

Installation Guide

Plus 60 BAL-FZ Roof System

Step 1

Stretch out the Plus 60 blanket over the frame and fascia board, and temporarily secure into place with

- A hammer tacker for a **timber frame**;
- 5mm button head self-drilling screws for a **steel frame**;

Step 2

Ensure all edges of the Plus 60 interface with a truss, ridge and fascia noggin or beam or hip beam such that the blanket is supported around the entire perimeter of each section of blanket.

Note: The Plus 60 blanket is 1300 mm wide allowing for most efficient use on 600 mm truss or rafter spacing. For details on alternative frame spacing, refer to Appendix A.



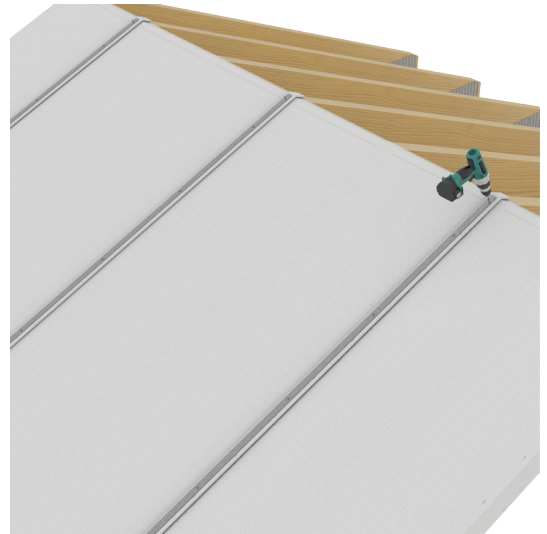
Step 3

Repeat this process with the next layer of Plus 60 overlapping the first layer by 50mm with the next section of blanket.

Step 4

Run a 25mm x 0.6mm flat steel strap (hoop iron) over all joints and abutments and secure into place at 150mm centres, using

- 32mm bugle head needlepoint screws for a **timber frame**;
- 32mm x 3.5g self-drilling screws for a **steel frame**



Step 5

If a gable is present, fold the Plus 60 blanket tightly around the barge and temporarily secure and shape into place using

- A hammer tacker for a **timber frame**;
- 5mm button head self-drilling screws for a **steel frame**

Step 6

Repeat the process around the fascia and eave, allowing 50mm length of blanket to extend down to the wall.





Step 7

Run a 25mm x 0.6mm flat sheet strap (hoop iron) over all joints and abutments and clamp into place using

- 32mm bugle head needlepoint screws for a **timber frame**;
- 32mm x 3.5g self-drilling screws for a **steel frame**

The 50mm overlap is sealed to the adjacent wall construction with FIREFLY Silicone to the interface between the Plus 60 and the wall cladding. The overlap is then covered by a 50mm x 50mm 0.42 BMT steel angle.

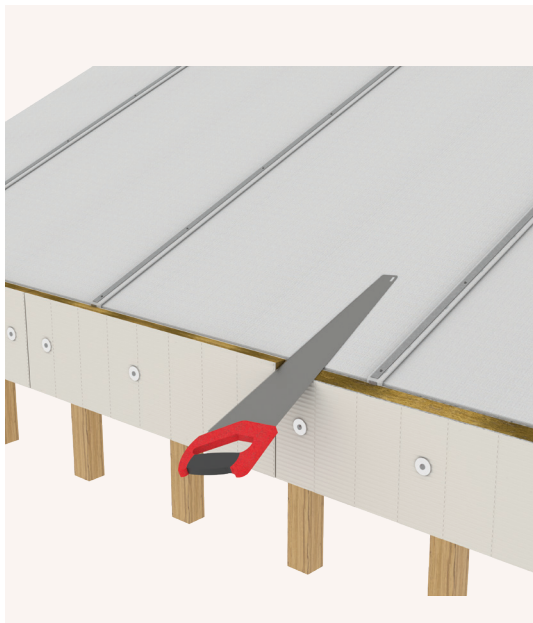
Step 8 | Facia Detail Option 1

Install the FIREFLYBatt FZ over the Plus 60 using

- 3 x 50mm bugle head needlepoint screws and penny washers for a **timber frame**;
- 75mm x 4.2g bugle head self-drilling screws for a **steel frame**

Ensure that the heads of the screws do not protrude more than a few mm, otherwise the unevenness of the surface may interfere with the facia installation in latter steps.

