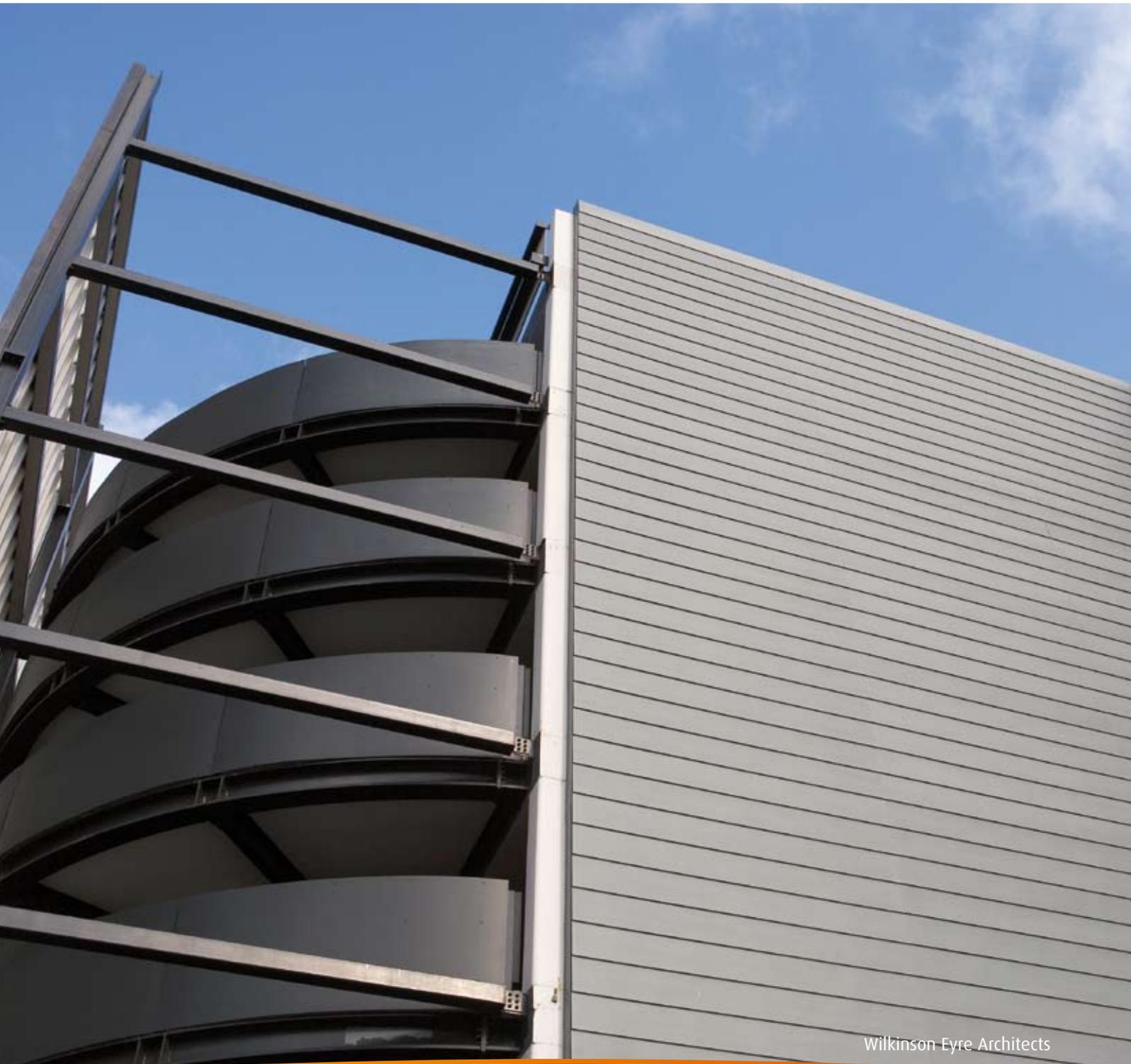


# VMZ Interlocking panels

Facade system installed on a metal or timber support structure

Guidelines for specification and installation



Wilkinson Eyre Architects

# VMZ Interlocking Panels

## Who are we?



Umicore is an international metals and materials group.

Its activities are centred on: Precious Metals Services, Precious Metals Products and Catalysts, Advanced Materials, Zinc.

Each business area is divided into market-focused business units. Umicore focuses on application areas where it knows its expertise in materials science, chemistry and metallurgy can make a real

difference, be it in products that are essential to everyday life or those at the cutting edge of exciting, new technological developments.

Umicore's overriding goal of sustainable value creation is based on this ambition to develop, produce and recycle metals in a way that fulfils its mission: Materials for a better life.



VMZINC is the international brand name of rolled zinc products manufactured and sold by the Building Products Unit of the UMICORE Group, one of the world leaders in the production and recycling of non-ferrous metals. We manufacture and market rolled

zinc and pre-formed products that can be divided into four main areas of application:

- roofing and cladding
- flashings principally for waterproofing and roof ventilation
- rainwater systems
- ornamentalations and decoration



## Zinc & sustainability

### Sustainable development



Zinc is essential to aspects of life for all organisms, from foetal, brain and immune function development to protection of the skin. Like all naturally occurring elements, it is found in varying concentrations in flora, fauna, rocks, minerals, water and air.

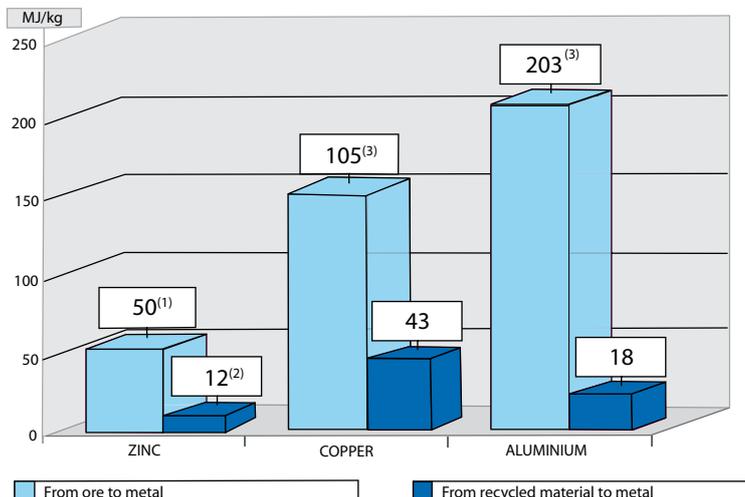
In the context of sustainable development, VMZINC® products offer a combination of exceptional design scope and minimal environmental impact:

### Production & lifespan

- In Western Europe more than 90 % (around 100,000 tonnes) of old rolled zinc is effectively recovered and reused in different applications each year, saving 1-2 million tonnes of ore extraction.\*
- Compared with other metals, very little energy is needed to manufacture zinc metal from ore - less than half the energy consumption of copper and stainless steel and less than a quarter of that used for aluminium. CO<sub>2</sub> and greenhouse gas emissions are, therefore, proportionally less.
- Zinc's typical lifespan can exceed 100 years, which is exceptional for a roofing material. This is due to its self-protecting patina developed as a consequence of exposure to oxygen, carbon dioxide and water in the air. As an example, the VMZINC roof at Brighton's recently redeveloped railway station which was over a century old was removed, recycled and new material supplied.

### Recyclable

Zinc is 100% recyclable. More than 90% of the zinc used in the building industry is recycled. Less energy is required to produce it than the other principal metals. The energy balance is even more favourable in recycled zinc. This excellent result clearly proves the contribution of VMZINC® to sustainable development.



# VMZ Interlocking Panels

## Description of the system

### Description

The panels are simply connected by the use of an interlocking groove, giving the elegant appearance of a recessed joint. They are fixed onto the framework using mechanical fixings, which are concealed in the joint.

The system belongs to the rainscreen sector (wall cladding installed with a pressure equalised, ventilated air space).

The system can only be used on even, vertical walls.

If the building exceeds a height of 30 m, please consult us.



