fatra

Installation Guide

Environmental waterproofing solutions

Remember before you start work:

1. Do **you** have the correct tools?
2. Do **you** have design information?
3. Are **you** aware of the correct details?
4. Are **you** providing protection for access?

FITTER'S NAME

CSCS NUMBER

FATRA TRAINING NUMBER

DATE TRAINED

Index

1 Introduction to installing Fatra PVC membranes

1.1 Fatra membranes

Fatra PVC membranes are made from recyclable PVC and in many cases are from already recycled product. They have been tested by the British Board of Agrément and last in excess of 30 years. The membrane types are identified by labels on the packaging.

There are five main types:

TYPE	DESCRIPTION	USE
FF804	Non-reinforced membrane	Used for detailing. Not to be used as a field sheet
FF807	Fleece-backed membrane	Fleece acts as a separation layer over bituminous products and polystyrene insulation
FF807V	Fleece-backed membrane	Field sheet over PIR insulation or direct to timber decks
FF810	Reinforced membrane	For mechanically fastening or perimeter detailing
FF810V	Reinforced membrane	For mechanically fastening large roofs
FF812	Walkway membrane – Diamond embossed finish	Only to be used over FF810 or FF807

The membranes are individually wrapped and are normally delivered on a pallet. The pallet shrink wrapping is for transport and is not a weather proofing. The rolls should be stored flat in a dry environment. When being laid out for installation they should be left a short while to lose any ripples caused by the manufacturing process.

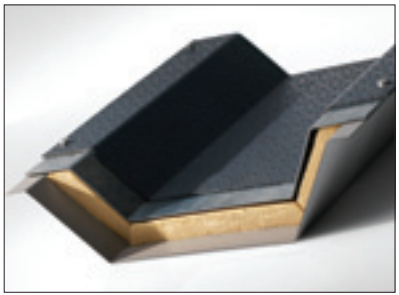
1.2 Accessories

Trims and corners
Fatra preformed corners must be used on every corner. Fatrametal trims must always be used at every change of direction.

Standard trims are available from stock, and custom trims are available to order.

Fixings
To install Fatra roof systems Fatrafix Fixings must always be used.

Fatra fixings cover most applications, deck types and insulation thicknesses. Fatra FR-45 Tube Washers reduce the cost of fixings as well as acting as a thermal break. Stainless steel must be used for extended guarantees or in aggressive environments.

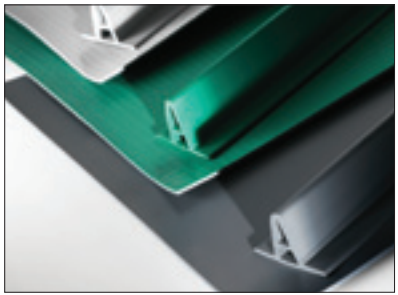


Fatra gutters
Made from galvanised steel and available with either a plain or PVF finish on the underside, Fatra Gutters have a lining of Fatra FF812 textured membrane on the sole to provide a slip-resistant surface that does not impede the flow of water.

The gutter is available as single skin or composite gutters with insulation.

Fatra rainwater outlets
Fatra outlets are designed specifically to work with Fatra membranes. Each comes with a flange of Fatra membrane to enable outlets to be welded to the roofing membrane and provide a joint-less system.

Custom sizes are available to order.



Fatra FF812 standing seam profiles
– See Section 7

Fatra FF812 walkways
– See Section 8

1.3 Field Technicians, inspections and guarantees

Fatra membranes are installed by trained fitters. Fatra undertake training of fitters at their training school in Cardiff or at the customers' premises if applicable.

Once the fitter has passed the course they receive a 'Provisional' Fitters Photo ID Card. Once they have been assessed on site and are shown to be competent installing the different Fatra systems they receive an 'Approved Fitter' card.

Cards are valid for 2 years and are reissued to fitters who continue to demonstrate competence installing Fatra membranes.

Fatra Field Technicians are available to advise on non-standard details and issues met on site.

On major projects the Field Technician will make regular visits and provide reports for the roofer to pass onto the client.

For a Fatra guarantee the installer must contact the Field Technician in good time while safe access is possible for a 'Final Inspection'.

Once the correct installation of the required products has been signed off the installer can then request a guarantee from Fatra.

On some projects additional products such as insulation may be stipulated to provide the client with the required guarantee.

1.4 Tools and personal protective equipment

The following tools will be needed to install Fatra membranes correctly:

For welding

- 110v Hot air welding gun (Leister Triac or similar)
- 20mm welding nozzle
- 20mm 60° nozzle (for detailing)
- Wire brush for cleaning
- 28mm Teflon-coated roller (for main welding)
- Brass 'Penny' roller (for internal angles)
- Seam probe (for testing welds)
- An automatic welder can be used
- FF856 liquid sealant bottle and spout

For fixing

- Screw gun (110v)
- Correct driver and bits

For detailing

- Scissors (not knives) for trimming membrane
- Metal snips (for trimming Fatrametal)
- Toothed metal spreader for FF855 adhesive
- Short-haired lamb's wool roller for FF859 adhesive or FF861
- Tape measure
- Ruler
- Chalk line

For finishing

- Soft broom or squeegee for smoothing membrane
- Water-filled roller for smoothing FF807 membrane
- Lint-free cleaning cloths
- FF860 membrane cleaner

The following PPE is suggested to be the minimum required:

- **Foot Protection**
  Boots to EN 20345
- **Hand Protection**
  Heat and chemical resistant gloves
- **Head Protection**
  Helmet to EN 397
- **Eye Protection**
  Spectacles or goggles to EN 166 class 1
- EN 471 high visibility waistcoat

Other PPE may be required as indicated by a Risk Assessment.

1.5 Welding

Basic Requirements

OVER LAP – The membranes must overlap by 50mm minimum.

WELD WIDTH – A minimum of 30mm.

