



VulcaLap®

Extruded aluminium
A2 fire rated
rainscreen plank system

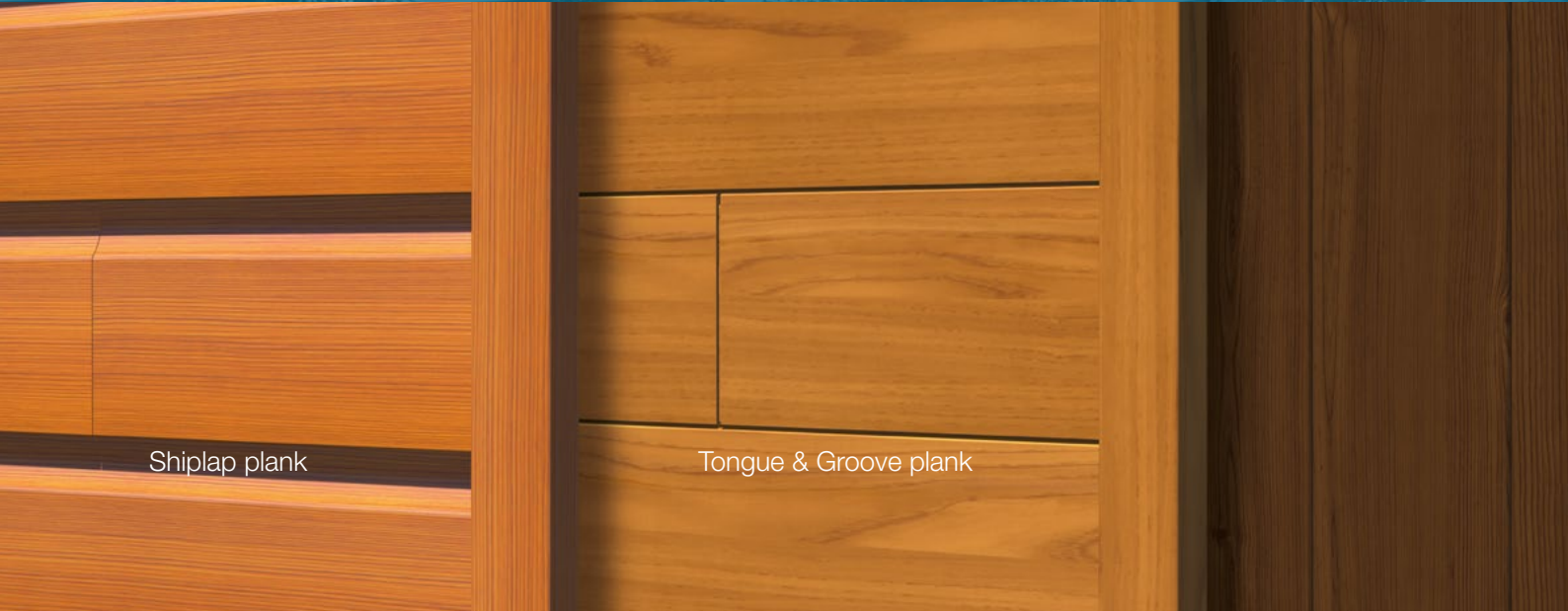
VULCAN
CLADDING SYSTEMS



VulcaLap® Shiplap, Silver, Birkenhead

VulcaLap® aluminium rainscreen plank system

- ▶ Unlimited colours and wood finishes
- ▶ Limited combustibility Euroclass A2
- ▶ Very low maintenance
- ▶ Lightweight robust extrusions
- ▶ Easy to assemble and install
- ▶ Made in the UK



Shiplap plank

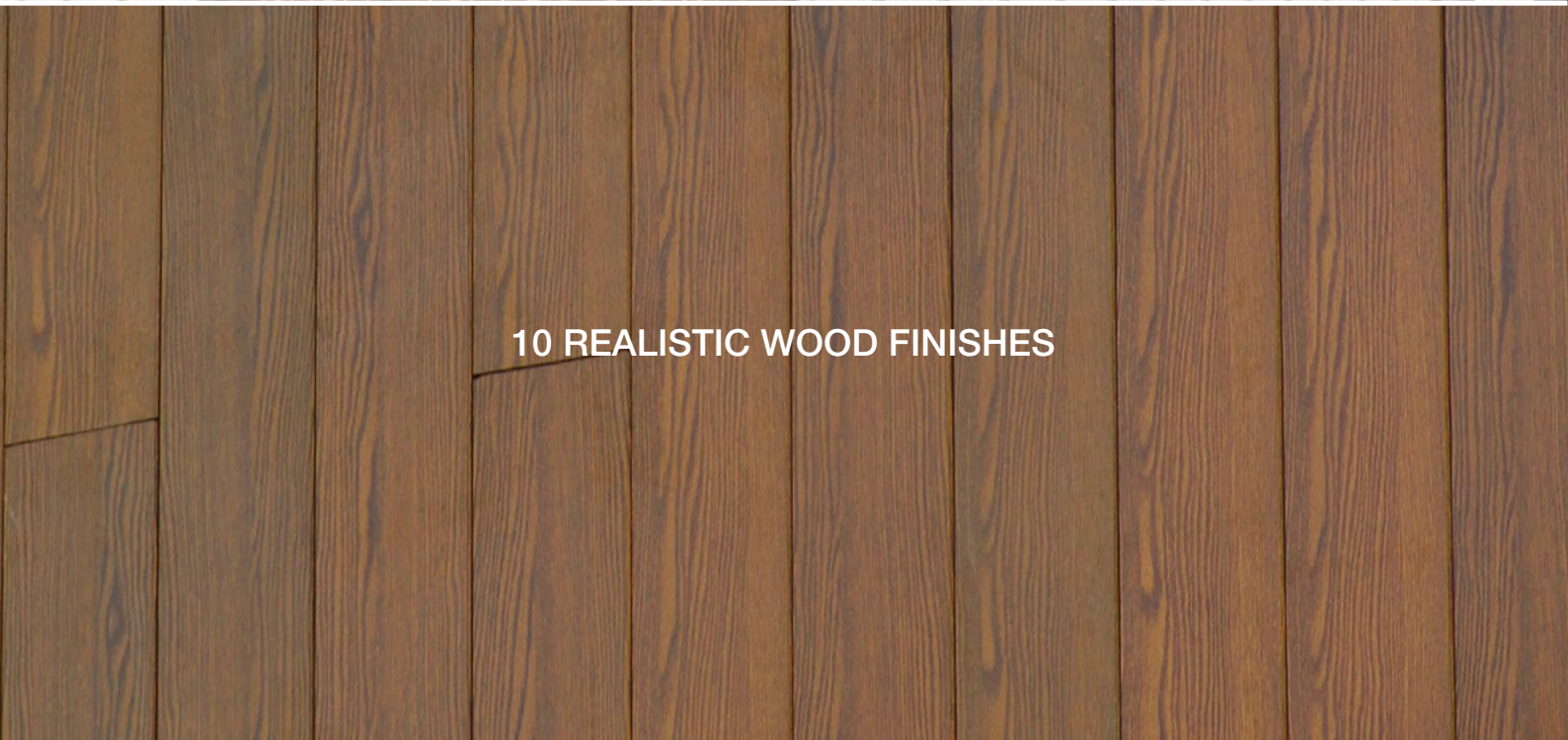
Tongue & Groove plank

Contents

VulcaLap® overview	4
VulcaLap® planks and accessories	6
Typical details (horizontal)	8
Typical details (vertical)	12
VulcaLap® finishes	14
Installation and maintenance	18



VulcaLap® Shiplap, RAL 7016, London



10 REALISTIC WOOD FINISHES



A1 FIRE RATED, ANODISED FINISHES

Overview

Description

VulcaLap® aluminium rainscreen comprising patented aluminium planks with unique plank end jointing, concealed sliding clips and trims to suit the application. The planks are extruded to provide robust and accurate installations.

