

All aluminium flashings will undergo thermal expansion and contraction due to temperature changes. With the regular occurrence of record temperatures and new extremes, this is only going to become the norm and more important to be aware of.

Recent research demonstrates that an allowance of +2mm/-1mm per metre is appropriate for light coloured plain aluminium materials as well as dark painted materials.

The forces generated in aluminium sections by temperature change are big and cannot be opposed, they have to be managed.

The Arkzip ridge, verge and eaves details illustrated in this data sheet accommodate and manage the thermal movement effects without the need for slotted or over size holes within the roof detailing. Note though that flashings that are also secured to a wall (ie firm grounds) will require slotted holes at the flashing-to-wall structure connection. Independent cover flashings are recommended for abutment wall upstands.

The basic principle is that the aluminium substructure “floats” to allow movement, ribs can flex and the substructure and flashing joints are on module (3m). Movement occurs at joints which coincide, a flashing must not be fixed to two substructure sections (which would lock movement and make a continuous section for expansion).

All fasteners within the roof detailing are “dead fix” in that they involve round holes, no slots or oversized holes.

The minimum expansion gap between AL sections is 6mm, but use 10mm for ease of use and simplicity.

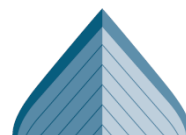
Internal rivets and eaves rivets are all aluminium, Bulbtite or TLR type.

External rivets are aluminium sealed bulb, 4.8mm dia or Bulbtite or TLR type.

External screws are A2 stainless steel with bonded rubber sealer washers. These must be selected for fixing into minimum 2mm aluminium.

Sealants are 5 x 6mm class A butyl strip sealants or gun applied butyl sealant.

Note that with lapped joints, substructure section lengths may need to be trimmed to suit.