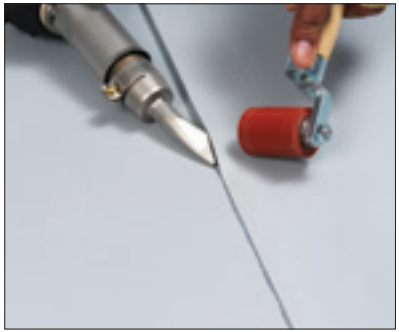
WELDING TEMPERATURES – Welding of Fatra PVC is carried out at a nozzle temperature of 450 to 550°C. Fatra recommend the use of welding guns that have a digital temperature control.

Tacking

- On occasions there may be a need to lightly tack the membrane. This is to the rear of the 50mm overlap within the line of the pre-weld at 500mm centres approximately. A tack is not a weld, it can be removed.

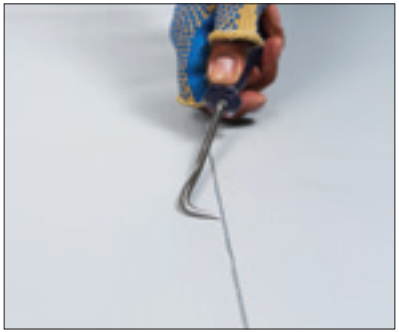
Pre-weld

- Pre-weld to the rear of the overlap using the heat gun and immediately closing the seam with the silicon roller, crossing over the lap in a diagonal motion. This closes the lap to produce the air seal. Use a heat gun and a 20mm flat nozzle. Seam areas must be clean and dry.



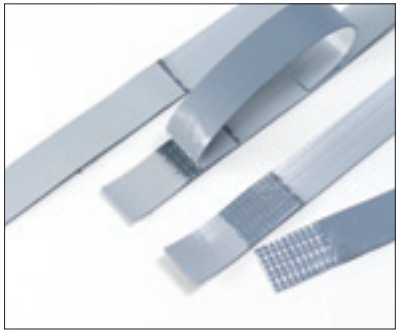
Final weld

- After the pre-weld place the tool under the overlap leaving 5mm projecting out from the edge. Continually roll back and forth diagonally across the edge of the lap and down the full length of the seam producing the final homogeneous weld and the weatherproof seal.



Probing

- After the welded seams have cooled they must be visually checked for a thin dark line of extrusion from under the membrane and mechanically tested by running a steel hand probe along the joint by applying pressure to the seam at all times. If any weak welds are found, then peel the membrane back to fully open and re-weld with the hand gun.



Tear tests

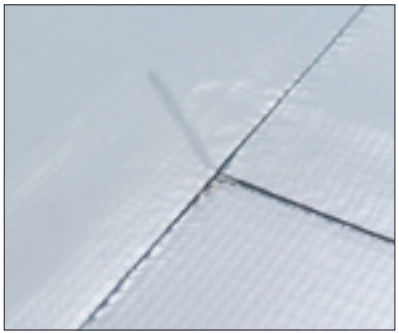
- Before carrying out any welding on the roof check that the tool is at the correct temperature by welding several membrane strips together. When cooled, cut 25mm wide strips to carry out a tear test. Take the sample strips and tear them apart across the weld width. If the membrane has achieved a full homogeneous seal it will rupture outside the weld.

Seam sealer

- Once the welding has finished and all seams have been checked and found to be fully functional, clean and dry membrane.
- **Apply Fatrafol FF854 PVC liquid sealant along the edge of the seam of any site cut edges of Fatrafol FF810 membrane.**

T-joints

- T-joints in the field area sheet must always be staggered.
- These joints create an extra thickness in the membrane lap and can leave a capillary joint.
- Cut the corner of the membrane below at 45° and weld the lower membrane together as usual.



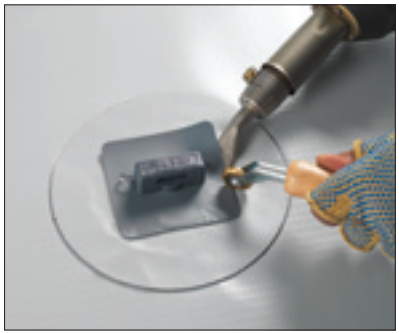
- Then carry out the pre-weld and complete the final weld applying extra pressure to the silicon roller along the line of the lower diagonal cut when welding over these sections to ensure the upper membrane is welded into the lower joint.

Roll ends of FF807 membrane

- These should be butt joined and then covered with a strap of FF804 membrane no less than 150mm wide.
- Trim the FF807 underneath as for a T joint and weld the FF804 over ensuring an equal coverage of both ends of the FF807.

FF812 Standing seam profiles

- These should be welded into place, not adhered.
- Tack into place first and then continuous weld both sides using a brass penny roller.
- See Section 7.



FF863 Lightning Conductor Clips

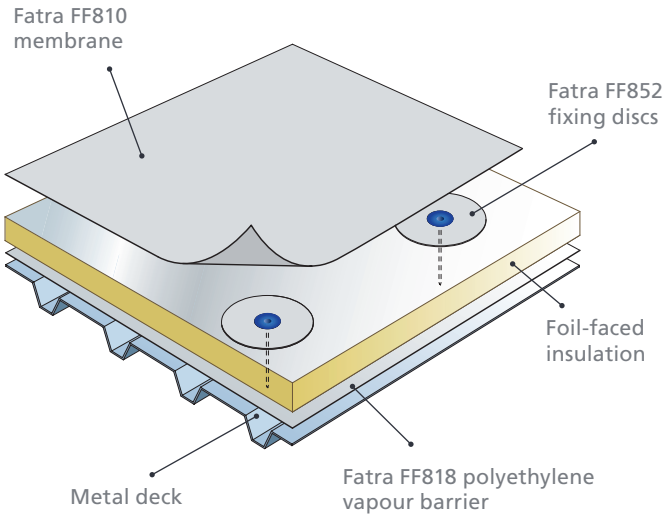
- Install either round discs of membrane or square patches with rounded corners onto the field sheet at centres defined by the services engineer.
- Weld the FF863 Clips to the disc.
- If the clips are welded to the field sheet the sheet may be damaged in the event of a lightning strike.

2 FF810 Membrane mechanically fixed system

The Fatra mechanically fastened system uses Fatrafol FF810 reinforced membrane held in place using FF852 fixing discs and FP855 adhesive.

