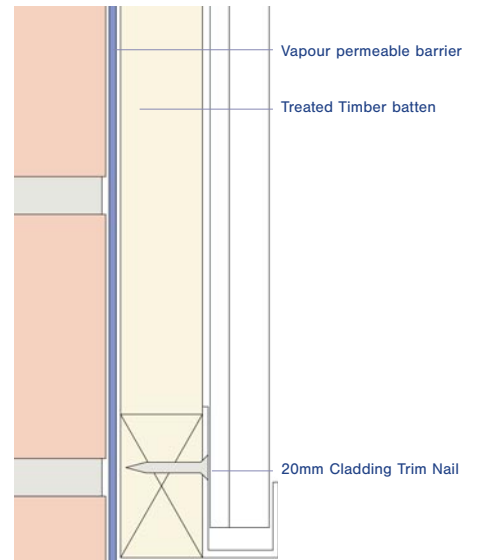


Trims Installation

Starter and Drip Trim - Horizontal Installation



Starter Trim - Vertical Installation

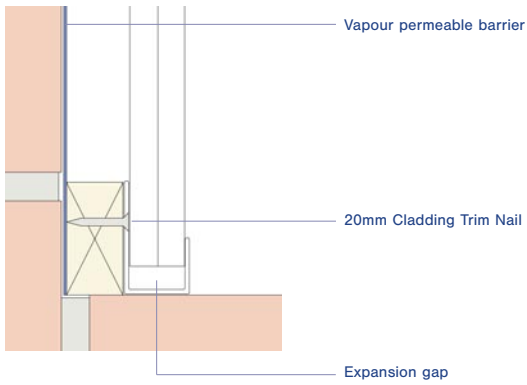


NB. Universal channel must be pre-slotted (4mm x 30mm - Max 1000mm centres) to allow for drainage

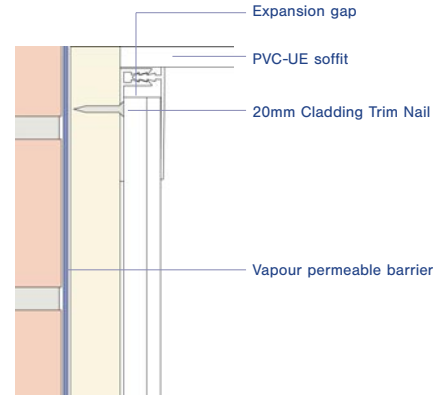
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Trims Installation

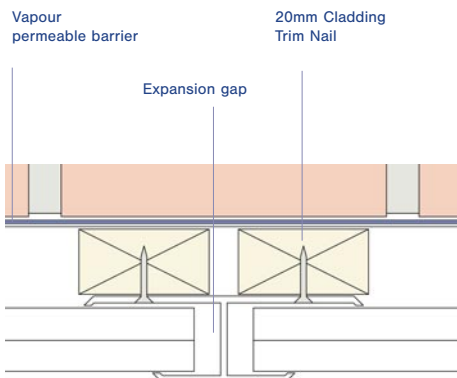
Universal Channel- General Edge Installation



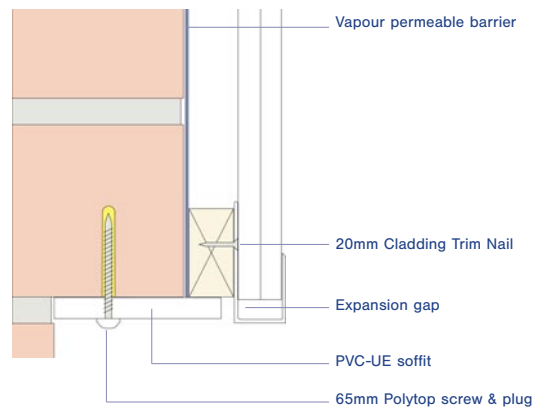
2-Part Top Edge Trim - Vertical Installation to Soffit