Ballini, Pitt & Partners

### Specifications

horizontal or vertical cladding

recessed joints  
selection of sizes and choice of finishes

BRE-certification

### Technical specifications

Thickness	1mm
Centre to centre distance	200 - 250 - 300 mm
Length	$0,5m \leq L \leq 6 m$
Width of the joint	10 mm or 20 mm
Slide width	24 mm
Weight(*) (kg/m <sup>2</sup> )	11.18-10.40-9.85

### Framework

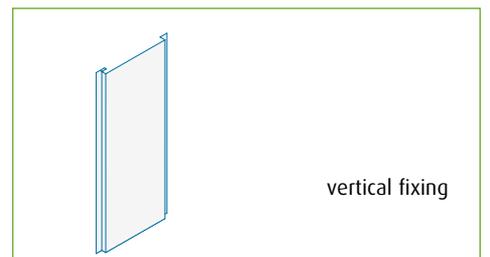
The sub-structure (not supplied) can be in metal (galvanized steel, aluminium) or timber (please refer to local standards).

### Direction of fixing

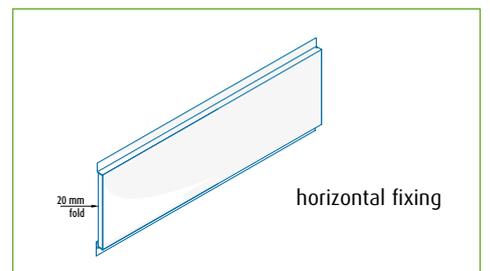
The panels can be fixed vertically or horizontally. For diagonal installation: please consult us.

The choice of fixing direction offers different aesthetic and technical solutions for the main flashings.

If fixed horizontally, the panels are closed with a right angle fold of 20 mm at each end of the panel.



vertical fixing



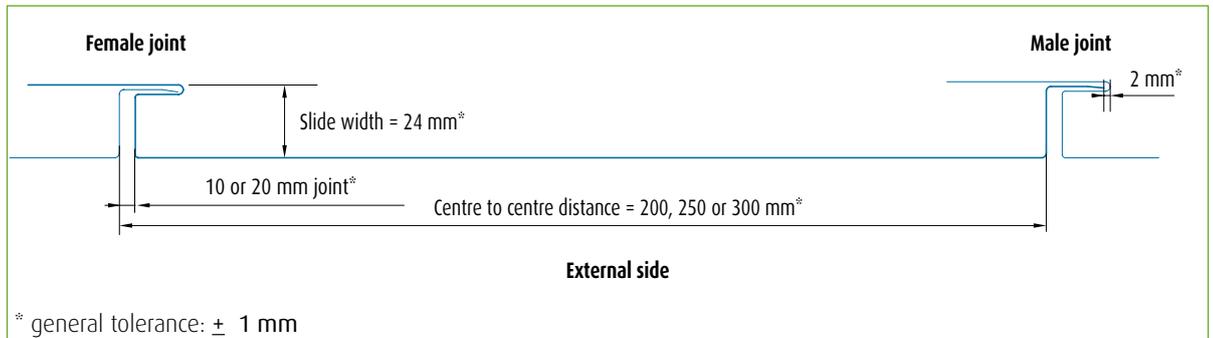
horizontal fixing

### Surface aspects



# VMZ Interlocking Panels

## Description of the system



**Panel** The interlocking panel is composed of three distinct parts:

- Female joint
- Flat section
- Male joint

**Dimensions** Interlocking panels are available in three centre to centre sizes: 200 mm - 250 mm - 300 mm. Other widths (non-standard) are available on request with a maximum 333 mm centre to centre distance. Interlocking panels are supplied in lengths determined by the scheme layout which can be from 0.5 m to 6 m maximum. The width of the recess formed by the longitudinal junction between two interlocking panels can be 10 or 20 mm. This dimension must be determined before establishing the layout and indicated when the panels are ordered.

**The centre to centre distance equals the face width plus the joint width.**

**Resistance** Allowable resistance\* for the interlocking panel system (N/m<sup>2</sup>)

In order to respond to major stresses due to wind suction that could occur in some parts of the building (verge, angle, very tall buildings), the distance between fixing rails may need to be reduced. The following will be checked after the system characteristics have been defined: Allowable resistance  
 ≥ Stresses due to wind suction.

Allowable normal wind resistance		Panel width (mm)		
zinc thickness	centre to centre distance of fixing rails	200	250	300
1 mm	0,6	2400	1440	860
1 mm	0,4	2660	1830	1000

\* weight of the system/m<sup>2</sup> excluding framework.

**Filmed product** In order to protect the panels during handling and installation, the outer (visible) surface of the standard panels is covered by a plastic film. As a general rule, immediately following the installation of the VMZINC®, the film should be removed from the entire surface at the same time thus guaranteeing an optimum aesthetic result.

**Exception to this rule: when there is still work to be done nearby it.**

**Under no circumstances must the film be left on installed VMZINC® for more than 2 months.**

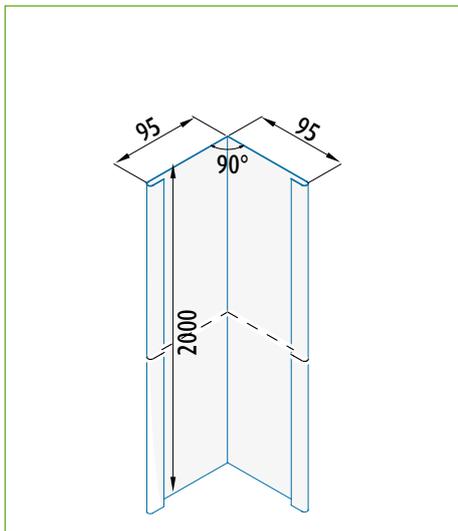
## Components

**Accessories** A range of standard accessories has been specifically developed:

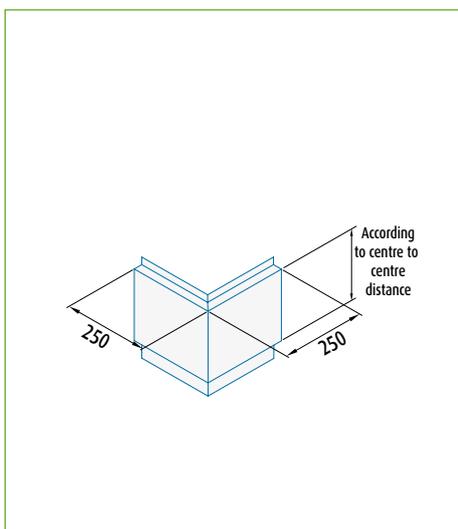
- Corner profile for horizontal and vertical fixing.
- Transverse junctions for horizontal and vertical fixing.
- Opening surrounds.

All the accessories are available in the same finish (QUARTZ-ZINC®/ ANTHRA-ZINC®/ PIGMENTO) as the interlocking panels shown inset.

**Horizontal or vertical fixing** This profile can be used for both horizontal or vertical fixing. They are available in the same lengths as the interlocking panels described on page 4.

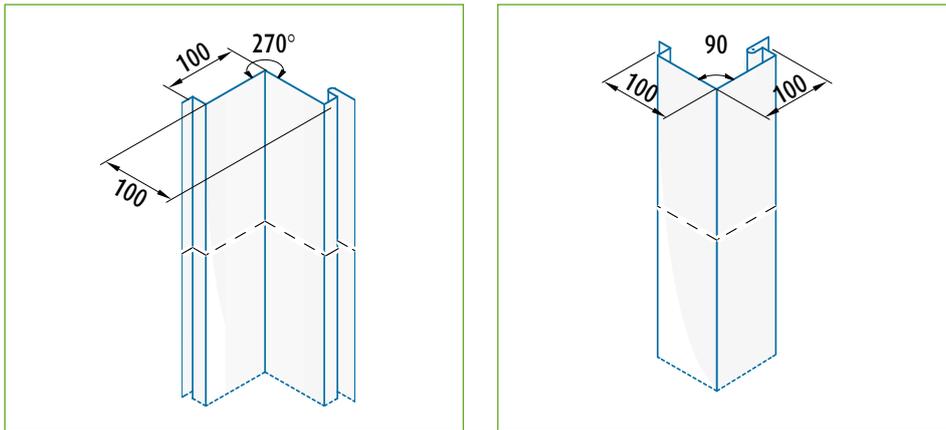


**Horizontal fixing only** This corner profile can be used horizontal fixing only. They are available in the same lengths as the interlocking panels described on page 4.