Most commonly used over metal profiled structural decks (min. 0.7mm thick) it can also be laid over plywood or OSB provided the decks are at least 18mm thick and in the case of OSB has a current and relevant BBA certificate.

In certain cases, for example high windload or refurbishing existing roofs, this system can be used over concrete decks.



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- Lay FF818 vapour barrier loose over the substrate, for a concrete deck first lay a FF800 fleece.
- Tape all joints of the vapour barrier with butyl sealant tape allowing for 100mm side and end laps.

2

- At up-stands and penetrations turn the vapour barrier up the vertical section to the height of the thickness of the insulation board which is going to be installed and seal to the vertical with butyl sealant tape.

3

- Loose lay the insulation board to a staggered bond pattern, following the manufacturer's instructions.

- Set out the Fatrafol FF852 fixing discs to the fixing design by Fatra Technical Department using the specified Fatrafix fixing.
- Across the width of the sheet the discs should be at 650mm centres with a disc line along the long edge of the membrane. The last row of fixings should be 200mm from the perimeter.

- The spacing lengthways will change according to the windloads and fixing pattern from Fatra.
- When machine welding offset the discs from the lap by 50mm allowing the machine to run smoothly along the welding seam.

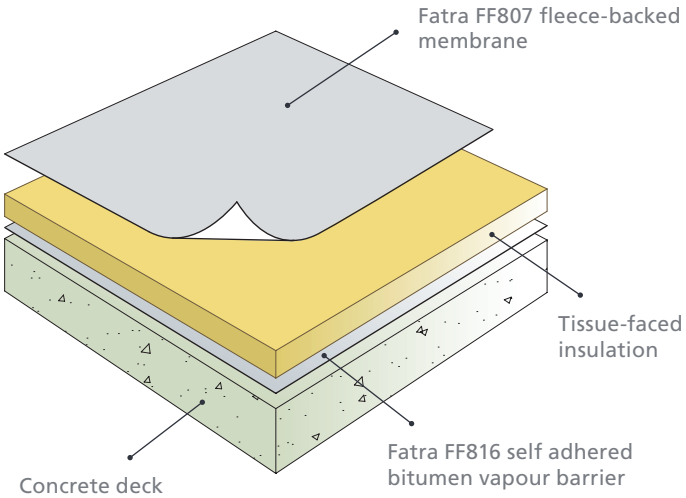
- Using a toothed spreader apply FF855 adhesive to the FF852 discs – 1 litre to 70 discs.
- Then roll the FF810 over the discs. Line up and pull the membrane tight before the adhesive 'grabs'.
- Then smooth using a soft broom sweeping to the edges and the free end.
- Weld as in section 1.5.

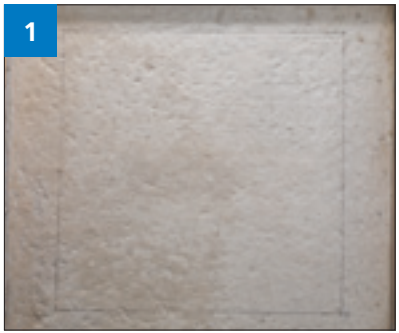
3 FF807 Adhered system

An adhered Fatra roof uses Fatrafol FF807 fleece-backed membrane. This is normally installed over insulation bonded to concrete decks.

The FF807 3.0mm thick (1300mm wide) has a thicker fleece and can be bonded directly to aged asphalt and bituminous felt.

The thicker fleeced version can also be used where appearance is important i.e. when using Fatrafol FF812 Standing Seams. In this situation the insulation may be mechanically fastened to the deck and the membrane bonded.





Preparation

- The deck should be smooth and clear of ridges and nibs. Concrete should be wood troweled; plywood and OSB (grade 3) should be 18mm thick minimum.

Vapour control layer

- The relevant Fatra bituminous felt VCL (FF816, FF819) should be installed on to the dry and clean deck.
- **Refer to the Fatra Datasheet** – Torch on VCL Good Practice Guide.

Peel test

- A peel test should be carried out to ensure the VCL has bonded correctly before insulation is installed.

- Apply Fatra polyurethane insulation adhesive FF867 to the substrate. The adhesive should be in 5mm beads at 300mm centres in the centre of the roof, 150mm beads for the first 2.4m in from all perimeters.

- Lay the tissue faced thermal insulation board in a staggered bond pattern on to the adhesive and apply pressure by standing on the board.
- Lay only the insulation that can be waterproofed that day.

- After laying the insulation board roll out the membrane loose over the board making sure the membrane is running straight and the selvedge edge is lapped correctly.
- Roll back the membrane and then apply Fatra FF859 polyurethane adhesive to the insulation/substrate at a rate of no more than 4m^2 per litre.
- Wait until adhesive ‘foams’.

- Roll the membrane into the wet adhesive and apply pressure over the membrane by using a foam covered water filled roller. For small areas use a soft brush.
- Repeat this operation several times over the first 2 hours while the adhesive is still rising and gaining contact with the fleece backed membrane.

- Ensure the selvedge overlaps so that the non-fleece backed edge is over the previous sheet ready to weld.
- Weld as in section 1.5, or use an automatic welder.

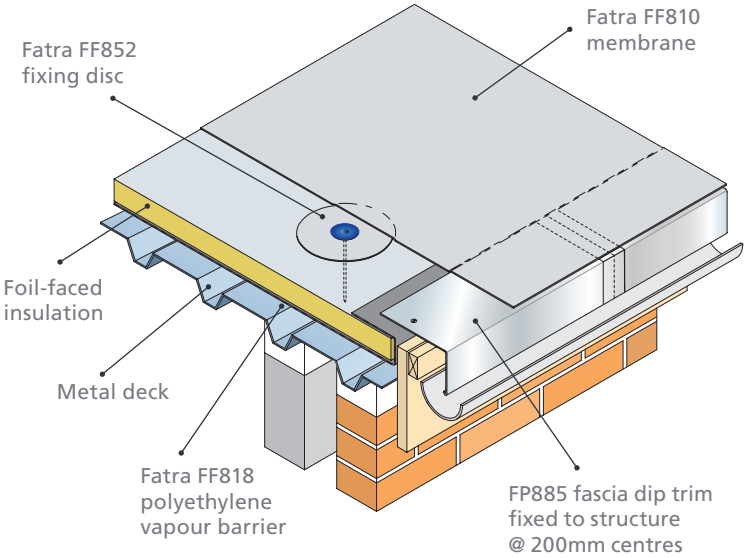
- Alternatively the insulation can be mechanically fixed to a metal deck through a Fatra FF818 vapour control layer.
- Use Fatrafix FR 75 tube fixings at centres as proscribed by BRUFMA ensuring extra fixings are used to secure any protruding insulation corners.