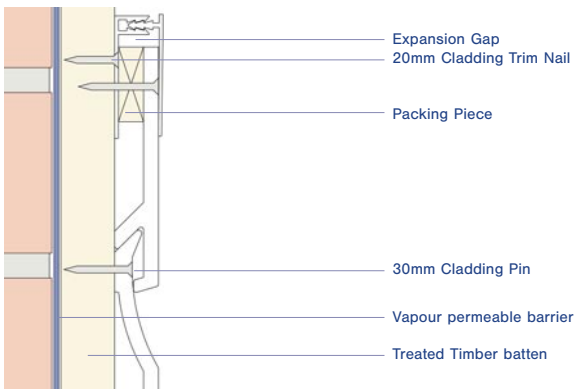
Centre Joint Trim Installation



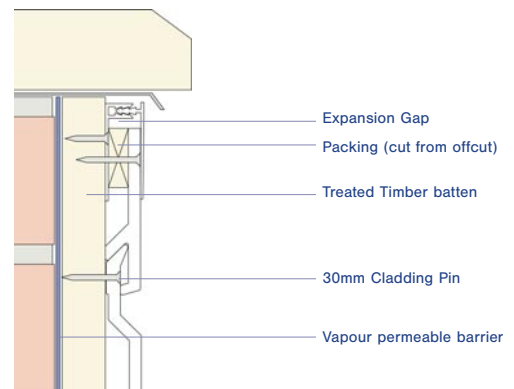
Universal Edge - Vertical Installation



2-Part Top Edge Trim - Horizontal Installation



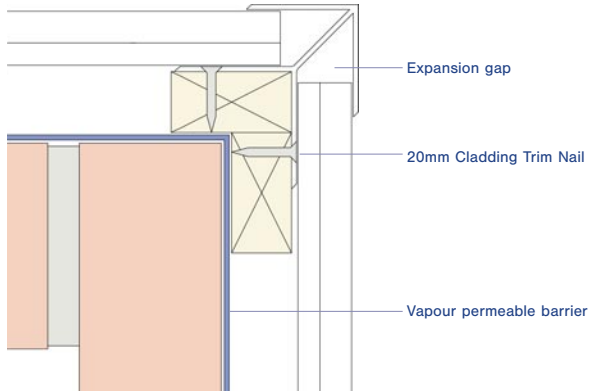
2-Part Top Edge Trim Installation to Window Cill



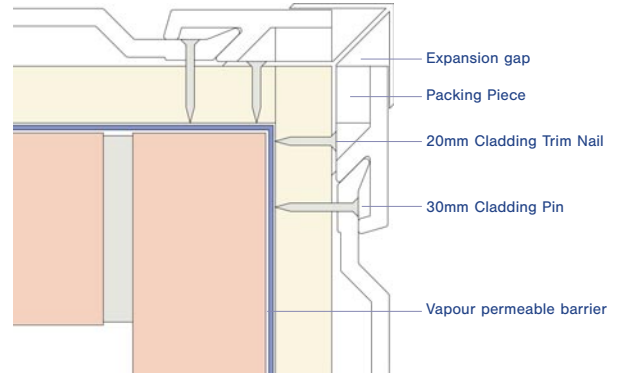
NB. Breather membrane is only required on non moisture resistant substrates

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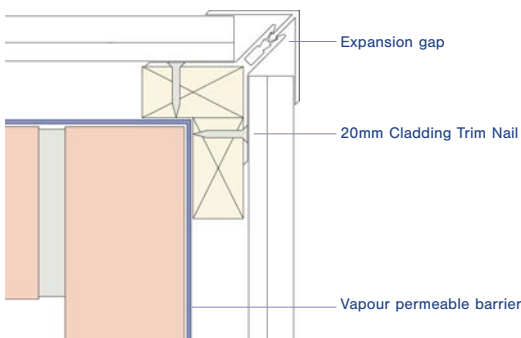
External Corner - Horizontal Installation