Coat all joints between each layer of FIREFLYBatt FZ with FIREFLYMastic BG, ensuring no exposed batt edges.



Trim off the excess FIREFLYBatt FZ, creating a raked finish flush to the angle of the roof using a wood saw.

Note: In order to give a more rigid surface for the facia and gutter to press against, a layer of 6mm fibre cement sheet may be installed over the FIREFLYBatt FZ, fastened to each rafter with

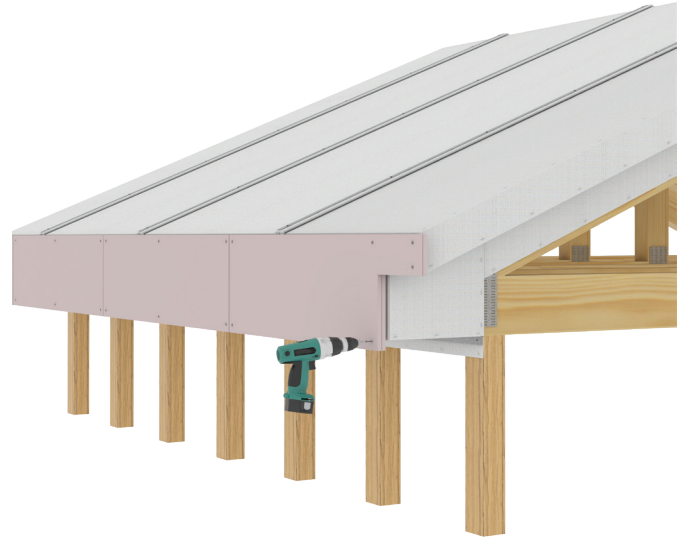
- 50mm bugle head needlepoint screws for a **timber frame**;
- 75mm x 4.2g bugle head self-drilling screws for a **steel frame**

Step 8 | Facia Detail Option 2

Install fire rated plasterboard, at 2 x 13mm or 1 x 16mm, over the Plus 60 using the fascia region, with

- 38mm x 6g needlepoint screws for a **timber frame**;
- 72mm 4.2g bugle head self-drilling screws for a **steel frame**

Add 2 fasteners per truss / rafter end, ensuring all joints terminate over a rafter end. Seal all joints with FIREFLYMastic.



Step 9 | Eaves Detail Option 1

This detail can be used with either option in Step 8

Install FIREBatt FZ to eaves using

- 3 x 50mm needlepoint screws for a **timber frame**;
- 3 x 75mm 4.2g bugle head self-drilling screws for a **steel frame**

Use minimum 32 mm OD penny washers at 50mm from either end of the 1200 mm wide FIREFLYBatt FZ plus an additional one in the centre, lining up with the underlying framing. Coat the exposed edges, joints and abutments between each section of FIREFLYBatt FZ with FIREFLYMastic BG.

