

METAL CLADDING DESIGN AND INSTALLATION TECHNICAL GUIDES

**GUIDE 016: COMPOSITE PANEL INSTALLATION**

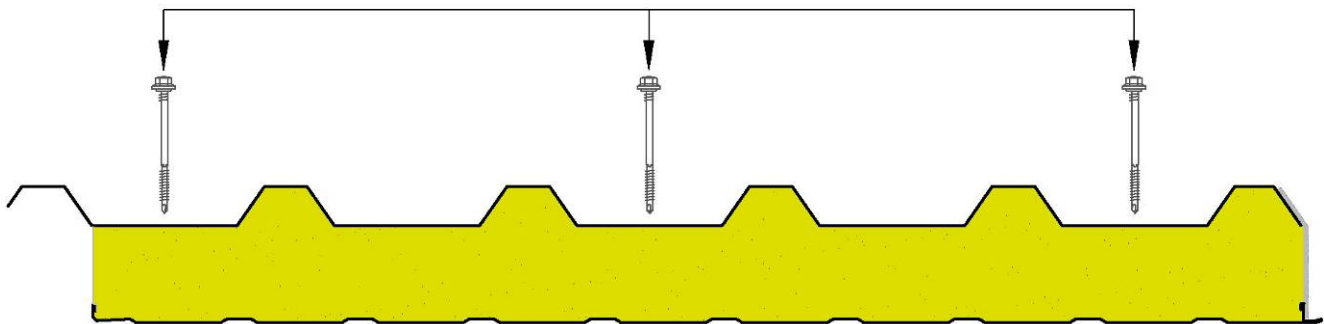
**Typical Fixing Frequency**

Generally, roof panels follow the same fixing sequence pattern as for profiled sheet (see roof sheet information) but are secured using 5.5mm diameter self drill composite panel screws with 19mm diameter sealing washers and integral plastic coloured heads to match.

Typical primary fixing frequency is illustrated below. However checks should be undertaken to ensure Non-Fragility compliance and design loading acceptability.