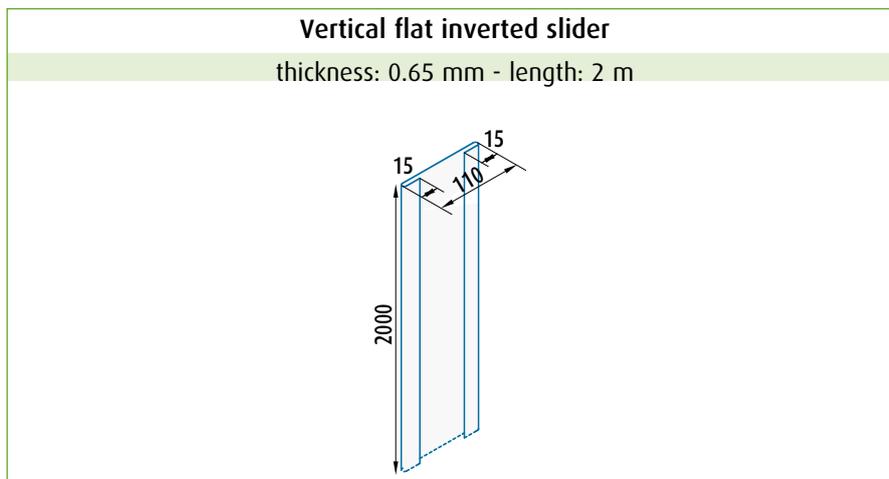


## Components

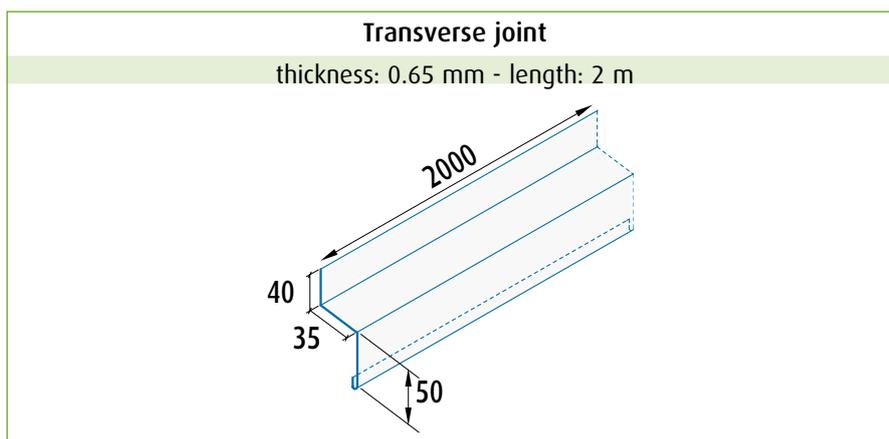
**Vertical fixing only** This profile can be used for vertical fixing only.  
They are available in the same lengths as the interlocking panels described on page 4.



**Inverted slider** For horizontal panels a vertical flat inverted slider is used.



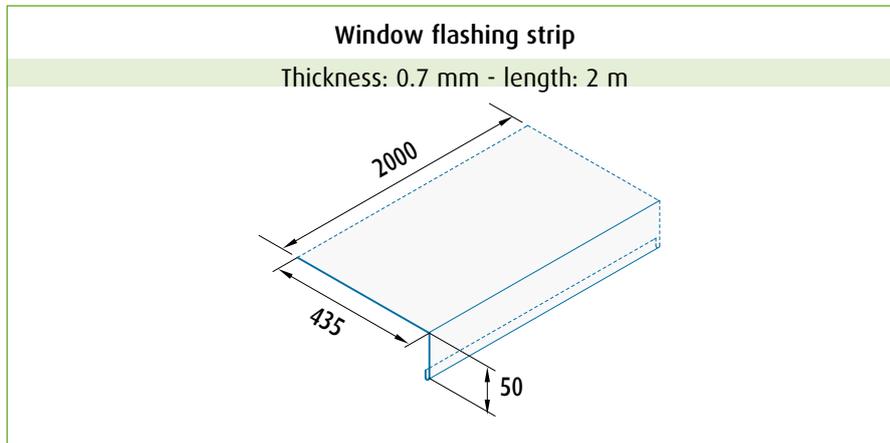
**Transverse joint** For vertical panels: A continuous transverse joint is used.  
Note: The same element is also used for lower flashings.



## Components

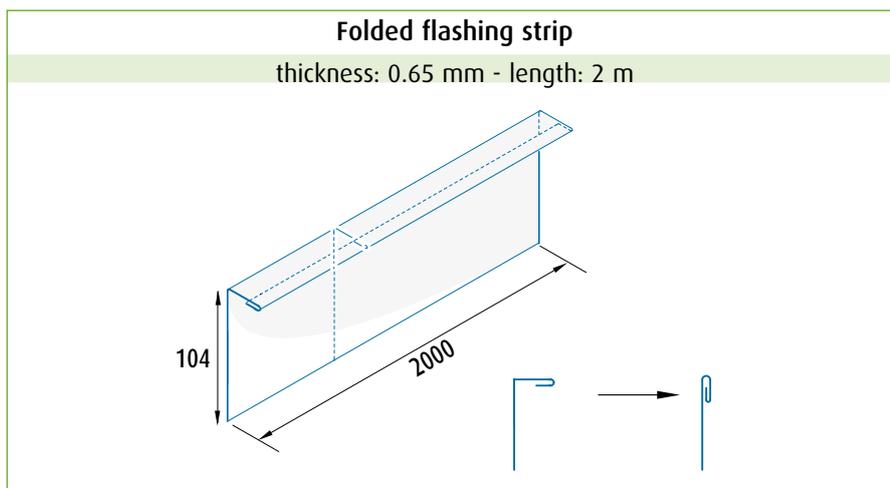
### Window surrounds

The system offers a profile suitable for lintels, cills, reveals and sides.



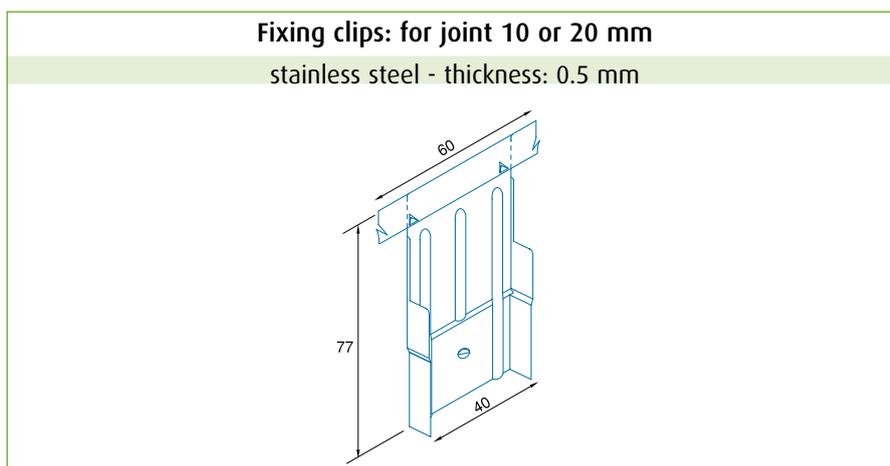
### Flashings

In order to form end flashings use the folded flashing strip.



