Technical Specification

Cut To Fall Insulated Mechanically Fixed PVC Membrane Roof System

Company Name

Project Name

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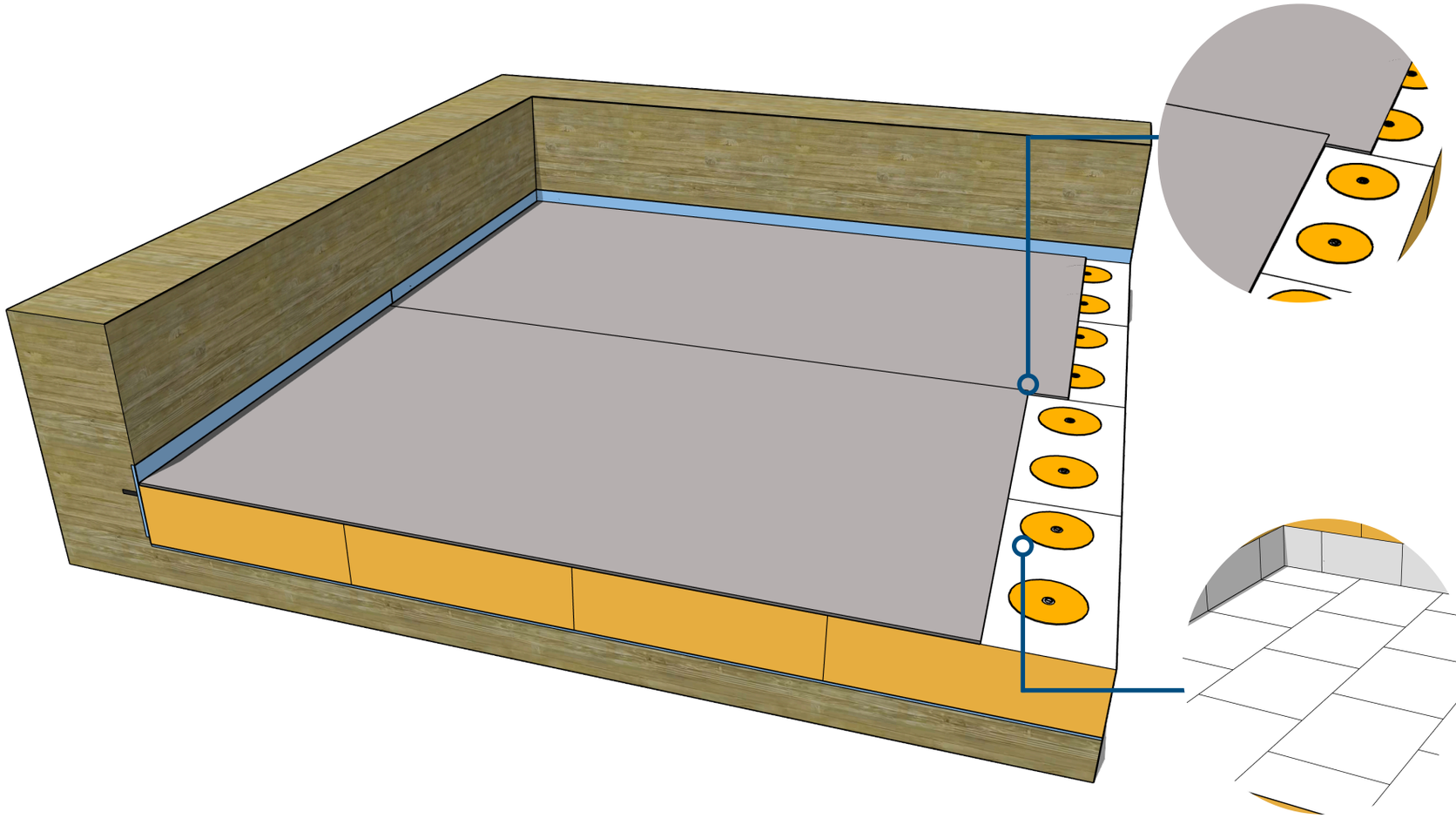
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PROPOSED | System

Fatra mechanically fixed tapered insulated system consists of the Fatrapar vapour control layer laid directly over the substrate and is sealed along all joints and laps to prevent any condensation ingress. The project specific designed tapered insulation board is then mechanically fixed to the structure using the Fatra engineered FatraPad system. Once the insulation is fixed into place the Fatrafol 810v PVC membrane is then attached to the fixing system using the FatraPad adhesive creating a none penetrative mechanically tapered insulated roof system.

The Fatra tapered systems creates the fall within the structure with a 99% degree of accuracy. The tapered systems are specifically designed by Fatra for each individual project to accurately drain rainwater to the outlets whilst providing superior thermal performance.

The Fatra tapered insulated systems can be designed and manufactured to create any degree of fall in any direction drastically reducing materials and labour costs compared to creating a fall within a concrete slab.



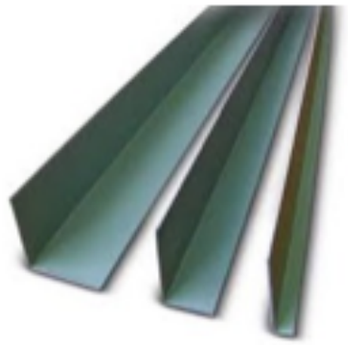
FATRAFOL 810v | REINFORCED PVC SHEET MEMBRANE

The Fatrafol 810v reinforced membrane is installed over the KoalaKool insulation. The Fatrafol 810v is bonded to Fatra Australia's uniquely engineered pad system which is fused to the fixing system creating a none penetrative mechanically fixed system.

KOALAKOOL by Fatra | FOIL FACED INSULATION BOARD

The KoalaKool by Fatra insulation is installed over the existing failed membrane and is mechanically fixed using the approved fixings, telescopic tubes and the FatraPad system to secure the system to the structure in accordance with AS1170 Part 2.

FATRANYL METAL | Ancillaries



FATRANYL | Chase Termination Metal

50mm x 15mm PVC coated zinc/stainless steel angle for termination of PVC membrane upturns.To be installed and mechanically fixed into a continuous saw-cut slot. A 2mm - 5mm gap between each section of metal is required to allow for structural movement. Metals are to be mechanically fixed at 150mm centres using the relevant fixings with a band of polyurethane/modified silicone sealant into the saw-cut slot and across the top of the termination metal to provide adequate seal.

FATRANYL | Internally Coated Peel Stop Bar

40mm x 40mm internal PVC coated zinc/stainless steel angle for the base of all perimeter and internal wall upturns to provide protection from high wind exposure and shrinkage of membrane. To be installed and mechanically fixed over the field sheet membrane. A 2mm - 5mm gap between each section of metal is required to allow for structural movement. Metals are to be mechanically fixed at 150mm centres using adequate fixings.

FATRANYL | Externally Coated Termination Metal

50mm x 50mm external PVC coated zinc/stainless steel angle. To be installed over hob detailing to provide protection from sharp edges affecting the PVC membranes performance. A 2mm - 5mm gap between each section of metal is required to allow for structural movement. Metals are to be mechanically fixed at 150mm centres using adequate fixings.

FATRANYL | Externally Coated Crush & Fold Metal

50mm x 50mm x 15mm external PVC coated zinc/stainless steel angle. To be installed to the outside edge of the perimeter hob to provide protection from sharp edges affecting the PVC membranes performance and provide a termination metal which sits slightly away from the outside vertical face of the building to prevent moisture running down the face of the building. A 2mm - 5mm gap between each section of metal is required to allow for structural movement. Metals are to be mechanically fixed at 150mm centres using adequate fixings.

FATRANYL | PVC Coated Site Specific Metals

Fatra have the ability to fabricate any termination metals, flashings and such items to site specific requirements. This will be established upon completion of a site survey by a Fatra Australia representative.

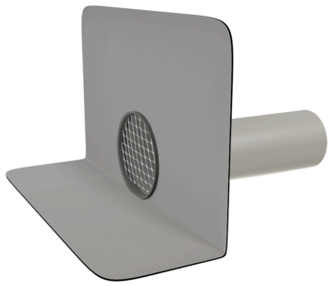
All fixing specifications, centre of fixings and relevant information regarding the fixing of the termination angles will be provide by Fatra Australia Pty Ltd based on the system being implemented, substrate and wind load calculations provided by Fatra Australia Pty Ltd.

FATRA | Accessories



PREFABRICATED | Rainwater Outlets

The prefabricated outlets are inserted in the rainwater outlet after the field sheet membrane has been installed. The outlets come complete with the back flow protection flange. The PVC membrane flange is then simply hot air fusion welded to the field sheet achieving a consistent 50mm weld around the entire perimeter.



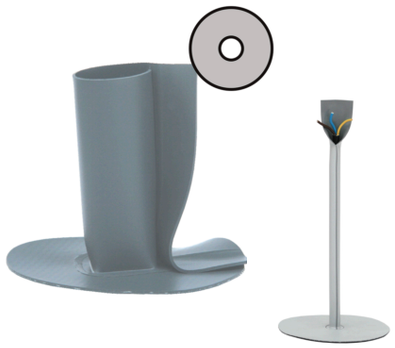
PREFABRICATED | Wall Outlets

The prefabricated wall outlets are inserted in the rainwater outlet after the PVC membrane has been installed. The outlets come complete with the back flow protection flange. The PVC membrane flange is then simply hot air fusion welded to the membrane achieving a consistent 50mm weld around the entire perimeter.



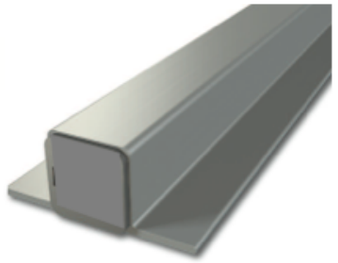
PREFABRICATED | Wall Overflows

The prefabricated wall overflows are inserted in the wall overflow pipe after the PVC membrane has been installed. The outlets come complete with the back flow protection flange. The PVC membrane flange is then simply hot air fusion welded to the membrane achieving a consistent 50mm weld around the entire perimeter.



PREFABRICATED | Pipe Collars

The prefabricated pipe collars cover all different diameters of pipes/post. The prefabricated pipe collars drastically reduce installation and material cost whilst providing an added benefit of being able to wrap the collars around the pipes and posts when you're restricted to sliding them over the top.



FATRAFIX | Bar

Fatra offer a unique ancillary which enables the client to mechanically anchor items such as solar panels, air conditioning units, timber decking and the like to the structure without having to penetrate the waterproofing membrane and create extensive detailing and weak points in the waterproofing membrane. The Fatrafix bar is an aluminium bar which is encapsulated in PVC membrane which is simply welded to the field sheet membrane.



PREFABRICATED | Internal & External Corners

The Fatra prefabricated corners are used to improve the aesthetics of the system for corner detailing. The corners also reduce labour install times onsite reducing the overall cost of the system.



FATRABOND | Contact Adhesive

The Fatrabond contact adhesive is a two sided application to both Fatra PVC membrane and the substrate its being applied to. The fatrabond contact adhesive can be applied to high parapet walls to avoid bagging of the membrane and improve the aesthetics of the the vertical membrane.



STANDING SEAM | Replicate

The Fatra standing seam replicate is for roofs where the client requires a metal roof look with the performance of a Fatra PVC membrane system, the standing seam replicate provides the perfect solution. This system is purely for modern architecture and provides excellent aesthetics to bespoke projects to create the look of a metal roof.

SYSTEM | Benefits

Excellent resistance to weather

Structural strength & resistance to mechanical stress

UV stable

Reflects up to 80% of UV Radiation

Reduced H&S risk

Cost affective

High chemical resistance

Root resistant

Excellent fire rating

High tensile strength

100% recyclable material

Lightweight

Excellent weldability

ISO 9001 Accreditation

ISO 14001 Accreditation

FM Approval Certification

BRE Eco Point

BBA certified 30 year life expectancy

Material warranties up to 25 years

Installation Quality Inspection throughout installation

Reduced time and leak detection costs

FATRA | Accreditation

ISO 14001
BUREAU VERITAS
Certification

ISO 9001
BUREAU VERITAS
Certification

BREEAM®

A+ BRE
ENP 336·415·429
ENVIRONMENTAL
RATING

BBA BRITISH BOARD OF AGRÉMENT

FM Approvals®

CE

PREPARATION

Ensure the surface is clean, dry and free from dirt and debris prior to commencing works onsite. Remove any protruding items in the surface which may damage the PVC sheet membrane. All mechanical plant, air conditioning units and associated item must be lifted slightly from the surface when installing the field sheet membrane to enable the membrane to be installed over the entire area.

Care must be taken to avoid damaging or disjointing the air conditioning units. Decommissioning may be required. Once the field sheet membrane has been installed the feet of the mechanical plant units must have suitable protection installed below to protect the PVC membrane. The plant can be lowed back down as soon as the field sheet has been laid and fully inspected for defects.

The existing membrane and substrate is to be assessed by a certified and approved engineer/consultant prior to commencing any works onsite to ensure a full scope of works relating to appropriate methodologies of preparation required is provided.

All preparation is to be carried out in accordance with engineer/consultants reports and Fatra Australia's technological methodologies. Preparation considerations include but aren't limited to:-

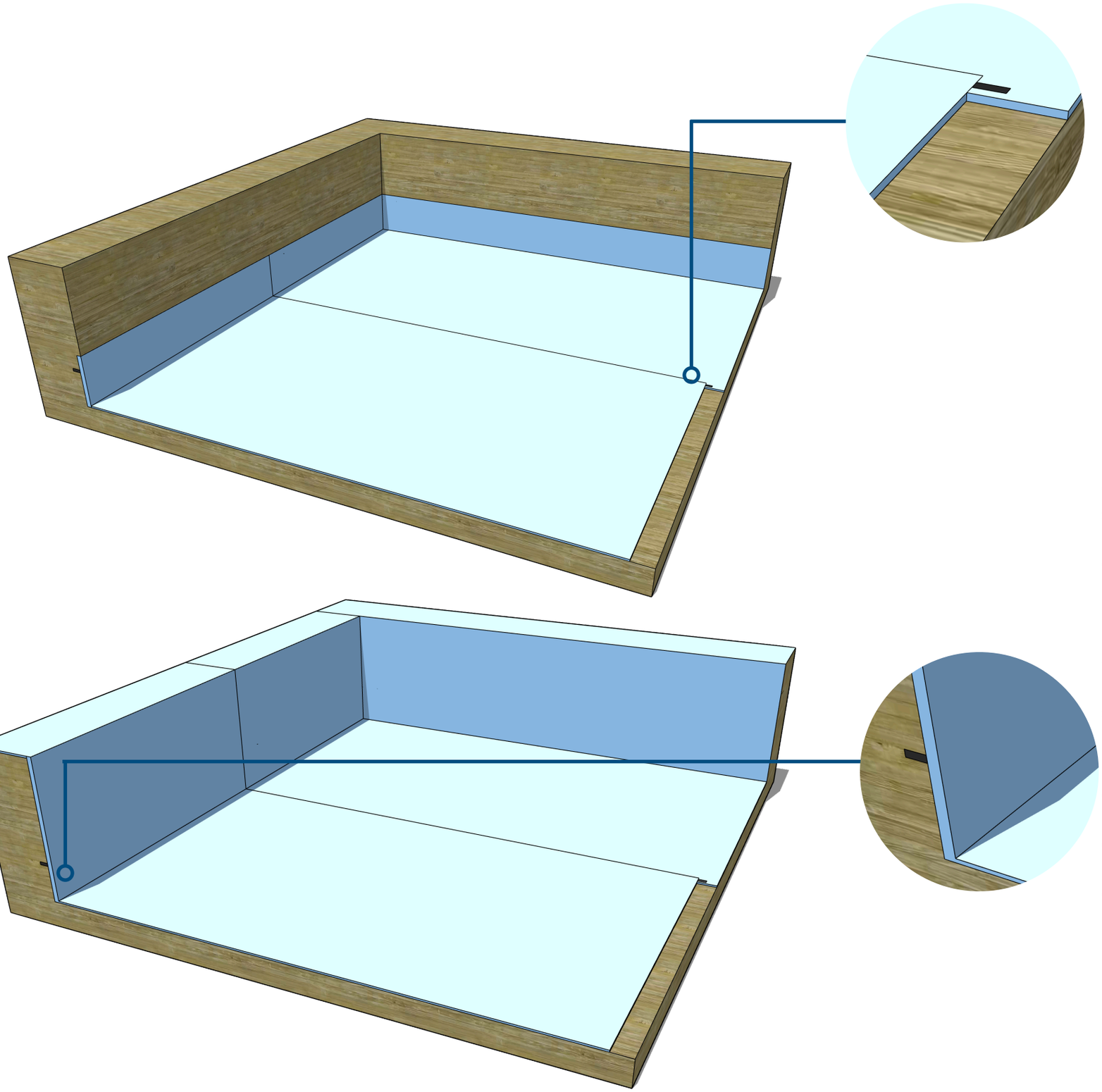
A. Removal of existing membrane if existing membrane is deemed unsuitable to install directly over.
B. Removal of defected sections of existing membrane such as vulcanised laps, bubbling and or delaminating membranes, corner fillets, cast in reglets and outlets.
C. Removal of cappings, flashing, skylights, doors, mechanical plant and similar items which will impede the installation process.
D. Localised repairs to cracks, expansion joints and similar aspects
E. Mechanical surface grinding
F. Re-levelling, creation or rectification of falls.
G. Priming or sealing of the surface
H. Cleaning and removal of any dirt, debris or chemicals present on the substrate.
I. Removal of redundant materials present within the area.

STORAGE

Materials are to be stored in a safe location and avoid being exposed to the elements or other damage such as mechanical or external contractors. All materials are to be stored in a safe and secure manner which will not result in dislodgement or displacement. Fatrafol membranes are to be covered and protected from the UV at all times until the point of installation of the Fatrafol PVC membrane to protect the underside of the PVC membrane rolls from being exposed to the UV.

It is advisable that loose items such as Fatranyl angles, fixings and associated accessories are stored in a safe and secure box to prevent them being damaged or displaced.

FATRAPAR | VAPOUR CONTROL LAYER



1 |

Roll out Fatrapar vapour control layer over substrate ensuring laps run with the fall of the roof wherever possible. Ensure 100mm overlap is achieved with all conjoining sheets.

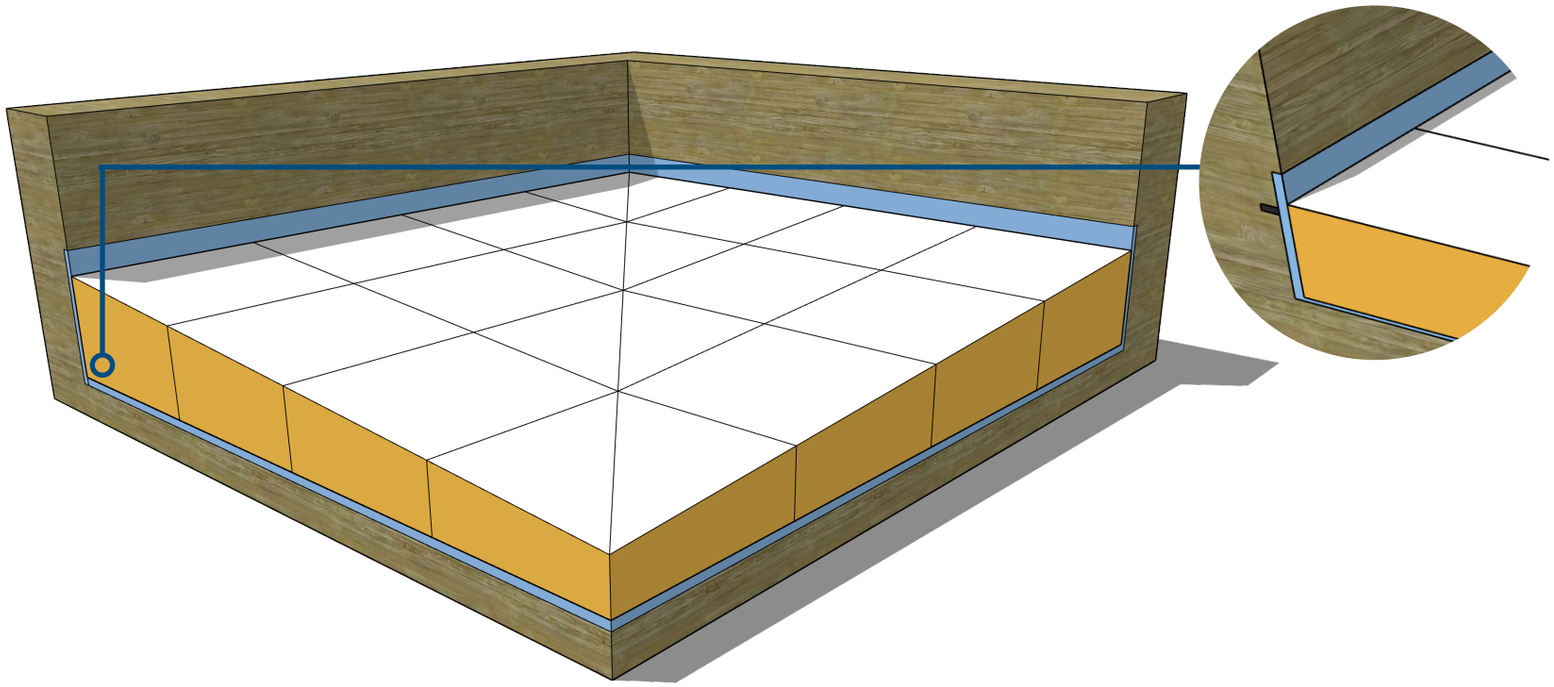
Seal all joints, laps, penetrations using butyl sealing tape 50mm from the outside edge.