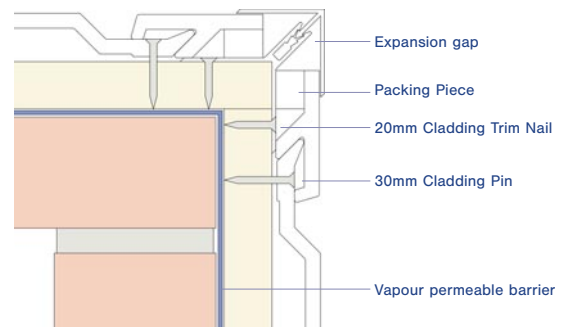
External Corner - Vertical Installation



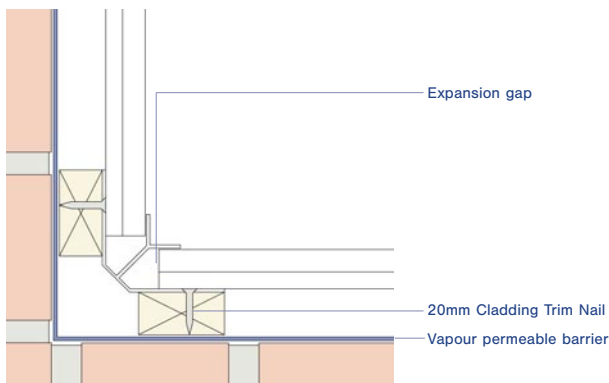
2-Part External Corner - Horizontal Installation



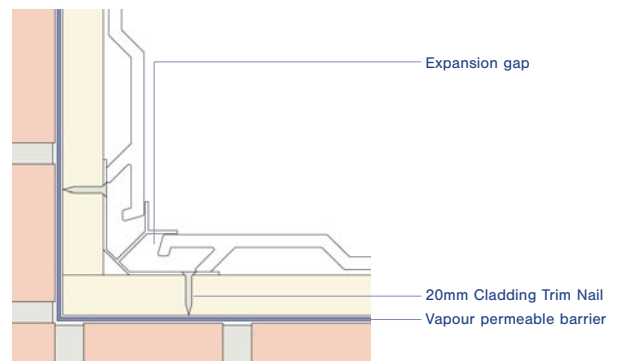
2-Part Corner - Vertical Installation



Internal Corner - Horizontal Installation



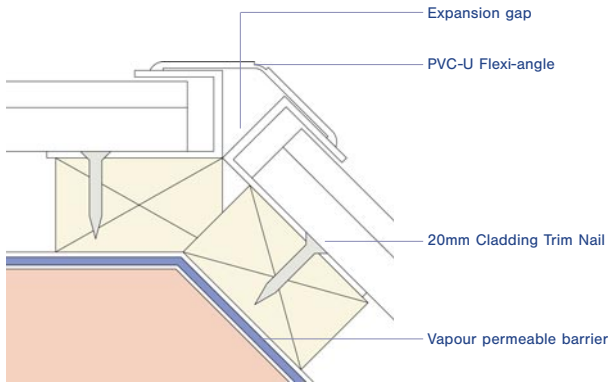
Internal Corner - Vertical Installation



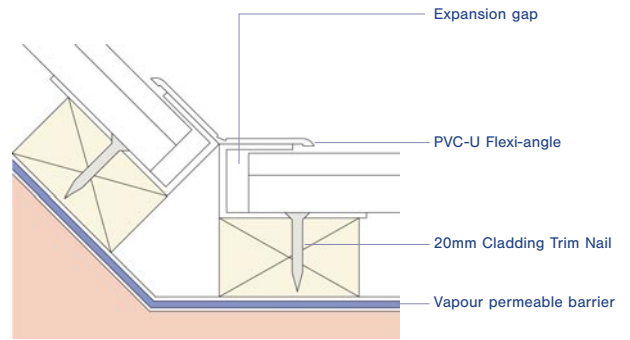
NB. Breather membrane is only required on non moisture resistant substrates