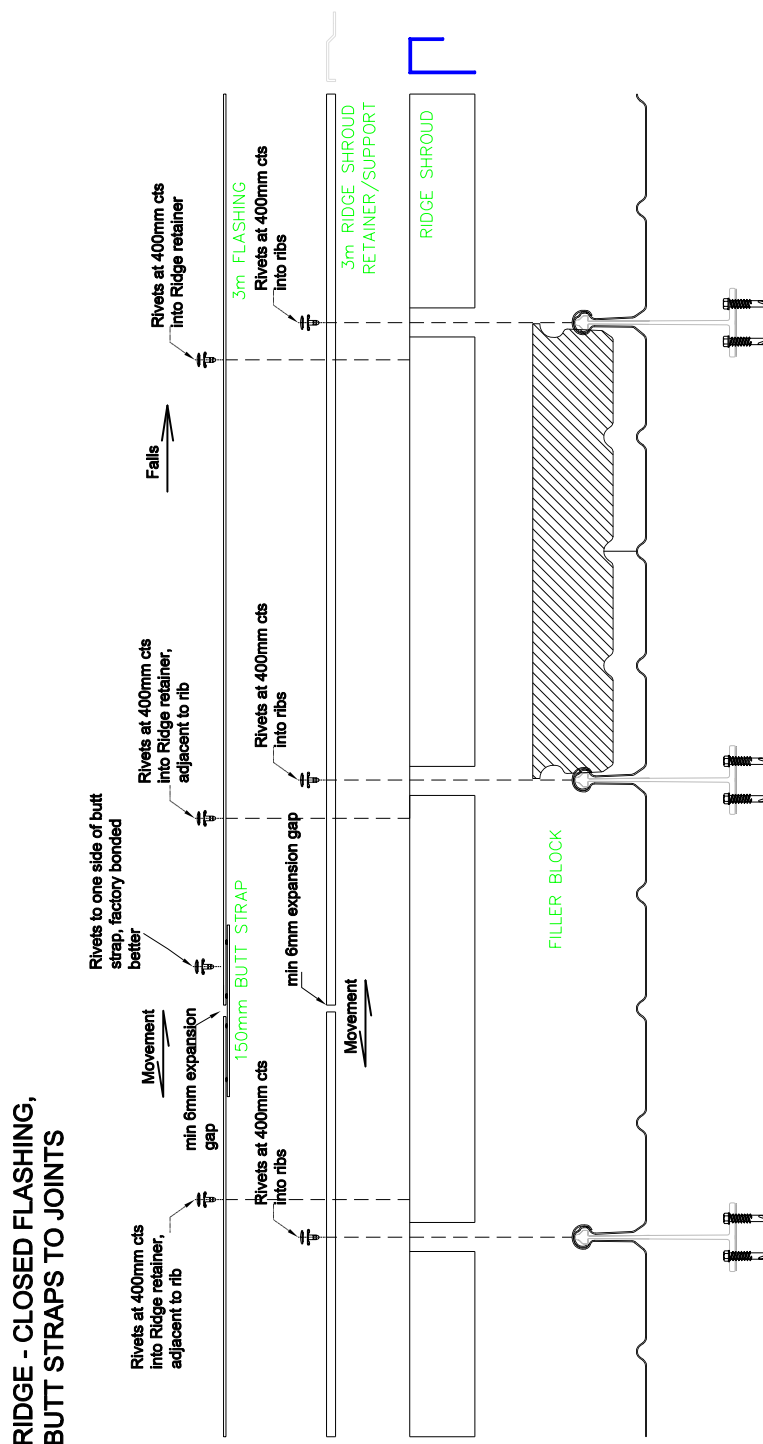
AL flashings: fixing, sealing

and thermal movement

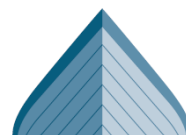
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Ridge



Ridge, closed flashing
with butt straps



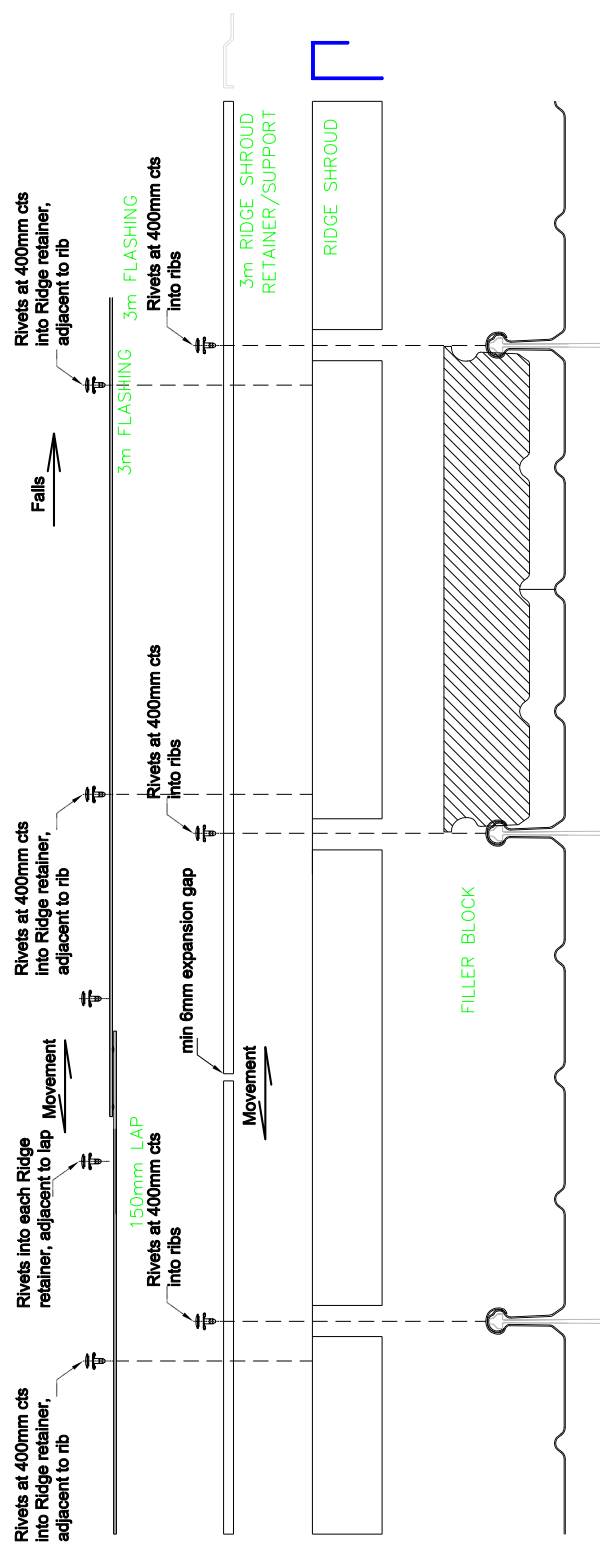
AL flashings: fixing, sealing

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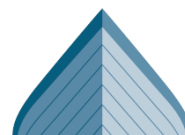
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RIDGE - OPEN FLASHING, LAPPED JOINTS



