



FACADE

VMZINC® Flatlock panel



VMBUILDINGSOLUTIONS

The VMZINC flatlock panel technique is a popular traditional cladding technique and the flatlock panels are sometimes known as shingles. The panels are interlocked with a single fold on all four sides and installed with concealed fixing elements onto a support system or substrate. The cladding system allows a great deal of flexibility as flat lock panels can be made to many shapes and sizes. The panels can be square, diamond shaped and rectangular.

There are two types of joints for flatlock panels: recessed joint and non-recessed joint.

Recessed Joint



Non-recessed Joint



- Area of Application**
- Suitable for cladding of facades and very steep roofs (>30°)
  - All shapes of facades: flat, curved, sphere, conical, domes
  - Arc/Curve application: horizontal laying: radius > 10m; vertical laying: radius >3m
  - Ceiling: the maximum panel length is 2m
- Characteristics**
- Popular traditional cladding technique
  - Square, rectangular and diamond shaped panels
  - Offers great design flexibility as flatlock panels can be made to many shapes and sizes

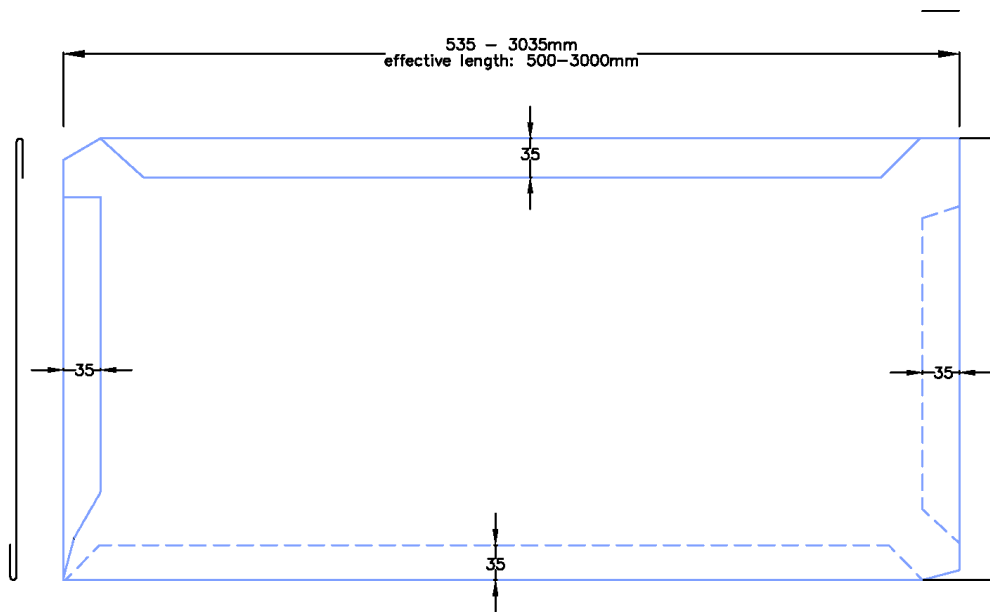
Technical specifications

Aspect	QUARTZ-ZINC® ANTHRA-ZINC® PIGMENTO® AZENGAR®
Thickness	0.7mm, 0.8mm
Panel Length	Maximum 3m
Panel Width	100 - 430mm
Weight of panel	About 5.8kg/m²

# VMZINC flatlock panel system installation

The VMZINC flatlock panel system is a cladding system composed of multiple build-ups, each build-up needs to be correctly installed.

Panel shape and dimensions



**Installation sequence** Flatlock panels are installed in a sequential order from bottom to top for both vertical and horizontal laying.

Vertical laying: from left to right - recessed joint on right side.

Horizontal laying: from right to left - recessed joint always on top to ensure it is water-proof.

Installation view

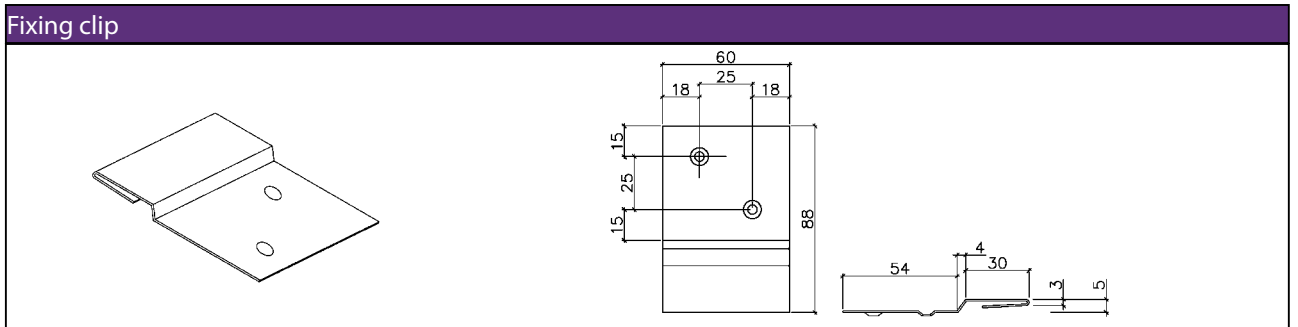
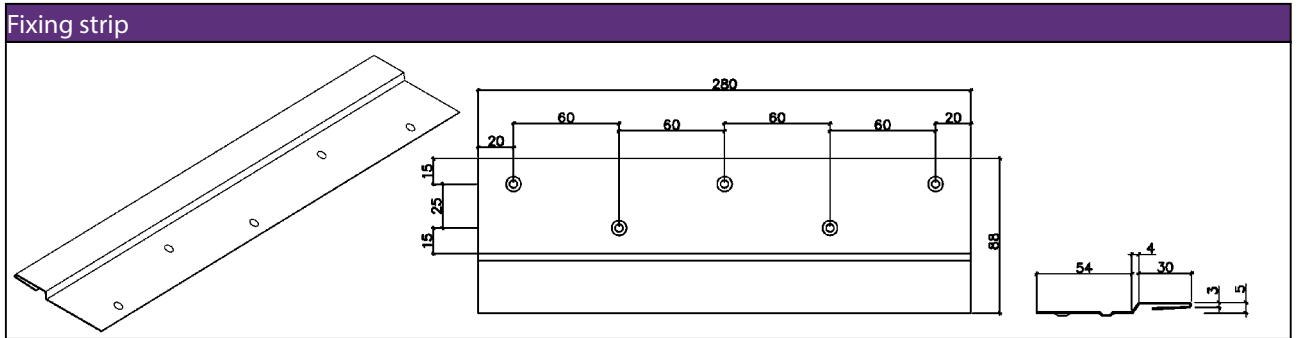