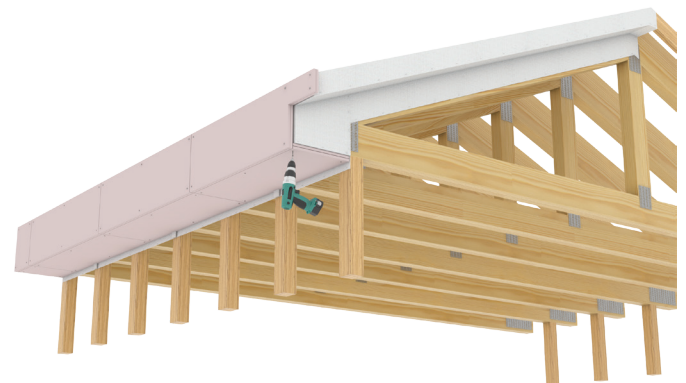
Step 9 | Eaves Detail Option 2

This detail can be used with either option in Step 8

Install fire rated plasterboard, at 2 x 13mm or 1 x 16mm, oriented so all joints fall on framing members and fastened at a maximum 300mm spacing; alternatively to 35mm x 35mm x 0.7 BMT galvanized steel angles at fascia and at wall with a maximum 300mm spacing, using

- 32mm 6g bugle head plasterboard screws for a **timber frame**;
- 72mm 4.2g bugle head self-drilling screws for a **steel frame**

at nominally 300mm centres through the timber framing or steel angles. Seal all joints with FIREFLYMastic.



Step 10

Install the 150mm wide FIREFLYBatt FZ strips over the head of the vertical FIREFLYBatt FZ using

- 3 x 50mm bugle head needlepoint screws for a **timber frame**;
- 75mm 4.2g self-drilling screws for a **steel frame or steel angle**

Add minimum 32 mm OD penny washers at 50mm from either end of the 1200 mm wide sheet and add another in the centre.

Coat the joints and abutments between each layer of FIREFLYBatt FZ with FIREFLYMastic BG.



If a gable is present, install the FIREFLYBatt FZ to cover the barge end, and the ends of the battens in Steps 13 & 23. Extend by 42mm for a **sheet metal roof**.

Install the FIREFLYBatt FZ vertically above the Plus 60 blanket to cover the top-hat ends when installed. Use a width of FIREFLYBatt FZ to ensure cover of both the top-hat battens and barge.

Step 11

Ensure all FIREFLYBatt FZ edges are painted over and sealed using FIREFLYMastic BG, filling any small gaps.



Step 12 | Valley Gutter Detail

Install valley battens at a maximum of 185mm each side of the valley junction, over the Plus 60 blanket.

Install 2 x 150 mm wide FIREFLYBatt FZ batts adjacent to the battens on either side of the valley junction using

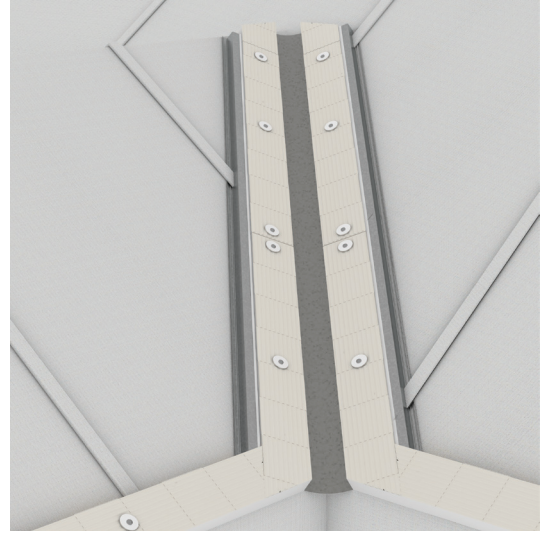
- 3 x 50mm needlepoint screws for a **timber frame**;
- 3 x 75mm x 4.2g self-drilling screws for a **steel frame**

Add minimum 32 mm OD penny washers at 50mm from either end and one in the centre of the 1200mm long FIREFLYBatt FZ.

Coat the joints and abutments between each layer of FIREFLYBatt FZ with FIREFLYMastic BG.

Install the valley gutter, secured through the valley lining into the valley framing.

Seal the valley gutter's upper edge to the adjacent top-hat with FIREFLY Silicone.



Roof Covering - Steel | For tile roofs, go to step 17

Step 13

Install the nominal 42mm high steel top-hats over the Plus 60, ensuring they butt up snugly to the FIREFLYBatt FZ around the perimeter of the roof.