2 |

Once the roll of FatraPar has been laid over the surface and vertical walls/elevations the field sheet laps and roll ends should be sealed using the Fatra double sided butyl tape which is applied 30mm inside the outside edge of the vapour control layer. The vapour control layer must also be sealed using Fatra double sided butyl tape along the top edge where the vapour control layer runs up the vertical face of the parapet/internal elevations to completely seal the vapour control layer.

The conjoining sheets must overlap at least 50mm to enable the joints to be fully sealed from air/moisture penetration including up the parapet/internal elevations. When laying an overlapped VCL sheet use a weighted roller and run over the butyl tape to ensure a fully sealed joint is achieved.

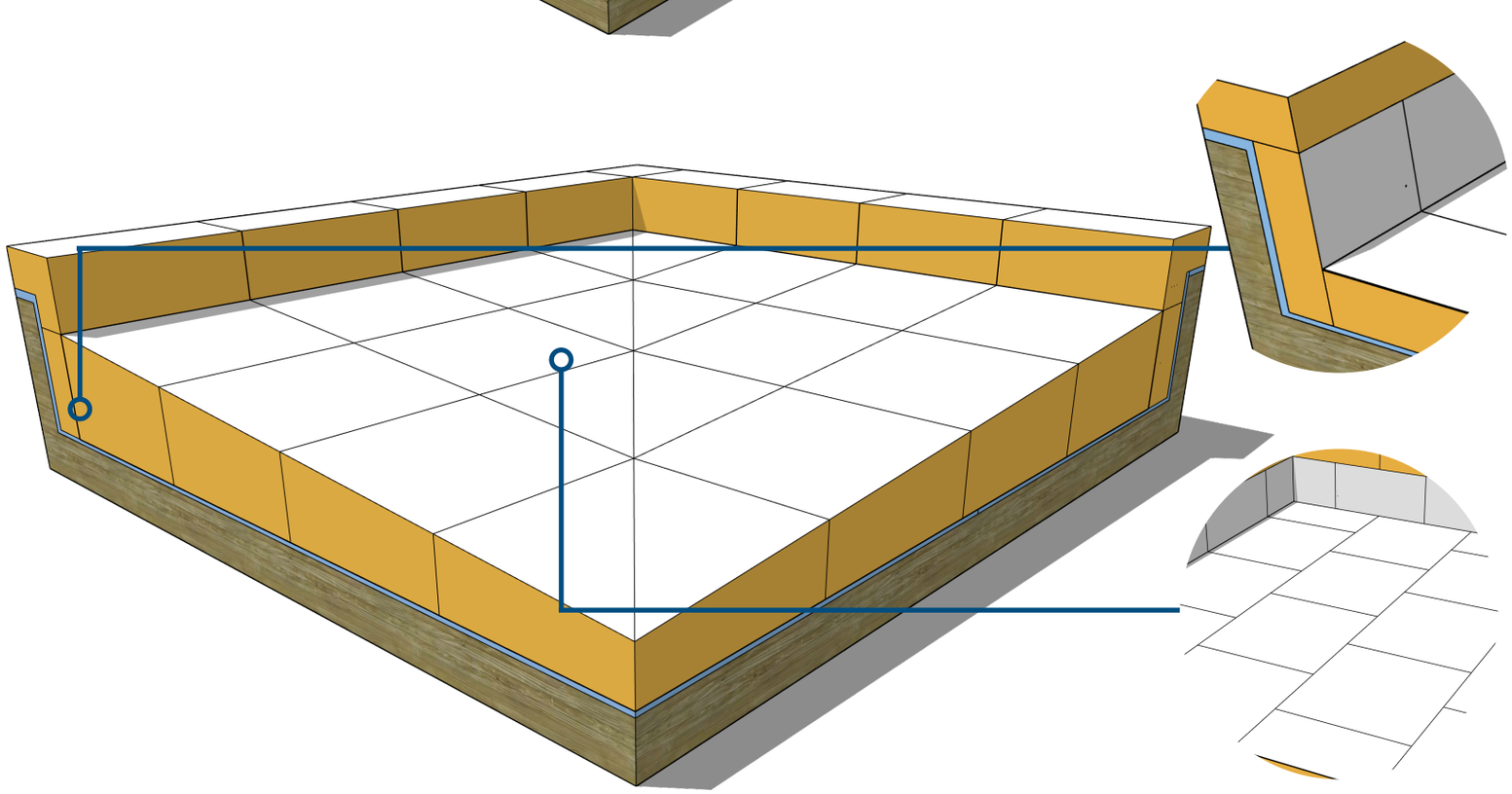
KOALAKOOL | FOIL FACED FLAT INSULATION BOARD



1 |

The KoalaKool insulation board is installed directly over the existing membrane or FatraPar vapour control layer depending on the outcome of the qualified engineers specification and scope of works to provide thermal protection from the external weather conditions. The KoalaKool comes in various thicknesses to achieve the desired R value and project specific performance criteria.

The insulation boards are to be installed in a brick bond pattern and should be installed tight to conjoining boards to minimise thermal breaks between the insulation board.



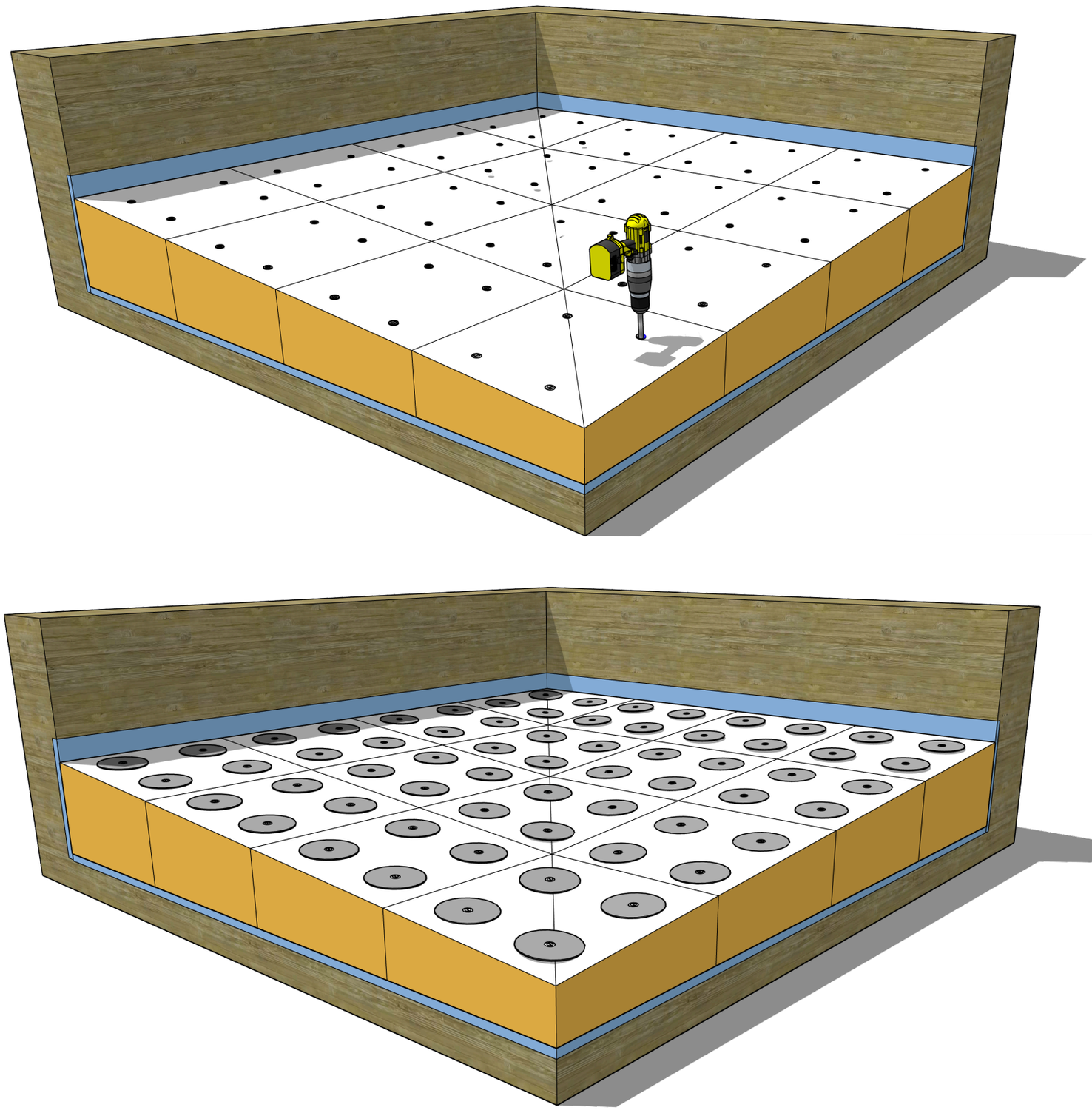
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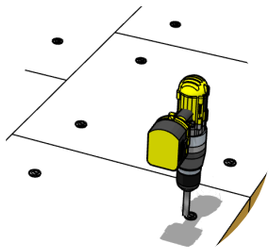
Where there are hobs, plinths, walls and various penetration details, these are to be fully encapsulated in the KoalaKool insulation wherever possible to minimise the amount of thermal bridging.

Contractors are to ensure that any insulation that is installed is fully secured, covered and water tight at the end of each day to avoid exposing the insulation to inclement weather, water getting trapped below the membrane system or insulation boards becoming dislodged.

The KoalaKool insulation boards can be used in conjunction with electronic leak detection testing , provided by an approved and certified Fatra partner to create a conductive surface below the Fatrafol membrane and above the KoalaKool insulation board to carry out electronic leak detection upon completion. Consultation with a Fatra technical representative is advised.

FATRAPAD FIXING SYSTEM |





1 |

Carefully mark out fixing centres as per the Fatra mechanical anchoring report created as per AS1170.2 wind actions. And insert telescopic tubes into the Fatra PVC disks.



2 |

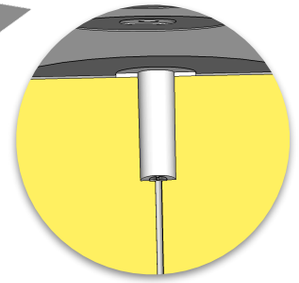
The telescopic tube and disk which form part of the FatraPad system is inserted through the centre of the pre determined fastener locations. Ensure the tubes are sat flush with the surface and do not protrude prior to fixing into place. The length of tubes will vary depending on the thickness of the insulation specified.



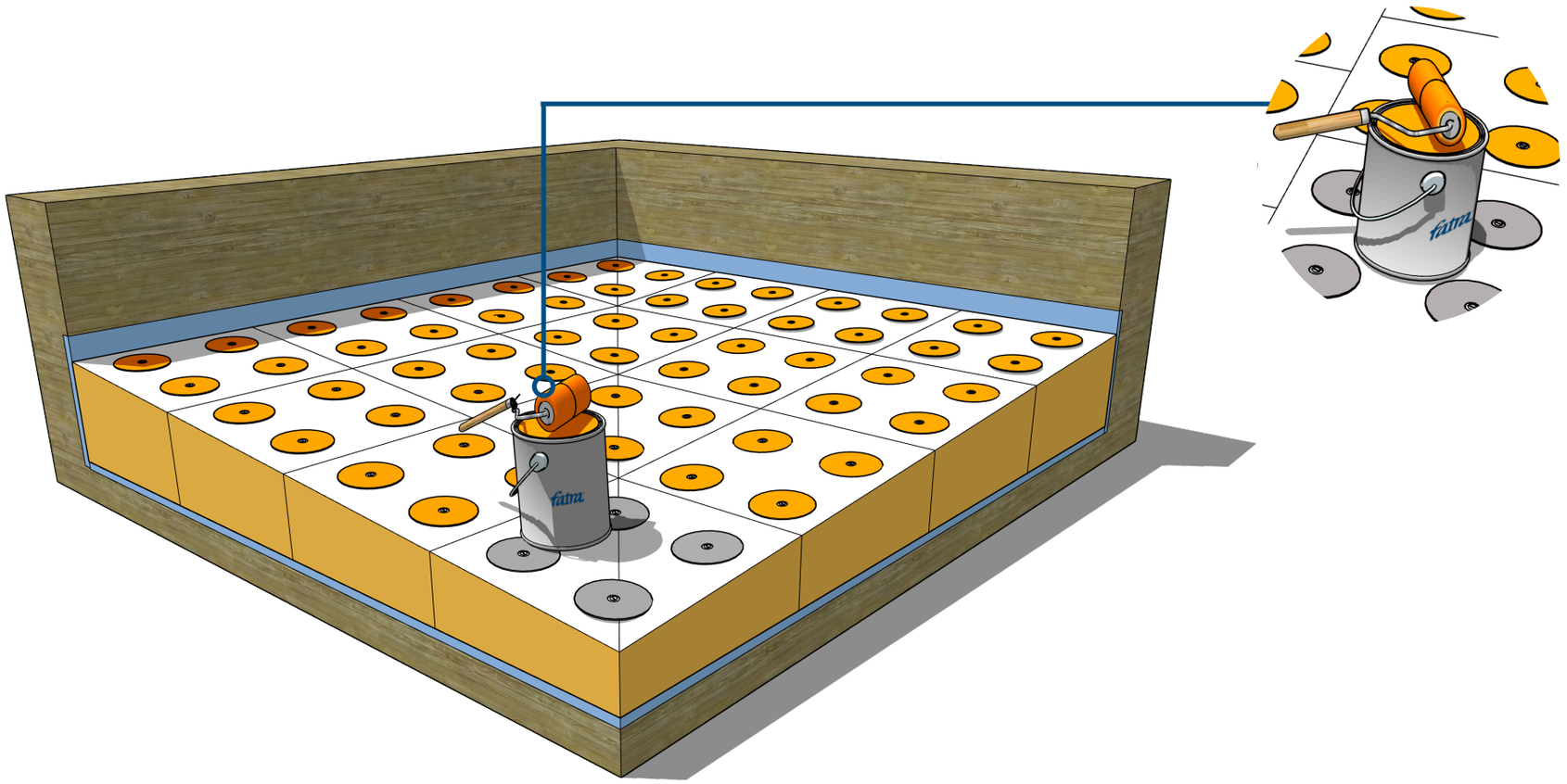
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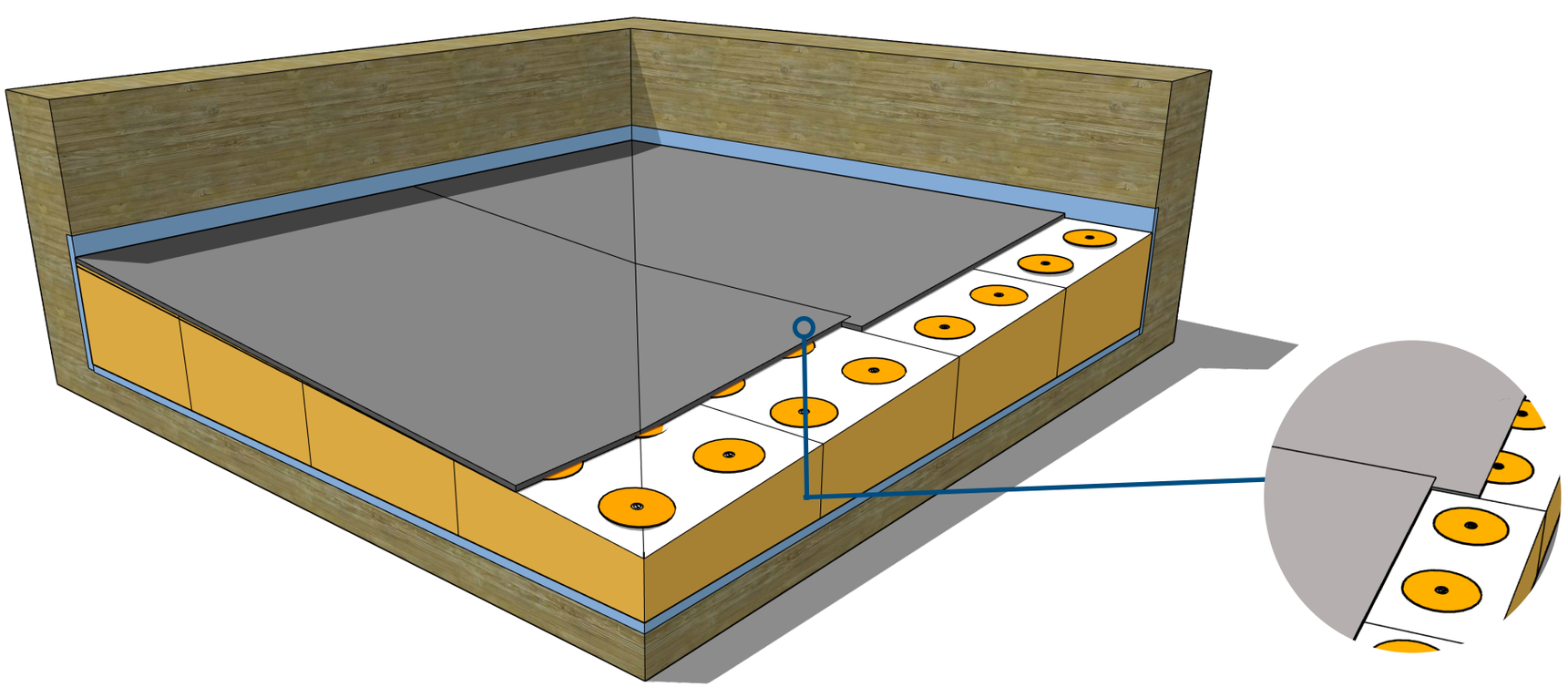
Once the FatraPad system has been inserted into the insulation, the specified fixings are then inserted into the telescopic tubes and fixed into the substrate.

The specification of the fixings will be established once a pull out test has been completed onsite. Pull tests are carried out to establish the most efficient fastener for the proposed system.



FATRAPAD | ADHESIVE





1 |

Once the fixing system has been completed application of the Fatra pad adhesive is applied over the PVC disks to fully bond the Fatrafol 810v to the fixing system. The Fatra pad adhesive is a hydroxyl polyurethane adhesive with a coverage of 4m2 per litre and comes in a 5ltr tin. The adhesive will cover approximately 325 pads and is a one sided application to the FatraPad PVC disks.

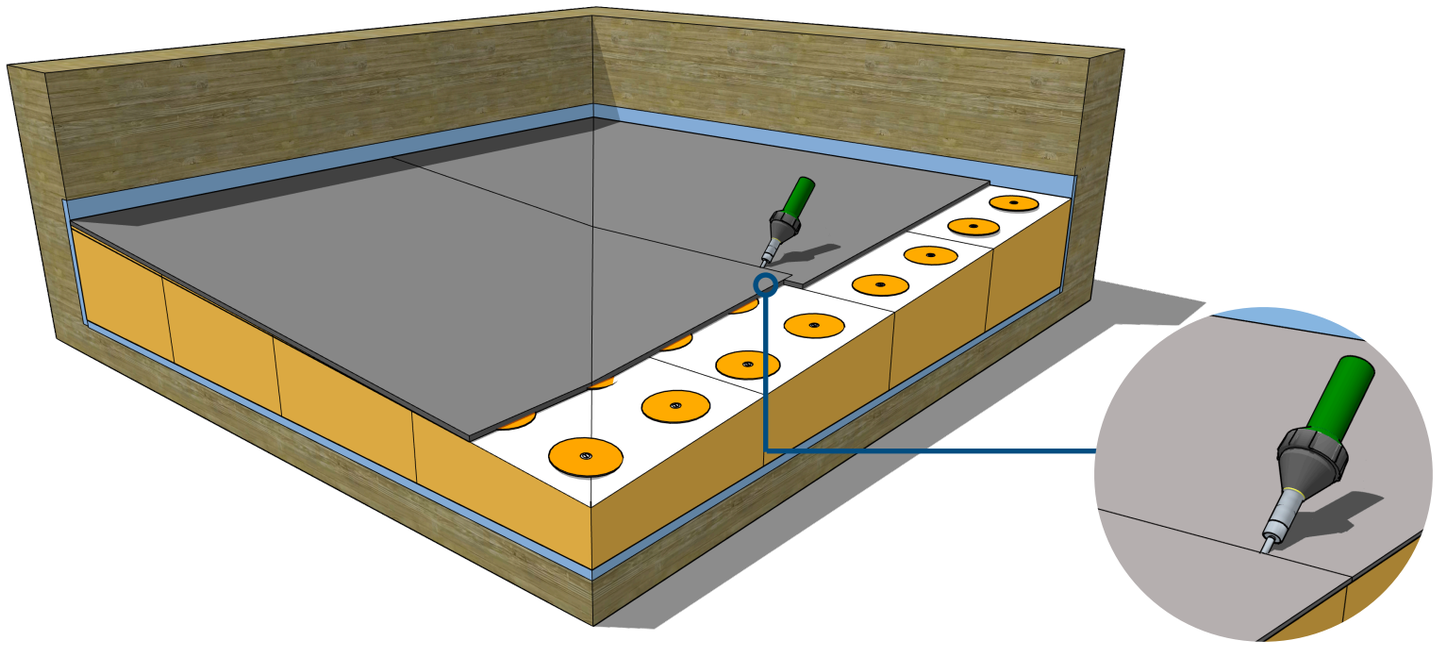
Ensure the PVC pads are dry, clean and free from any oil, grease or dirt prior to application of the adhesive.