Ridge, open flashing
with lapped joints



AL flashings: fixing, sealing

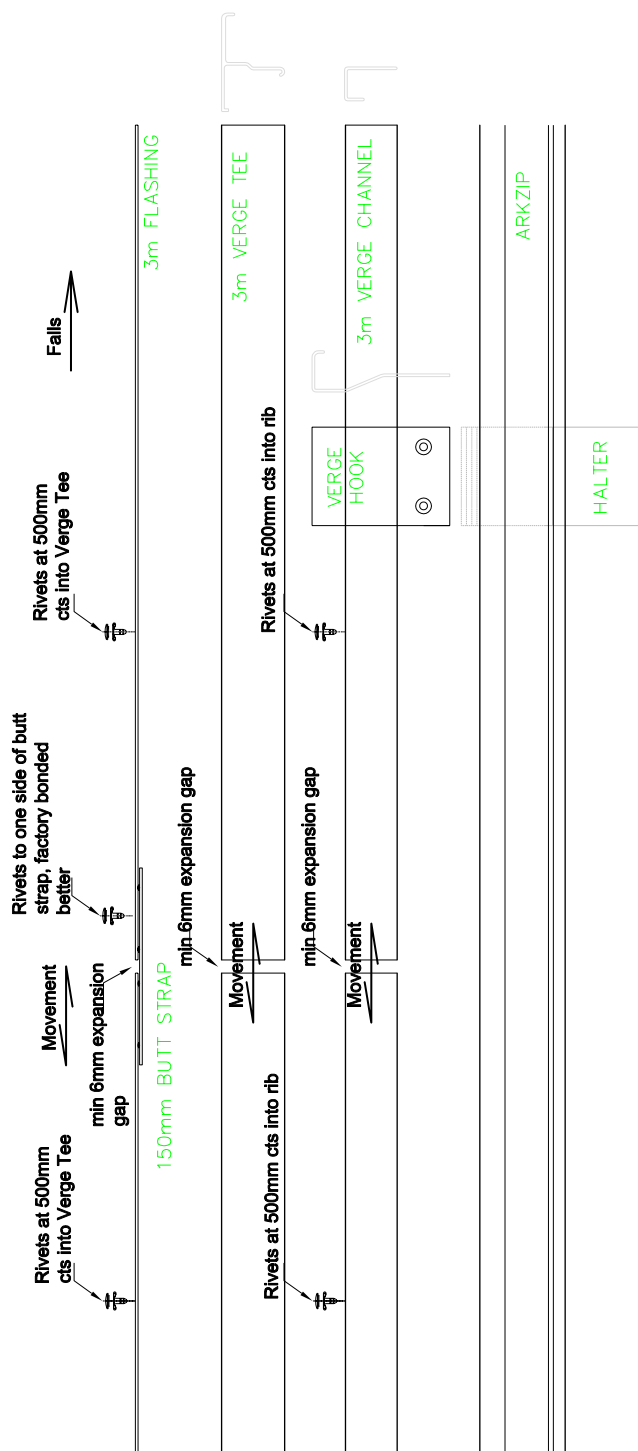
and thermal movement

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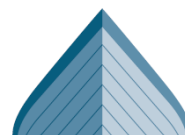
Verge