Composition and manufacture

VulcaLap® is extruded aluminium 6063T6, powder coated to any matt RAL, BS or special colour, anodised or wood finish. All finishes require regular cleaning; see our maintenance recommendations on page 9.

Dimensions and styles

VulcaLap® plank is 14mm overall thickness, 150mm wide coverage, in T&G or Shiplap profile. Supplied in standard 3, 4 or 5m length, special order up to 6.2m. Bespoke styles can be produced subject to volume.

Installation

VulcaLap® can be cut with fine-toothed metalworking tool or machinery and is fixed to metal or timber battening. All plank cuts are hidden. Robust extrusion allows the installer to ‘solo-fix’ planks up to 5m long. Purpose-designed starter cill, corners and trims and fixing clips must be used. Refer to the drawings and details on pages 10-11 of this brochure or visit [VulcaLap® downloads](#) for animations and other details. You can also request CAD fixing details via the [website product page](#).

Warranties and life expectancy

Warranties are available only on a project by project basis up to 10 years, subject to correct maintenance regime. Life expectancy of finishes may exceed 20 years, however there are limitations, and it is very important to be aware of the project environment as powder coating may not be appropriate for every situation. Consult Vulcan technical team at an early stage if the project is close to marine, industrial or swimming pool.

Fire performance

VulcaLap® aluminium has been fire tested in fully finished state to EN ISO 13823 and EN ISO 1716 giving combined test result: EN 13501-1: 2007+A1: 2009: Reaction to fire classification: **A2-s1,d0** for the complete RAL spectrum and wood finishes; **A1-s1,d0** classification for anodised finishes. VulcaLap® can be used in all situations requiring limited combustibility, including rainscreen to buildings over 18 metres high. For fire safety the insulation, breather membrane and fixing sections must also comply. Enhanced fire resistance can be achieved by using Fireshield intumescent breather membrane shown on page 7.

Recyclability

Aluminium is highly recyclable. Recycling scrap aluminium requires only 5% of the energy used to make new aluminium from the raw ore. More than 90% of the aluminum in building and automotive parts is recycled at the end of use, and an estimated 85% of the aluminium used in buildings today comes from recycled material with no loss of performance.

Projects

A selection of VulcaLap® projects can be viewed on the website [VulcaLap® gallery](#) showing the system’s diverse applications, from exclusive quality homes to large commercial properties. Contractors and Installers are encouraged where possible to submit good quality pictures of finished projects, and we will add these to the gallery, courtesy of the Contractor. If you would like to become a registered VulcaLap® installer, please enter your details on the [Contact page](#).

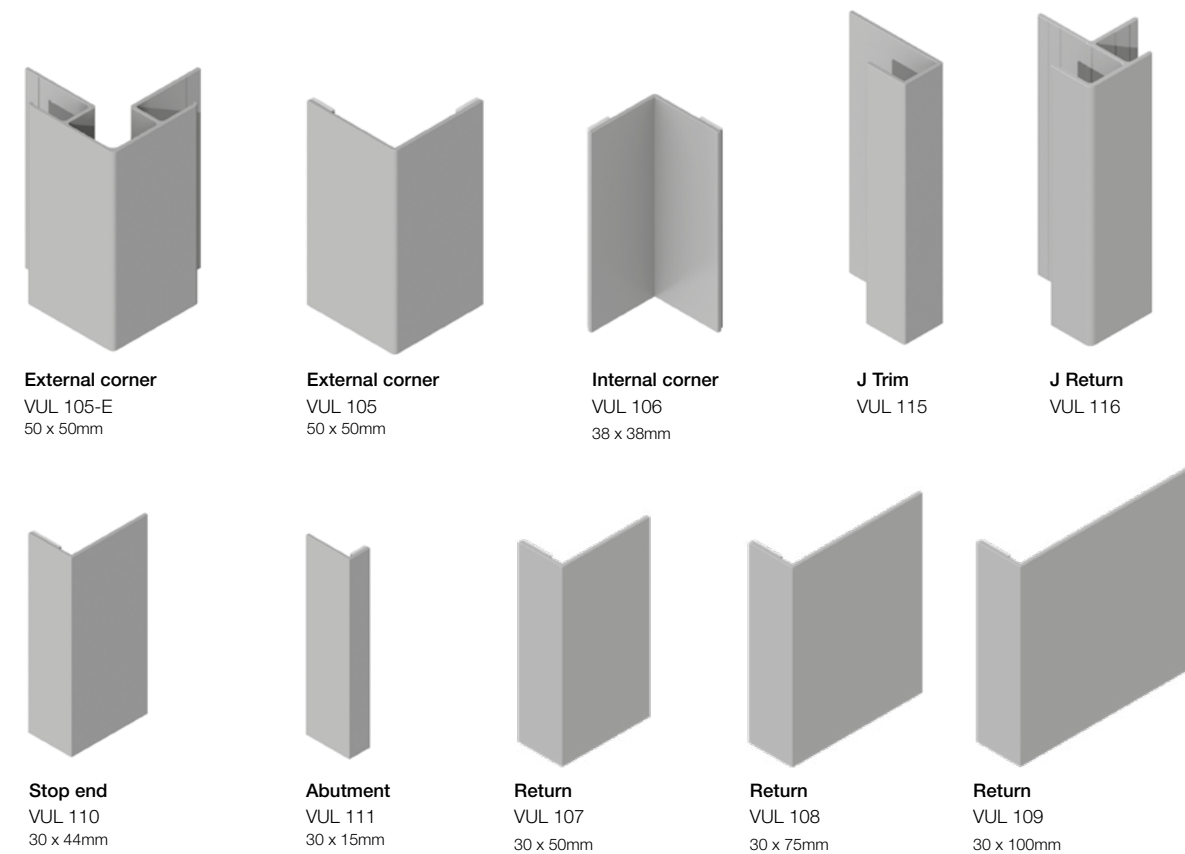
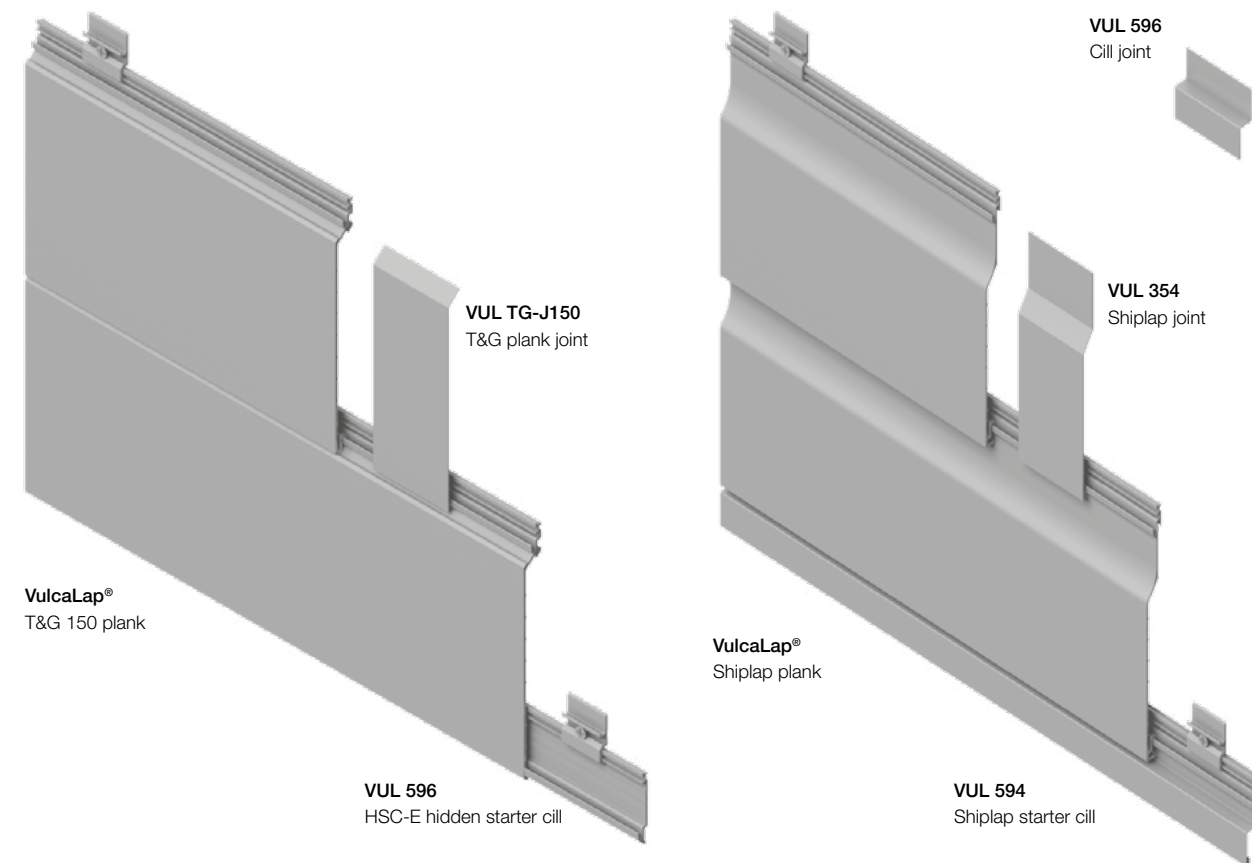
NBS spec