### Fixing clips

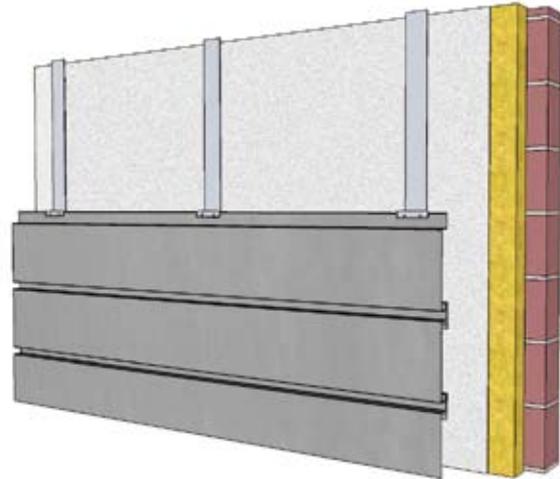
The clips fix the panels onto the framework outside the fixed area. These clips ensure free expansion of the VMZINC® interlocking panels. Note: Fixings are not supplied.



## Installing the system

### Metal framework

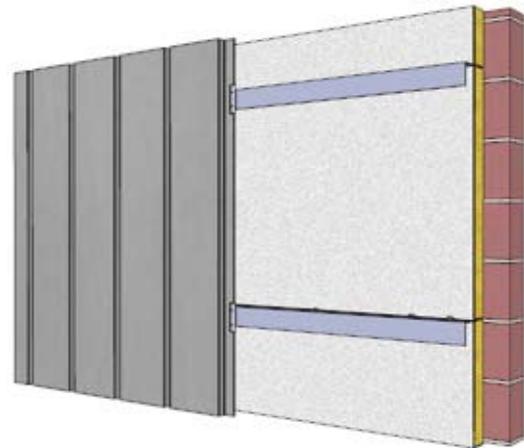
The system can be fixed on a metal framework composed of adjustable brackets and cladding rails made of galvanized steel or aluminium. The brackets fixed to the structure are used to adjust the cladding rails (minimum thickness : 2,5 mm for aluminium) which act as a support for the cladding. The minimum support of the rails is 40 mm. Screws (protected against corrosion) and rawl plugs are used according to the framework manufacturer's specification. Consult our technical department for further information.



### Fixing

Setting out, assembling the angle brackets, fixing the insulation and installing the panels must be carried out in accordance with the appropriate manufacturer's recommendations.

To meet the requirements for mechanical resistance (intrinsic weight and resistance to wind pressure), the maximum centre to centre distance between the brackets is 600 mm. The elbow brackets are fixed in place to provide cross fixing in the longitudinal direction of the panels.



### Transverse joint

For horizontal fixing, the framework must provide a minimum support surface of 100 mm.

### Vertical fixing

For vertical fixing, 2 framework elements are placed at either side of the transverse joint.

### Insulation

The type of insulation used must comply with national requirements if these exist, in particular with regard to fixing and fire resistance. It must be installed according to the fire stopping manufacturers instructions.

## Installing the system

At the design stage, prior to installation, we would recommend a layout plan be drawn up to enable accurate calculations of the panel dimensions, quantities and additional flashings.

**Framework** Timber or metal frameworks are compatible but are not included in the system. VMZINC® does not take responsibility for the design and layout of the framework.

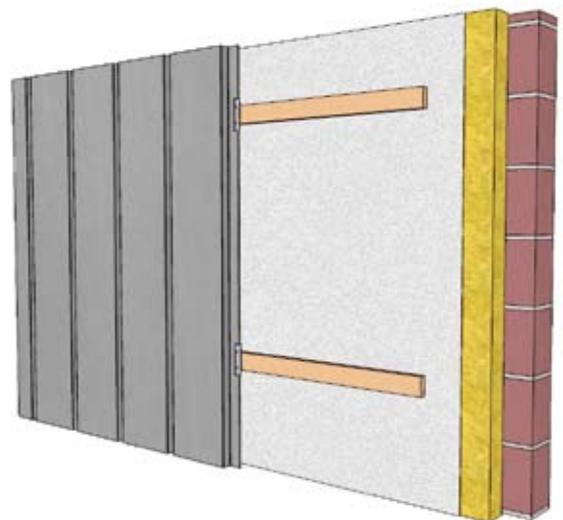
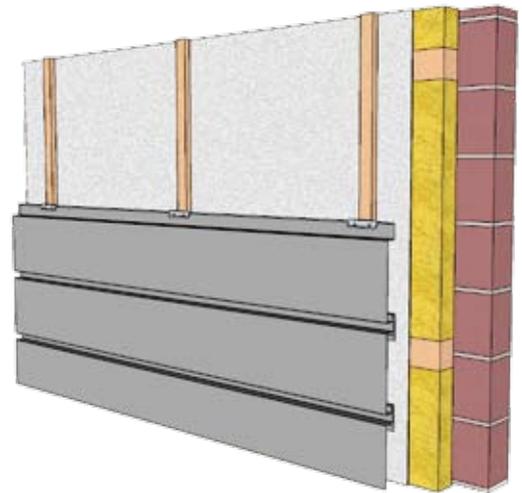
**Timber framework** The timber supports used as supports for fixing the cladding must be soft wood (e.g. fir, spruce, pine). Please consult VMZINC® for further advice. They should be sufficiently durable to meet the conditions of use dictated by the façade in question. Any wood treatment products (fungicides, insecticides) must be dry and compatible with VMZINC®. The timber supports must present a minimum supporting surface of 40 mm for fixing the panels. To fix timber battens to the support, galvanized (adjustable or non-adjustable) steel brackets are used.

**Fixing** The timber framework and any thermal insulation used must be fixed in compliance with local standards to ensure a flat support for the cladding.

It is necessary to determine the centre to centre distance between the framework elements taking into account the limitations of intrinsic weight and resistance to wind pressure.

The maximum centre to centre distance of the battens is 600 mm.

These battens must be positioned so that they are perpendicular to the longitudinal direction of the profiles.



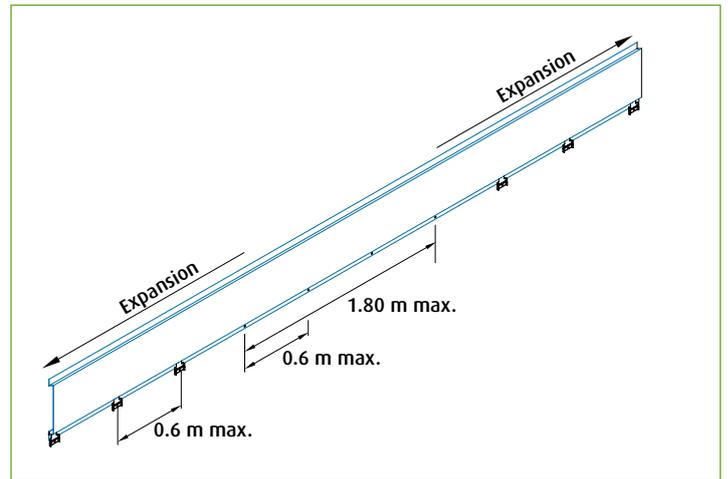
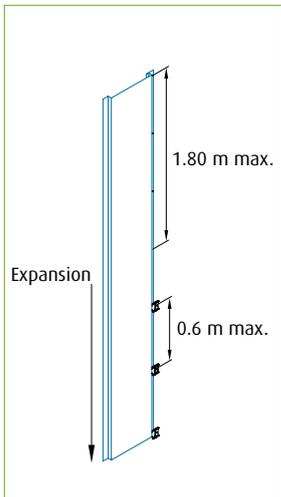
## Installing the system

**Ventilation** Ventilation at the top and bottom of the cladding is provided by air inlets and outlets which should be protected by a perforated grid. Sections are calculated to ensure satisfactory ventilation. For horizontally fixed panels or panels fixed vertically with reinforcement on the back (in accessible area), there must be a minimum continuous space of 20 mm between the insulation and the edges of the interlocking panels. For panels fixed vertically (outside accessible areas), ventilation can be made within the thickness of the profile. Simply ensure that there is an airspace of 38 mm between the insulation and the edges of the profile. If the façade must be fire stopped compatible intumescent barriers can be used.