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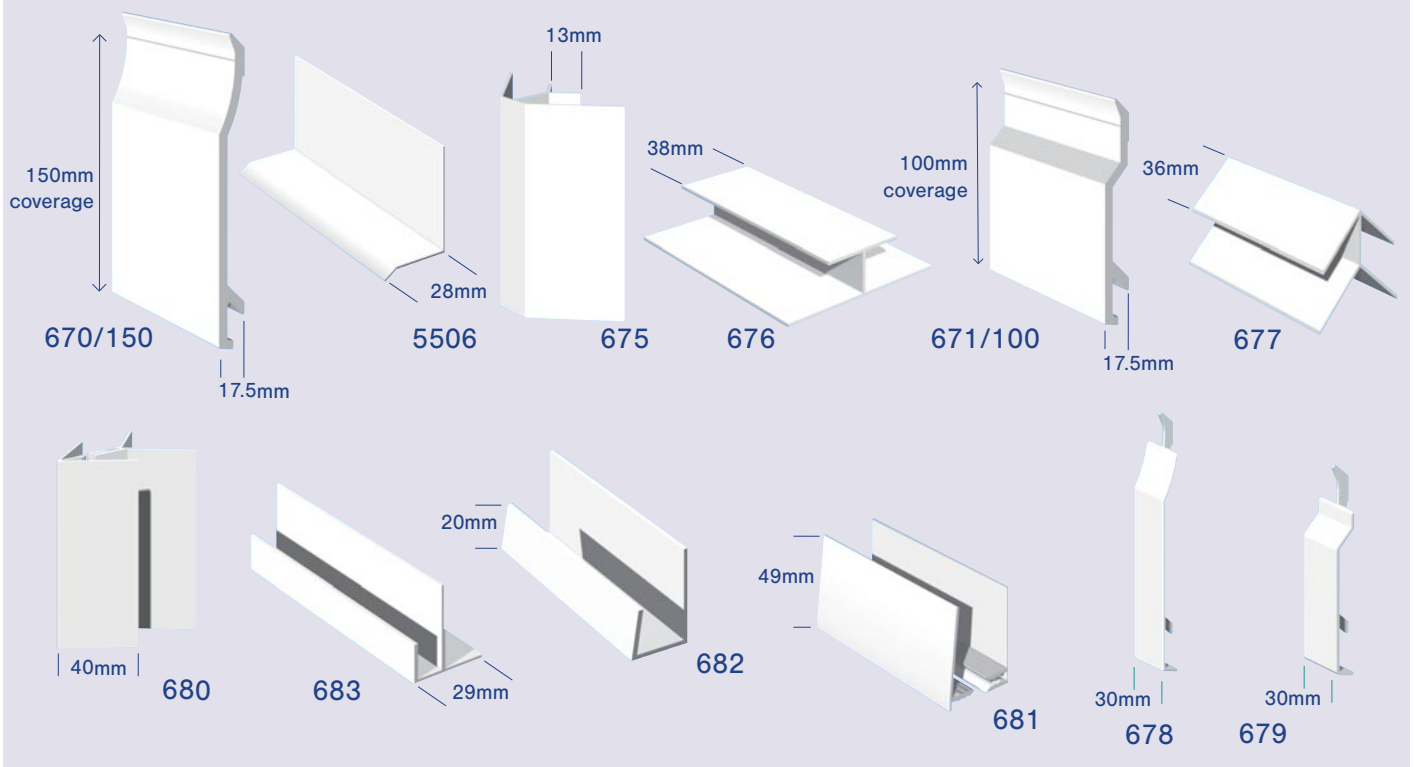
Variable External Angle - Horizontal Installation