Using a notched scraper or roller, apply the Fatrabond Pad Adhesive over the surface of the FatraPad achieving a consistent layer of adhesive across the entire surface of the PVC pad. When applying the adhesive ensure there is enough time to lay Fatrafol 810v PVC membrane over the pad system before the adhesives cure. Refer to FatraPad Adhesive TDS for cure times.

2 |

Whilst the adhesive is still wet bring the Fatrafol 810v PVC sheet membrane into contact and using firm even pressure remove any traces of trapped air from the bond area. Repeat the adhesive process to sections until the entire field sheet is solvent weld to the FatraPad adhesive.

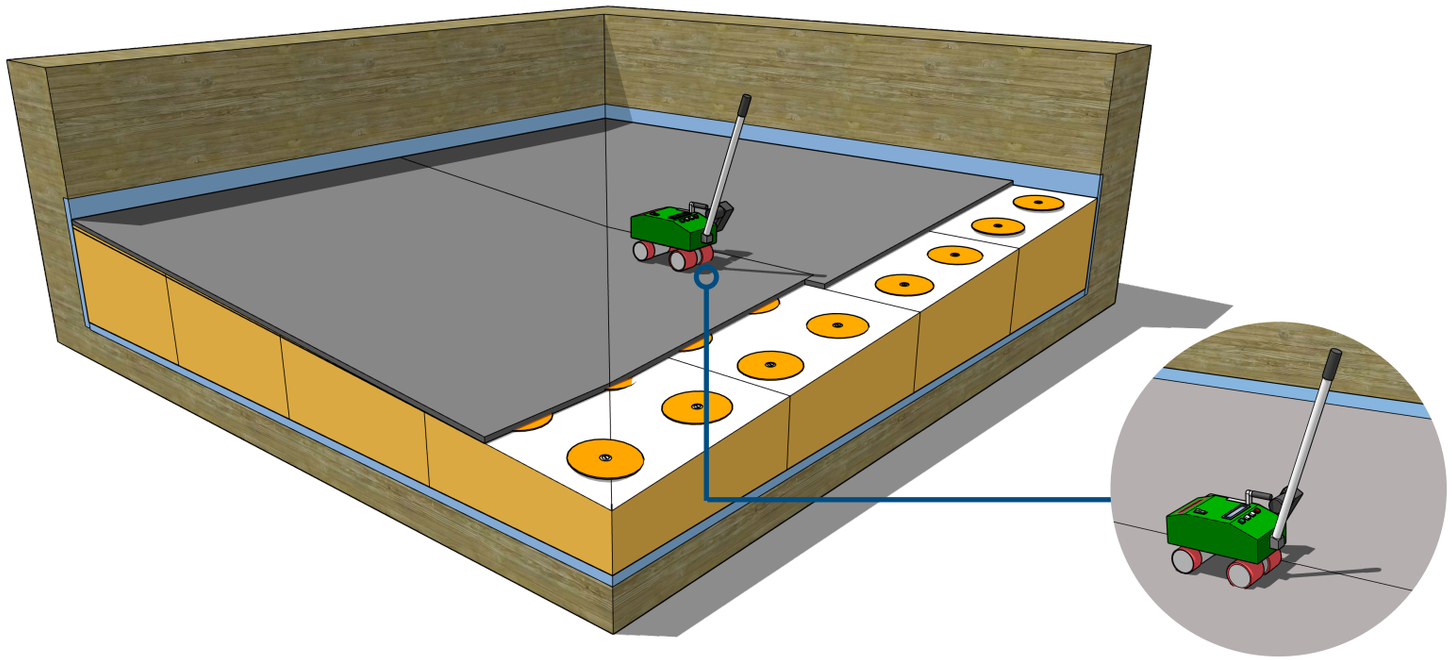
FATRAFOL | 810v PVC SHEET MEMBRANE



1 |

Once the insulation and FatraPad fixing system has been installed to the specific area and fixed into place, roll the Fatrafol 810v reinforced PVC membrane over the insulation and FatraPad system ensuring the membrane rolls are installed with the fall of the roof to maximise the drainage of rainwater. The Fatrafol 810v has polyester reinforcement enabling the membrane to withstand high wind loads without shearing or damaging the membrane.

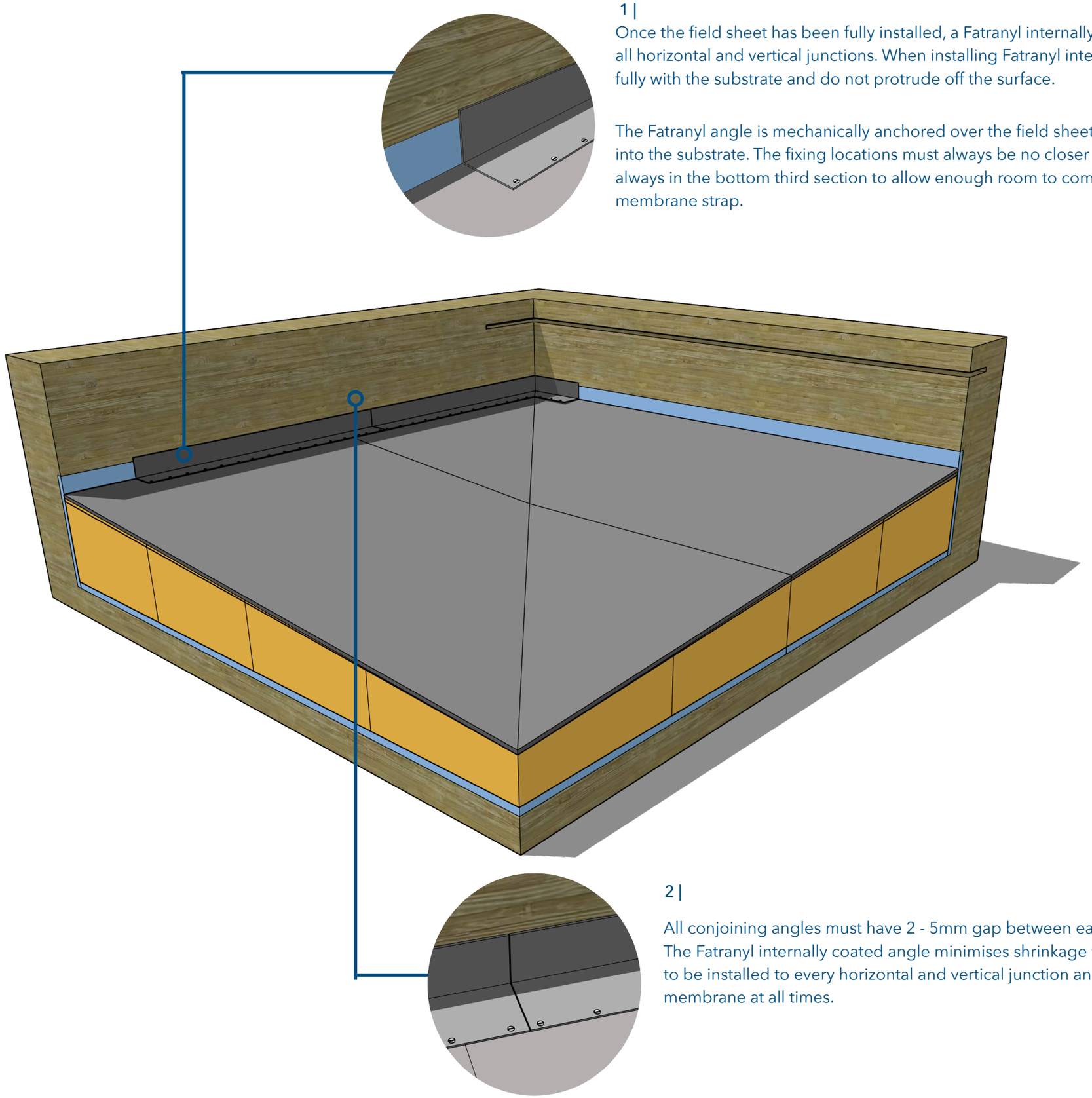
The Fatrafol 810v conjoining sheets must over lap at least 70mm to enable an adequate weld width on conjoining sheet. Each lap must achieve a minimum 40mm weld width. Roll end laps must be staggered. Laps are to be tacked to the rear of the overlap at approximately 500mm centres to temporarily hold into place prior to fully welding the conjoining sheets. A pre-weld to the rear of the overlap is to be installed closing the lap to produce an air seal. A final weld is to be installed achieving a consistent bleed protruding from the lap producing a final homogenous weld and complete waterproof seal. T-joints must always be staggered. These sections create extra thickness in the membrane lap and can leave a capillary joint.



2 |

When the roll of membrane ends and meets the start of a new roll, ensure the conjoining sheet is overlapped 70mm to enable an adequate weld width to the conjoining sheet. Spot weld each corner into position to avoid the conjoining sheet moving and decreasing the gap between sheets. Once this has been spot welded, hot air fusion weld both sheets together following the principals outlined above, achieving the adequate weld width of 40mm - 50mm. Ensure corners are mitred to achieve maximum aesthetics to the roll end joints. Wherever possible, ensure the overlap joints are negative to avoid any water sitting on the welded joint between the Fatrafol sheet membrane.

VERTICAL UPTURN TERMINATION | INTERNAL PEEL STOP ANGLES



1 |

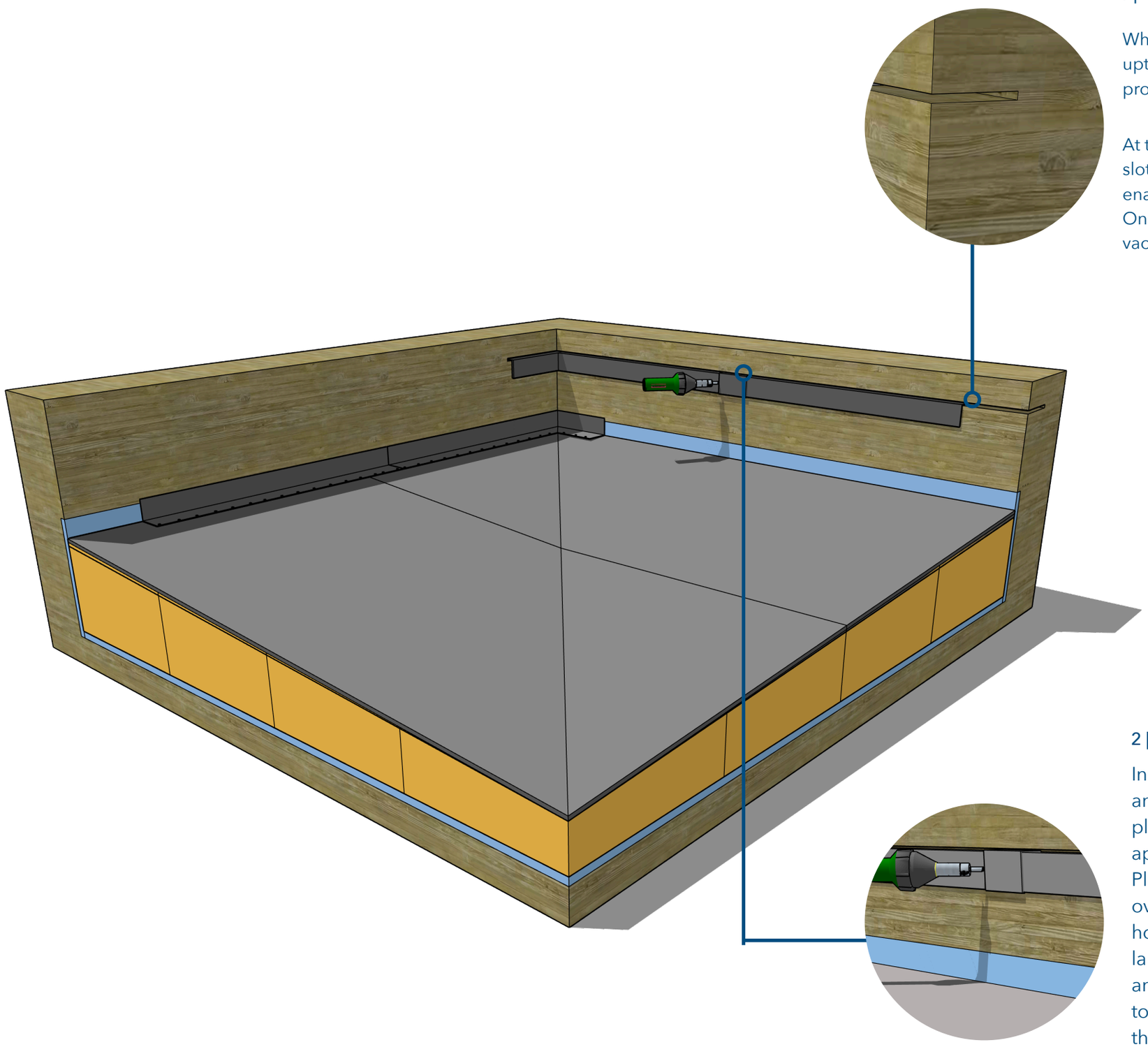
Once the field sheet has been fully installed, a Fatranyl internally coated PVC peel stop angle must be installed to all horizontal and vertical junctions. When installing Fatranyl internally coated angles, ensure the angles contour fully with the substrate and do not protrude off the surface.

The Fatranyl angle is mechanically anchored over the field sheet at 150mm centres using Fatra approved fixings into the substrate. The fixing locations must always be no closer than 10mm from the edge of the Fatranyl angle but always in the bottom third section to allow enough room to complete a hot air fusion weld when installing the PVC membrane strap.

2 |

All conjoining angles must have 2 - 5mm gap between each metal to allow for structural movement. The Fatranyl internally coated angle minimises shrinkage which may occur. Internally coated angles are to be installed to every horizontal and vertical junction and are to be fixed over the field sheet membrane at all times.

VERTICAL UPTURN TERMINATION | CHASE DETAIL



1 |

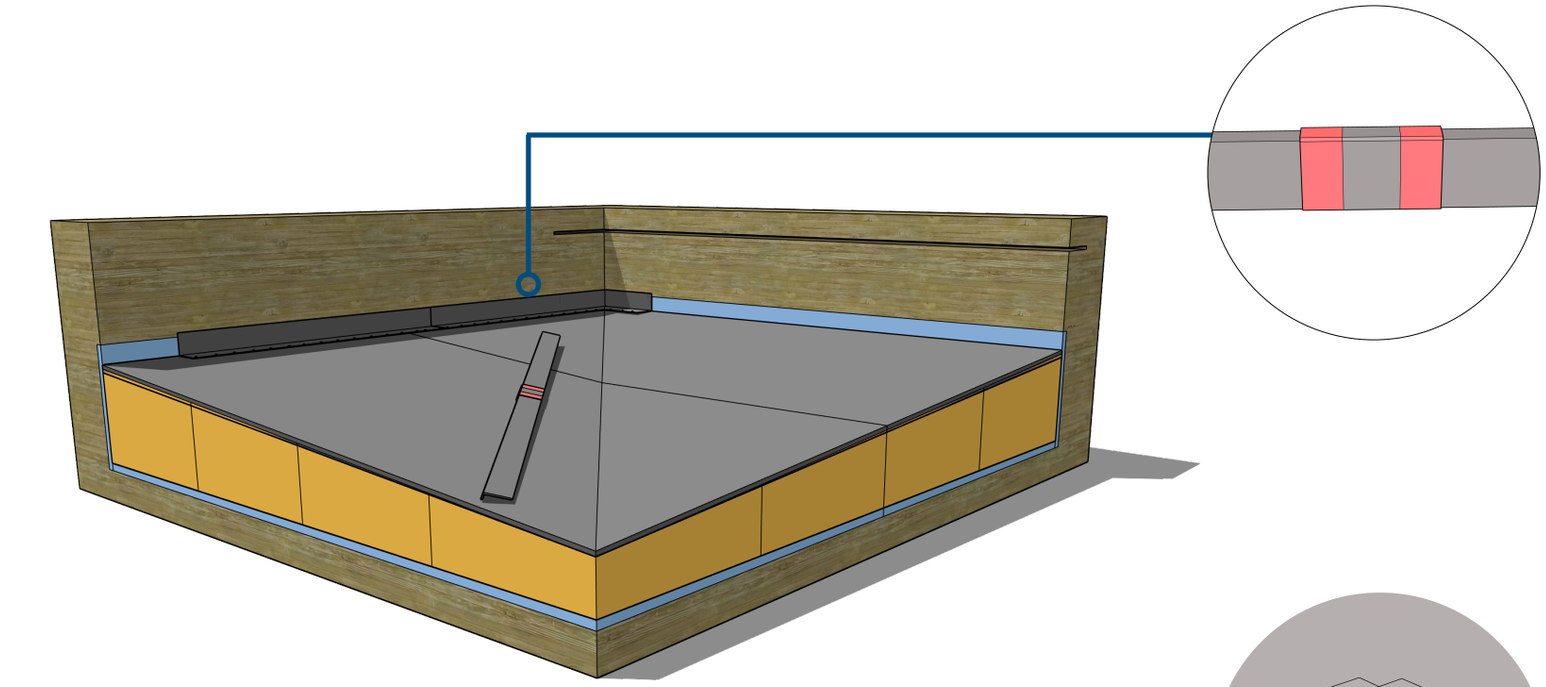
Where the Fatra system is to be terminated into a vertical upturn, a Fatranyl PVC coated chase termination saw cut profile is to be installed.

At the specified height of termination, saw cut a continuous slot into the vertical substrate approximately 20mm deep to enable the Fatranyl angle to be inserted into the saw cut slot. Once the grinding of the saw cut reglet has been completed, vacuum out any dust and debris that may be present.