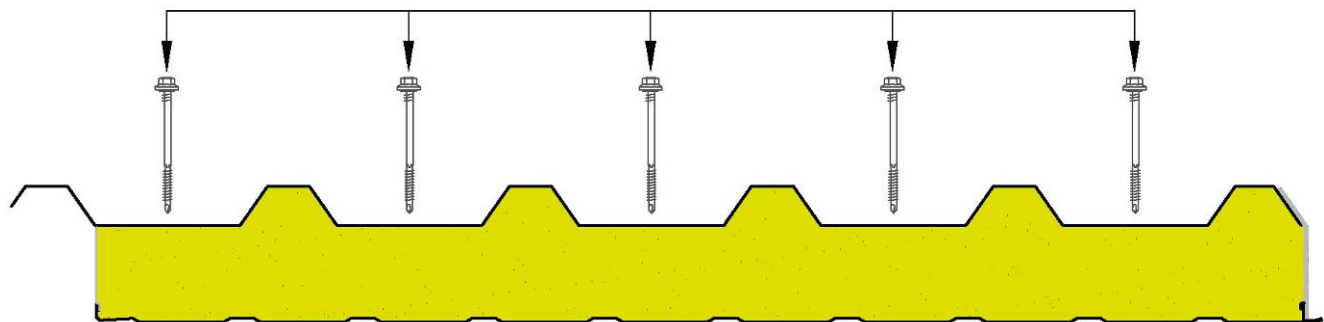
**Intermediate Supports:**

**5.5mm DIA SELF DRILL COMPOSITE PANEL SCREWS  
COMPLETE WITH 19mm DIA BONDED WASHERS**



**End Laps/Panel Ends:**

**5.5mm DIA SELF DRILL COMPOSITE PANEL SCREWS  
COMPLETE WITH 19mm DIA BONDED WASHERS**

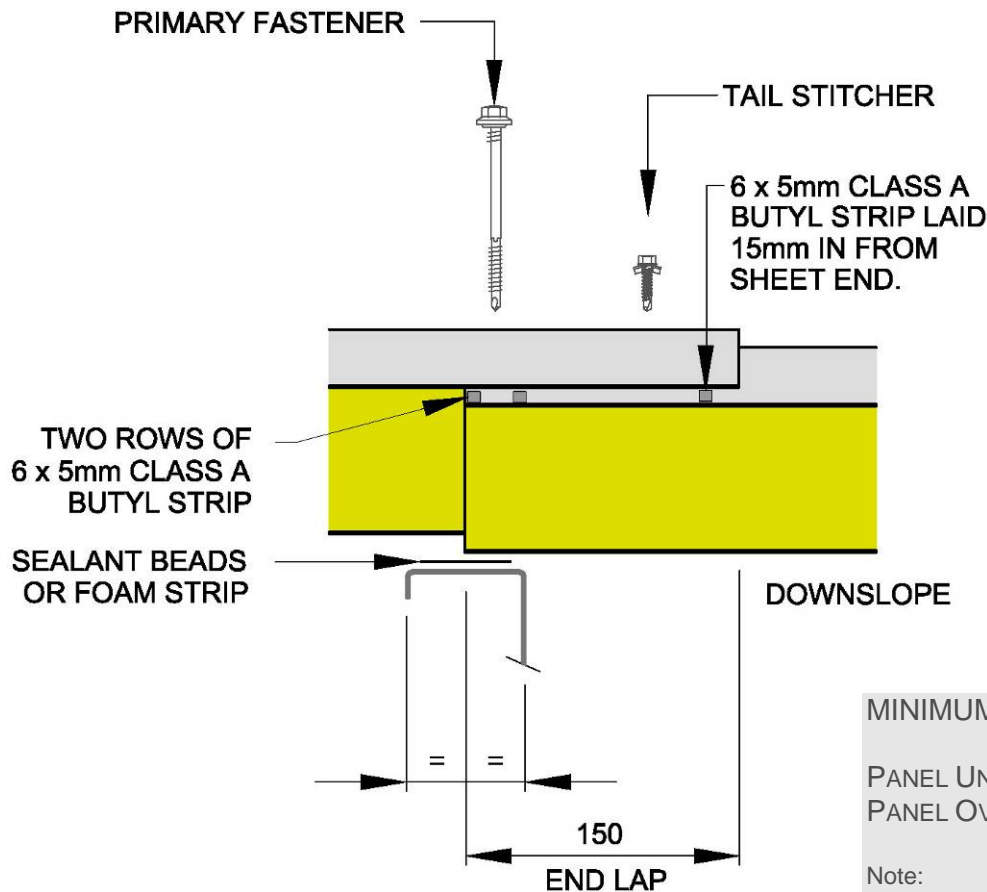


**Note:**

Where larger three pitch panels are utilised the minimum recommended fixing frequency is 3No. fasteners/panel (1No. in the centre of each trough) at intermediate supports and 6No. fasteners/panel at end laps/panel ends (1No. positioned to the side of each profile rib).

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Composite Roof Panel End Laps



MINIMUM BEARING WIDTHS

PANEL UNDER-LAP	-	30mm
PANEL OVER-LAP	-	25mm

Note:  
If the bearing surface dimension is insufficient a purlin extension plate can be supplied.

Where possible it is good practice to eliminate the need for end laps by using long panel lengths spanning from ridge to eaves. Where this is impractical they should be kept to a minimum and positioned towards the ridge line.