**The fastenings** The panels are fixed onto the framework using concealed fastenings except in some flashing areas.

### Positioning the fixing clips

The panels are fixed directly onto the secondary framework by self tapping screws over a fixed area which is max 1.80 m long (at the top of the panel for vertical fixing, in the middle of the panel for horizontal fixing). For panels shorter than 1.80 m, only self tapping screws are used. Outside the fixed area, the panels are held in place by fixing clips which allow for expansion and contraction of the VMZINC®.



### Screwing the panels to the framework

	Fixing clips and panels on the standard part of the facade	Visible fixing panels in flashing areas and panel with male joint
timber framework	<p>Use self tapping coated steel screws (with additional coating to allow minimum resistance to corrosion at 15 Kesternich cycles)</p> <ul style="list-style-type: none"> <li>• Type SFS. SW - T - 4.8 x 35 or similar.</li> </ul> 	<ul style="list-style-type: none"> <li>• Self tapping stainless steel 18/8 screws with</li> <li>• Lacquered head</li> <li>• Vulcanized EPDM sealing washer</li> <li>• Ral 7037 for QUARTZ-ZINC or Ral 7022 for ANTHRA-ZINC</li> <li>• SFS. SXW - S16 - 4.8 x 35 - ral 7037(7022) or similar.</li> </ul> 
aluminium framework	<p>Self tapping stainless steel 18/8 screws</p> <ul style="list-style-type: none"> <li>• Type SFS. SN3/11 - S - 7504/K - 4.8 x 19 or similar.</li> </ul> 	<ul style="list-style-type: none"> <li>• Self tapping stainless steel 18/8 screws with</li> <li>• Lacquered head</li> <li>• Vulcanized waterproofing moulded washer</li> <li>• Ral 7037 for QUARTZ-ZINC or Ral 7022 for ANTHRA-ZINC</li> <li>• SFS. SX3/4 - D12 - A10 - 5.5 x 22 - ral 7037(7022) or similar.</li> </ul> 
galvanized steel framework	<p>Use self tapping coated steel screws (with additional coating to allow minimum resistance to corrosion at 15 Kesternich cycles)</p> <ul style="list-style-type: none"> <li>• Type SFS. SD3 - 4.8 x 19 D or similar.</li> </ul> 	<ul style="list-style-type: none"> <li>• Self tapping stainless steel 18/8 screws with</li> <li>• Lacquered head</li> <li>• Vulcanized waterproofing moulded washer</li> <li>• Ral 7037 for QUARTZ-ZINC or Ral 7022 for ANTHRA-ZINC</li> <li>• SFS. SX3/4 - D12 - A10 - 5.5 x 22 - ral 7037(7022) or similar.</li> </ul>

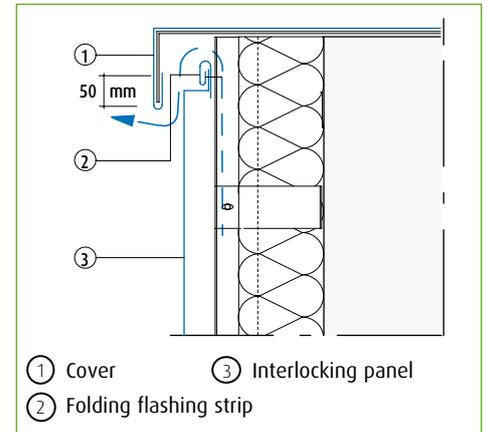
## Fixing horizontal panels

The panels are fixed from top to bottom in horizontal rows, with the grooveless side up.

### Fitting the upper part

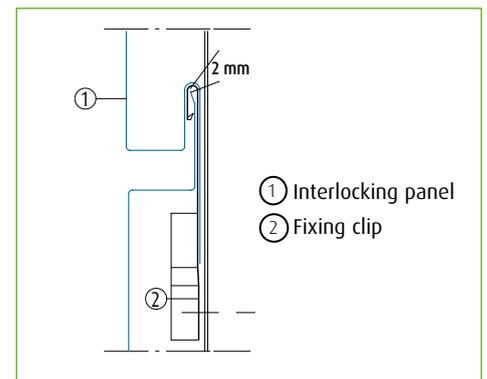
First fix a folding flashing strip down onto the framework, then check that the cover will overlap the interlocking panels by 50 mm.

To install the first row of profiles at the top of the facade, fix the profiles at the head with 4 screws in the centre of the profile (spaced out over 1.8 metres). Then fix the left and right sides of the panel using stainless steel fixing clips. Cover with the folding flashing strip before fixing the bottom part (see "The fastenings" page 11 and fig. 2 r.).



### Longitudinal joint

When the first row of panels is fixed onto the support, lock the second row down into the groove of the upper panels. Each fixing clip is then slid into the bottom of the groove of the upper panel then fixed onto the secondary framework.



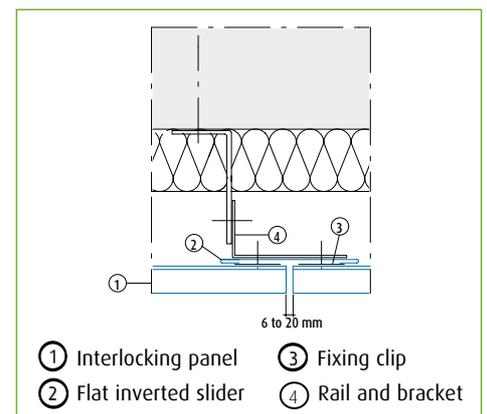
### Vertical transverse joint

An element of the framework (timber support or metal rail) must be aligned with each vertical joint between the panels (with turned down edges). The framework must ensure a minimum support of 100 mm. A flat inverted slider with two 15 mm folds is first fixed onto the framework elements to ensure that the transverse joints are watertight.

The interlocking panels are then fixed over it.

The distance between 2 panels (width of the vertical recessed joint) must be between 10 and 20 mm (according to panel length and taking into account expansion of 0.022 mm/°C on either of the fixed area).

The screws used must be fitted with a vulcanized EPDM washer.

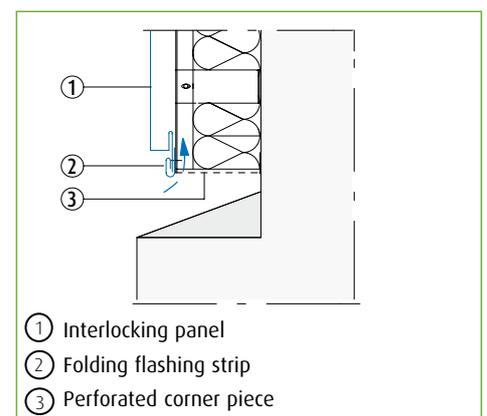


### Fitting the bottom part

First lay a folding flashing strip on a galvanized steel corner piece, then the last row of panels.

Outside the central fixed zone of the panels, an oblong hole must be predrilled at the level of each fixing element.

The screws used must be fitted with a vulcanized EPDM washer.



## Fixing vertical panels

The interlocking direction must be defined by the layout. Fixing usually starts at the corner of the building.

**Bottom flashing** Fix a drip, then the first row of panels.

**Transverse joint** After fixing the lower panels, an apron is fixed on the installed framework to overlap them by 50 mm. The upper panels are then secured.

**Longitudinal joint** When the upper section of the panel has been screwed to the framework, clips are fitted to the longitudinal joint between two adjoining panels (as for horizontal panels). Each fixing clip is slid into the bottom of the female joint then screwed into the framework.