2 |

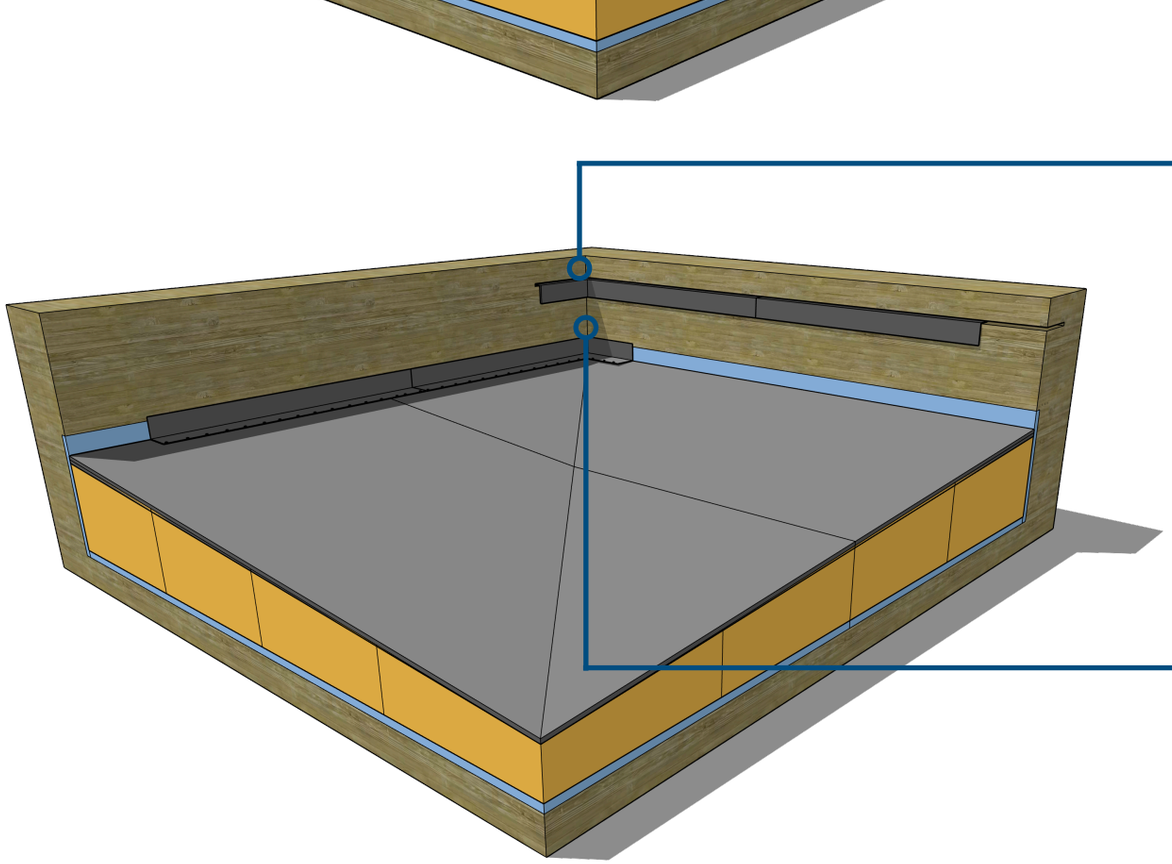
Insert the Fatranyl PVC coated chase termination angles into the saw cut reglet but do not fix into place. Ensure conjoining Fatranyl angles are approximately 2 - 5mm apart to allow for expansion. Place Fatrafol 804 detailing membrane butt strap over the expansion gap covering the entire horizontal and vertical surfaces of the Fatranyl angles lapping a minimum of 50mm onto each conjoining angle. Hot air fusion weld the Fatrafol 804 butt strap to the vertical face of the Fatranyl angle to connect the chase angles together achieving a weld width of 40mm

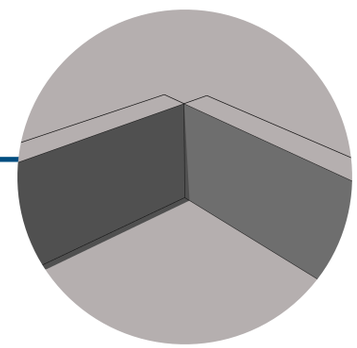
VERTICAL UPTURN TERMINATION | INTERNAL CORNER CHASE DETAIL



3A |

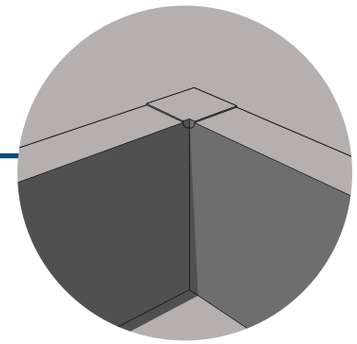
Once the Fatrafol 804 butt straps are welded to the vertical face of the Fatranyl angles, remove the connected angles from the saw cut reglet. Once the Fatranyl angles are removed, hot air fusion weld the top horizontal plane to the Fatrafol 804 butt strap to full seal the Fatranyl angle. The image to the right indicates in red the specific areas which are to be fully hot air fusion welded.





3B |

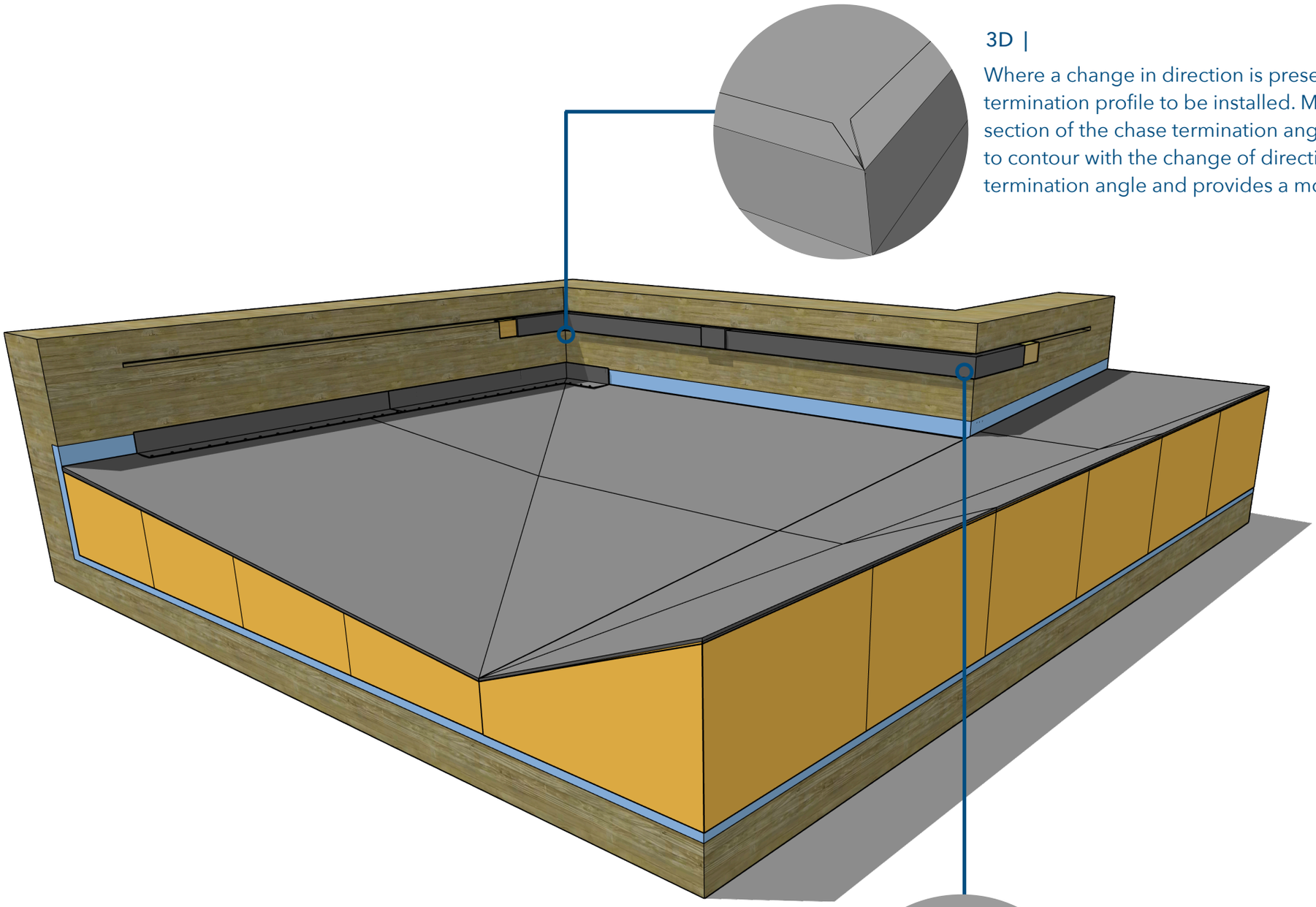
Where a change in direction is present and requires a chase termination profile to be installed. Mitre the 15mm horizontal section of the chase termination angle to enable the Fatranyl angle to contour with the change of direction. This reduces gaps in the termination angle and provides a more reliable termination detail.



3C |

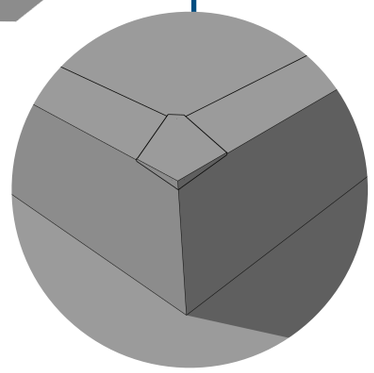
Once the Fatranyl angle has been mitred, hot air fusion weld a triangular Fatrafol 804 PVC patch to bridge the gap where the Fatranyl angle has been mitred. Ensure the PVC patch protrudes down the vertical face of the Fatranyl angle to completely cover any gaps in the Fatranyl angle.

VERTICAL UPTURN TERMINATION | EXTERNAL CORNER CHASE DETAIL



3D |

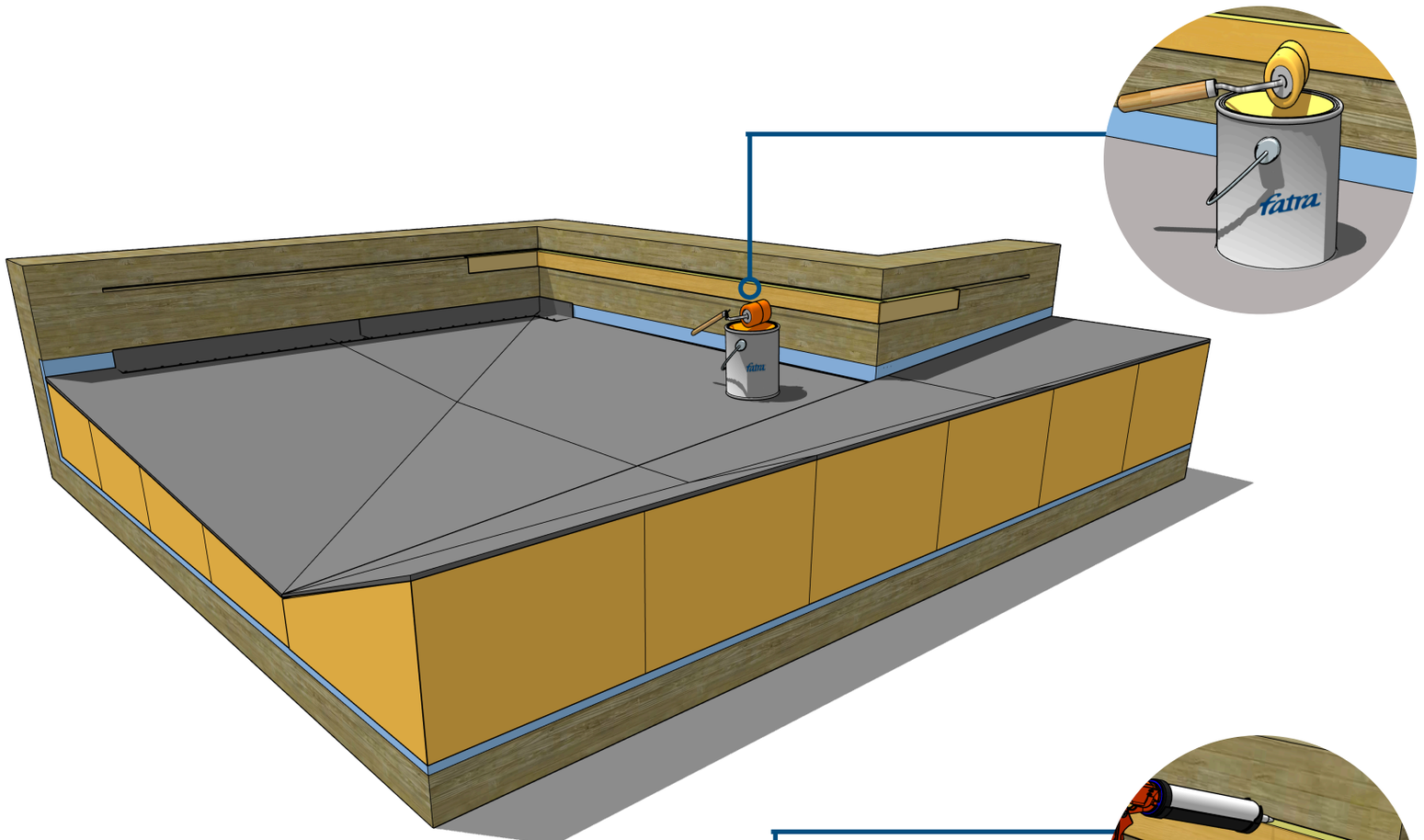
Where a change in direction is present and requires a chase termination profile to be installed. Mitre the 15mm horizontal section of the chase termination angle to enable the Fatranyl angle to contour with the change of direction. This reduces gaps in the termination angle and provides a more reliable termination detail.



3E |

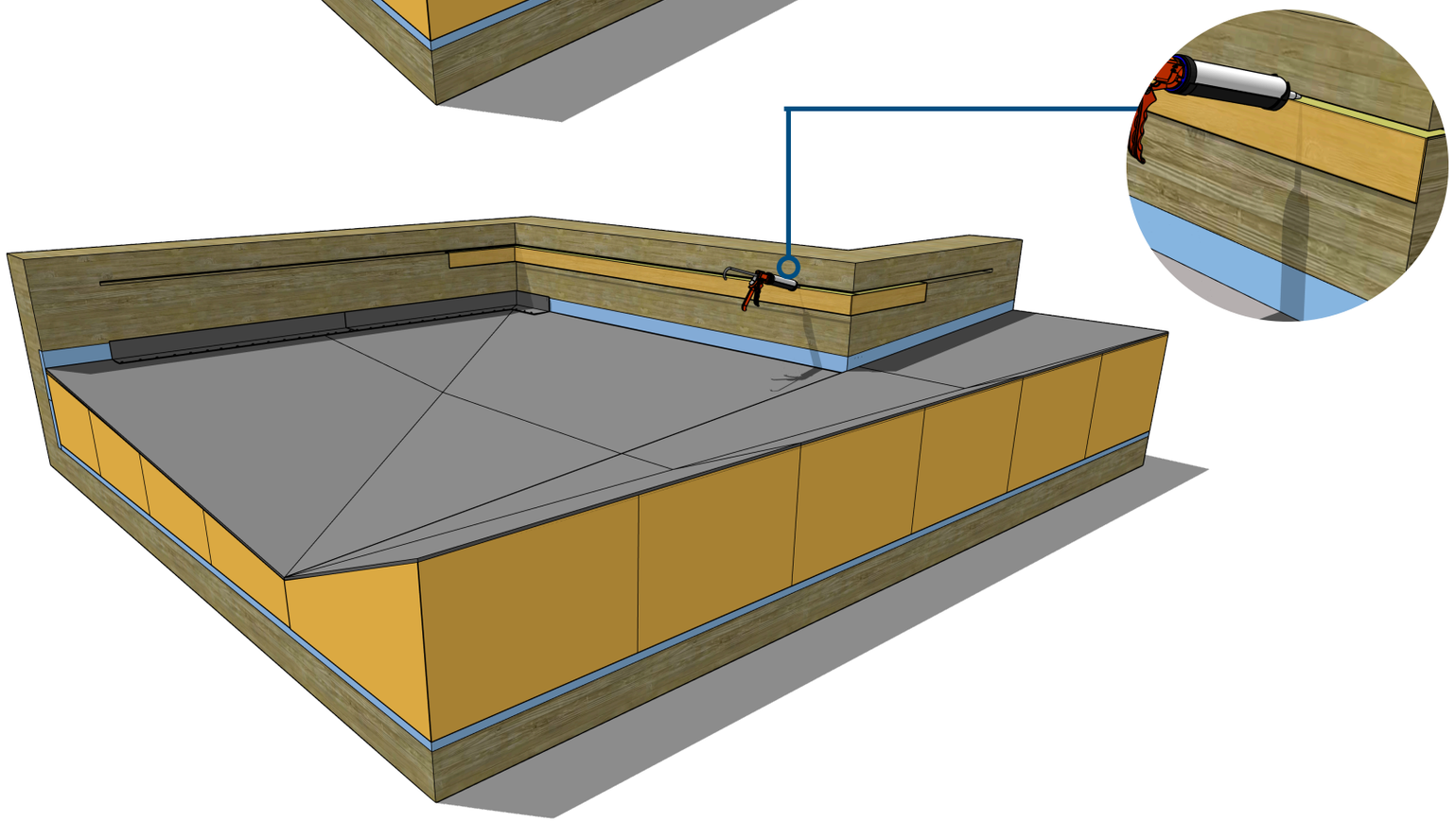
Once the Fatranyl angle has been mitred, hot air fusion weld a triangular Fatrafol 804 PVC patch to bridge the gap where the Fatranyl angle has been mitred. Ensure the PVC patch protrudes down the vertical face of the Fatranyl angle to completely cover any gaps in the Fatranyl angle.

VERTICAL UPTURN TERMINATION | CHASE DETAIL PRIMING



4 |

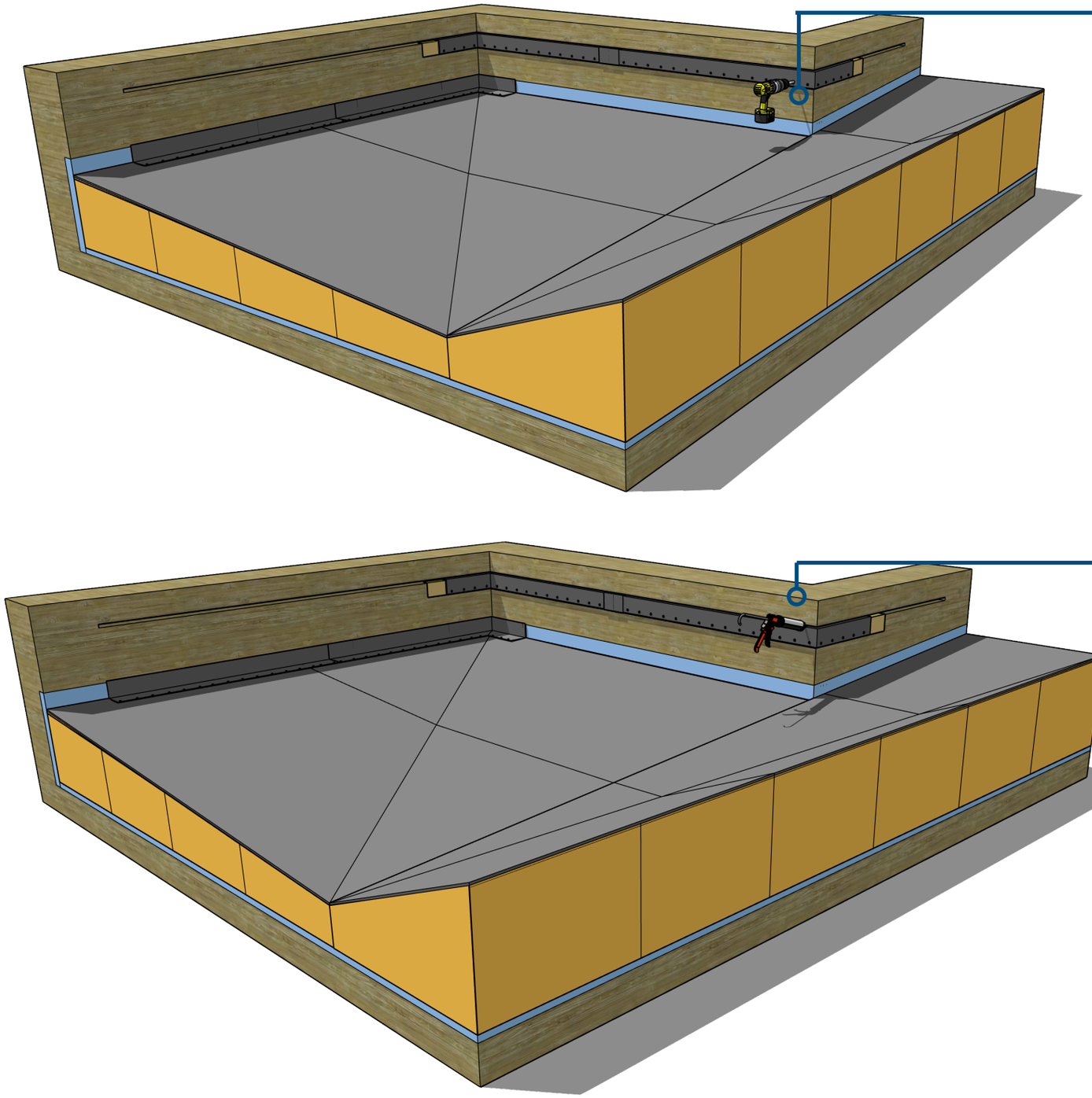
Using a Fatra approved primer, apply the primer in accordance with suppliers recommendations to the areas where an approved sealant will be applied. Ensure an even and consistent coverage is achieved.

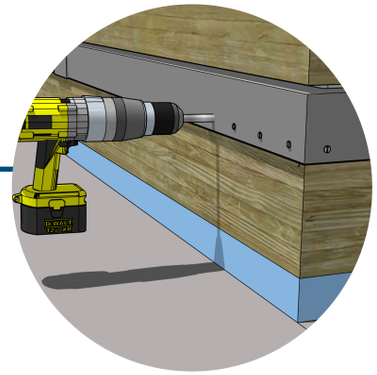


5 |

Once the approved primer has been installed, apply a consistent bead of approved sealant into the saw cut reglet slot across the entire length of termination.

