

Cu

Zn

Al

Fe

# smarttray™ Cladding Systems

## Installation overview

please read in conjunction with product specific specification sheets and details in the next section

### plywood requirements - cladding specific

We recommend that **smart** tray™ standing seam cladding be installed on a plywood substrate. Installation can also be on castellated battens that are fitted to the structure. The final finish of the cladding profile can be adversely affected by the incorrect installation of the plywood substrate or the castellated battens.

Selected plywood substrate to be H3 treated, min 15mm. Tongue and groove or square edged grade CD (faced sanded). Allow a 3mm expansion gap between sheets if using non T&G sheets.

All plywood is to be installed in accordance with specific manufacturer's specifications.

Fixings to be recessed stainless steel screws, fixed to a minimum of 7mm and a maximum of 15mm from the edge @ 150mm centers along the perimeter and 300mm centers on intermediate line of support.

Plywood to be finished with all screw heads recessed below the ply surface and with no protruding edges.

Please contact Architectural Metalformers office before commencement of framing for non-standard roof designs

Please consult the Carter Holt Harvey technical manual for Butynol/torch on compatibility issues with treated timber, as well as any further plywood installation requirements. [www.ecoply.co.nz](http://www.ecoply.co.nz)

### venting of plywood

In order to avoid condensation buildup, it is strongly recommended that adequate ventilation be provided for to the underside of the plywood substrate. A standard 20mm ventilated cavity space will satisfy this requirement.

In all instances where a ventilation is required we design and install suitable perforated flashings in key areas.



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## > venting of natural titanium Zinc

In certain circumstances, the use of specific titanium zinc products will require the use of an expanded nylon underlay called Enkavent. Please consult the technical team at Architectural Metalformers for further information if you plan to use a natural zinc product.

## > underlay and fixings

We install an approved building paper underlay between the plywood substrate and our **smart tray™** sheets. The building paper is fixed with 12mm 316 stainless steel staples.

We fit all trays with concealed sliding clips that are pneumatically fixed using 25mm 316 stainless steel flat head collated nails.

Clips are fixed at 400-500mm centres and have a dual function: To allow the mechanical resistance of the cladding panels and free expansion of the metal itself.

- For copper and zinc we use marine grade 316 stainless steel clips

- For aluminium and Colorcote™ we use Colorcote™ Zinalume™ clips.

Pre formed battens used for smartray batten cap are fixed using proprietary marine grade 316 stainless steel batten cap receiving clips. These batten clips are fixed to the ply substrate using 25mm x no12 timbertite screws @ 500mm centres.

The profiled batten snaps into position over these receiving clips, providing required watertight seals.

## > flashings

Robust flashing design, manufacture and installation are the key to a total waterproof solution. All these crucial steps are controlled and overseen in-house.

We use flashing methodologies that are well proven in Europe and the USA for hundreds of years and our flashings comply and often surpass E2 regulations.

## > thermal expansion and contraction

By using the sliding clip system detailed above, we allow for expansion and contraction without the associated “oil canning” as seen in some tray roofs.

The following is the expansion rate of various metals over a 70°C temperature change for a 10m length of product.

<b>Copper</b>	11.9mm
<b>Zinc</b>	15.4mm
<b>Aluminium</b>	14.8mm
<b>Zinalume™</b>	7.7mm



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