Variable Internal Angle - Horizontal Installation

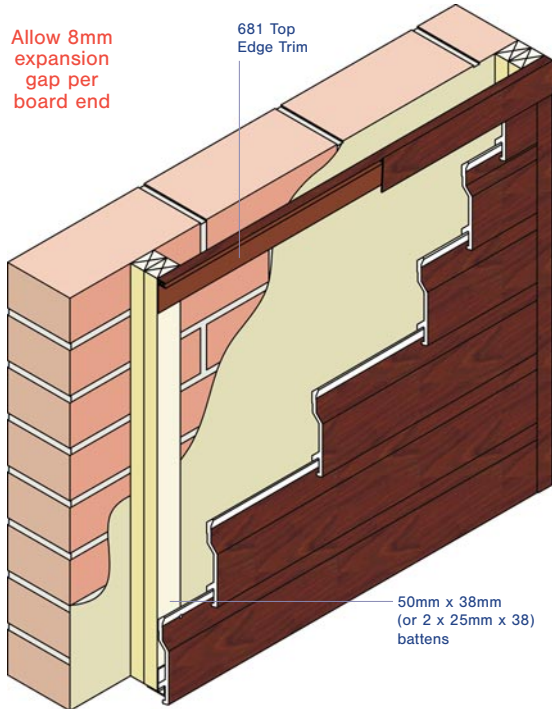


Cladding System



Working with Woodgrain Products: Cladding

Installation Detail - Horizontal Cladding



Working with Woodgrain cladding requires some modified procedures and installation processes. The following fixing details must be followed when installing Woodgrain cladding products:

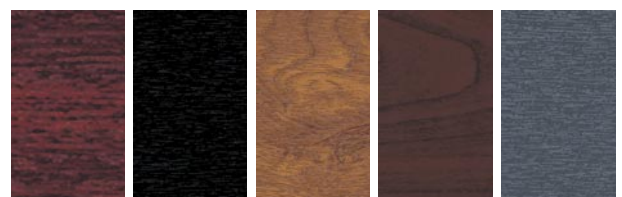
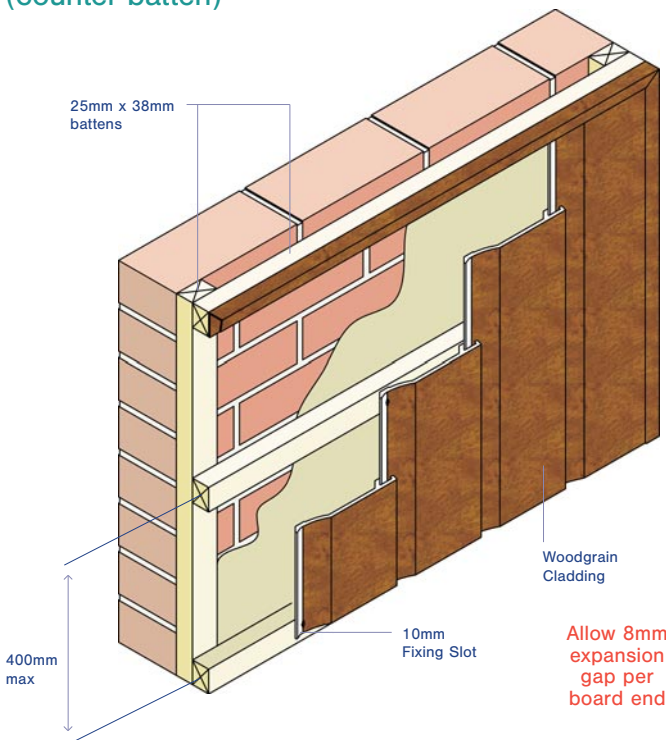
1. Allow a minimum of 50mm air space behind the back of all cladding installations.
2. Using the Universal Channel or Starter Trim with Batten Cover at both the top and base of each cladding face, allow a 10mm air gap at the top and bottom of each cladding unit in order to generate air flow behind the installation. When installing cladding vertically the use of counter battens is required.
3. Install 5m (max.) cut lengths and fix firmly at the centre of each cut length with Cladding pins as recommended for white profile. All subsequent fixings, at maximum 400mm centres from the central fixing point, into fixing slots. These fixing slots should be 10mm long, with a width of 0.5mm wider than the cladding nail shank. Fix with a large headed nail as recommended for white profile ie 30mm stainless steel annular ringshank nails (SS-30-CP)
4. Jointing of boards to be made with 676 cover joint trim, allowing an 8mm expansion gap at every board end.
5. Installations to take place at ambient air temperature - between 5°C and 25°C.
6. All pre-installed products to be kept stored away from direct sunlight, preferably indoors, at all times.
7. All end finishing cover strips etc. should allow an 8mm expansion gap between the end of the cladding profile and the cover stop.

