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INTERLOCKING PANELS by ARCHTECH

INTRODUCTION

The panels are simply connected by the use of an interlocking groove, giving the elegant appearance of a recessed joint. Interlocking Panels does not require plywood substrate, they are fixed onto supporting timber or metal framework using mechanical fixings, which are concealed in the joint.

The system belongs to the rain-screen sector (wall cladding installed with a pressure equalized, ventilated air space). It will require vapor barrier or waterproof membrane behind the supporting framework.

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

APPLICATION

Interlocking panels are ideal for use on new homes or existing buildings. They are installed as conventional weatherboard planks, resembling the look of a Rusticated Weatherboard wood paneling.

Areas of application include:

- Façade
- Soffits
- Fascias
- Chimney cladding
- Interior feature walls

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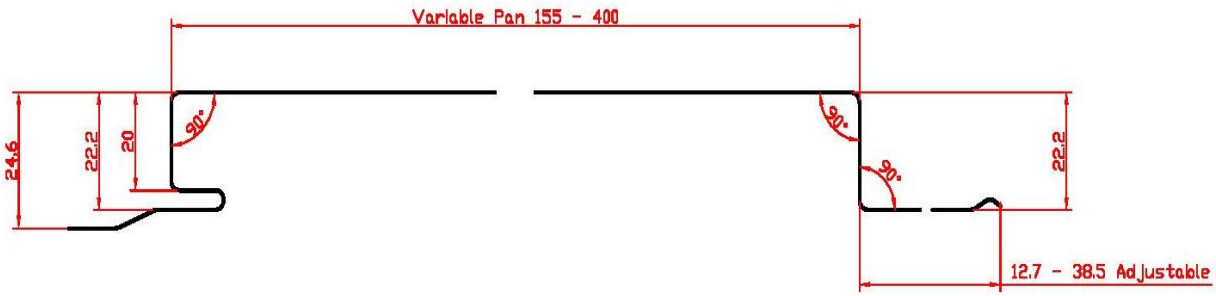
PANEL DETAILS



- Suitable for wall cladding ONLY
- Negative joint size 12 – 25 mm
- Variable Pan size from 155 – 240 mm unsupported.
- Pan size over 240 mm will require back support. We will use fire rated POLYFOAM 24 mm.
- Max panel length - 6.0 m for pre-painted steel; 4.0 m for any other material
- Can be manufactured in full range of materials:
  - Copper
  - Stainless Steel
  - Titanium Zinc
  - Aluminum
  - VITOR, ZENEX or LUX

DIMENSIONS

Panel dept is fixed to 25 mm. Flat pan is variable from 155 to 300 mm with no back support. For pan width over 300 mm, backing is required. Max width 400 mm.

Recessed joint width is adjustable from 12 to 25 mm.

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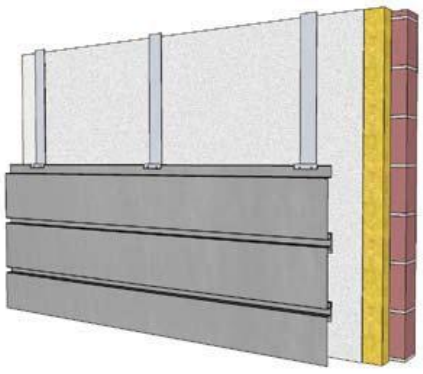
Maximum panel length will depend on the material chosen. Thermal expansion / contraction are the key deciding factors. We will recommend max 4.0 lengths for Copper, Zinc, Aluminum or Stainless Steel. For any pre-painted steel we will recommend 6.0 m maximum.

DESIGN CONSIDERATIONS

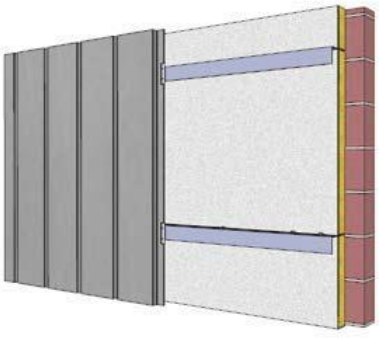
Interlocking Panels can be installed Horizontally, Vertically or Diagonally. Specific feature of this cladding is that it is installed from top to bottom when used Horizontally. Special attention is needed to position any penetrations in the walls so that they are aligned with the recessed joints - horizontally and /or vertically. Because of waterproofing requirements. Please consult with ARCHTECH for specific design considerations.

SUPPORTING FRAMEWORK

A. Metal sub-frame



The system can be fixed on a metal framework composed of adjustable brackets and cladding rails made of galvanized steel or aluminum. The brackets fixed to the structure are used to adjust the cladding rails (minimum thickness 2,5 mm for aluminum) 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.



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

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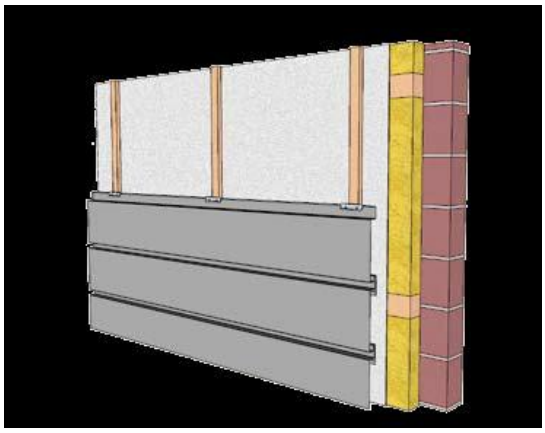
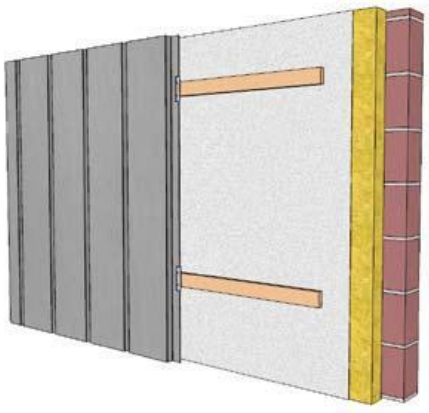
mechanical resistance (intrinsic weight and resistance to wind pressure), the maximum centre to centre distance between the brackets is 600 mm. The elbow brackets are fixed in place to provide cross fixing in the longitudinal direction of the panels.
Transverse Joints - For horizontal fixing, the framework must provide a minimum support surface of 100 mm. For vertical fixing, one rail must be placed at each side of the joint.

B. Timber Framework



The timber supports used as supports for fixing the cladding must be soft wood (e.g. pine).
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 water based. 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.

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



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.

Ventilation at the top and bottom of the cladding is provided by air inlets and outlets which should be protected by a perforated grid.

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FIXINGS

Interlocking panels are fixed with concealed screws direct to the framework. If the material chosen is copper, titanium zinc, aluminum or stainless steel and the length is exceeding 5.0 m, special sliding clips will be necessary. Please consult with ARCHTECH for further fixing schedule.

THERMAL EXPANSION AND CONTRACTION

The rate of thermal expansion and contraction varies between the metals and also the color of the product. To accommodate this interlocking panels are fixed with combination of fixed and sliding clips.

MATERIAL	EXPANSION mm/m-C	70^0 C CHANGE OVER 6 M mm
Steel	0.011	4.62
Aluminum	0.023	9.66
Zinc	0.022	9.30
Copper	0.017	7.14

Factors which can affect the lengths of the trays are:

- Manufacturing location
- Access to work area
- Design and detailing
- Choice of profile

Please consult with ARCHTECH for advice on maximum panel lengths and fixing schedule.