4 Perimeter detailing

4.1 Drip edges

Where a Fatra roof terminates in a drip edge the FF855 profile must be used. For an adhered roof the FF807 membrane is trapped under the trim, for a mechanically fastened roof the FF810 can be welded to the top face provided that the centre of the first row of FF852 Fixing Discs are no more than 200mm from the edge.

If a deeper drip edge is required form from FF889 Fatrametal sheets, but any vertical face over 100mm must be stiffened either using a backing strap of galvanised steel behind the trim or be secured using cladding screws and caps.



- If using FF807 as a field sheet trap it with the FF855 Fatrametal trim. At the edge of the trim also trap half an inverted 200mm wide strap of FF804 membrane.
- Fix the trim with the appropriate Fatrafix fastener at maximum spacing of 250mm centres.

- Install the next length over the other half of the strap allowing a 5mm expansion gap between lengths of metal.
- Tape the joint with a 25mm wide masking tape.

- Lift the strap from under the metal up the face of the metal and weld to the face and top of the trim before finishing on the inside edge of the trim.

4

- The FF810 or FF804 can then be taken over the faceted metal and welded in line with the edge of the trim ensuring the cut edge of the trim is covered with the membrane.

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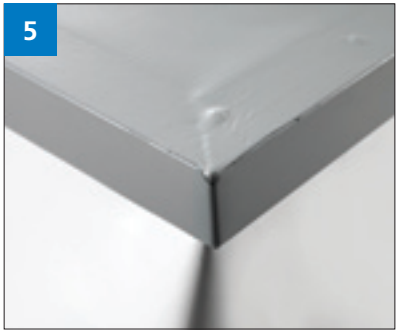


- If using a FF810 field sheet make sure the last line of fixing discs is 200mm from the edge of the roof then take the FF810 over the trim and weld flush with the outer edge.

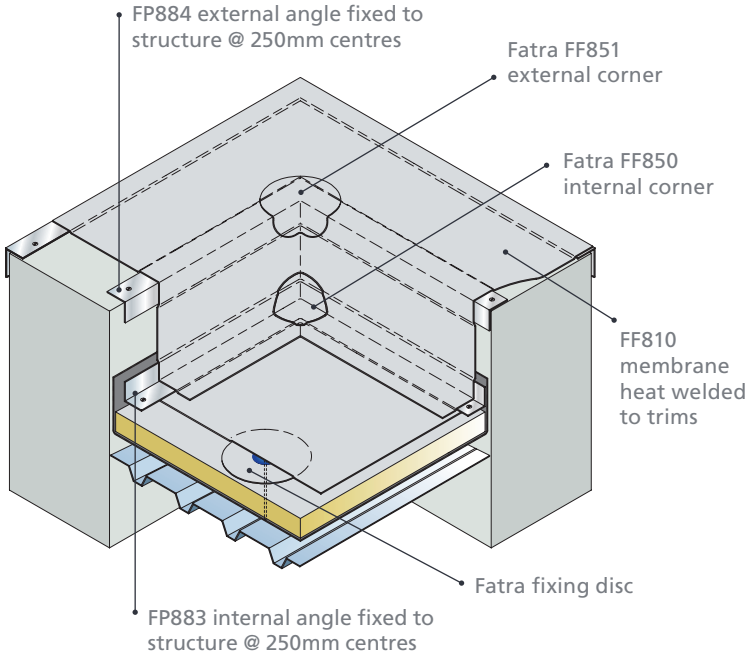
4.2 Upstands and corners

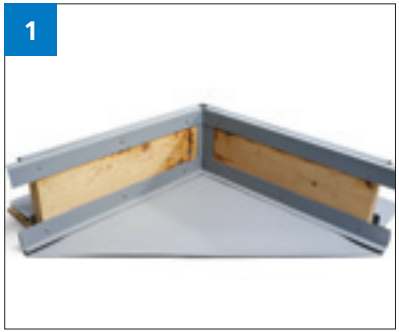
For Fatra upstands every change of direction over 15° must be secured using a length of Fatrametal. The methods of finishing the flashing depend on the height of the upstand. Please use the chart at the end of the section (page 27) to select the correct system.

For gutters use the same approach but finish the sole in the following ways.

Sole under 600mm wide, bond FF810 using FF861 Contact Adhesive.

Over 600mm wide, secure the FF810 using Fatra Structra discs at a spacing of no greater widthways than 650mm from each other or the gutter edge trims. Longitudinal spacing to be 600mm or the same as for the field sheet.

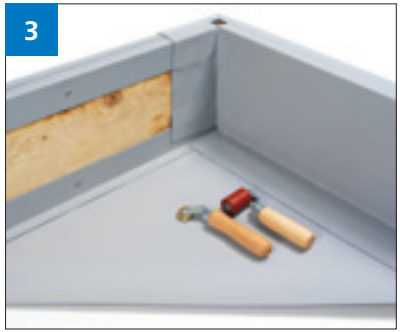




FOR INTERNAL CORNERS

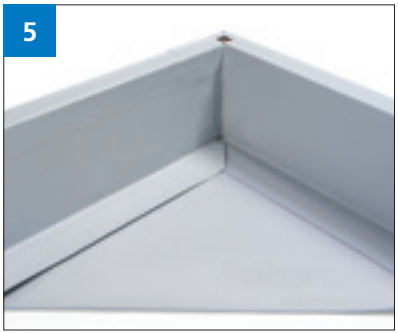
- The Fatrametal FF883 trim must be fixed at 250mm centres, either in to the deck or the upstand. Mitre cut Fatrametal trims FF883/4 to fit corners.
- At internal corners cut a square out of the area membrane 100mm x 100mm. Then fix membrane into place dressed at least 50mm up the upstand using the Fatra trim to hold in place.