VulcaLap® aluminium rainscreen made from extruded aluminium 6063T6, anodised or powder coated to any matt RAL colour or Wood finishes. Purpose-designed starter or vented cill, corner sections and trims and fixing clips must be used. 150mm plank coverage, in T&G or Shiplap profile, supplied in standard 3, 4 or 5m length, special order up to 6.2m. All plank cuts to be hidden by trims; staggered/ random jointing. Refer to Vulcan drawings and installation details before submitting tender: [VulcaLap® downloads](#).

Product support for Architects, specifiers and end users

VulcaLap® samples are readily available on request. Property owners, Facilities managers and Architects can send us drawings, sketches or dimensioned pictures to get budget take-off costings. We can send CAD drawings to assist architectural design.

VulcaLap® planks & accessories



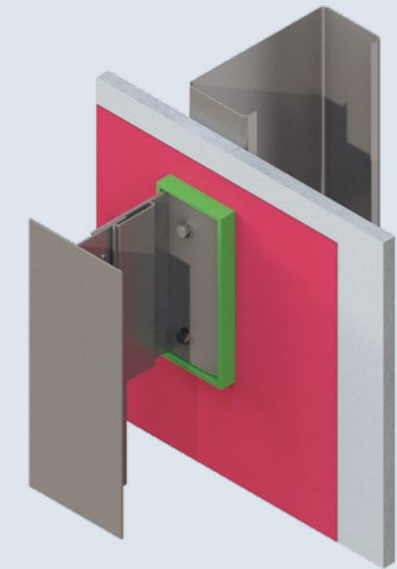
Fixing sections and membranes



Timber frame: fixing section and breather membrane

VUL25-ZED section 25mm deep. Other sections available to order; suitable for timber frame or brick structures.

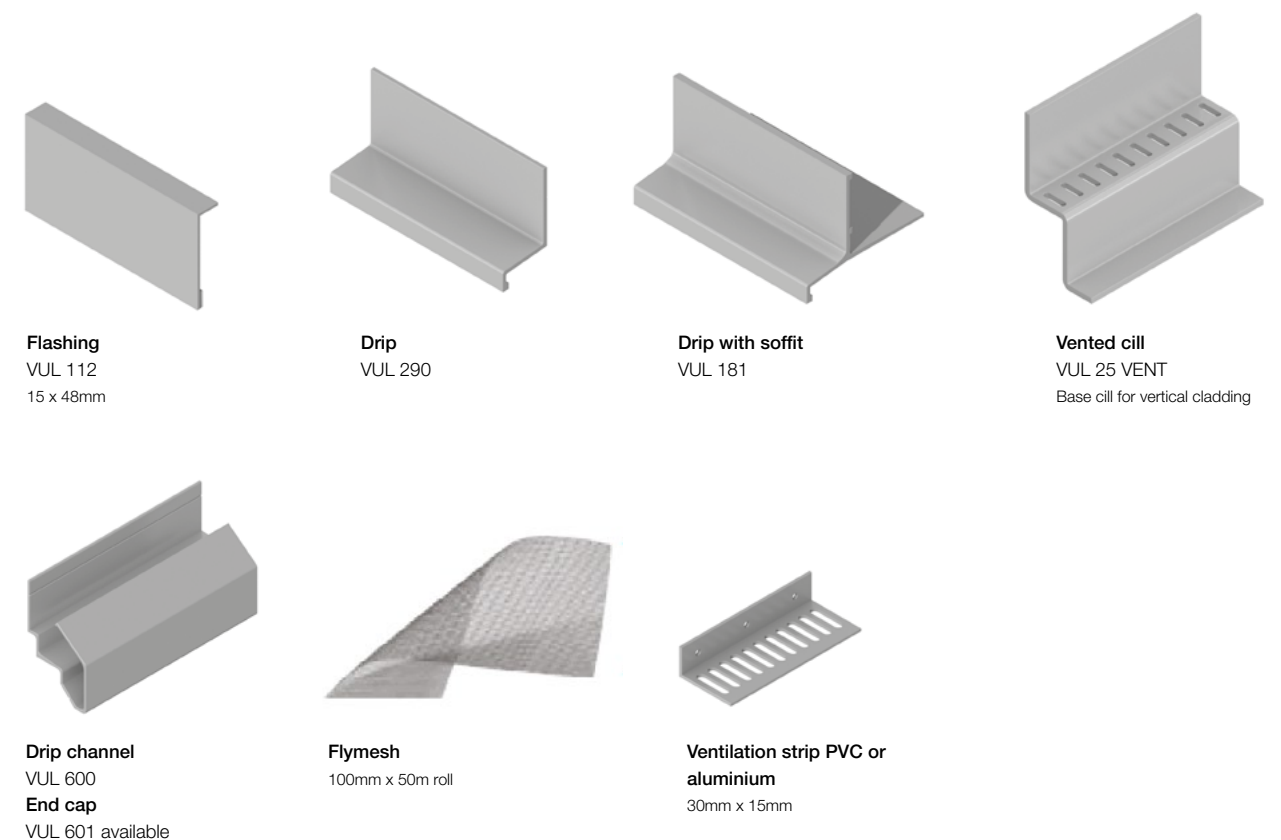
Fireshield Intumescent vapour permeable membrane stops fire penetration, Euroclass B recommended for timber frames protection.