For gable sections where the top-hat battens interface with 25mm wide, vertically oriented FIREFLYBatt FZ install sections of FIREFLYBatt FZ between top-hats, butting up to the batten and vertical FIREFLYBatt FZ on the barge, using

- 1 x 50mm needlepoint screw for a **timber frame**;
- 53 x 75mm 4.2g self-drilling screws for a **steel frame**

Add minimum 32 mm OD penny washers. Seal all gaps between the adjacent sections of FIREFLYBatt FZ with FIREFLYMastic.

Step 14

Overlay the Plus 60, steel top-hats and FIREFLYBatt FZ with FIREFLY 50mm thick foil faced mineral wool insulation, with the foil facing downwards.

Continue the foil layer past the face of the FIREFLYBatt FZ, allowing enough material to ensure that the foil facing of the blanket laps into the gutter when fitted.

Install the timber or steel fascia subject to the states' regulatory authority requirements.

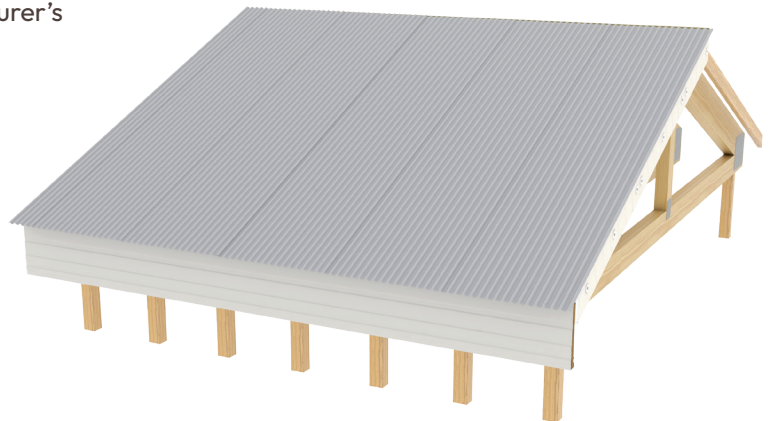


The fascia is fastened over the FIREFLYBatt FZ with either fibre cement or plasterboard through to the truss ends; with fasteners and brackets accounting for the additional thickness from the protection system.

Install the eaves lining according to the fascia and lining manufacturer's details.

Step 15

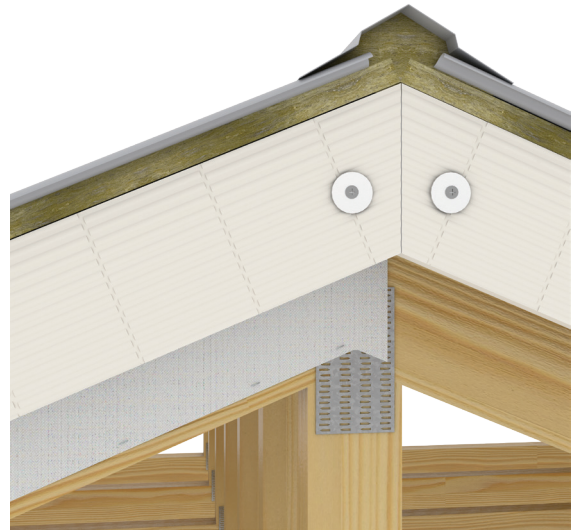
Install the steel roof sheets according to the manufacturer's instructions and local design wind-loading.



Step 16

When the steel roof sheets are installed, the diffuse mineral wool will compress up into the roof profile at the perimeter of the roof, creating a tight seal.

Prior to installing the ridge capping, lay an additional layer of FIREFLY 50mm thick foil faced mineral wool insulation at the junction to ensure that when the capping is screwed home, the insulation will fill any voids.



Roof Covering - Tile



Step 17

Overlay the Plus 60 and FIREFLYBatt FZ with FIREFLY 50mm thick mineral wool insulation with the laminated foil facing downwards. Stop at the FIREFLYBatt FZ, ensuring a snug fit.