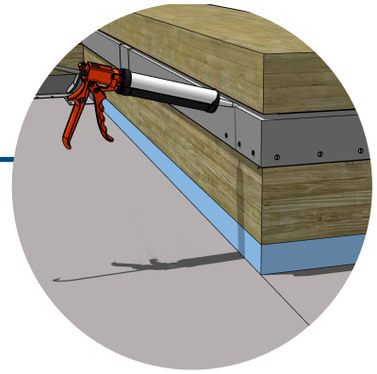
VERTICAL UPTURN TERMINATION | CHASE DETAIL





6 |

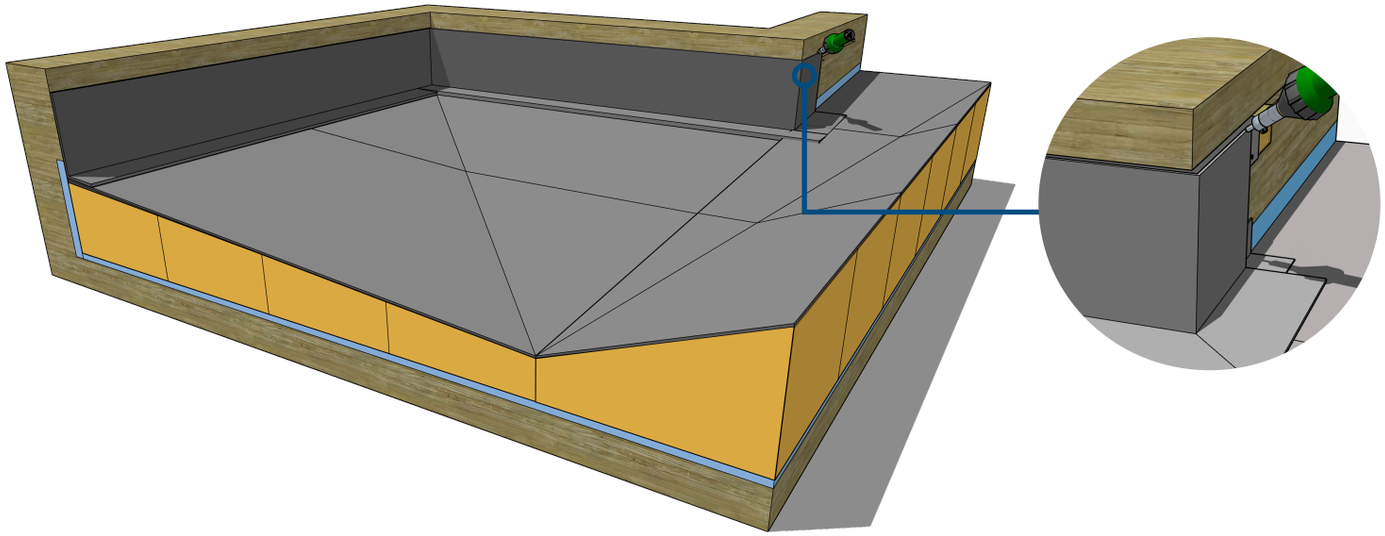
Fix Fatranyl chase termination approximately 10mm from the bottom edge and in the bottom third section of the Fatranyl angle at 150mm centres using Fatra approved fixings to secure into place. Ensure Fatranyl angles are sat flush against the wall and do not protrude off the surface.



7 |

Once the Fatranyl angle has been fully fixed, install a final bead of approved Fatra sealant across the top edge of the Fatranyl termination angle to fully seal the termination. Using a spray bottle and warm water, lightly spray the wet sealant and smooth off to achieve a consistent sealed joint.

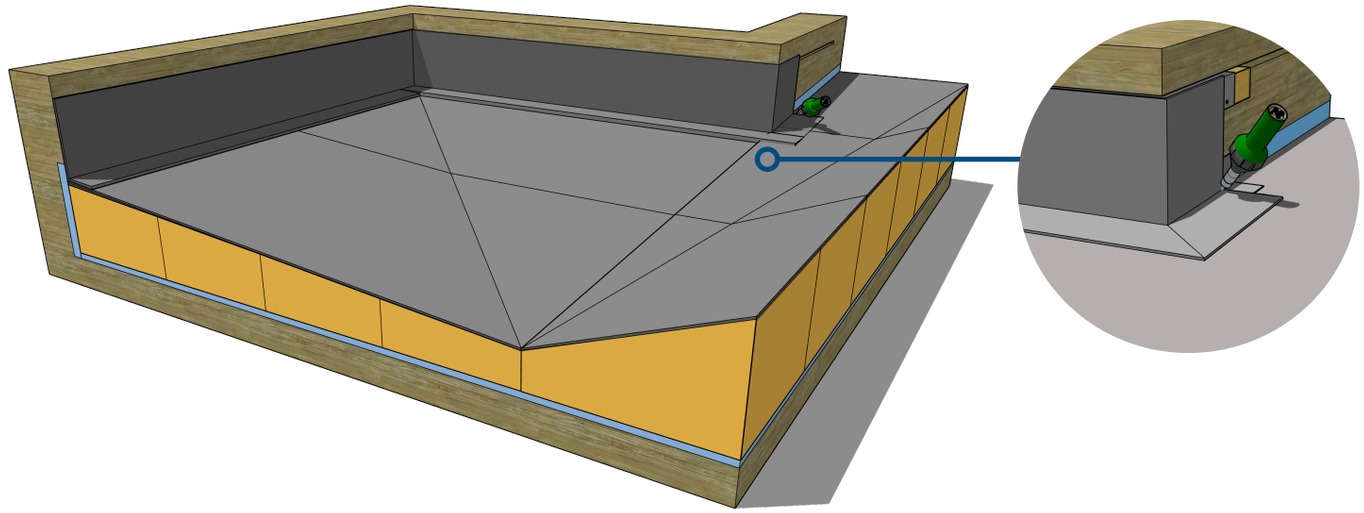
VERTICAL UPTURN TERMINATION | PVC MEMBRANE STRAP



1 |

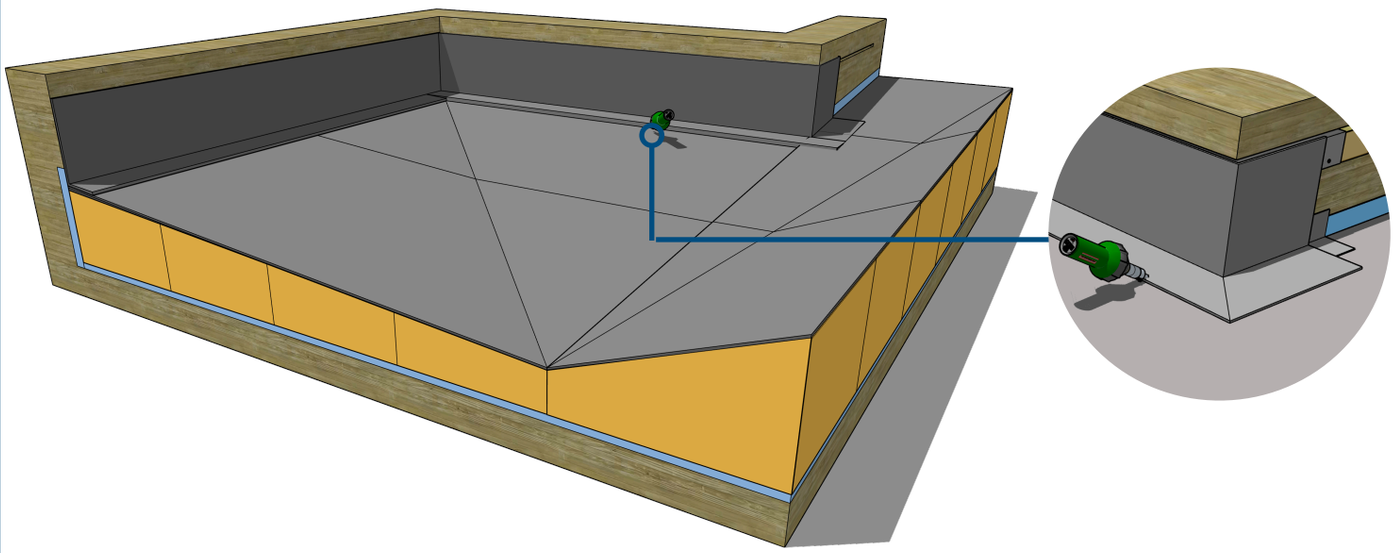
Once the Fatranyl chase termination angles have been installed a Fatrafol 810v reinforced membrane strap is installed to the vertical upturns.

Where a vertical chase termination has been implemented the Fatrafol 810v PVC strap is to be hot air fusion welded approximately 1mm from the top of the Fatranyl PVC coated chase termination achieving a continuous minimum weld width of 40mm along the entire length of the Fatranyl chase termination angle



2 |

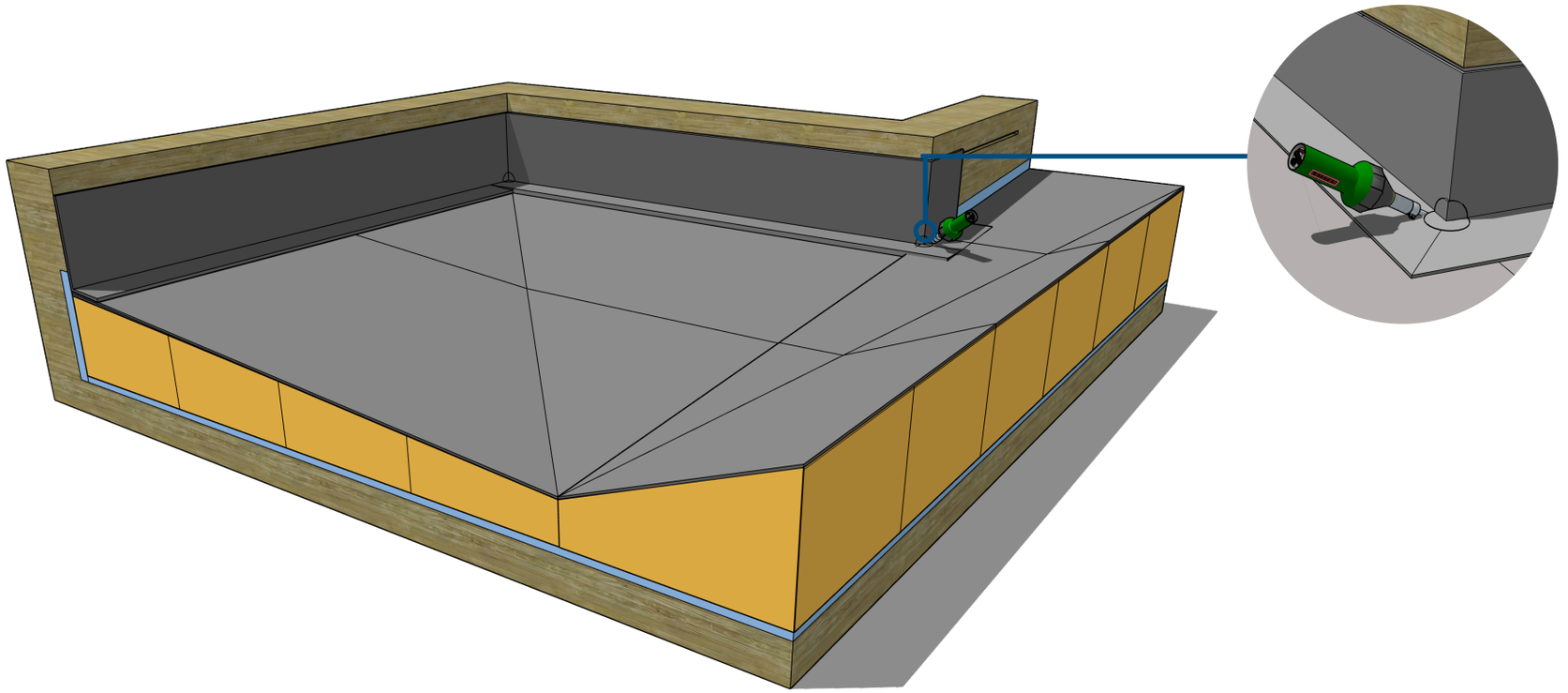
The Fatrafol PVC membrane strap will come down the inside vertical face, lapping over the Fatranyl internally coated PVC coated angle and 100mm onto the Fatrafol PVC field sheet membrane. A continuous weld is to be installed in the full width and length of the horizontal section of the Fatranyl internally coated PVC angle to ensure tenting of the vertical upturn membrane strap does not occur



3 |

The Fatrafol 810v PVC membrane strap is then hot air fusion welded to the Fatrafol PVC field sheet membrane achieving a minimum weld width of 40mm, fully concealing the vertical upturn detail and providing a waterproofed finish. Once the welding process has been completed, ensure all welds are fully probed for any welding defects.

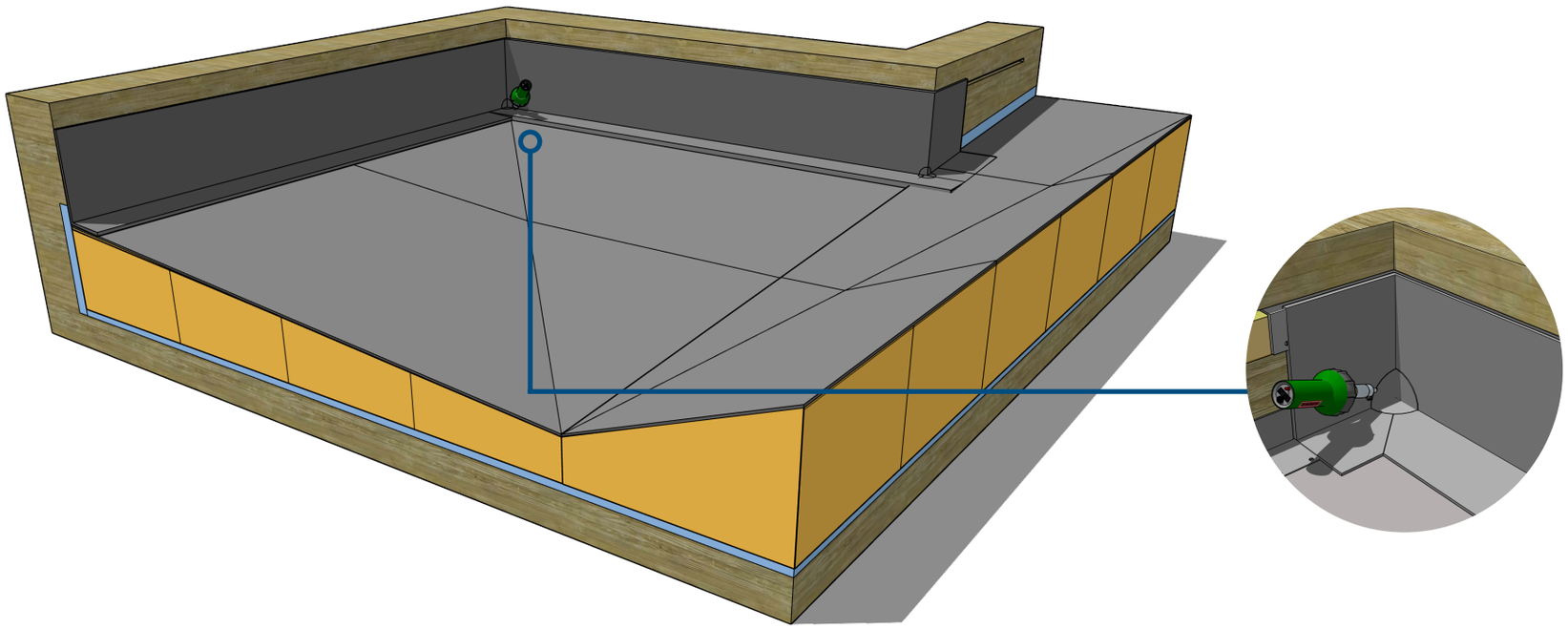
VERTICAL UPTURN TERMINATION | CORNER PATCHES



1 |

Once the PVC membrane strap has been fully installed and welded, installation of external corner patches at the base of the outside corner junction is to be installed.

Hot air fusion weld around the entire perimeter of the external corner patch ensuring a consistent 40mm weld width is achieved to fully waterproof the junction.

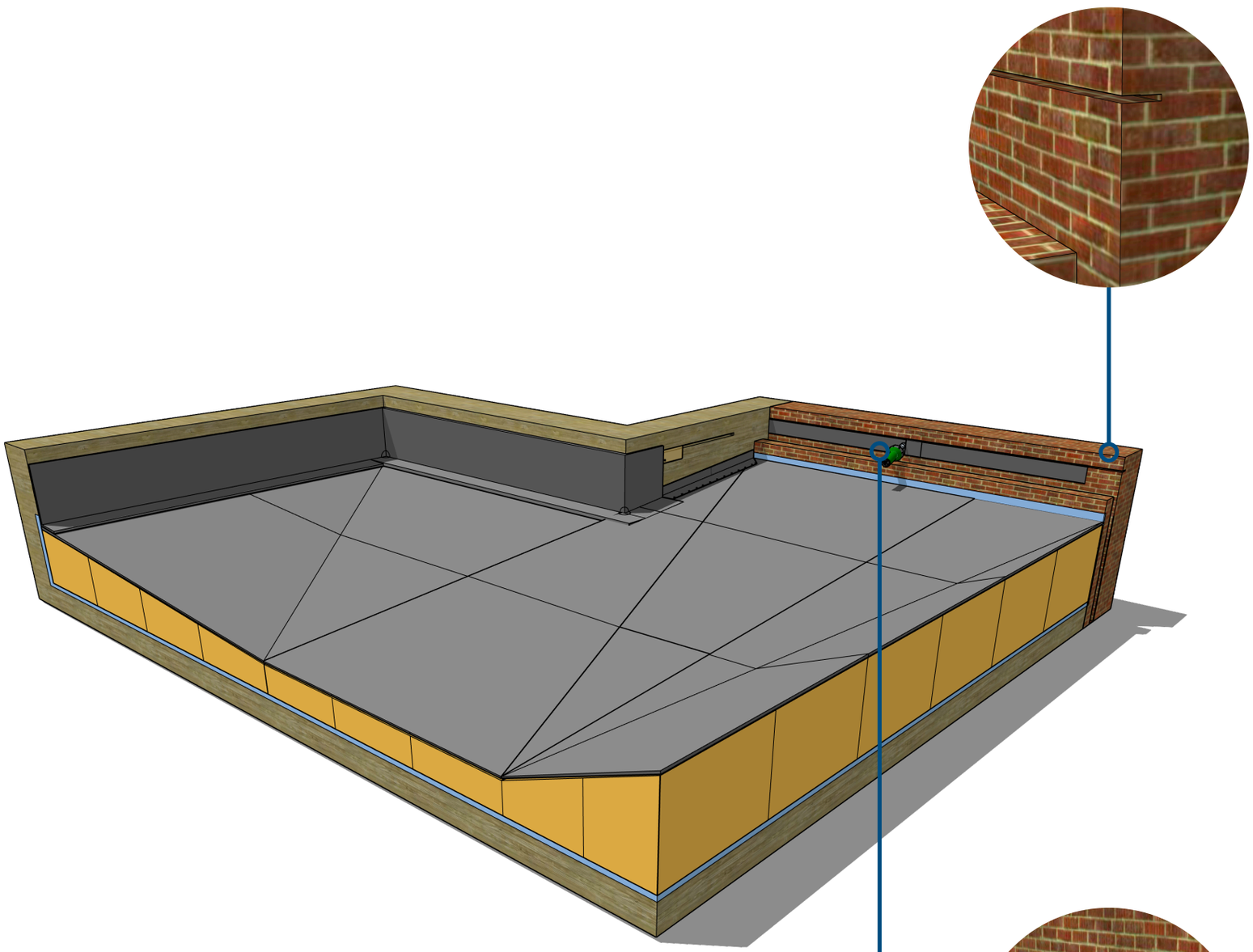


2 |

Once the PVC membrane strap has been fully installed and welded, installation of internal corner patches at the base of the inside corner junction is to be installed.

Hot air fusion weld around the entire perimeter of the internal corner patch ensuring a consistent 40mm weld width is achieved to fully waterproof the junction.

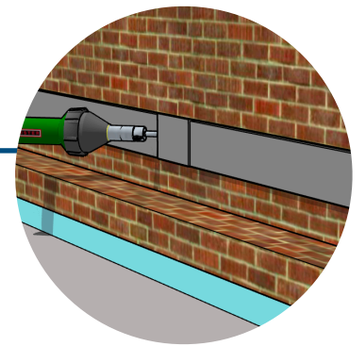
CAVITY WALL TERMINATION | CHASE DETAIL



1 |

Where the Fatra system is to be terminated into a vertical upturn, a Fatranyl PVC coated chase termination saw cut profile is to be installed.