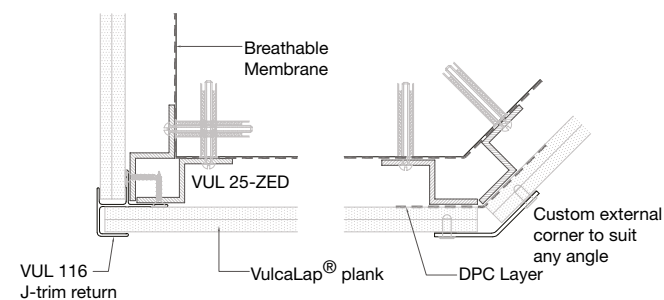
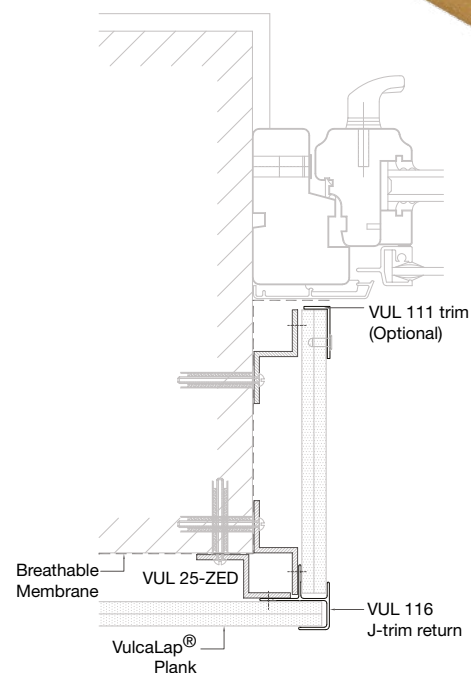
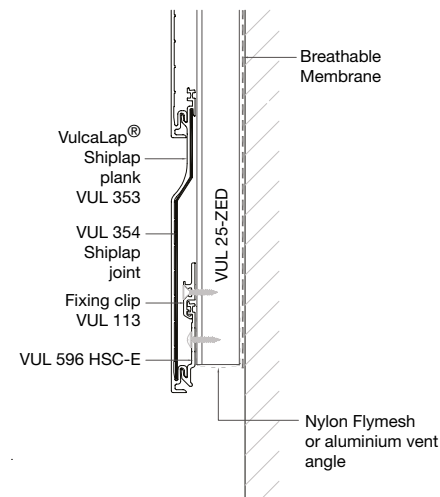
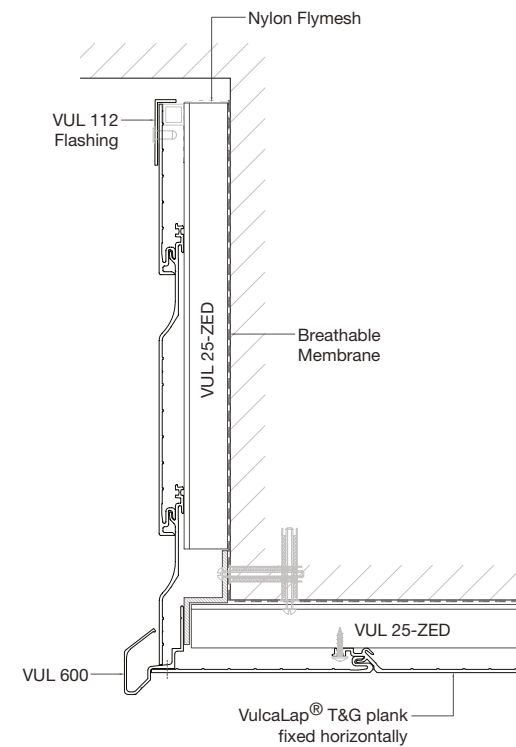
Rainscreen support system... breather membrane for helping hand facade

Helping hand system; large variety of brackets are available to suit insulation thickness and cladding direction.

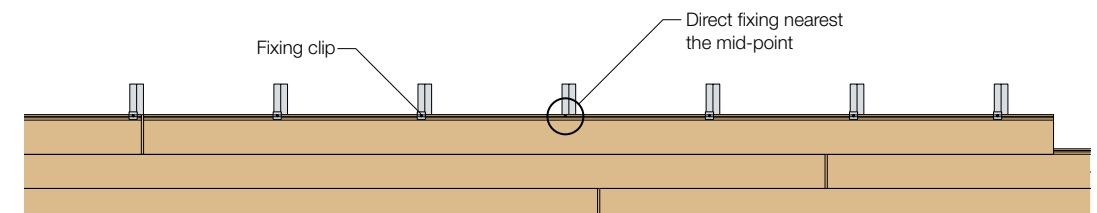
Wraptite Self-adhesive and airtight, vapour permeable membrane bonds directly to the fireboard – no need for taping and battening.



Typical horizontal details



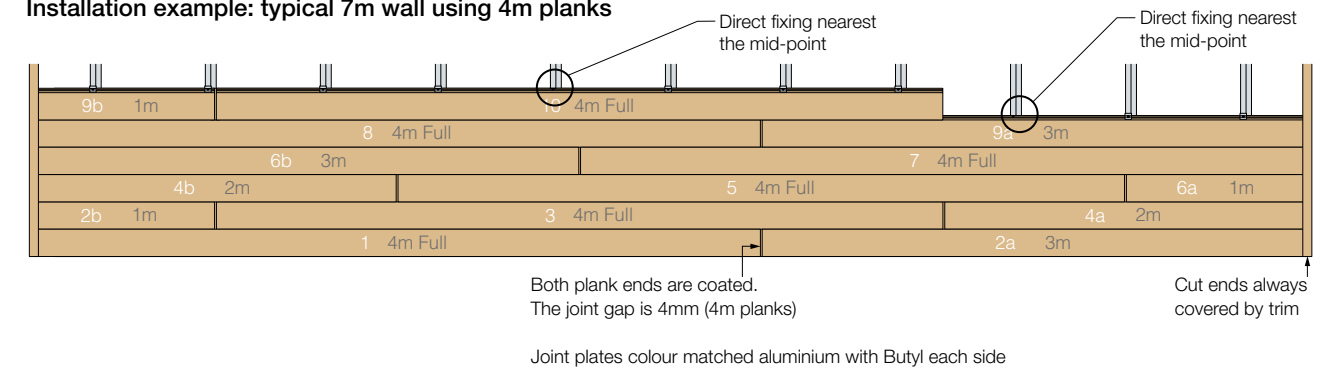
Horizontal plank movement joints and fixing



Aluminium has very low thermal movement of around 1mm/1000mm. The system is designed to allow for this but to keep the joint gaps consistent follow the simple method below;

each plank is direct-fixed to the structure at the mid-point. All other fixing points use the pre-drilled clips VUL113. Joint gaps allow 1mm per 1000mm of plank i.e.5mm gap for 5m planks.

Installation example: typical 7m wall using 4m planks



Example note: (fixing left to right)

Plank 1: First plank full 4m length

Plank 2a: Plank cut on RH end (exposed aluminium covered by RH trim)

Plank 2b: Offcut of plank 2 (exposed aluminium covered by LH trim)

Plank 3: Full 4m plank

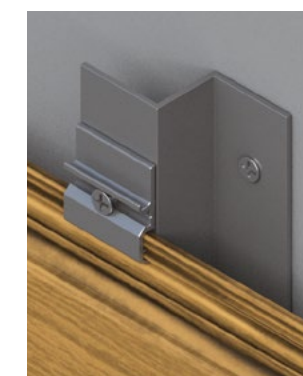
Plank 4a: Repeat of 2a

Using all the offcuts – staggered

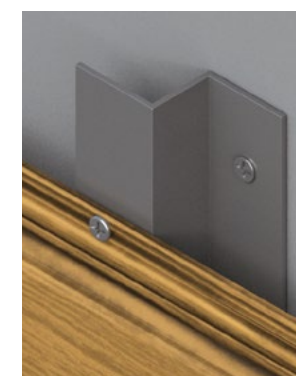
VulcaLap® is best fixed with staggered/random joints. This not only uses all the offcuts but it means that every joint between planks is fully powder coated and all cuts are hidden in the end trim/corner post.

Pre-cut planks – fitted in-line

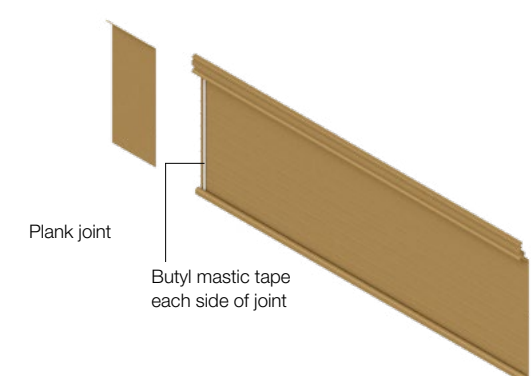
VulcaLap® can also be pre-cut to building module widths, fitted in-line giving modern continuous vertical emphasis. Membrane may be used in place of joint plates. Planks can be coated in a variety of colours.