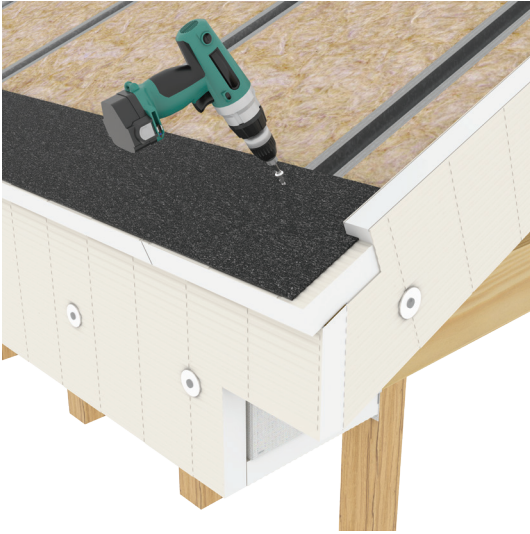
Step 18

Install inverted 42mm high steel top-hat counter battens over the FIREFLY foil faced mineral wool blanket, directly over the roof trusses/rafters. The counter battens can extend over the FIREFLYBatt FZ. Secure into place, using

- 75mm M6 hex head roofing screws at 300mm centres for a **timber frame**;
- 75mm M6 hex head self-drilling screws at 300mm centres for a **steel frame**

Note: As tiles are not able to be screwed down directly over bulk insulation, a batten/counter batten method is required to allow for the compression of the mineral wool blanket that would be ordinarily provided by the screwing down of the steel roofing profiles.





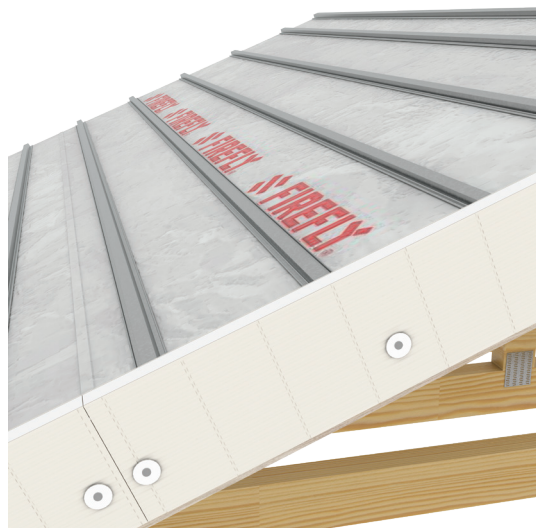
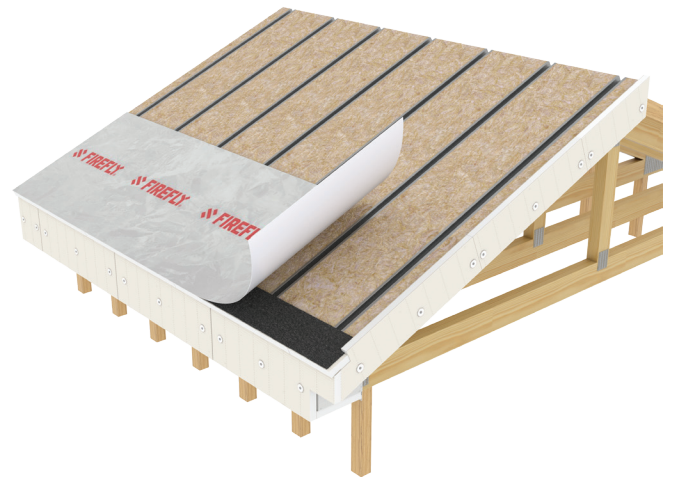
Step 19

Lay down anti-ponding board over the insulation and secure in place to the inverted top-hat counter battens with 32mm M6 hex head self-drilling screws.

Step 20

Install FIREFLY Non-Combustible Non-Breathable Sarking over the insulation and anti-ponding boards and lapping into the gutter when installed.