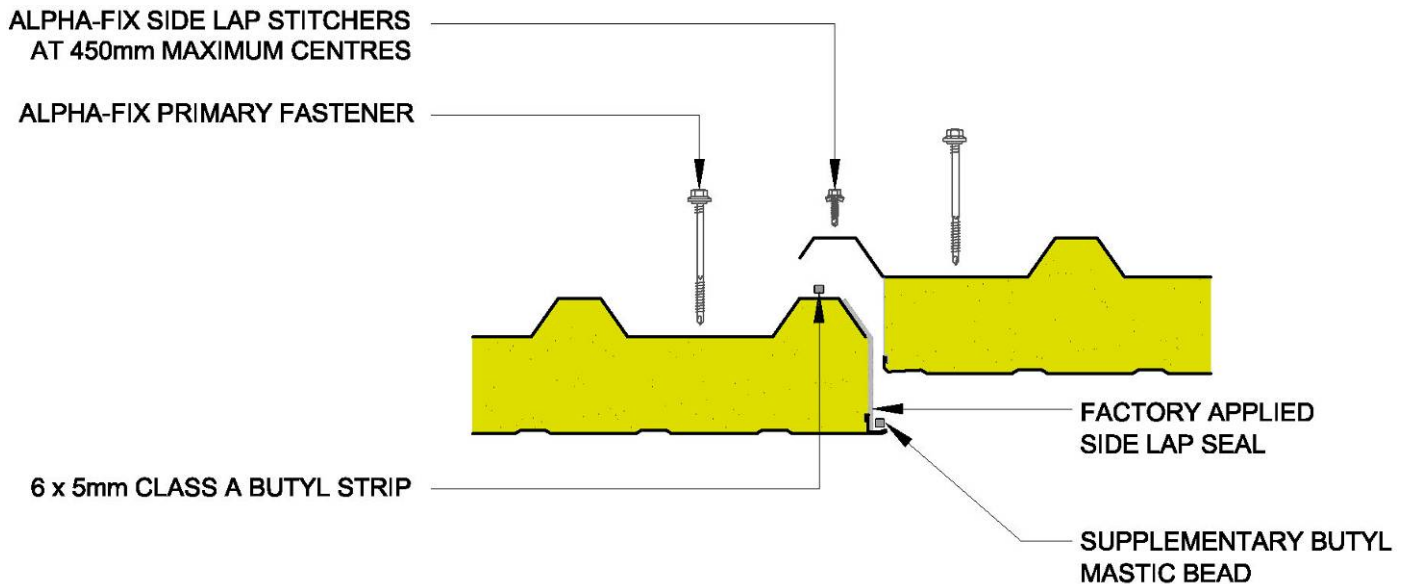
End laps should be 150mm with the panels butting centrally over a foam strip or two sealant beads at the support. The lap is sealed by two or three continuous runs of 6 x 5mm butyl sealant strip. One run is placed at the panel end; the

second is positioned on the weather side of the primary fastener, a maximum of 50mm from the end. A lower run can be positioned 15mm in from the over lap edge to prevent moisture entering the lap and corroding the underside of the sheet.

Primary fasteners are secured through the centre of two sealant runs, typically 5 or 6 per panel width, ensuring consistent compression of both runs of sealant. 'Tail stitchers' are used to compress the third run of sealant (if necessary).

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Composite Roof Panel Side Laps



A continuous run of 6 x 5mm butyl sealant strip should be placed along the crown of the under-lap corrugation. The side lap is then secured with blind rivets or self-drilling/stitching screws positioned at maximum 450mm spacings along the centre-line of the crown.

Ensure allowance is made for the sealant thickness when specifying rivets.

It is recommended that a butyl mastic bead is run along the base of the side laps where there are additional project concerns over air-tightness and vapour control.

LAP RECOMMENDATIONS FOR COMPOSITE ROOF PANELS

Roof Pitch	Minimum End Lap (mm)	Side Lap Fastener Spacing (mm)
1-4°	Specify Secret-Fix/Standing Seam Section (Contact Alpha-Clad)	
4-15°	150mm Sealed	450mm Sealed
>15°	150mm unsealed	450mm unsealed