Fixing clip



Direct fixing mid point



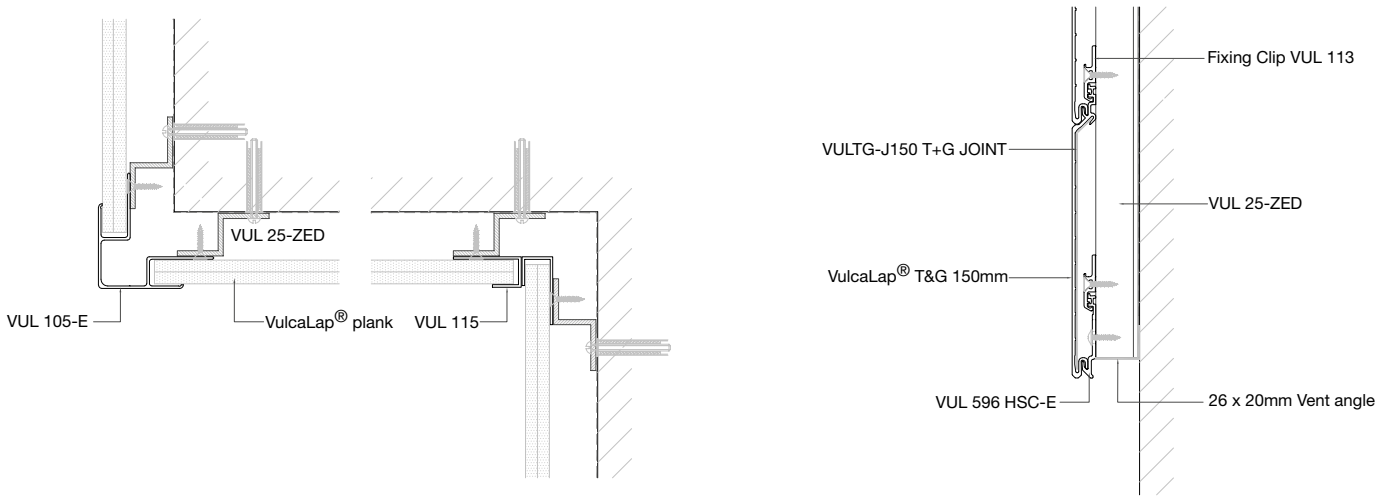
Plank joint

Butyl mastic tape each side of joint

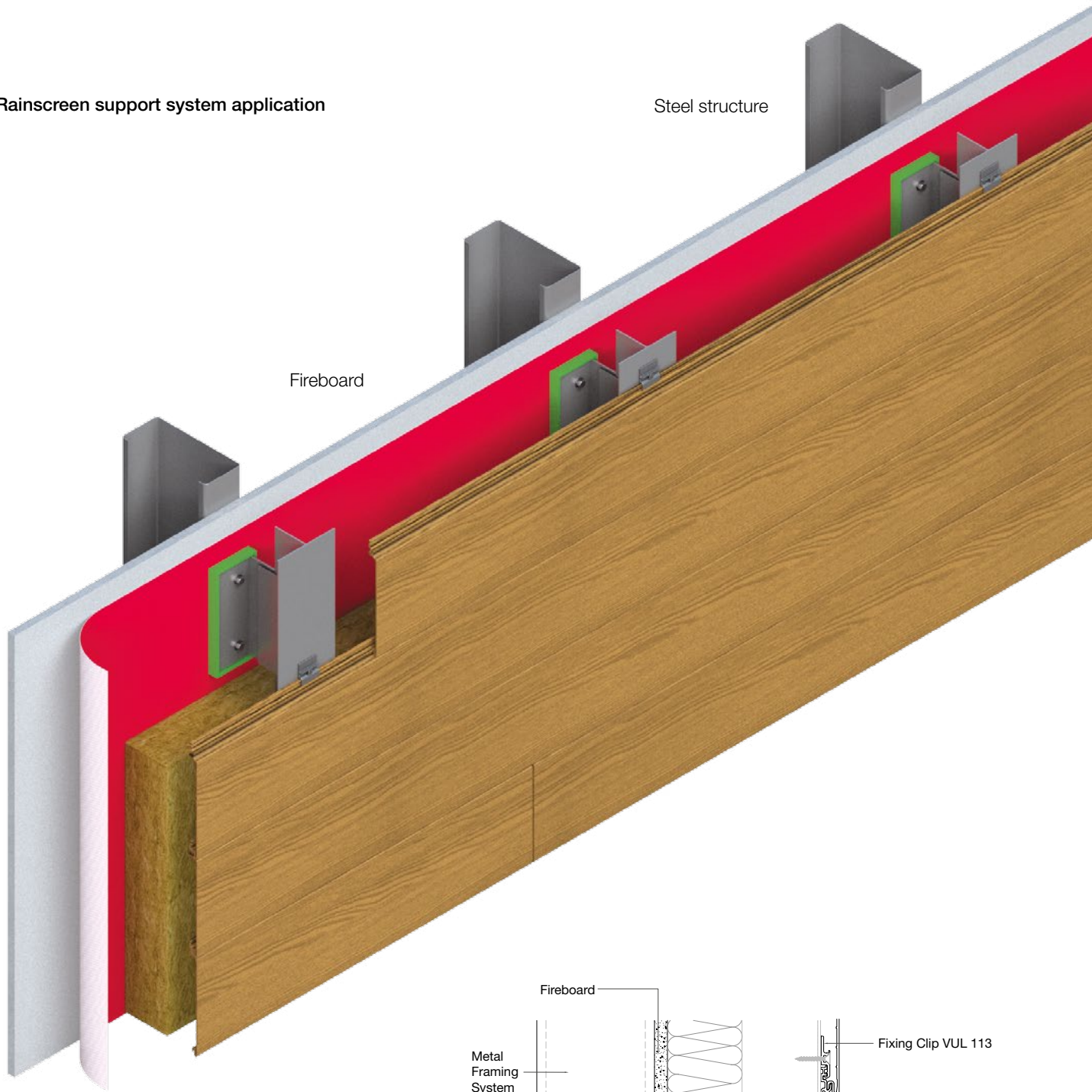
Reverse of plank

Typical horizontal details (continued)