- Trim the FF804 or FF810 membrane to fit into the internal corner.
- Use a penny roller and hot air gun to weld the flashing membrane (FF804 or FF810) to the Fatra metal by welding from the centre to the end of the flashing.
- Weld membrane to the vertical Fatrametal in the corner and to the top Fatrametal trim.



- The first flashing is now positioned in place with the membrane returning 150mm around the corner ready to receive the second flashing and 60mm beyond the Fatra trim on to the field sheet.

- Weld a second length of membrane to the horizontal Fatrametal angle using a penny roller.



- Cut out a tapered piece approximately 30mm diagonally into the corner from the underside flashing.
- Now cut the excess membrane off the upper sheet to form a mitre.

- Weld up the vertical seam to the internal corner with a penny roller and then weld the horizontal flashing to the field sheet and to the top Fatrametal trim.

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- Weld the pre-formed corners (FF850 or FF851) to all 3 sides avoiding distorting the membranes by an excessive temperature build up.

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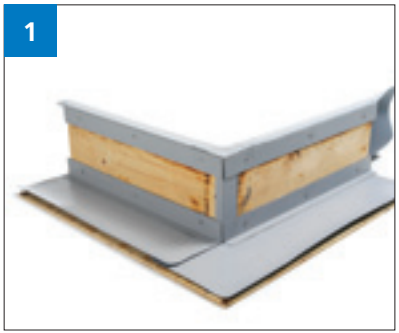

FOR EXTERNAL CORNERS

- The Fatrametal FF883 trim must be fixed at 250mm centres, either in to the deck or the upstand and mitre cut to fit corners.
- Fix membrane into place dressed at least 50mm up the upstand using the Fatra FP883 trim to hold in place.

2

- Place an over-sized flashing against the upstand overlapping on to the field sheet at least 60mm beyond the Fatra trim. Tack weld to the Fatrametal trims and trim to size
- Using a penny roller weld the flashing to the Fatrametal trim from the centre, to the end of the flashing. Cut the flashing membrane at 45° to turn around the external corner. Heat weld the membrane to the top and bottom PVC coated metal angles.

3

- Dress a second flashing to the opposite face, weld to the trims using a penny roller for the internal angle.
- Trim perpendicular to the opposing face.

4

- Trim the corner to a rounded finish to overlap the first flashing.

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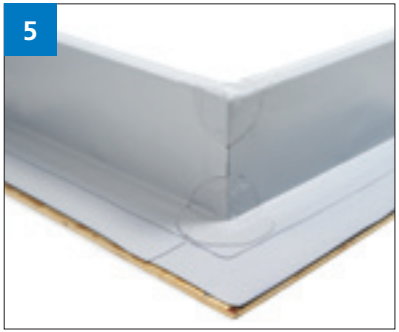


- Finish welding the flashing to the metal trims.
- Once complete then weld to the field sheet. Pay particular attention to the 'T' joint at the overlapping flashings.
- Finish the corner by installing internal and external corners. Weld corners along the edges for the Fatrametal first and then weld from inside to the edge on each face.

Low upstands on a FF810 roof

- For an upstand of only 150mm, install a Fatrametal angle at least 175mm vertically by 150mm. Fix both legs allowing a 5mm expansion gap between lengths of metal.
- Tape the joint with a 25mm wide masking tape.

- Weld a strap of FF804 membrane across the joint to the edge of the Fatrametal.
- Take the field sheet of FF810 on to the Fatrametal and weld at least 60mm in from the edge using a 60° cranked nozzle.
- Ensure that the vertical Fatrametal does not get damaged by the welding tool and that all welds are checked and finished with Seam Sealer.

UPSTAND HEIGHT	
0-150mm	If an FF810 roof then use a single angle of Fatrametal.
0-300mm	Continue the FF810 in one piece over the parapet, welding to the Fatrametal trims. No adhesive required.
300-600mm	Finish with a flashing of FF810 or FF804, can use FF861 adhesive with tissue faced insulation for improved aesthetics.
600-1300mm	Must use FF861 contact adhesive.
Any height	Use FF810, cut 1 metre wide, lap fixed vertically at 150mm centres, or Fatra Structra pad system and FF810 membrane.

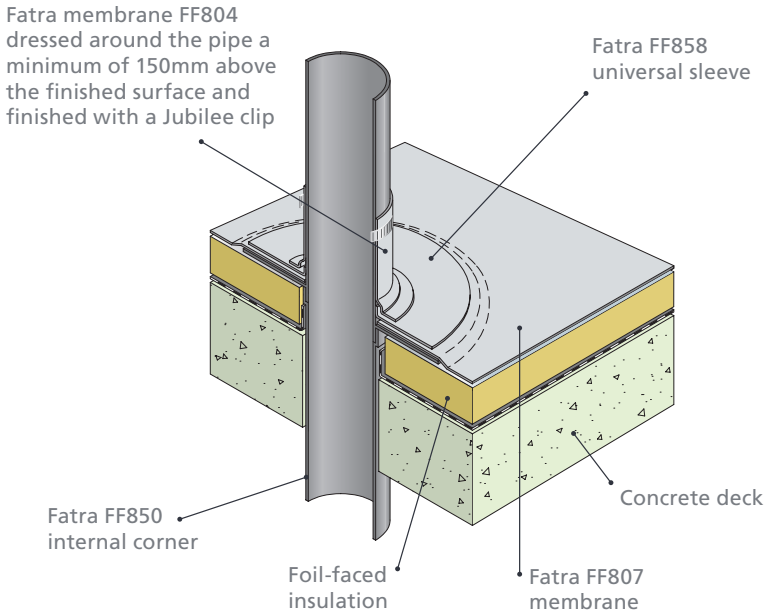
5 Detailing pipe penetrations & rainwater outlets

5.1 Pipe penetrations

FF804 membrane is unreinforced and so is recommended for carrying out these details.