**Fixing system method** Flatlock panels are fixed on the support structure or substrate with fixing clips. It is recommended that screws be used to secure the clips. The fixing clips are made of 304 stainless steel and have a dual function: the first one is to ensure the mechanical resistance of the entire facade, and the second one is to allow free expansion of the zinc metal.

There are two types of fixing elements for flatlock panels:

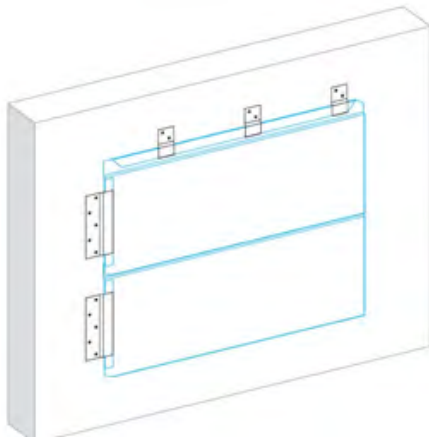
- On the long side, a 0.5mm thick Stainless steel fixing clip is used
- On the short side, a 0.5mm thick Stainless steel fixing strip is used

Each flatlock panel is fixed to the support using 3 fixing clips per linear meter.

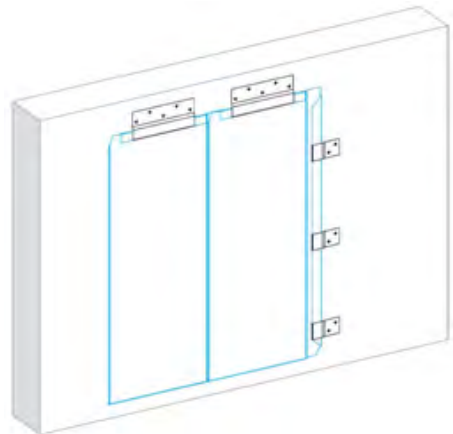


Fixing clip positions:

Horizontal laying



Vertical laying

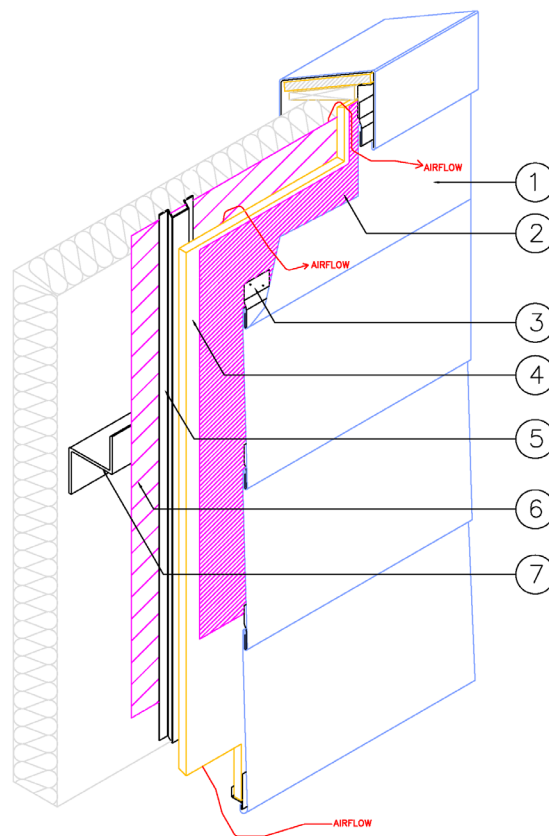


# VMZINC flatlock panel system and ventilation

Like all zinc wall and roof systems, condensation management is important. Flat Lock Panels are typically installed incorporating a vented cavity to the rear of the support substrate to allow for dissipation of condensation and drainage of possible water infiltration.

## Typical VMZINC flatlock panel system build-ups

Flatlock panels must be installed on a support system or substrate. The support system must be rigid and continuous for all parts where the flatlock panels are installed. The support must also meet local loading requirements and have a minimum pull-out strength of 50daN for each of the fixing elements, provided that the entire support transmits the cumulated load to the structure.



1. VMZINC Flat Lock Panel in 0.70mm
2. Breathable Waterproofing Membrane
3. Stainless Steel Fixing Clip
4. 15mm Plywood Sheeting
5. Top Hat (20mm Ventilation Cavity)
6. Breathable Waterproofing Membrane
7. Main Structure (By others)