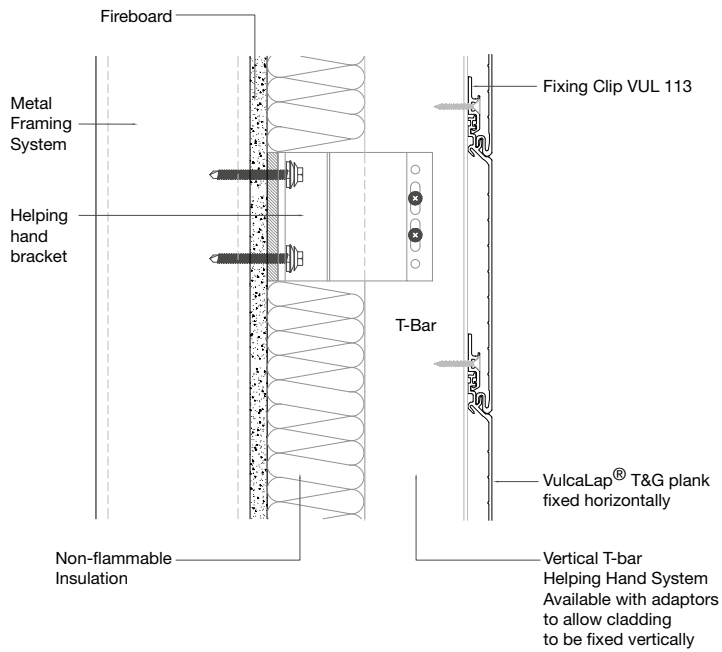
Traditional build application



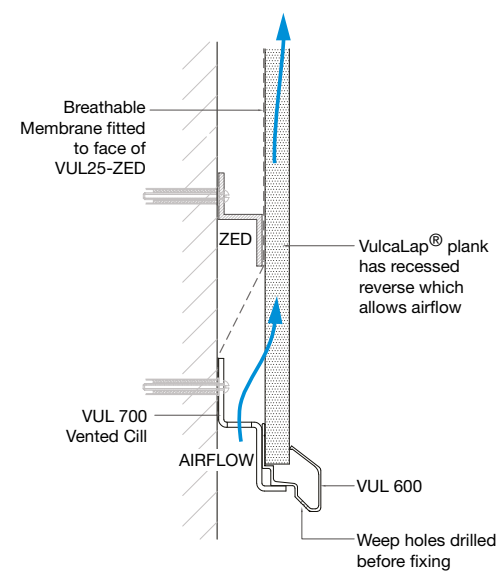
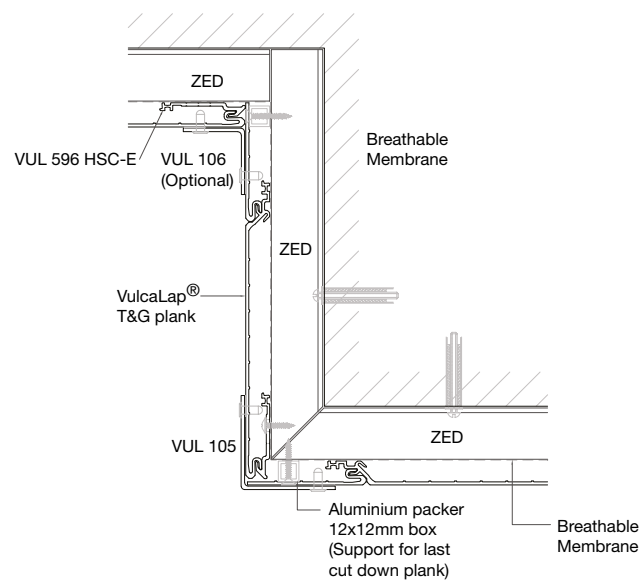
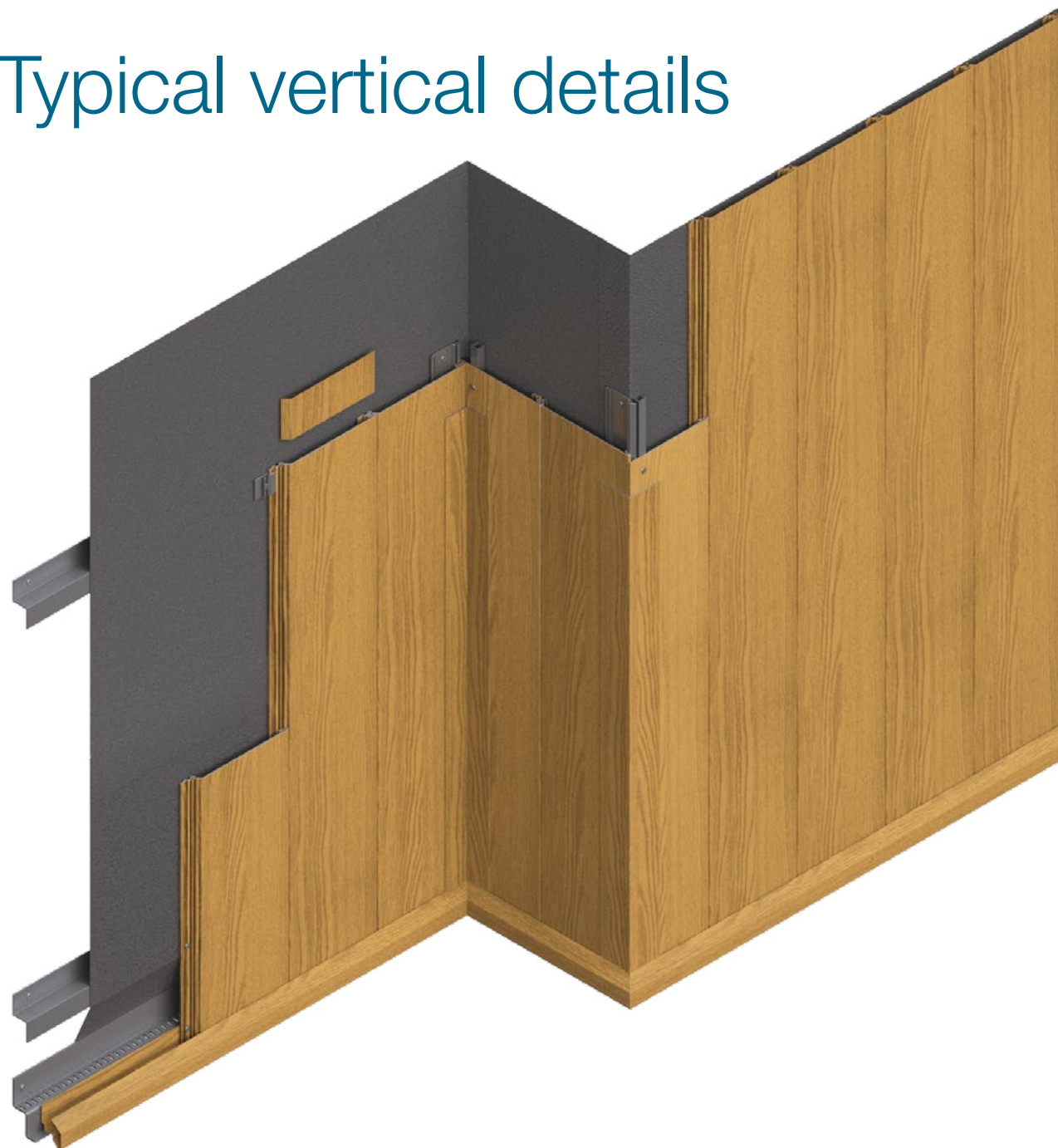
Rainscreen support system application



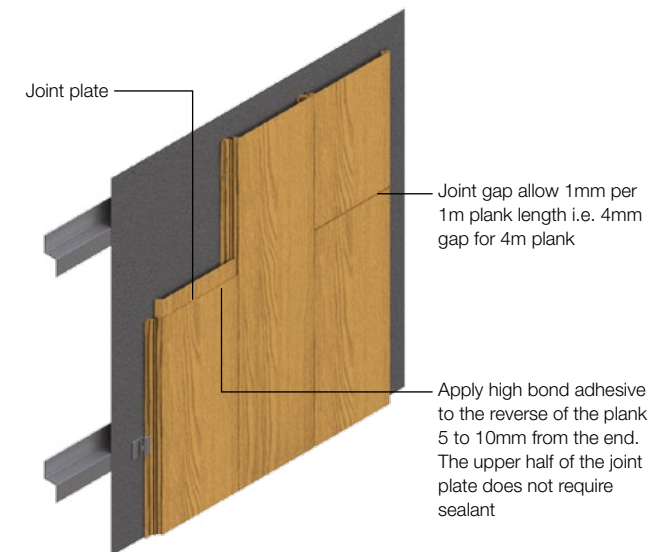
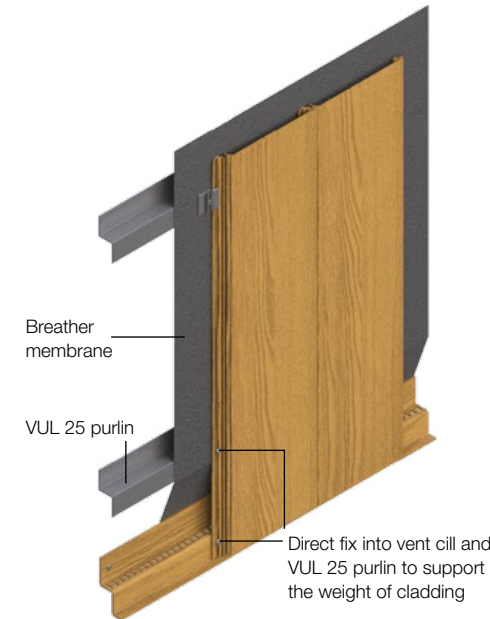
Helping hand cladding support system
Large variety of brackets are available to suit the insulation and wall build-up required. You will need to provide information for the helping hand system design including: building location, building dimensions, fixing structure and cladding weight.