It is important that the correct trims and clips are used and that the detail is completed at least 150mm above the roof finish. Failure to follow this may lead to the guarantee being refused.

Always complete the detail before welding the flashing to the field sheet, this allows you to remove the detail if it has not been completed properly.



- Cut the field sheet close to the pipe.
- In a sheet of FF804 membrane cut a collar at least 300mm diameter, in the centre cut a hole 20mm less than the diameter of the pipe.
- Preformed collars are available (FF858).

- Take the collar and heat all around the hole approximately 30mm wide and stretch it outwards.
- Stretch the collar over the pipe pushing the collar to the base.

- Cut a sleeve to a height of at least 200mm. Use a temporary length of FF804 to make the flashing oversized when wrapped around the pipe before tack welding the flashing around the pipe.

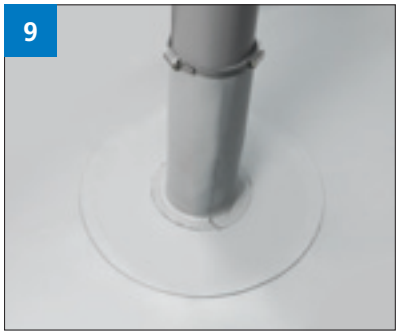
- After tacking in position remove the sleeve from the pipe and cut the bottom 30mm of the sleeve lap at an angle to reduce thickness for stretching. Then replace back on to the pipe.

- Pre-weld and final weld the sleeve on the pipe.

- After welding remove the sleeve and heat its base all the way around approximately 30mm wide.
- Stretch the base of the sleeve to an approximate width of 20mm.
- And re-install on to the pipe.

- Weld the 20mm flashing to the collar using a brass ‘penny roller’.

- Trim the top of the flashing to no less than 150mm above the final roof finish, making sure allowance is made for any green roof finish, ballast or paving.
- Install a bead of Fatrasil FF857 silicon sealant behind the flashing and clamp into place using a stainless steel adjustable clip.



- After the pipe detail has been completed pre-weld and final weld the collar to the area membrane.

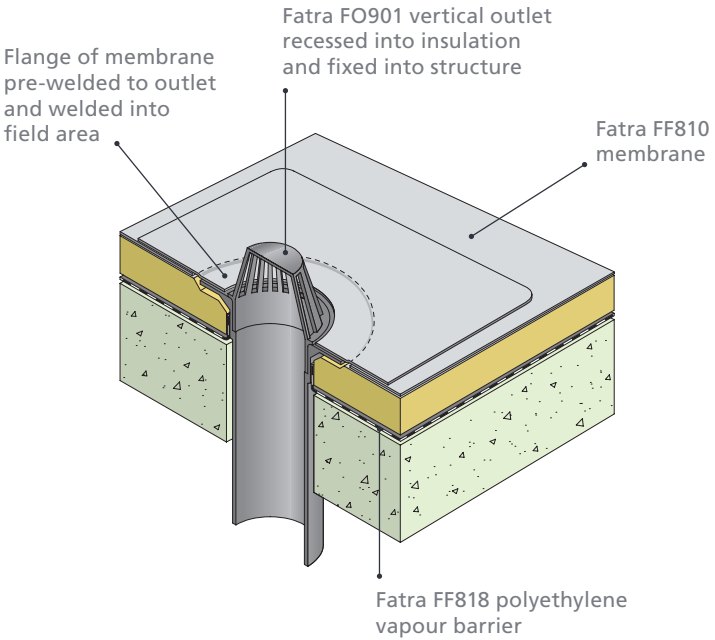
5.2 Detailing rainwater outlets

Fatra can provide a range of outlets, for new build and refurbishment. Outlets can be insulated or uninsulated, the contractor must confirm with the specifier which are required. There are a number of accessories available to connect the Fatra outlets to the drainage system.

It is important that Fatra rainwater outlets are used as the welded connection provides a better connection compared to clamping rings.

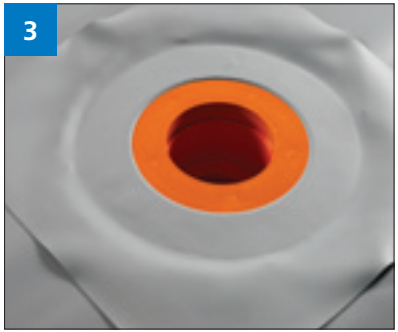
Failure to follow this guidance may lead to the guarantee being refused.

Always complete the detail before welding the flashing to the field sheet, this allows you to remove the detail if it has not been completed properly.

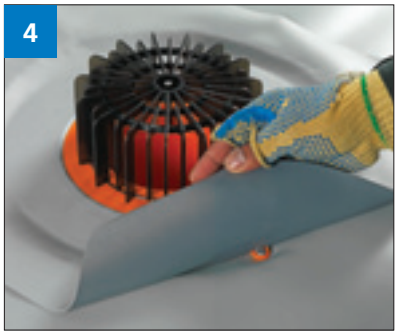


- Roof outlet with cone and pre-formed flashing.
- The underside of the roof outlet has a flat base with a cone shape below it. This shape needs to be cut out of the insulation board. On a cold roof the outlet will come with just the flat base.

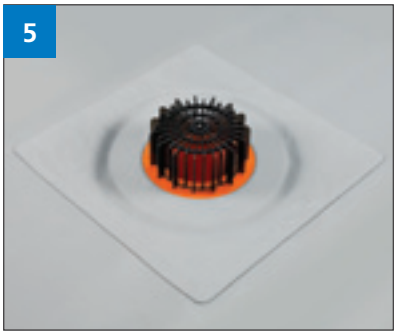
- Place the roof outlet on the insulation over the area where the roof drain is below and draw around the pipe.
- After marking the hole cut around with insulation saw and remove the cut section of insulation to match the profile of the outlet pipe, cone and plate.