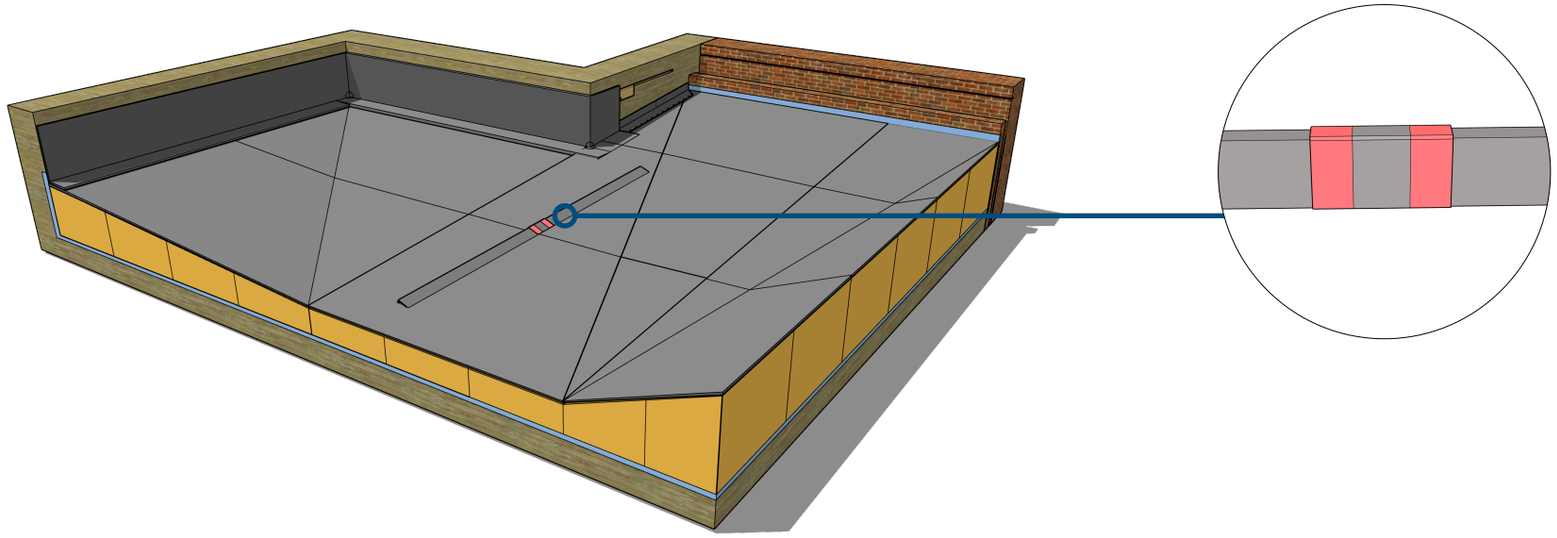
At the specified height of termination, saw cut a continuous slot into the vertical substrate approximately 20mm deep to enable the Fatranyl angle to be inserted into the saw cut slot. Once the grinding of the saw cut reglet has been completed, vacuum out any dust and debris that may be present.



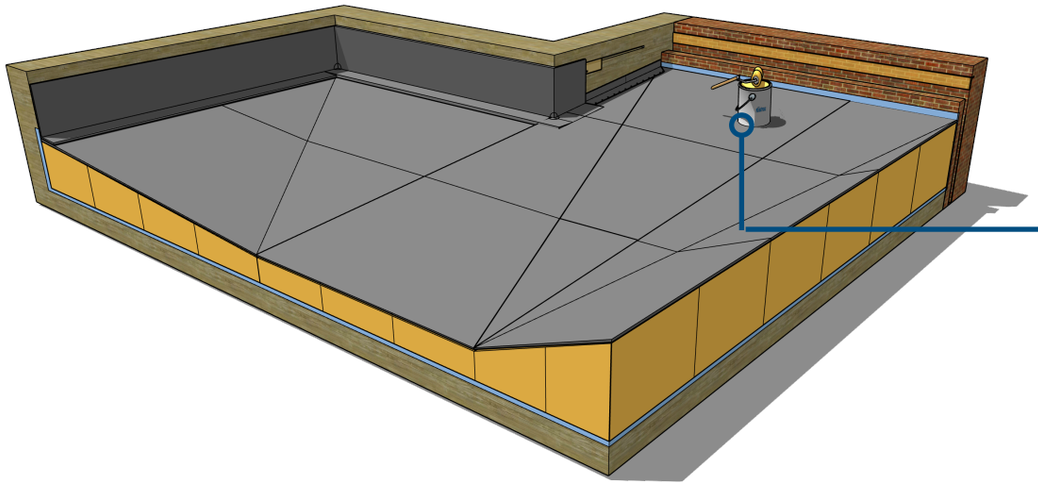
2 |

Insert the Fatranyl PVC coated chase termination angles into the saw cut reglet but do not fix into place. Ensure conjoining Fatranyl angles are approximately 2 - 5mm apart to allow for expansion. Place Fatrafol 804 detailing membrane butt strap over the expansion gap covering the entire horizontal and vertical surfaces of the Fatranyl angles lapping a minimum of 50mm onto each conjoining angle. Hot air fusion weld the Fatrafol 804 butt strap to the vertical face of the Fatranyl angle to connect the chase angles together achieving a weld width of 40mm

CAVITY WALL TERMINATION | CHASE DETAIL



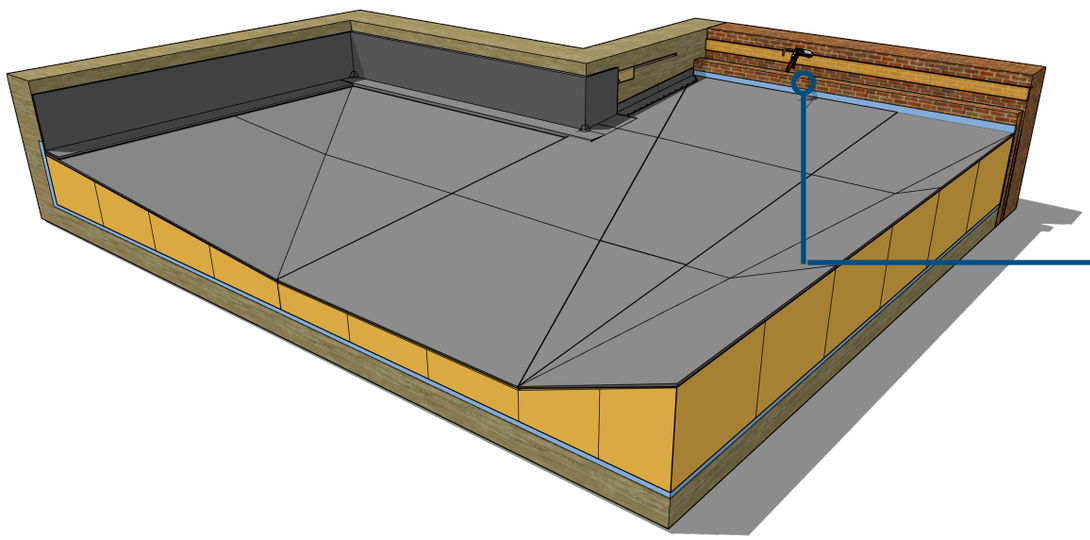
Once the Fatrafol 804 butt straps are welded to the vertical face of the Fatranyl angles, remove the connected angles from the saw cut reglet. Once the Fatranyl angles are removed, hot air fusion weld the top horizontal plane to the Fatrafol 804 butt strap to full seal the Fatranyl angle. The image to the right indicates in red the specific areas which are to be fully hot air fusion welded.

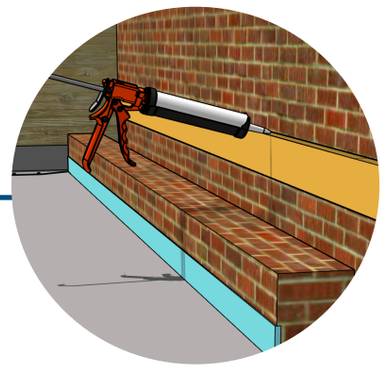




4 |

Using a Fatra approved primer, apply the primer in accordance with suppliers recommendations to the areas where an approved sealant will be applied. Ensure an even and consistent coverage is achieved.

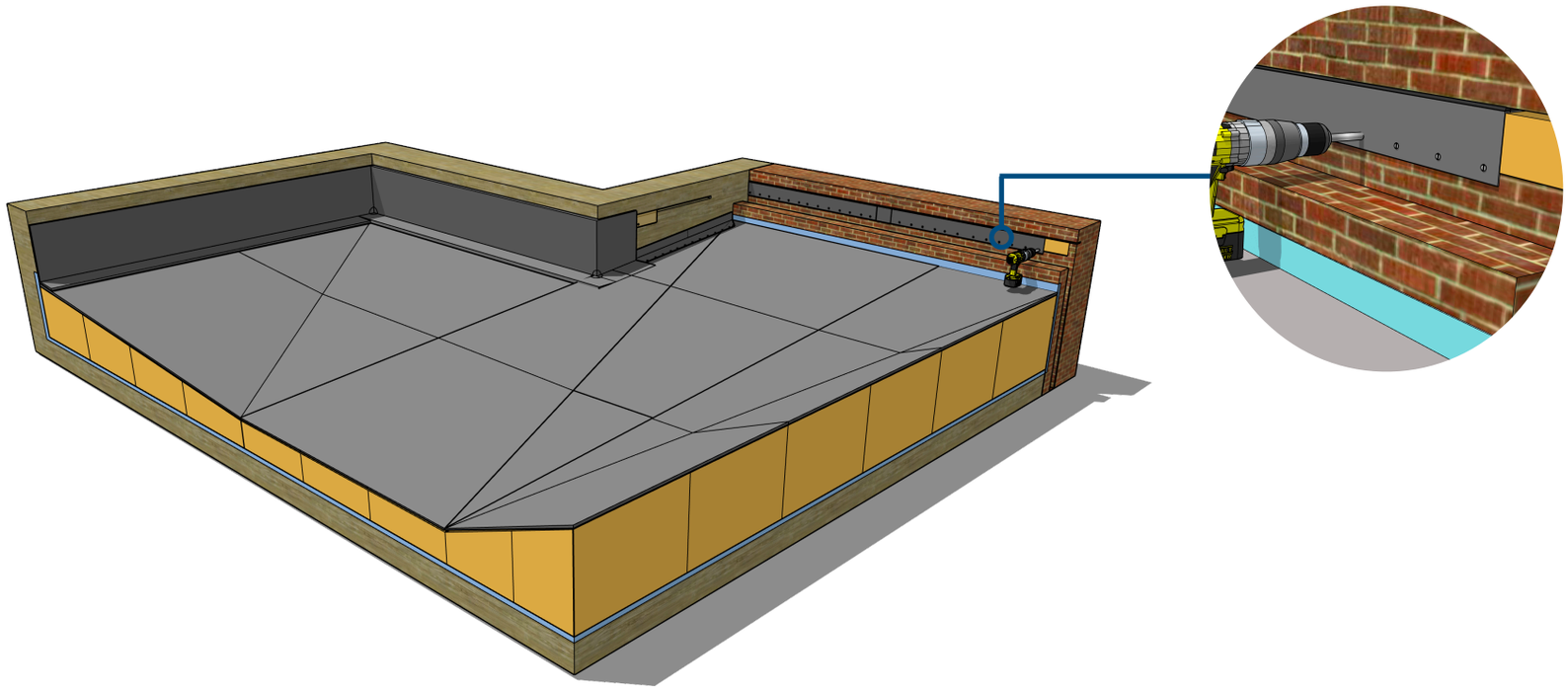




5 |

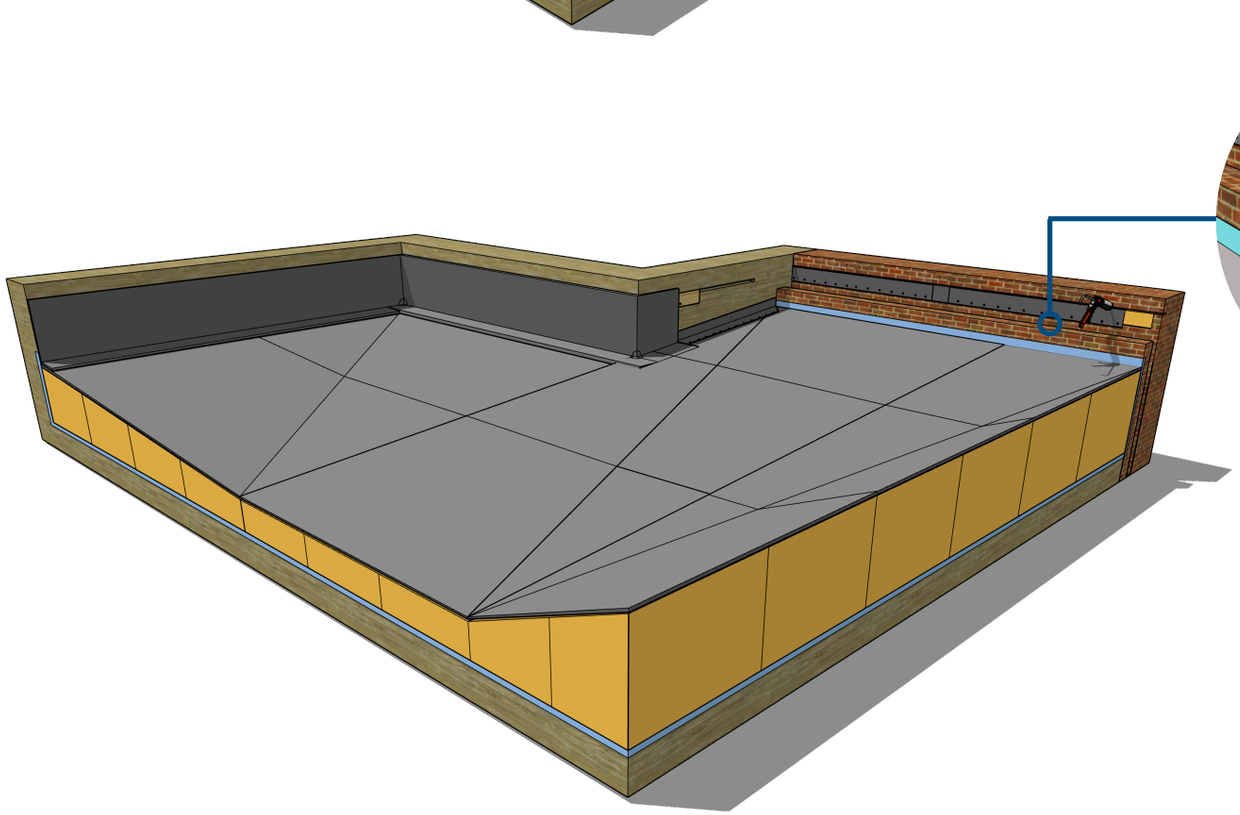
Once the approved primer has fully cured, apply a consistent bead of approved sealant into the saw cut reglet slot across the entire length of termination.

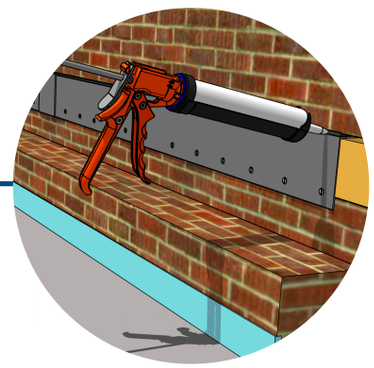
CAVITY WALL TERMINATION | CHASE DETAIL



6 |

Fix Fatranyl chase termination approximately 10mm from the bottom edge and in the bottom third section of the Fatranyl angle at 150mm centres using Fatra approved fixings to secure into place. Ensure Fatranyl angles are sat flush against the wall and do not protrude off the surface.

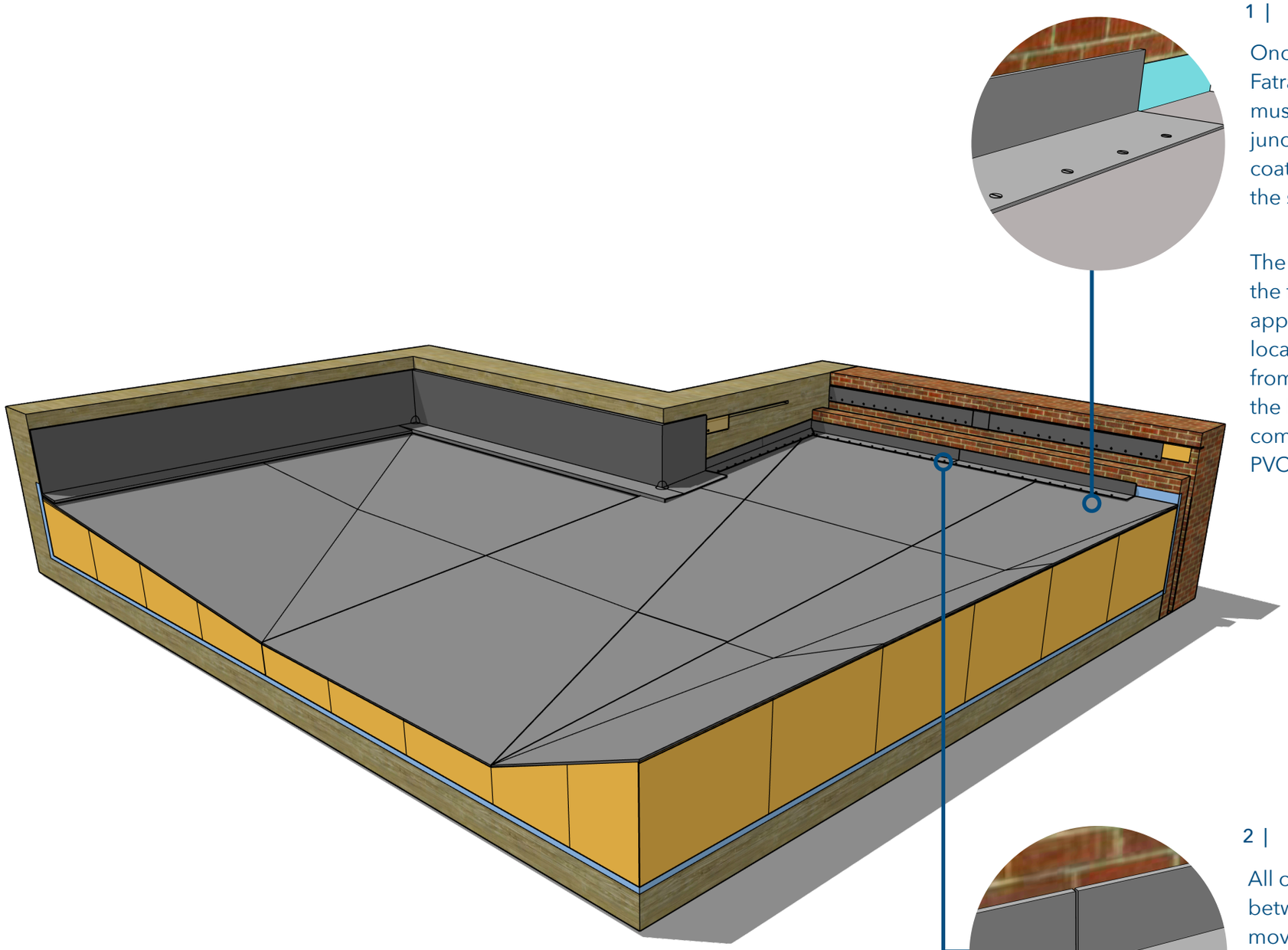




7 |

Once the Fatranyl angle has been fully fixed, install a final bead of approved Fatra sealant across the top edge of the Fatranyl termination angle to fully seal the termination. Using a spray bottle and warm water, lightly spray the wet sealant and smooth off to achieve a consistent sealed joint.

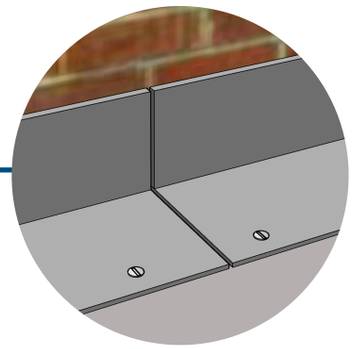
CAVITY WALL TERMINATION | INTERNAL PVC ANGLES



1 |

Once the field sheet has been fully installed, a Fatranyl internally coated PVC peel stop angle must be installed to all horizontal and vertical junctions. When installing Fatranyl internally coated angles, ensure the angles contour fully with the substrate and do not protrude off the surface.