Typical vertical details

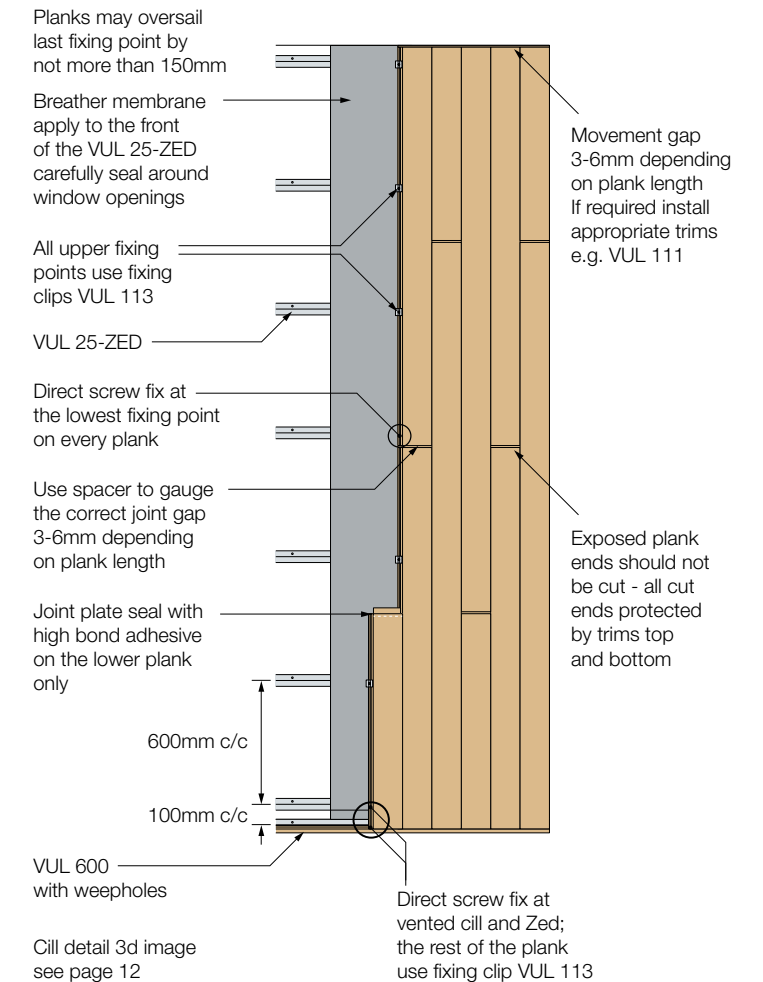


Optional base cill detail



Vertical plank movement joints and fixings

Installation example: typical 4m vertical wall using 3m planks



Colours and finishes

Aluminium has a wide range of finishes available. For the best long-term performance of powder coat and anodised finish the cladding should be cleaned at maximum of 6-month intervals. For harsh industrial environments, cleaning should be carried out every 3 months. Refer to our maintenance recommendations on page 9.



Anodised finish

Anodising is unique to aluminium and enhances the surface giving a natural metallic sheen and aspect. Excellent corrosion resistance; over 30 years of proven long term on-site performance. No risk of adhesion failure, fading, chalking or corrosion. Anodising won't peel or flake - The anodised layer is a part of the Aluminium and itself, not a separate layer like powder coating or paint. 100% recyclable.

The Anodic film is totally impermeable with exceptional abrasion resistance - is much harder than the Aluminium. Aluminium Oxide coating is very resistant to chemicals

Anodising is easy to clean - All it takes is soap and water, but avoid extreme abrasives. Finger prints don't show.

Caution with anodising:

Many variables in the process will impact the final colour - an exact match cannot be guaranteed, but it adds interest to the product and can be used by architects and designers to aesthetic advantage.

VulcaLap® with anodised finish has fire classification of **A1-s1,d0**.

Powder coated finish

Powder coating provides a long-lasting, economical, and durable finish with a range of colour options available for nearly any type of metal. Powder coated surfaces are more resistant to scratches, chipping, wear, and fading than other types of finishes.

Powder coating is the application of organic powder by electrostatic attraction to metal. Once cured by heat the finish is a smooth, hard skin. All processes are factory applied under controlled, stable conditions. This provides significant benefits over traditional wet painting.

Aluminium has a wide range of finishes available. For the best long-term performance of powder coat and anodised finish the cladding should be cleaned at maximum of 6-month intervals. For harsh industrial environments, cleaning should be carried out every 3 months. Refer to our maintenance recommendations on page 19.

VulcaLap® powder coated with any RAL finish has fire classification of **A2-s1,d0**.



VulcaLap® T&G150 BS04.C.39, Croydon



VulcaLap® T&G RAL 6002, 6011, 6025, Norfolk



VulcaLap® Shiplap Silver Anodised, London



VulcaLap® Shiplap and T&G150, RAL 3001

Colours and finishes continued

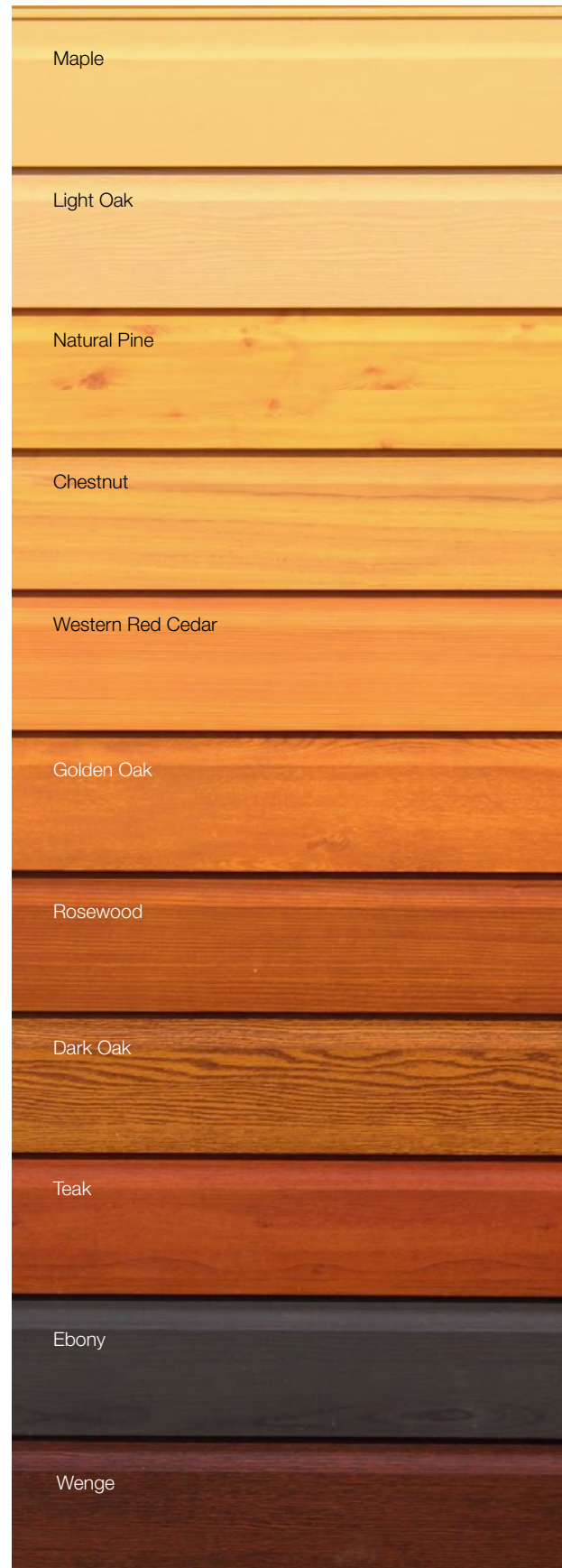
Wood effect finishes

VulcaLap® is available in realistic, premium wood finishes. Scratch resistant polyester powder coating. The very smart alternative to real timber, with 10 year warranty against colour fading.

Available in Shiplap & T&G profiles complete with matching trims and corners.

Colours are for reference only and may look different depending on printing tolerances, lighting, texture and your computer monitor.

VulcaLap® powder coated with any WOOD finish has fire classification of **A2-s1,d0**.