VERGE - CLOSED FLASHING, BUTT STRAPS TO JOINTS

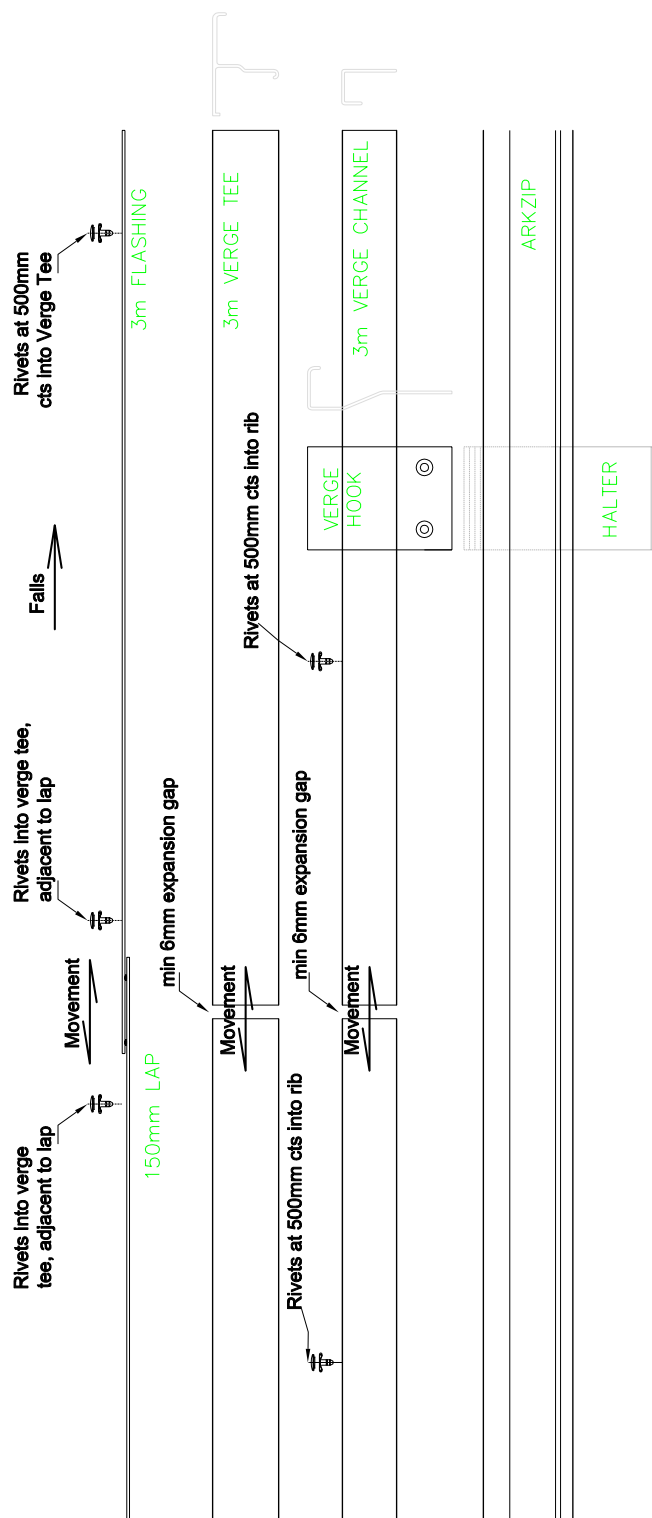


Verge, closed flashing with butt straps.

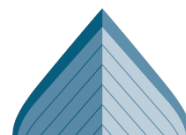
Note that the verge flashing to wall structure connection should involve slotted holes



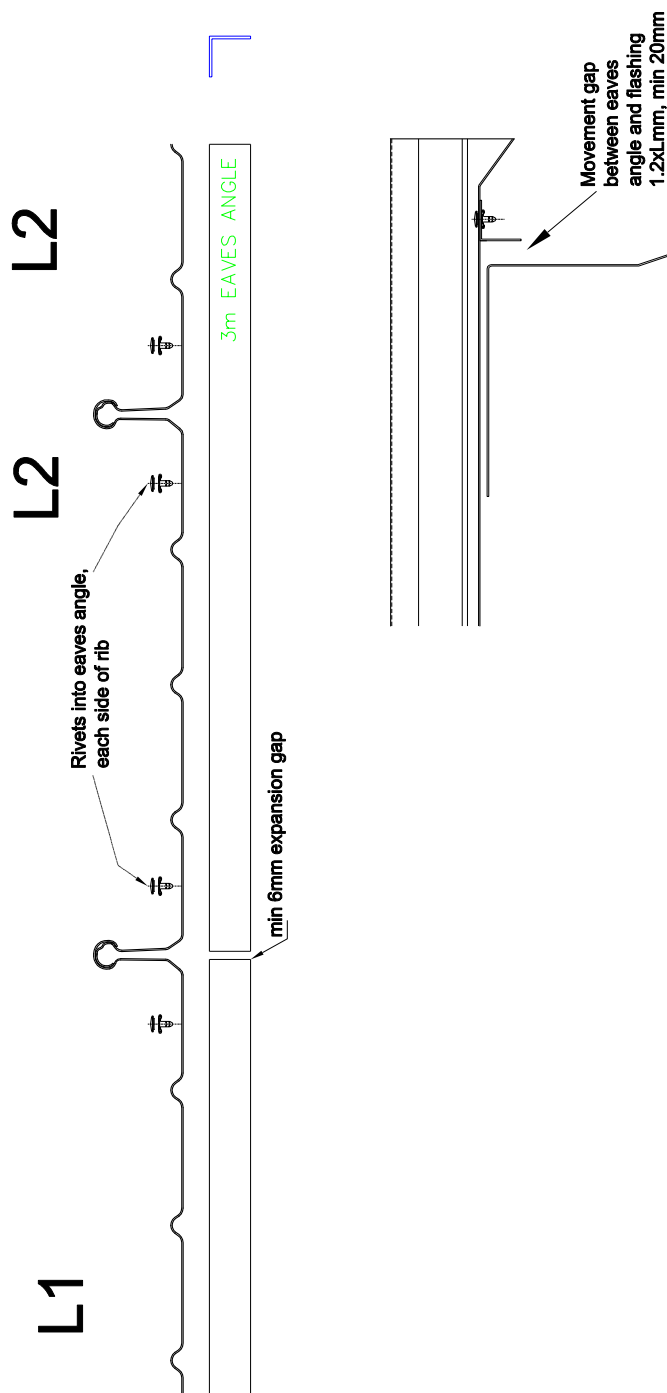
VERGE - OPEN FLASHING, LAPPED JOINTS



Verge, open flashing with lapped joints
Note that the verge flashing to wall
structure connection should involve
slotted holes



Eaves



Eaves – drip angle

At locations where roof sheet lengths change, for example where the ridge line steps out (roof sheet lengths L1 and L2 in the diagram), split the eaves angle drip at that location.