- Lay the field membrane over the hole and cut to match. Then insert the rainwater outlet into the hole and push home ensuring that the outlet sits slightly below the level of the main roof.



- Trim the corners of the outlet flashing to a rounded profile. Then fix the outlet through the insulation to the structural deck.
- Weld the flashing to the field sheet as in Section 1.2.



- The finished outlet should sit slightly below the main roof so there is no impediment to the flow of water.
- Make sure the outlet is finished with the leaf guard, these can be PVC or stainless steel.

- Outlets are available in vertical and horizontal variants as well as uninsulated.

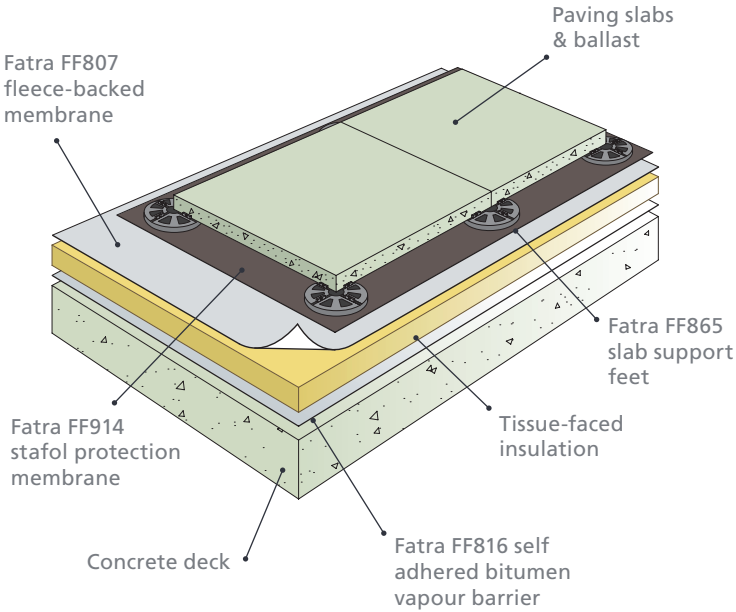
6 Ballasted, paved & green roofing

6.1 Ballasted or paved roofs

For ballasted roofs use the Fatra adhered roof build up. This avoids leaks tracking under the membrane.

The FF807 membrane should then be protected with a layer of FF914 Stafol protection sheet with a 100mm overlap. The paving slabs are laid on support feet, either FF865, or when more adjustment is needed FF864.

If the roof is ballasted FF800 protection fleece can be used. This should be dressed up every upstand the depth of the ballast and the overlaps should be 100mm.

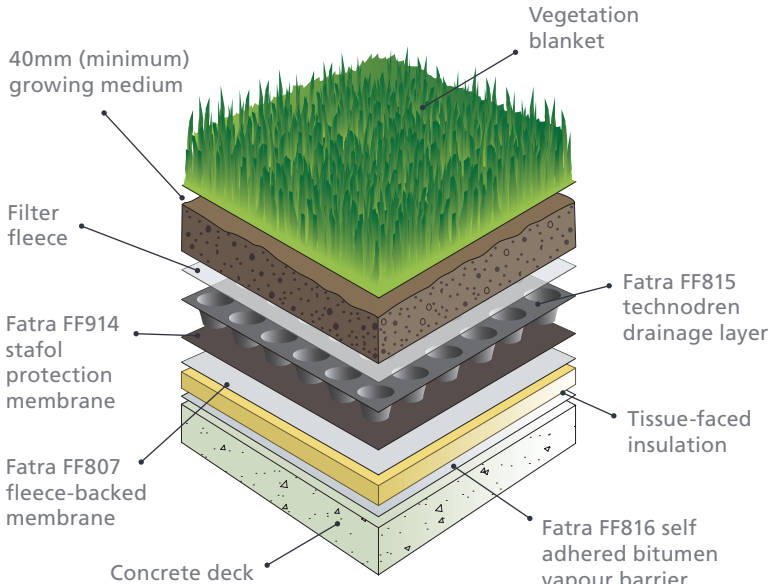


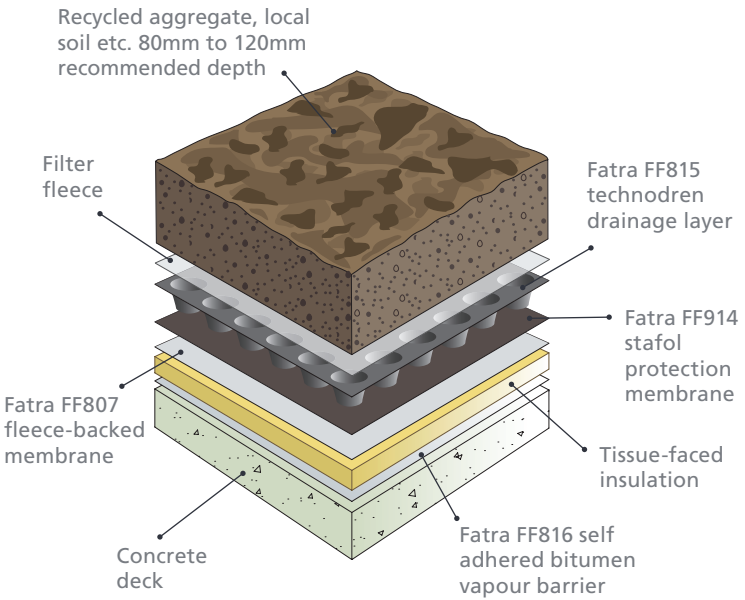
6.2 Green and brown roofs

For ‘green’ roofs use the Fatra adhered roof build up. This avoids leaks tracking under the membrane.

The FF807 membrane should then be protected with a layer of FF914 Stafol protection sheet with a 100mm overlap.

The rest of the green roof build up should be designed by a specialist but will normally include a Fatra FF815 ‘Technodren’ Drainage Layer, FF800 Filter Fleece and growing medium and plants to suit the project.