**Upper flashing** Use a flashing to cover the interlocking panels by at least 50 mm.

**N.B. For facades over 6 m high, vertical panels are fixed in successive rows from bottom to top.**

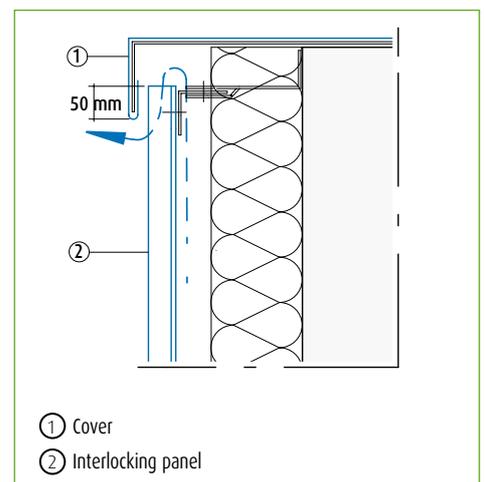
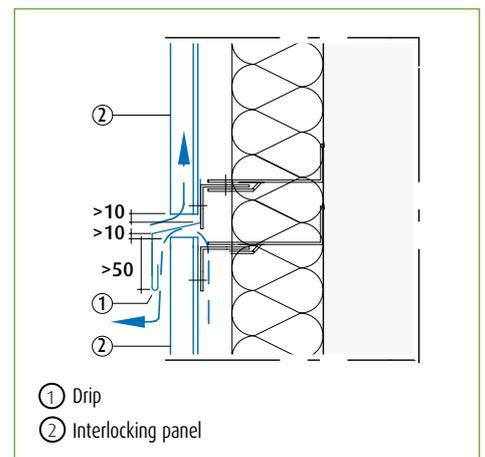
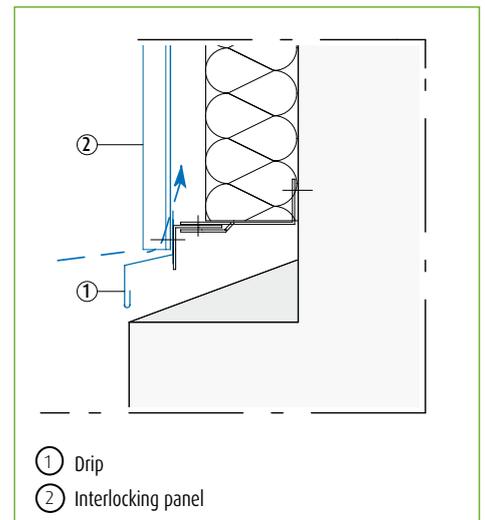
### Fixing panels located in accessible area

To reinforce the panels of walls located on the ground floor or opening onto balconies or terraces, a 22 mm thick softwood board is first fixed to the framework, to fill in the hollow part of the profile.

It should be compatible with VMZINC® and 22 mm thick. The board is fixed before the panels. The dimensions depend on the interlocking panel used:

Length = panel length - 60 mm

Width = centre to centre distance - 90 mm.



## The angles

**Vertical fixing** The panels are fixed in one direction with the corner panels interlocking exactly like the wall face panels, are used to cover inside and outside angles.

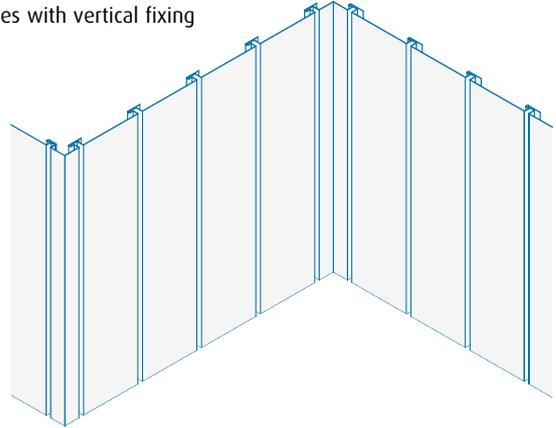
**Horizontal fixing** For outside angles, use horizontal corner panels with vertical and horizontal joints exactly like those of straight horizontal panels (see diagram 2).

For inside angles, use an inverted flat slider, fixed on the supporting framework, located on either side of the walls forming the corner.

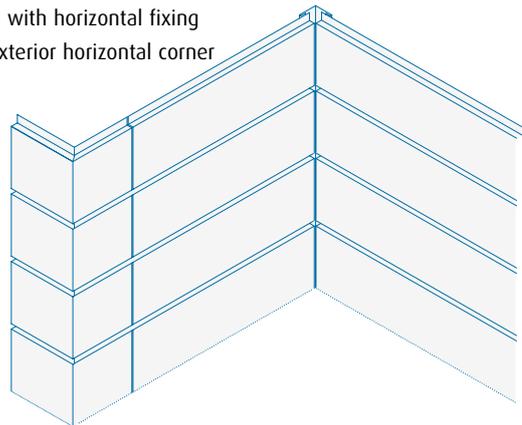
The horizontal panels are fixed onto the rails or supports by screws or clips through the slider. For all fixtures, use screws with moulded heads and vulcanized washers (see p 10).

**Note** Angles with horizontal fixing. Corners can also be fixed using vertical corner panels for inside and outside angles.

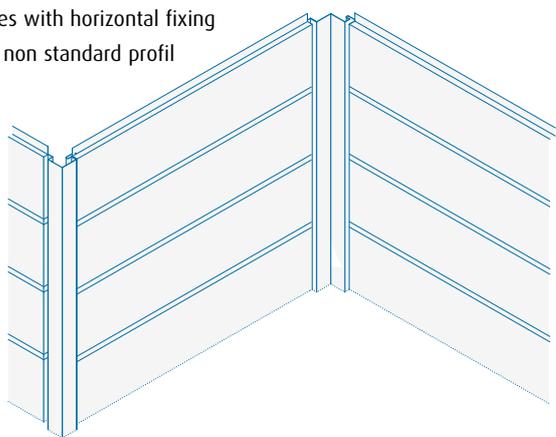
Angles with vertical fixing



Angles with horizontal fixing with exterior horizontal corner



Angles with horizontal fixing with non standard profil



## Installing & replacing

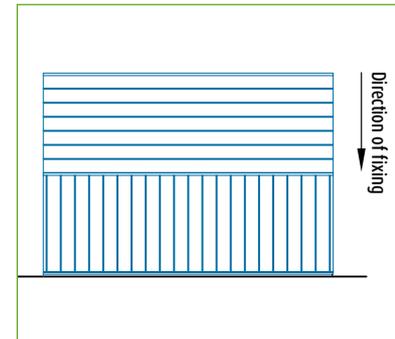
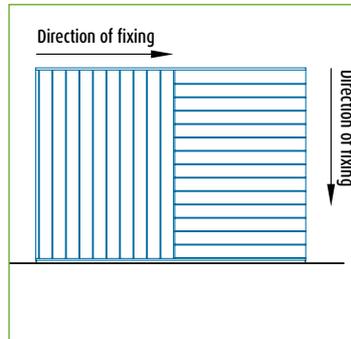
### Vertical/ horizontal joints

Panels can be fixed alternately horizontally and vertically.  
Consult us for technical details.

Begin by installing the panels in the direction indicated by the arrow.

### Replacing a damaged element

If an interlocking panel is accidentally damaged, it can be repaired using a panel specially designed for this purpose.

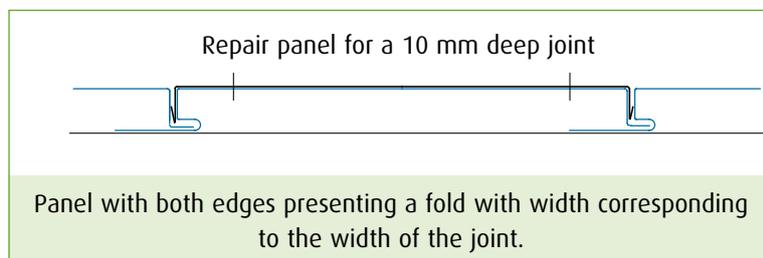
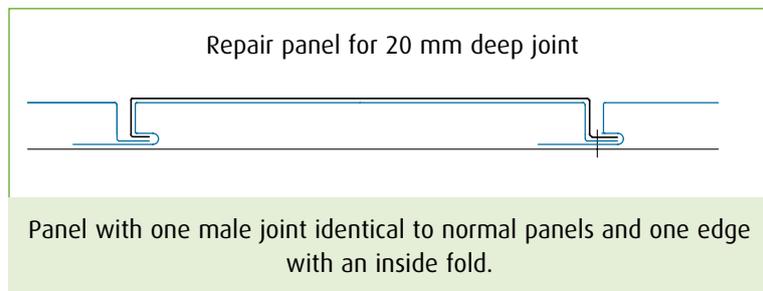


### Description of repair panels

Repair panels are preformed on request, 0.65 mm thick and 2 mm wider than the damaged panel, in the same length. The panels have a 90° fold of 24 mm at both ends.