Tape joints with FIREFLY reinforced tape or allow for a minimum 150mm overlap per the requirements of AS4200.2.



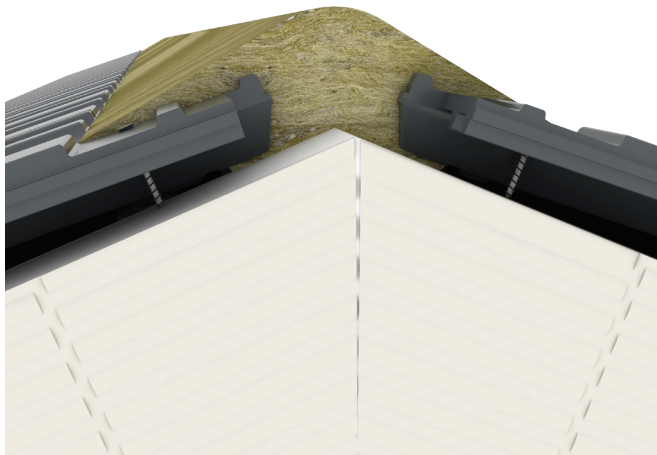
Step 21

Install steel tile batten at 90 degrees to the counter batten top-hats. Secure with 32mm M6 hex head self-drilling screws through the sarking and insulation diagonally into the flanges of the counter batten.

Space the tile battens per the tile manufacturer's recommendations.

Step 22

Install roof tiles according to the roof tile manufacturer's recommendations.

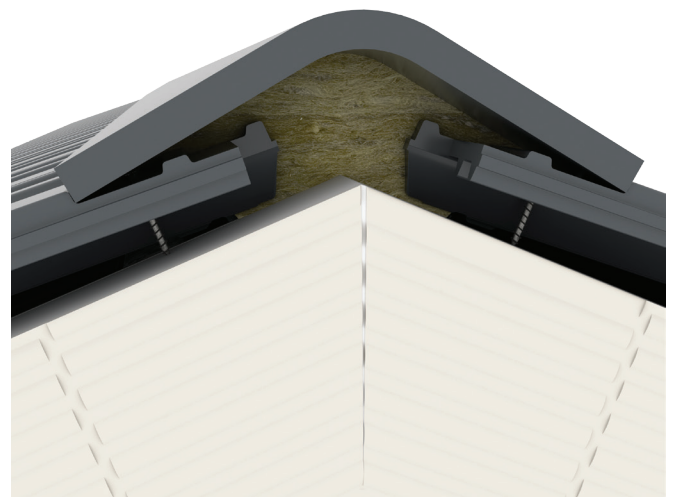


Step 23

Install an additional layer of FIREFLY mineral wool insulation at the junction between the tiles on the ridge.

Step 24

Install tile ridge caps to the roofing manufacturer's recommendations, using the tile joint mortar for bedding and pointing.



Appendix A | Truss / rafter spacing other than 600mm alternate blanket orientation

Step 1

Where rafters are not spaced at the optimal spacing for Plus 60 installations, the blanket can be run vertically with joints in the blanket “spliced” together between 2 layers of hoop iron.

Run a 32mm x 0.8mm flat, non perforated, steel strap at 1200mm spacing horizontally and fasten to each rafter / truss with

- 15mm 8g galvanised button head stitching timber screws for a **timber frame**;
- 32mm 3.5g self drilling button head screws for a **steel frame**



Step 2

Stretch out the Plus 60 blanket over the frame and fascia board. Temporarily secure into place with

- a hammer tacker for a **timber frame**;
- 15mm button head self-drilling screws for a **steel frame**

Repeat until roof is covered.

Step 3

Run a 25mm x 0.6mm flat steel strap (hoop iron) over all the horizontal joints above the 32mm x 0.8mm steel strap. Clamp into place using 32mm bugle head self drilling screws into the underlying strap at 150 mm centres.

Return to Step 5