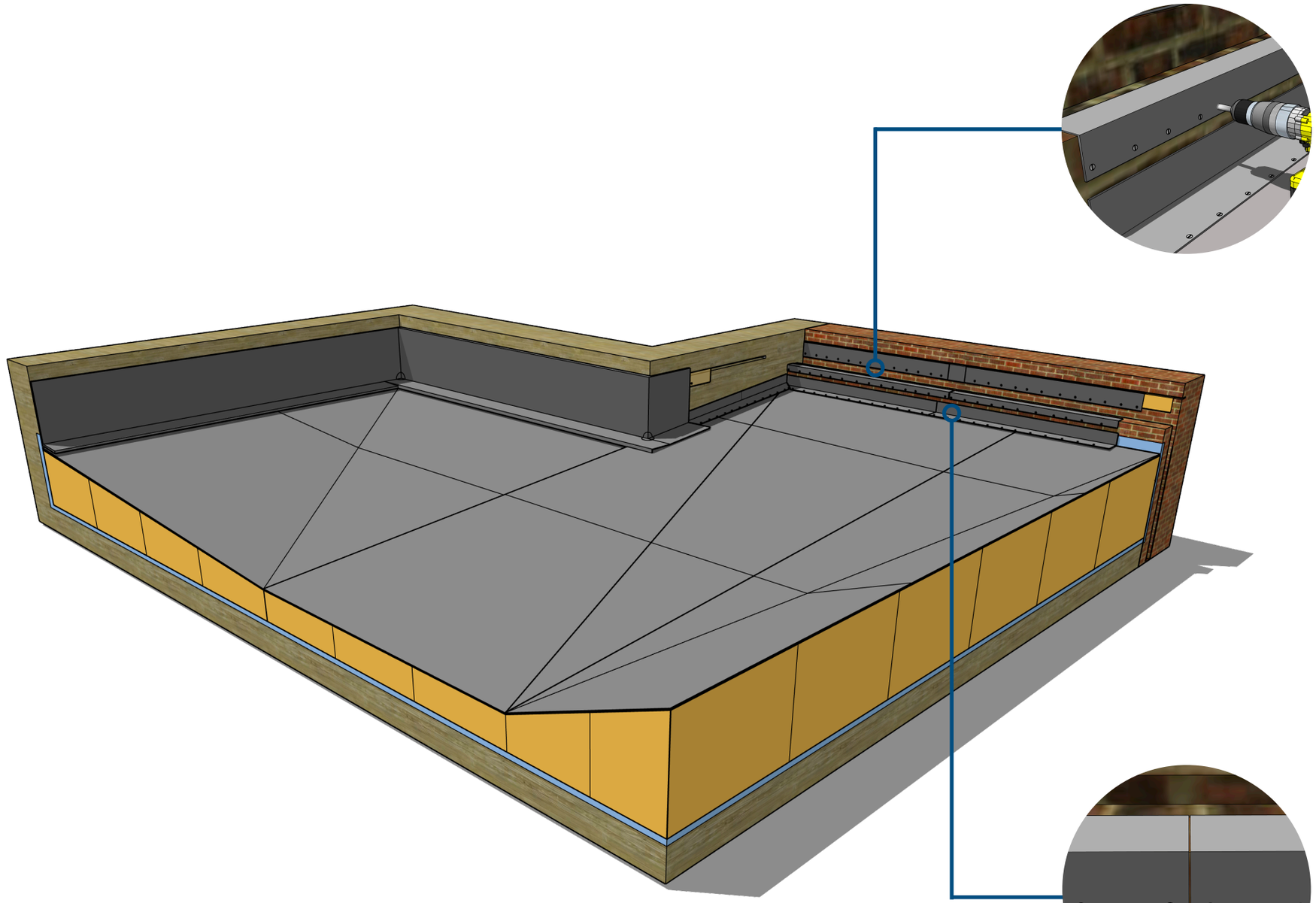
The Fatranyl angle is mechanically anchored over the field sheet at 150mm centres using Fatra approved fixings into the substrate. The fixing locations must always be no closer than 10mm from the edge of the Fatranyl angle but always in the bottom third section to allow enough room to complete a hot air fusion weld when installing the PVC membrane strap.



2 |

All conjoining angles must have 2 - 5mm gap between each metal to allow for structural movement. The Fatranyl internally coated angle minimises shrinkage which may occur. Internally coated angles are to be installed to every horizontal and vertical junction and are to be fixed over the field sheet membrane at all times.

CAVITY WALL TERMINATION | EXTERNAL PVC ANGLES



3 |

Fix Fatranyl PVC externally coated PVC angle approximately 10mm from the bottom edge and in the bottom third section of the Fatranyl angle at 150mm centres using Fatra approved fixings to secure into place.

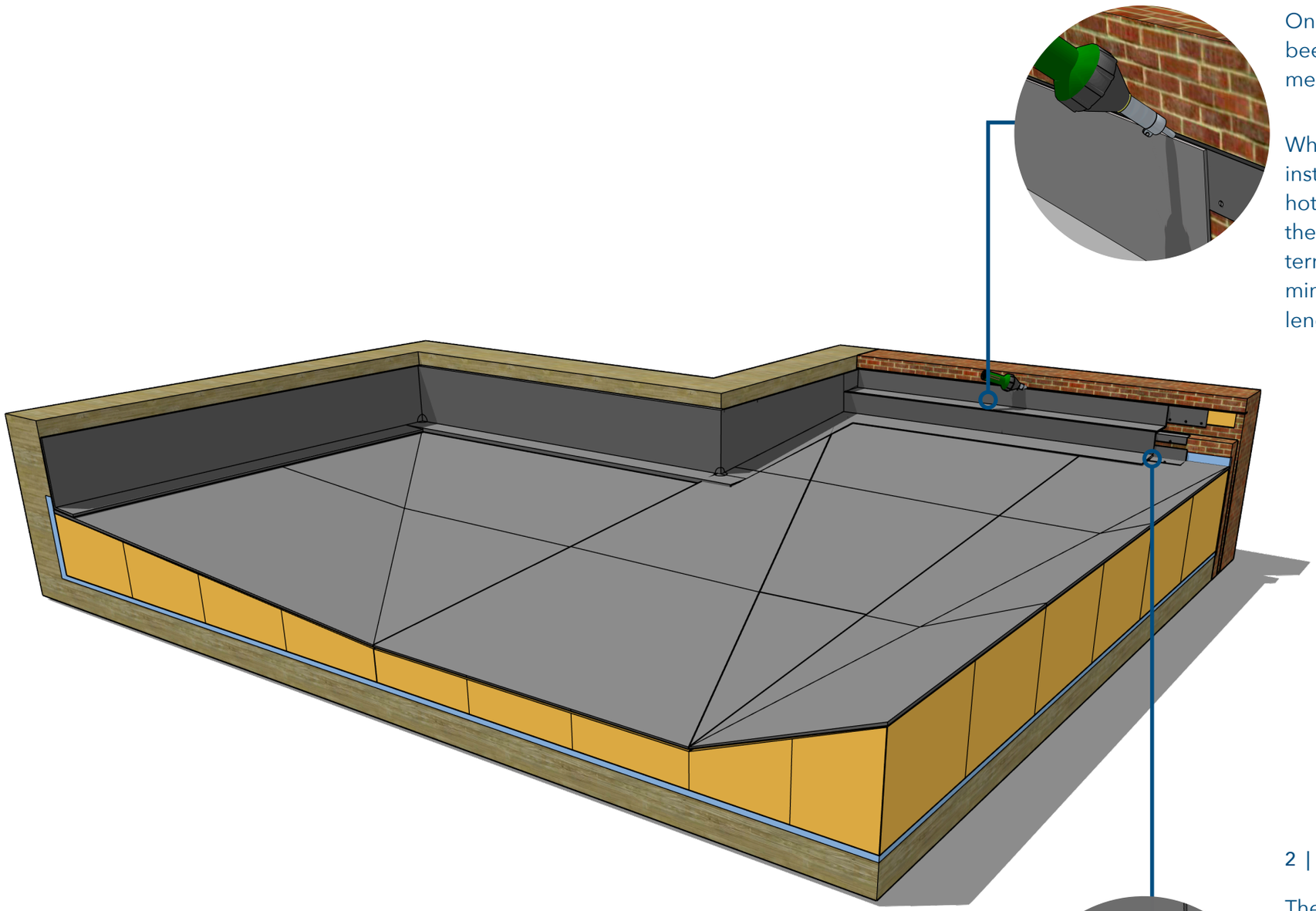
Ensure Fatranyl angles are sat flush against the wall and do not protrude off the surface.

4 |

All conjoining angles must have 2 - 5mm gap between each metal to allow for structural movement.

The Fatranyl internally coated angle minimises shrinkage which may occur. Internally coated angles are to be installed to every horizontal and vertical junction and are to be fixed over the field sheet membrane at all times.

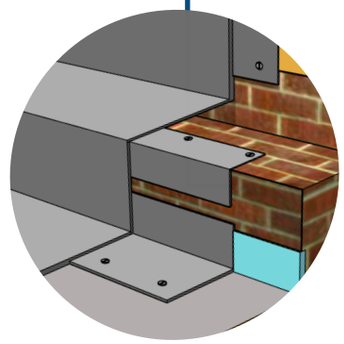
CAVITY WALL TERMINATION | WALL PVC MEMBRANE



1 |

Once the Fatranyl chase termination angles have been completed a Fatrafol 804 unreinforced membrane strap is installed.

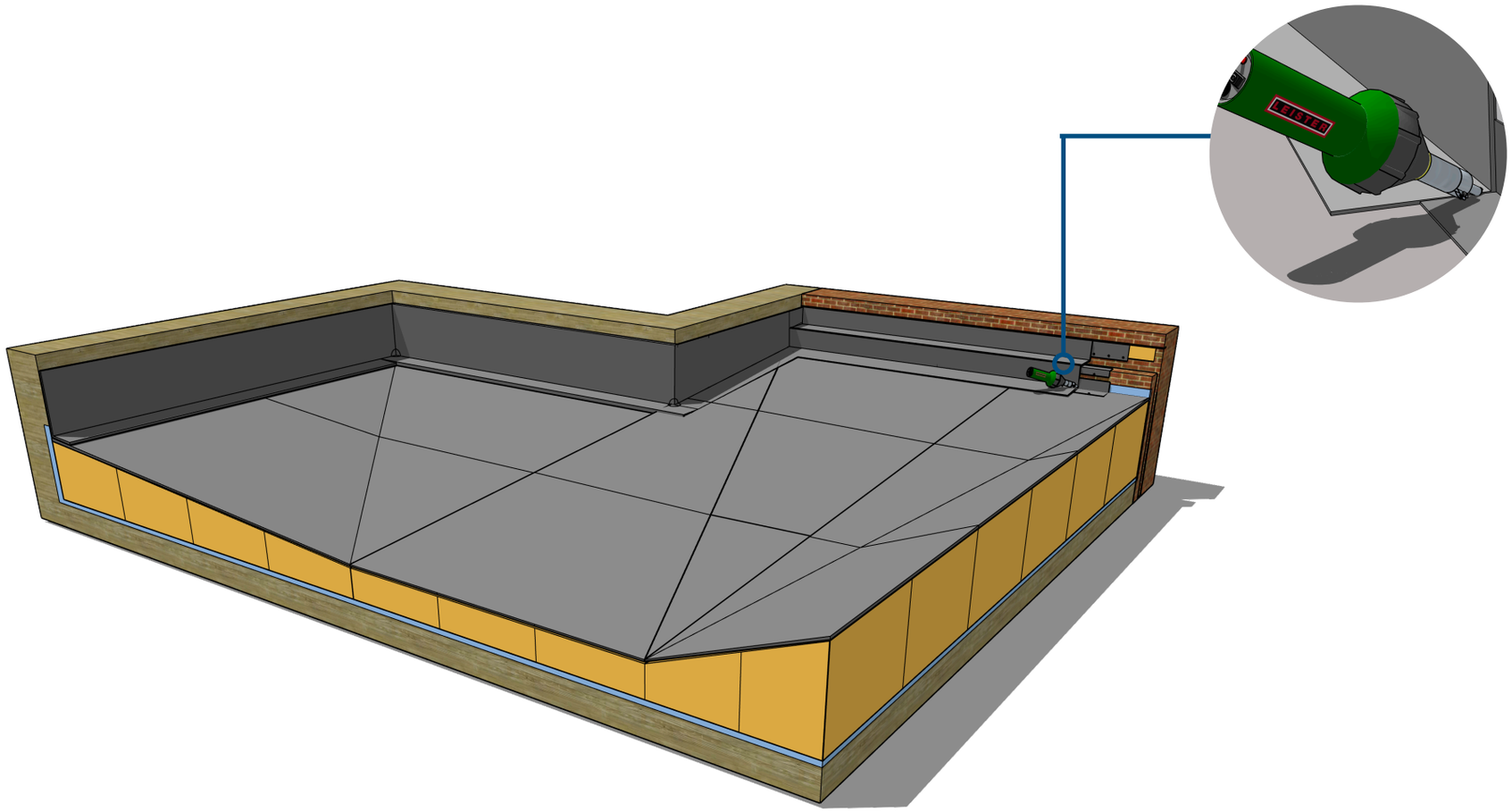
Where the vertical chase termination has been installed, the Fatrafol 804 PVC membrane strap is hot air fusion welded approximately 1mm from the top of the Fatranyl PVC coated chase termination metal achieving a continuous minimum weld width of 40mm along the entire length of the Fatranyl chase termination angle.



2 |

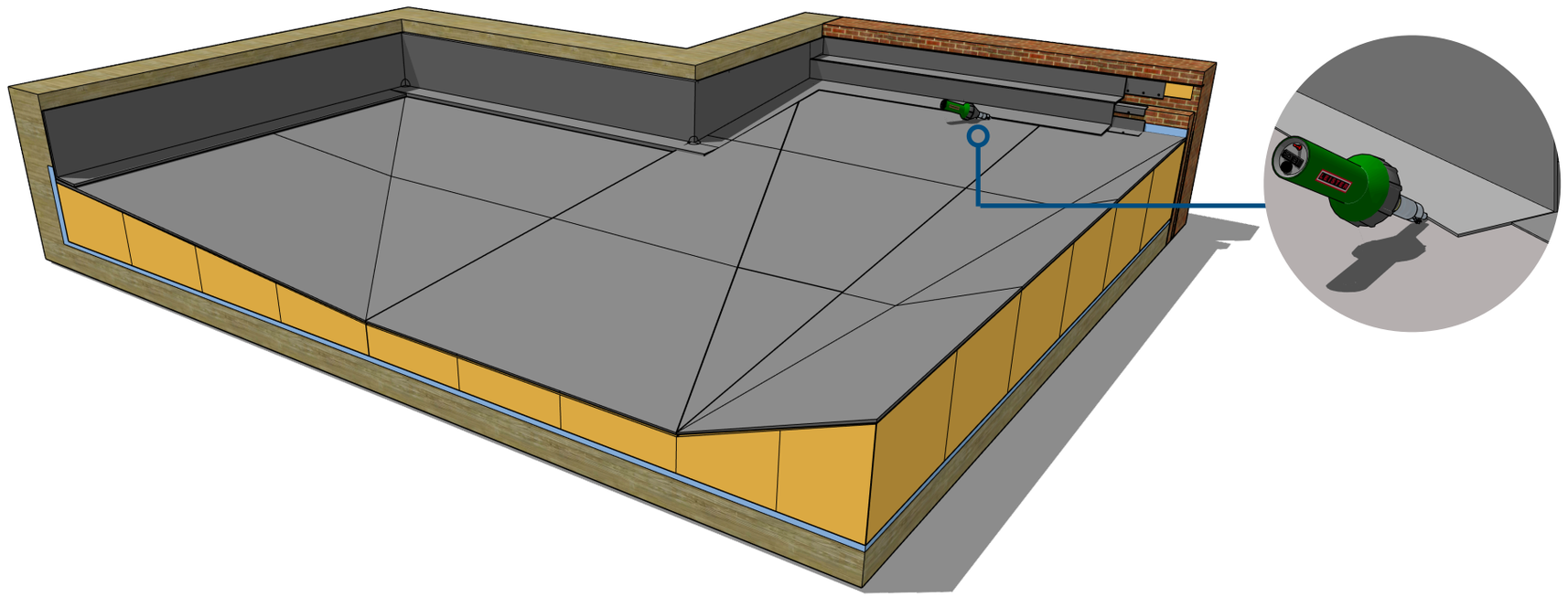
The Fatrafol PVC membrane strap will come down the inside vertical face of the cavity and across the external brick course, lapping over the Fatranyl externally coated PVC angle. The Fatrafol 804 membrane strap will run down the outside face of the external brick course and over the internally coated PVC coated angle and 100mm onto the Fatrafol PVC field sheet membrane.

CAVITY WALL TERMINATION | WALL PVC MEMBRANE



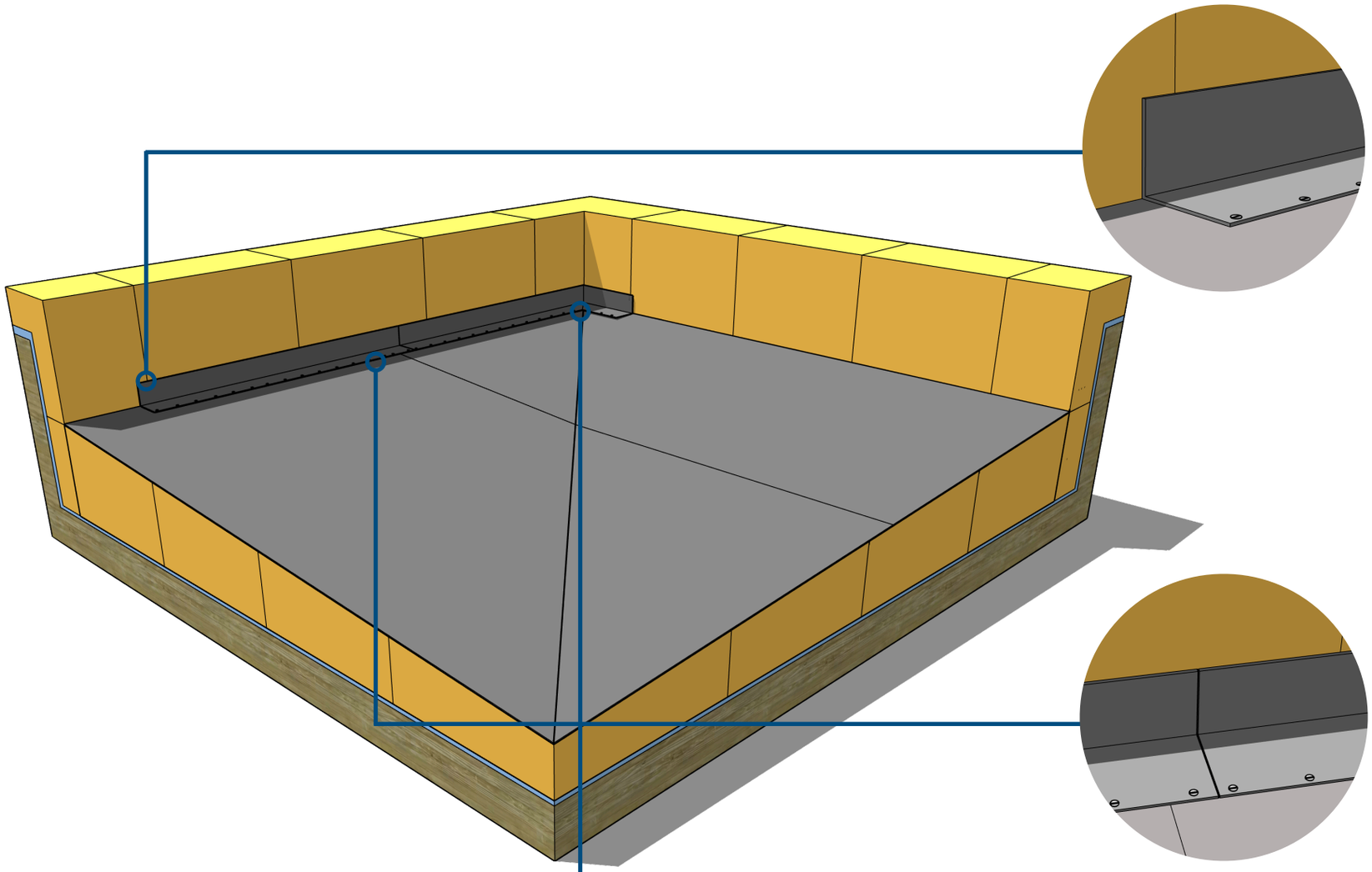
3 |
A continuous weld is to be installed in the horizontal and vertical corner junction of the Fatranyl internally coated PVC angle to ensure tenting of the vertical upturn membrane strap does not occur.