### Installing of repair panels

Panel with an 20 mm recessed joint width. This grooveless edge locks into the adjacent panel, then (using the flexibility of the panel) the other edge (with the inner fold) locks into the groove of the damaged panel. Repair panel with a 10 mm recessed joint width. These panels are forced into the groove then fixed through the damaged panel.



### Fixing

In case of a 10 mm recessed joint, the repair panel is fixed through the damaged panel using 2 screws on either side of the panel edges, or for joints of 20 mm deep, the repair panel is fixed into position using 2 screws placed on the grooveless edge. The screws used are identical to those described for fixing male joint panels (see p. 10). In the case of vertical panels, the 90° fold located at the lower end of the repair panel is closed.

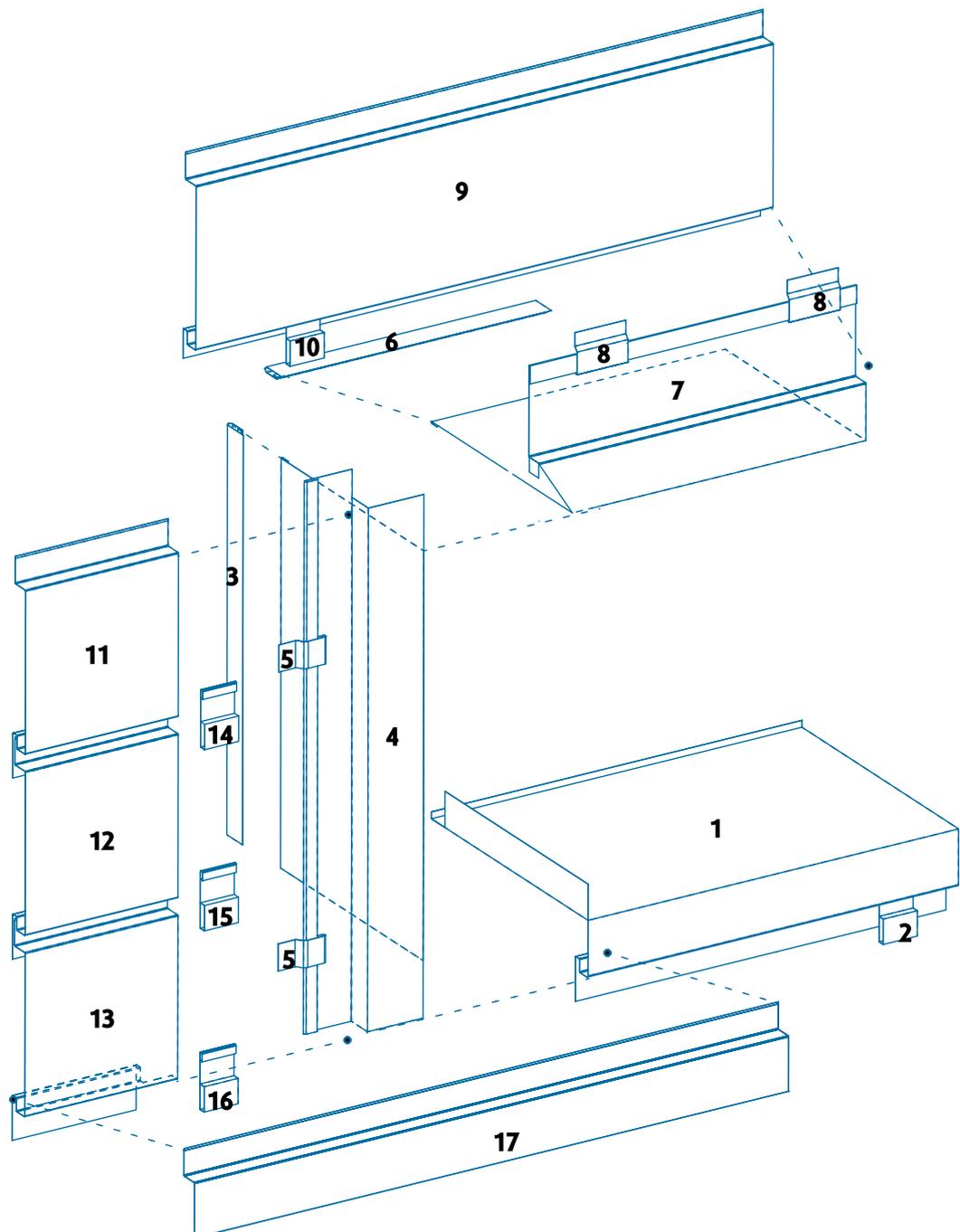
### Bespoke solutions

If you require any technical advice with regard to the specification of this product, including non-standard requirements, please contact your local VMZINC® office.

🌐: [www.vmzinc.co.uk](http://www.vmzinc.co.uk) 🌐: [www.vmzinc.ie](http://www.vmzinc.ie) ☎: +44 (0)1992 822288

## The opening surrounds

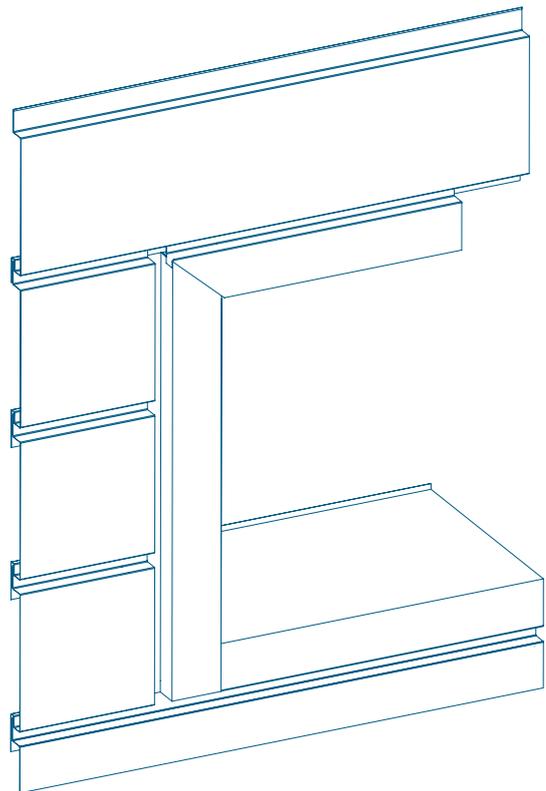
The diagram below shows one of the possible methods for making an aperture surround. This one uses the hollow joint method.



## The opening surrounds

**Installing** When the supporting structure has been finished, precise measurements of the different components must be taken. For optimum results, follow the order below.

1. Place the sill with a minimum slope of 1° towards the outside.
2. Fix the sill using fixing clips or screws.
3. Place the cover strips on the lateral upturned edges.
4. Put the previously shaped lateral flashing in place.
5. Fix them using brackets.
6. Put the top cover strip in place.
7. Put the previously shaped top flashing in place.
8. Fix it using brackets.
9. Put the top interlocking panel in place.
10. Fix it using clips or screws.
11. 12. 13. Put the interlocking panels in place from left to right.
14. 15. 16. Fix them using clips.
17. Install flashing or a complete interlocking panel on the lower part of the sill.



## Compatibility

### compatibility with wood

Following wood varieties may or may not be placed in contact with VMZINC

Compatible varieties	Incompatible varieties
Fir (red or white)	Larch
Spruce	Oak
Pine	Chestnut
Poplar	Red or white cedar
	Douglas pine
	All wood varieties with a pH < 5

### contact with wood treatment products

If the wood is treated, the compatibility of the treatment products with VMZINC® must be checked (see table below).