Installation and maintenance

Material scheduling Vulcan can assist with budget prices from client drawings; installers are responsible ensure the quantities are appropriate to complete the project. We recommend that property owners employ competent cladding installers at an early stage to ensure correct detailing and materials scheduling.

Offloading and storage Care must be taken to ensure no damage occurs to the powder coated surface during offloading. Secure storage is essential for aluminium. Keep products wrapped to avoid damage until fitting. Store planks on-edge.

Site handling Robust extrusions allow installers to ‘solo-fix’ planks up to 5m long. Carry planks on-edge.

Damaged product Do not install damaged planks. If damage occurs after installation RAL colours can be repaired by specialist; wood finishes are not easily repaired due to the graining.

Fixing details Shown on pages 8-13 and available on VulcaLap® downloads. Purpose designed starter cill, corners and trims and fixing clips must be used.

Cutting Aluminium can be cut with fine-toothed blades and fixed to metal or timber battening. All plank cuts are hidden.

Aluminium Zeds or timber battens? Aluminium Zed sections should be used for longevity and superior strength. Good quality treated timber battens may also be used at clients’ discretion. Zeds/battens are referred to below as ‘Supports’.

Breathable membrane Protects timber, steel and concrete walls from moisture, and allows the building to breathe. See page 7 for membranes. Breathable membranes must comply with BS 5250, BS 4016 and NHBC requirements. General guide for membrane types:

- 1 Over-cladding brick use Housewrap-type membrane;
- 2 Timber framed recommend Fireshield (intumescent) breathable membrane to stop fire penetration;
- 3 Helping hand system on high-rise recommend use of self-adhesive airtight breathable membrane bonded to fireboard (this improves airtightness, and no tape/battens are required).

Fixing centres of supports* In areas of average-high windload, Supports should be at 600mm centres. If timber battens are used they should be good quality tanalised minimum size 50x50mm. The contractor is responsible to select suitable fixings for the building structure and for the quality of the installation. Aluminium Zeds can be supplied by Vulcan (see page 7). Your cladding contractor will design, supply and install the helping hand system.

Horizontal clad See pages 8-10.

Installing (i) Breather Membrane and (ii) Supports:

- 1 Establish base line and fix breather membrane 20mm above base; membrane should protect the entire building – seal carefully into window reveals;
- 2 Fit vertical Supports at corners 20mm up from base line using packing shims to get straight and plumb;
- 3 Fit Supports around window and door openings;
- 4 Using laser or string line, pack all Supports to provide straight and true façade;
- 5 Install vertical Supports to general area at 600mm centres*;
- 6 Fix intermediate short Supports to strengthen the base cill and support Vent / Flymesh, if required.

Installing the horizontal planks:

- 7 Insert Vent / Flymesh behind the bottom and top of the supports, then tighten Supports onto the Vent.
- 8 Fix the Corner posts, window and door trims;
- 9 Fix Starter cill (VUL594 or VUL596-HSC) at the bottom of the Supports. Ends of VUL596-HSC to be fixed to Support;
- 10 Ensure the Cill is straight and level with no stepped joints; use fixing clips (additional direct screws for VUL596-HSC).
- 11 See p.9 for plank movement joints and fixing; each plank to have a direct screw nearest to the half-way point. At all other Supports use drilled clips.
- 12 Avoid joining adjacent planks in the same ‘zone’
- 13 Join planks randomly without cutting off the ends. All plank cuts should be covered by corners/trims.
- 14 Joint gaps allowing for thermal movement of 1mm per 1m of plank, i.e. 4m planks allow 4mm gap.
- 15 Allow minimum 2mm movement gap inside edge/corner channels.

Vertical clad See pages 12-13.

Installing (i) Supports and (ii) Breather Membrane:

- 1 Establish base line and fit the bottom horizontal Support direct to the structure 150mm up from the base line (see page 12);
- 2 Fit all Supports around window/door openings;
- 3 Fit all horizontal Supports at 600mm centres*;
- 4 Using laser or string line, pack all Supports to provide straight and true facade.
- 5 Next fix the breather membrane vertically to the face of the Zeds – allow the bottom edge to hang 30mm above the base line;
- 6 Membranes protect the entire building – seal carefully into window openings, minimum 75mm joint overlaps with special tape.

Installing the vertical planks:

- 7 Fit the horizontal base vent VUL25-VENT at the base in the correct position direct to the structure, trapping the loose breather membrane (from 5 above); the VUL25-VENT must be straight and level with no stepped joints;
- 8 Fit VulcaLap® base cill VUL600 or VUL112 with rivets (see pages 12-13);
- 9 At the beginning of the elevation fit VUL596-HSC vertically;
- 10 Insert the first plank, drill and directly fix into the VUL25-VENT, and the first horizontal Support;
- 11 Each plank must have a direct screw into the Support nearest the bottom of the plank; use VUL113 drilled clips at all other Supports;
- 12 Apply high bond weather-proof adhesive to the REVERSE side, top end of the plank;

- 13 Slide the joint plate halfway into the slots;
- 14 Insert the next plank above with no adhesive
- 15 Use a spacer of correct thickness to set the joint;

General notes for vertical planking:

- a) Joint gaps: allow thermal movement of 1mm per 1m of plank, i.e. 4m planks leave 4mm gap.
- b) Avoid joining adjacent planks in the same ‘zone’
- c) Join planks randomly without cutting the ends off. All plank cuts covered by bottom/top trims;
- d) Drill and directly fix the bottom of each plank into the lowest available Support;
- e) Internal and External corners are face fitted using coloured rivets and high bond adhesive.

Powder coating maintenance

Polyester Powder Coating is an organic coating system which needs to be cleaned and maintained regularly to ensure the decorative and protective properties of the coating are retained. The frequency of cleaning will depend on the environment. Owners should keep full documentation of maintenance, including date carried out, method and cleaning materials used.

Typical recommendations are:

Rural and Urban: 3-6 months
Industrial: Every 3 months. If heavy soiling occurs, more regular cleaning is required
Marine: Special thickness coating is required in a marine environment; cleaning at 3 month intervals.

The best method of cleaning is by regular washing of the coating using a solution of warm water and a mild detergent.

All surfaces should be cleaned using a soft cloth sponge, or nothing harsher than natural bristle brushes. If the atmospheric pollution has resulted in heavy soiling of the coating then nothing harsher than white spirit should be used for cleaning and in no circumstances should any abrasive cleaner containing ketones, esters or alcohol be used. A repair service is available for site damage.

After maintenance of all finishes

All surfaces should be washed down to prevent deposits remaining on the finish. The anodised aluminium may be treated with a good quality wax polish.

Anodised maintenance

The frequency of the periodic cleaning of anodised finishes ranges between 3 monthly and yearly dependent on the environment. Owners should keep full documentation of maintenance, including date carried out, method and cleaning materials used.

Typical recommendations are:

Rural: Every 12 months
Urban: Every 8 months
Industrial: Every 6 months
Marine: Every 3 months. More regular cleaning may be required in aggressive environments; the condition of the surface will make apparent.

The cleaning method should be washing with a solution of mild non-alkaline detergent in warm water. The solution should have a pH of between 6.5 and 7.5. Heavier deposits may be removed with a stiff or nylon brush. There may be areas where dirt accumulates and becomes more adherent because deposits are not rain washed. These can be cleaned using a mild abrasive detergent such as pumice powder and water, or ultra fine or very fine Scotchbrite pads and water. It is essential to rinse thoroughly after cleaning using clean water, particularly where crevices are present. If the deposits are of greasy nature then cleaning may be carried out using a soft cloth dipped in white spirit. Graffiti may give permanent damage but can be limited if cleaned immediately.

Note: The use of emery or sand paper, steel wool or other hard abrasive materials and acid or alkaline cleaners must not be permitted as they damage the anodised aluminium.

Back cover picture: VulcaLap® T&G15, ‘Chestnut’, Oxfordshire

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VULCAN
CLADDING SYSTEMS

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Due to printing limitations, colours shown are for guidance only