These precautions will allow airflow behind the cladding which helps to reduce excessive heat build-up.

They also allow a free expansion and contraction of the profile along the profile length from a central fixed point. Expansion gaps at joints and finishing strips also allow for freedom of expansion.

CE Marking requires that cladding be tested for its reaction to fire. Kestrels PVC-UE cladding with PVC-U skin & Laminate Foil achieves a Classification of Reaction to Fire Performance: E.

Installation Detail Vertical Cladding (counter batten)



Mahogany Blackgrain Sherwood Rosewood Anthracite Grey

Fixing Summary - White and Foiled Cladding

Fixing Details			
Batten fixings	into masonry: into steel: into timber:	Hammer screws Self-tapping screws Plated woodscrews.	
Cladding fixings	30mm stainless steel Cladding Pins.	SS-30-CP	
Trim fixings	20mm stainless steel Nails.	SS-20-CN	
Breather membrane		To be positioned behind the batten system against the substrate.	

If Fixing Insulation Behind Important Points Which Must Always Be Observed:

- Ensure cladding batten system is fully supported cladding system
- Fix at recommended fixing centres
- Always detail a suitable secondary waterproofing material (EXAMPLE: Vapour permeable breather membrane to maintain a watertight structure
- The membrane should be positioned on the external face of the insulation between the insulation and the cladding
- Maintain the correct statutory airspace behind the cladding system

Area Calculations

Cladding:	Product Code:	5m Lengths Required Per Square Metre:	Coverage Per Linear Metre:
Open V Joint Cladding	671/100	2.0	0.1m ²
Shiplap Cladding (150mm profile)	670/150	1.4	0.15m ²

Fixing Centres

Cladding:	Product Code:	Batten / Fixing Centre:	Product Code:
White	671/100 & 670/150	1 per fixing centre, max 600mm centres	SS-30-CP
Foils	671/100 & 670/150	1 per fixing centre, max 400mm centres	SS-30-CP

All fixings to be A4 marine grade, austenitic stainless steel (grade BS EN ISO 3506-1 : 2009).

General

Battens	White plain cladding Foiled cladding	Minimum 19mm x 38mm (25mm x 38mm recommended) Minimum 50mm x 38mm (or 2 x 25mm x 38mm)
Ventilation	White	Allow a minimum of 19mm ventilated air space behind the back of all cladding installations. This satisfies the NHBC requirement for a minimum 10mm wide ventilation cavity to be maintained between claddings and sheathing.
Expansion Gap	Foils White Foils	Allow a minimum of 50mm ventilated air space behind the back of all cladding installations 5mm per board end 8mm per board end
Joint Fixing		Low modulus neutral cure silicone BS5889 Type A
Installation Temperature		To be installed between 5°C & 25°C temperatures

Fire Rating

	Finish	Thickness (mm)	Class
BS476 Part 7	White	6mm	1Y
EUROCLASS BS EN ISO 11925-2	White	6mm	D-s3, d2
EUROCLASS BS EN ISO 11925-2	Laminated Foil	6mm	E



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