Table of wood treatment products <sup>*</sup>			
Type of treatment	Components	Compatibility with VMZINC®	Class
Non-fixing metal salts	Single component salts used in water (fluorine, boron or copper)	NO	C1
Metal fixing salts	Complex metal salts containing chromium to fix the active metals (CCA, CCB)	Study in progress (consult manufacturer)	C1 to C5
Organic products	Contain oil solvents	YES	C1 to C3
Emulsions	Use water as a vehicle combined with non-hydrosoluble synthetic substances	YES	C1 to C2
Combined products	Combine metal compounds (copper and boron) with synthetic molecules	To be determined (consult manufacturer)	C1 to C4
Creosote	Compound of active substances produced from hard coal distillation	To be determined (consult manufacturer)	C4

<sup>\*</sup> always refer to the manufacturer's notice for the product used.

## Compatibility

### compatibility with glues or mastics

If less traditional battens are used (e.g. wood panels), the compatibility of all the decking's components (e.g. glues) with VMZINC® should be checked, and, if applicable, the possibility of ventilating the under-surface of the VMZINC® (see table below).

Table of glues and mastics**	
Compatible products	Incompatible products
Polyurethanes	Acetic silicones
Non-acetic silicones	Acid epoxides
MS Polymers	Ureas/melanin/phenol-formaldehyde (wood or panel glue)
	Acrylics (depending on the reagent used)

\*\* always refer to the manufacturer's notice.

### Use of wood above VMZINC

Incompatible wood varieties may not be used above VMZINC® elements (e.g. weather-boarding with incompatible boards or panels above the VMZINC®). Incompatible timber wash, treatment products or tannic acids will quickly attack the zinc and cause the formation of unattractive stains.

### Forbidden contacts

- Direct contact with products such as fresh concrete, plaster, bitumen, mortar and structures containing substances that are aggressive towards VMZINC®.
- Any contact with the following metals have to be avoided:  
Gold (Au) - Platinum (Pt) - Palladium (Pd) - Silver (Ag) - Mercury (Hg) - Copper (Cu) - Lead (Pb) - Tin (Sn)  
Nickel (Ni)  
Cobalt (Co) - Cadmium (Cd) - Iron (Fe) - Chrome (Cr).

#### Contact only allowed between VMZINC® and:

- galvanised steel
- natural lead protected by a patinating oil
- FLEXUM® lacquered lead
- austenitic steel
- contact with Aluminium (Al) is allowed under following circumstances:
  - pure aluminium for applications not exposed to weather conditions;
  - anodised aluminium for applications exposed to weather conditions.

## Ventilation

**Natural patina** Contact with the outside air provides the CO<sub>2</sub> required to form the natural patina of VMZINC®. Without the presence of outside air VMZINC® does not protect itself and if there is any condensation, a chemical reaction can occur. As a result there can be corrosion on the underside of the VMZINC® which is not visible until holes appear on the outer skin. As VMZINC is a pre-weathered product, it is possible that small aspect differences can occur between production batches.

**Durability** **Therefore, to ensure the durability of VMZINC® its underside must be ventilated.**

**Ventilation** The best ventilation is ensured by two continuous air inlets: one at the bottom and the other at the top of the cladding. If it is impossible to realise this type of ventilation, it must be replaced by another air inlet system integrated into the cladding. These air inlets are to be carefully spaced to ensure that the entire underside of the metal is ventilated. Fixing fine mesh (< 2 mm) to all the air inlets will deter insects, rodents and birds from entering.

**Air space** The minimum depth of the air space must be 38 mm. The total area of the air inlets (bottom and top) is 1/1,000th of the surface area of the cladding, with a minimum width of 10 mm in the case of continuous ventilation.

In general we advise planning a total area for ventilation at the top that is 1.5 times greater than at the base of the cladding. In most cases, a layer of insulating material is placed under the ventilated space. There must be a very efficient breather membrane and the insulation panels must be sufficiently rigid and well anchored to their structure to prevent them from moving and blocking the ventilation space.

**VMZINC Membrane** This breather membrane must be vapour permeable and end at the foot of the cladding on the outside of the building.

This breather membrane also prevents convection currents of (cold) outside air entering the building.

**Given the increasing level of insulation in buildings, the installation of an effective vapour control layer on the warm side of the insulation is required.**

## Recommendations

### Transportation and storage

The panels must be transported and stored, standing on the L profile in containers designed for them. They must be transported and stored in dry conditions and in a constant temperature in order to avoid the formation of white rust. White rust forms on the surface of VMZINC® when the latter comes in contact with humidity in the absence of carbon dioxide. In this case, the protective layer cannot form and white rust appears on the surface. Unlike the patinated layer, white rust provides no protection and leaves unattractive, indelible marks on the roof or facade. Consequently, we do not recommend installing panels that have been attacked by white rust.

### Surface appearances

Pre-weathered QUARTZ-ZINC® and ANTHRA-ZINC® and PIGMENTO® are produced using a surface treatment on Natural VMZINC®. As with all patinas, this change in the crystalline structure of both surfaces of the metal evolves with time.

The pre-weathering treatment completed at the plant gradually evolves and coalesces over time with the naturally formed zinc patina.

**To ensure a consistent finish we recommend profiling and installing the components of a new project using a parent coil.**

### Removing the protective film

As a general rule, immediately following the installation of VMZINC®, the film should be removed from the entire surface at the same time.

Exception to this rule: when there is still work to be done nearby it. Under no circumstances must the film remain on installed VMZINC® for more than 2 months.

### Expansion of VMZINC

Expansion is absorbed by the system (fixing clips and joints between panels).

### Working VMZINC

To avoid micro-cracks in the VMZINC® to the right of the folds, do not work it when the temperature of the metal is below 7°C.

### Protective equipment

Individual personal protection must be provided in accordance with the safety regulations in force in the workshop and on site.

### Cleaning the panels

The rain will drain most dust and deposits off the walls. It is recommended to limit the cleaning of the zinc material to specific areas. Precautions have to be taken to avoid any deterioration of the patina. If necessary we recommend cleaning the zinc material with warm water (no high pressure) with mild, thinned down detergent and gently rubbing the panels in the same direction as the grain, using a clean cotton cloth. Make sure to rinse off the panels in order to remove any detergent residue. Due to the "self healing" nature of zinc fingerprints and scratches will be obscured by the formation of the patina over time. It is recommended to let them heal on their own.







#### Subject

This document is intended for specifiers (building project architects and design teams) and users (companies responsible for installation on the building site) of the designated product or system.

Its purpose is to provide the main information, text and diagrams, relating to specification and installation (including supporting structures) and flashing installation.

Any use or specification outside the area of use and/or specifications contained in this manual requires specific consultation with the Umicore technical departments. This does not commit the latter to any responsibility with regard to the feasibility of the design or implementation of these projects.

#### Countries of application

This document applies exclusively to the specification and installation of the designated products or systems on building sites in United Kingdom and the Republic of Ireland.

#### Qualifications and reference documents

Please note that the specification of all construction systems for a given building remains the exclusive responsibility of its design team, who must, in particular, ensure that the specified products are suitable for the purpose of the building and compatible with the other products and techniques used.

Please note that the correct use of this manual requires knowledge of VMZINC® materials and of the zinc-roofing profession.

While construction is underway all standards in force must be respected.

Furthermore, Umicore offers training courses specifically for professionals.

#### Responsibility

The specification and installation of VMZINC® products manufactured by Umicore are the sole responsibility of the architects and building professionals who must ensure these products are used in a way suited to the end purpose of the construction and that they are compatible with other products and techniques used.

The specification and installation of the products implies respecting the standards in force and the manufacturer's recommendations. In this regard, Umicore publishes and regularly updates specification and installation manuals for specific geographic areas and provides training courses. All the information on the latter can be obtained from the local VMZINC team.

Unless otherwise agreed in writing, Umicore cannot be held responsible for any damages resulting from a specification or installation that does not respect all of Umicore's specifications and the above standards and practices.