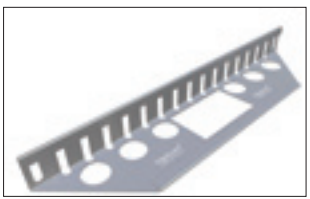




For 'brown' or 'bio-diverse' roofs the layers are the same until the growing medium and planting scheme. These will often be project specific.

6.3 Green roof accessories

Fatra can provide a range of products as part of a green or brown roof system. Contact Fatra for more information.



7 'Standing seam' roofing

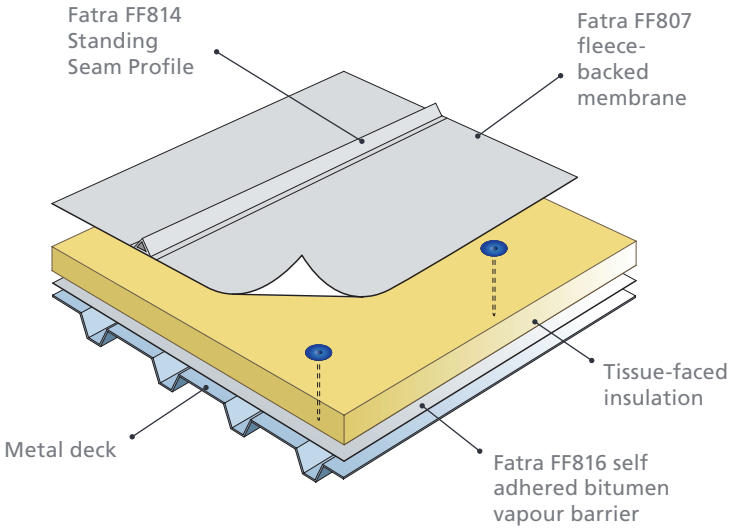
Fatra membranes can be used to replicate standing seam roofing. Usually installed over a metal deck, use Fatrafix FR 75 insulation tubes and FBS screws to fix the tissue faced insulation to the deck.

FF807 is adhered as before (Section 3) taking special care to avoid ripples and bubbles.

Install Fatra FF812 Standing Seam Profiles at the prescribed spacing, heat welding to the FF807.

Use a chalk line to align the first profile, there after use a timber former to align the following profiles with the first.

Profiles should be butt joined with a 5mm gap. At ridges and eaves cut the profile at 45 degrees.



8 Protecting your roof

8.1 During construction

Avoid using the membrane as a working area.

Encourage the use of ‘Permit to Work’ on your roof areas.

If you or a following trade needs to work on it protect the finished roof by a layer of FF800 Protection Fleece and OSB, plywood or similar.

Materials should be stored in designated areas protected as before.

8.2 After completion

If the roof does not have a paved, ballasted or green roof finish then advise the main contractor and client on the use of FF812 Textured Walkway Membrane as a way of protecting the roof and defining access routes.

FF812 should be welded along its length and spot bonded to the field sheet in the central area using FF861 Contact Adhesive.

If heavily trafficked and always over mineral wool type insulation use a min. 0.7mm metal spreader plate, deburred with rounded edges and wrapped in FF800 fleece installed across the centre under the FF812 Walkway.

9 Basic information and coverage rates

Membranes

FF800	Fleece 200g/m^2	2.0m wide x 50m long rolls 200m^2 per roll
FF801	Fleece 300g/m^2	2.0m wide x 50m long rolls 100m^2 per roll
FF804	Un-reinforced membrane	1.5mm thick, 1.3m wide x 20m long rolls 26m^2 per roll. 19 rolls per pallet (494m^2)
FF807	Fleece-backed membrane 1.3m wide (300g/m^2 fleece)	3.0mm thick, 1.3m wide x 15.4m long rolls 20m^2 per roll. 20 rolls per pallet (400m^2)
FF807V	Fleece-backed membrane 2m wide (120g/m^2 fleece)	1.9mm thick, 2.05m wide x 16m long rolls 32.8m^2 per roll. 21 rolls per pallet (688m^2)

Membranes (cont'd)

FF810	Reinforced membrane 1.3m wide	1.5mm thick, 1.3m wide x 20m long rolls 26m^2 per roll. 19 rolls per pallet (494m^2)
FF810V	Reinforced membrane 2m wide	1.5mm thick, 2.05m wide x 20m long rolls 41m^2 per roll. 21 rolls per pallet (861m^2)
FF812	Walkway membrane (Diamond-embossed pattern)	1.2mm thick, 650m wide x 20m long rolls 13m^2 per roll. 38 rolls per pallet (494m^2)
FF814	Standing seam profile	2.5m long each. 40 no. per box (100 linear/mts)
FF914	PVC stafol protection membrane	1.2m wide x 70m long rolls 84m^2 per roll. 21 rolls per pallet (1,764m^2)

Fittings

FF850	Internal corners	40 no. per pack (400 no. per box)
FF851	External corners	30 no. per pack (240 no. per box)
FF852	PVC fixing discs (180mm Ø)	100 no. per pack (400 no. per box)
FF853	Galvanised PVC washers (50mm Ø)	1,000 no. per box

Fittings (cont'd)

FF858	Universal sleeves (400mm Ø)	10 no. per pack
FP889 – 2m	PVC faced flat steel sheet	1.25m wide x 2.0m long sheet 2.5m^2 per sheet. 50 no. sheets per pallet
FP889 – 3m	PVC faced flat steel sheet	1.25m wide x 3.0m long sheet 3.75m^2 per sheet. 50 no. sheets per pallet

Approximate coverage rates

FF852	PVC fixing discs	3 to 4 no. per m^2 (400 no. per box). Refer to wind load calculations for further details
FF854	Liquid PVC sealant	400 linear metres per 2.5 litre can
FF855	Mechanically fixed membrane adhesive	350 no. PVC discs per litre can 4m^2 per litre approximately
FF859	Fully adhered membrane adhesive	(20 litre can) 3 – 4m^2 per litre
FF861	Contact upstand adhesive	(20 litre can) 2 – 4m^2 per litre
FF867	Fully adhered insulation adhesive	25 – 30m^2 per 6 litre can based on 300mm centre beads

My Notes

fatra

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