The Fatrafol 804 PVC membrane strap is then hot air fusion welded to the Fatrafol PVC field sheet membrane achieving a minimum weld width of 40mm fully concealing the vertical upturn detail and providing a waterproofed finish.



4 |
Once the cavity detail has been fully installed and inspected install an approved protection layer over the Fatrafol PVC membrane strap where the external brick course is to be reinstated. This will provide adequate protection to the membrane from any damage when reinstating the brick course which may result in water ingress or defects. Consultation with a Fatra technical representation is advised prior to installation.

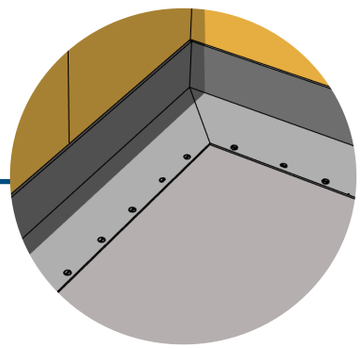
PERIMETER HOB TERMINATION | INTERNAL PEEL STOP ANGLES



1 |
Once the field sheet has been fully installed, a Fatranyl internally coated PVC peel stop angle must be installed to all horizontal and vertical junctions. When installing Fatranyl internally coated angles, ensure the angles contour fully with the substrate and do not protrude off the surface.

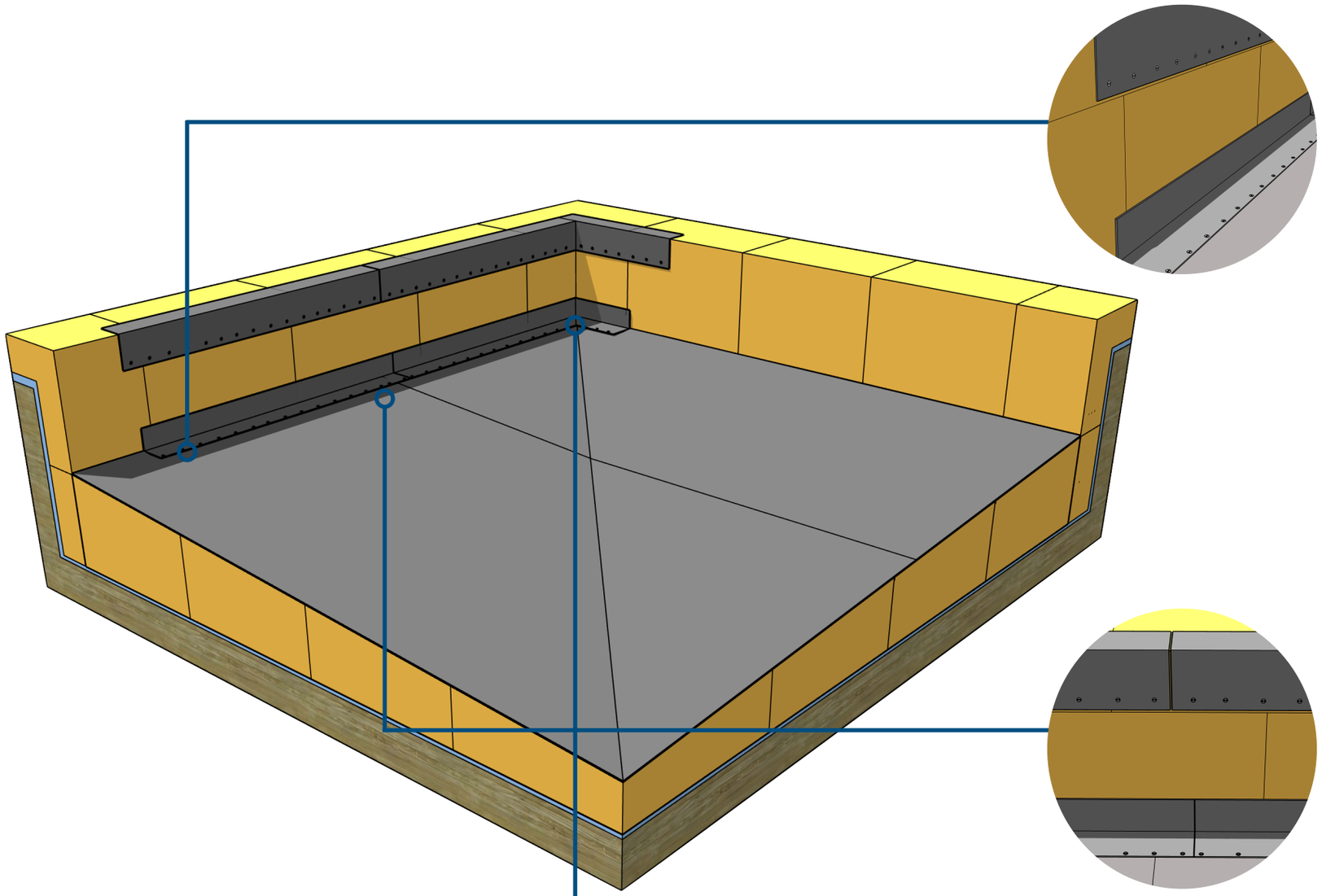
The Fatranyl angle is mechanically anchored over the field sheet at 150mm centres using Fatra approved fixings into the substrate. The fixing locations must always be no closer than 10mm from the edge of the Fatranyl angle but always in the bottom third section to allow enough room to complete a hot air fusion weld when installing the PVC membrane strap.

2 |
All conjoining angles must have 2 - 5mm gap between each metal to allow for structural movement. The Fatranyl internally coated angle minimises shrinkage which may occur. Internally coated angles are to be installed to every horizontal and vertical junction and are to be fixed over the field sheet membrane at all times.



3 |
Where there are changes in direction, mitre the Fatranyl angle to contour around the junction. This provides a continuous finish at the corner junctions and enables a consistent weld into the corner can be achieved when installing the PVC membrane upturn strap.

PERIMETER HOB TERMINATION | EXTERNAL PVC ANGLES



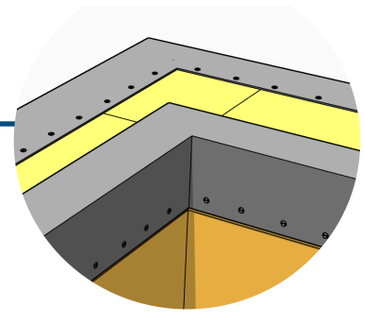
1 |

The Fatranyl external PVC coated angles are installed to the inside perimeter hob edge where the inside vertical face meets the top horizontal surface. Fatranyl external angle is used to protect the Fatrafol PVC membrane from the sharp edges that may be present on the corner of the perimeter hob which may result in the membrane defecting over time.

The Fatranyl angles are mechanically anchored at 150mm centres using Fatra approved fixings into the perimeter hob. The fixing locations must always be no closer than 10mm from the edge of the Fatranyl angle but always in the bottom third section to allow enough room to complete a hot air fusion weld when installing the PVC upturn membrane.

2 |

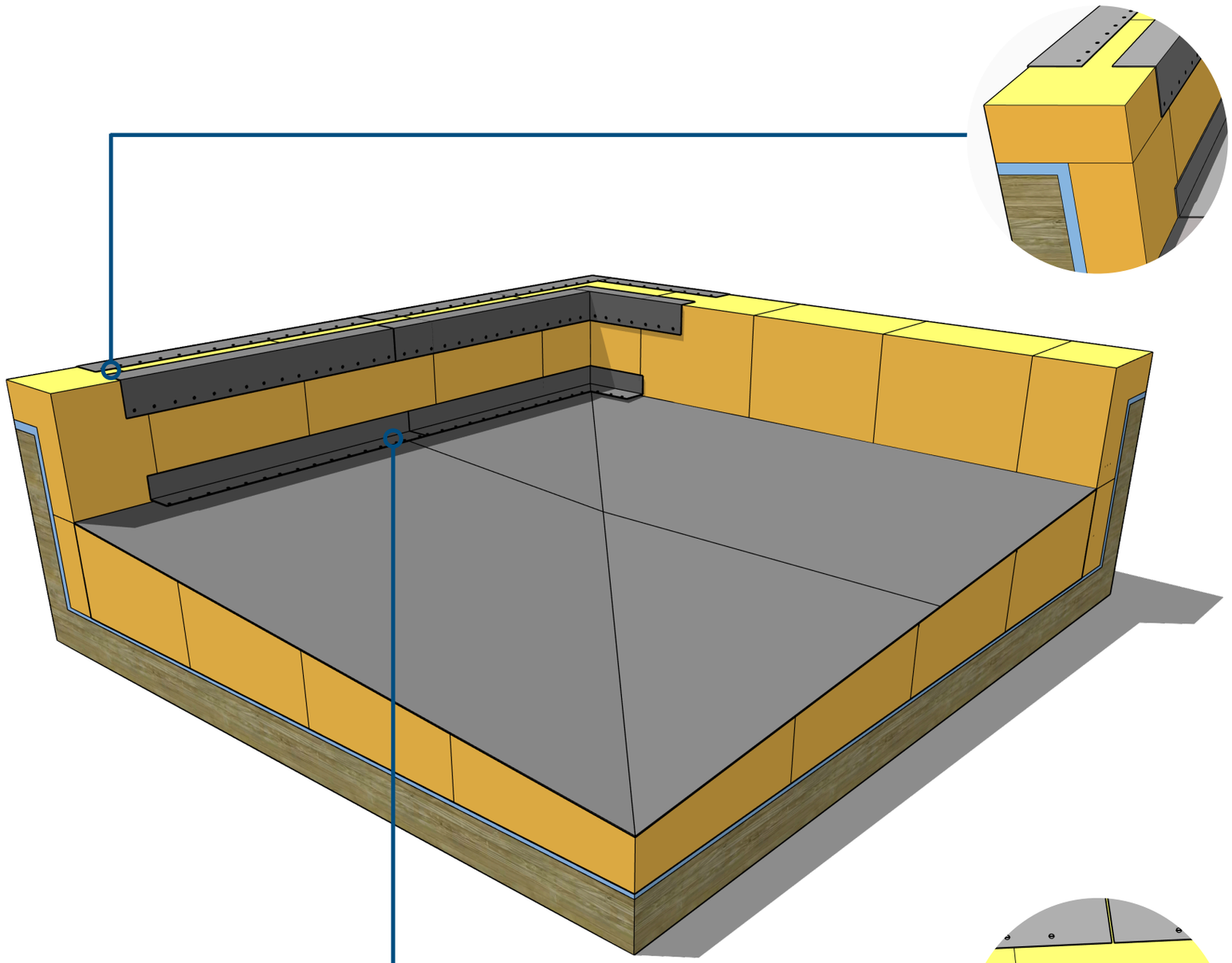
All conjoining angles must have 2 - 5mm gap between each metal to allow for structural movement. The Fatranyl externally coated angles are to be installed to the entire length of the perimeter hobs.



3 |

Where there are changes in direction, mitre the Fatranyl angle to contour around the junction. This provides a continuous finish at the corner junctions and enables a consistent weld into the corner can be achieved when installing the PVC membrane upturn strap.

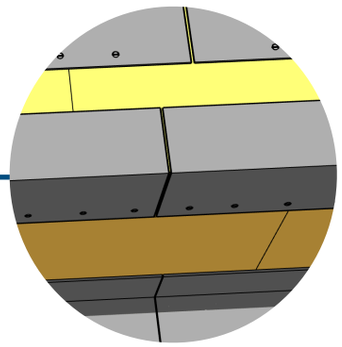
PERIMETER HOB TERMINATION | CRUSH & FOLD PVC ANGLES



1 |

The Fatranyl crush & fold PVC coated angles are installed to the outside perimeter hob edge. Fatranyl crush & fold angle is used to terminate the Fatrafol PVC membrane system and protect the perimeter hob from water ingress.

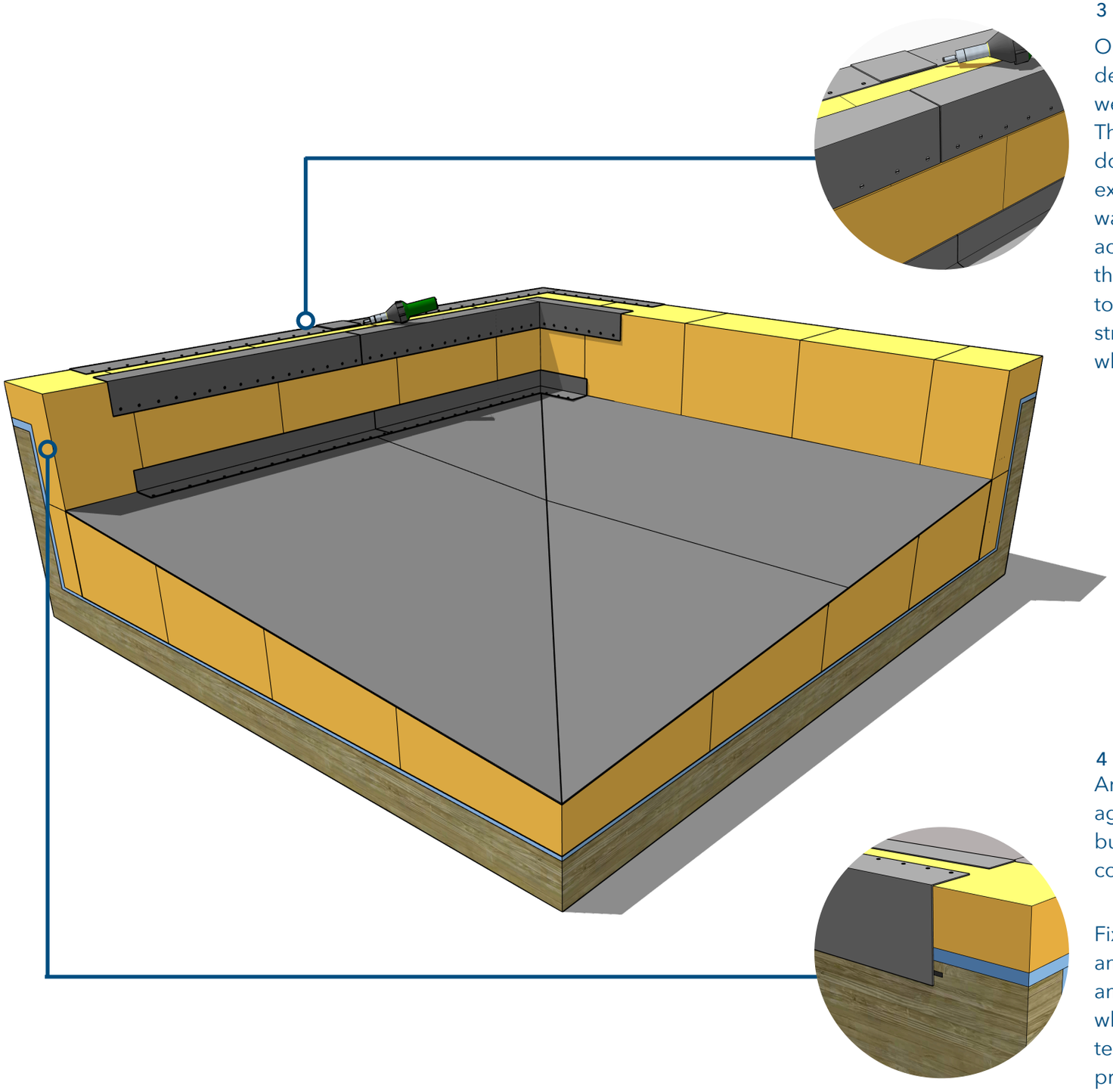
Fix the horizontal section of the crush and fold angle which sits on top of the hob. The fixing locations must always be no closer than 10mm from the edge of the Fatranyl angle but always in the bottom third section to allow enough room to complete a hot air fusion weld when installing the PVC upturn membrane.



2 |

All conjoining angles must have 2 - 5mm gap between each metal to allow for structural movement. The Fatranyl crush and fold angles are to be installed to the entire length of the perimeter hobs.

PERIMETER HOB TERMINATION | CRUSH & FOLD PVC ANGLES



3 |

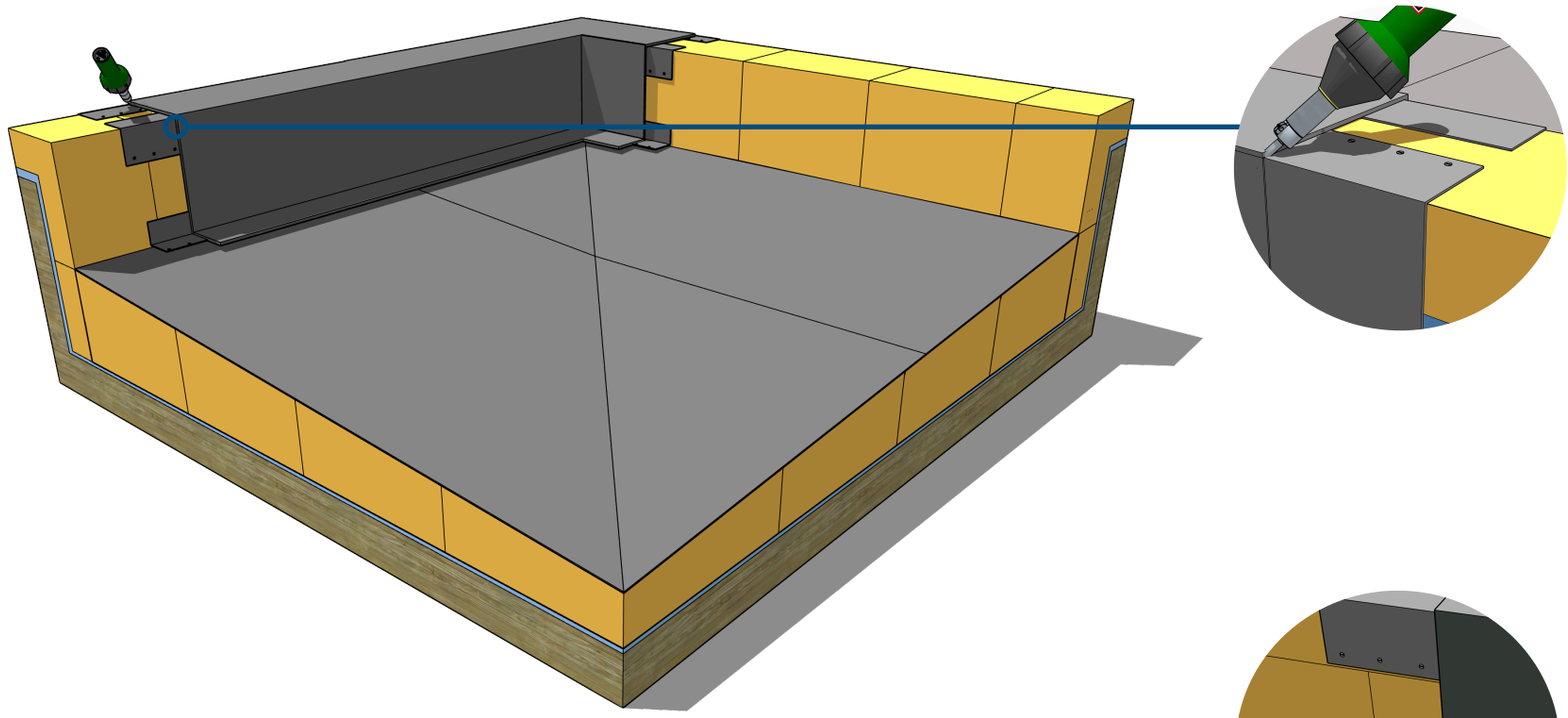
Once these have been fixed into place, a Fatrafol 804 detailing membrane butt strap must be hot air fusion welded over the expansion gaps of the conjoining metals. This is to be installed to the top horizontal face running down the outside vertical face and slightly underneath the externally coated PVC crush and fold angle to completely waterproof the joints. A minimum 40mm weld is to be achieved around the entire perimeter of the butt strap with the exception of the underside section. The butt strap is not to be fully welded to the outside face underside of the butt strap to ensure the butt strap does not tear or damage when exposed to structural movement.

4 |

Any Fatranyl crush and fold termination angles must be sealed against the outside vertical face of the building using Fatra butyl sealing tape to air seal the termination and avoid corrosion.

Fixing of the outside vertical face or installing a ledger support angle maybe required to suitably secure the Fatranyl angle and prevent the Fatranyl angle being dislodged or damaged when exposed to high winds. Consultation with a Fatra technical representative and approved engineered is advised prior to implementing this detail.

PERIMETER HOB TERMINATION | PVC MEMBRANE STRAP



1 |

Once the Fatranyl crush & fold termination angles have been installed a Fatrafol 810v reinforced membrane strap is installed to encapsulate the perimeter hob.

Where the Fatranyl angle has been implemented a Fatrafol 810v PVC strap is to be hot air fusion welded approximately 1mm from the outside edge of the Fatranyl PVC coated crush & fold termination angle achieving a continuous minimum weld width

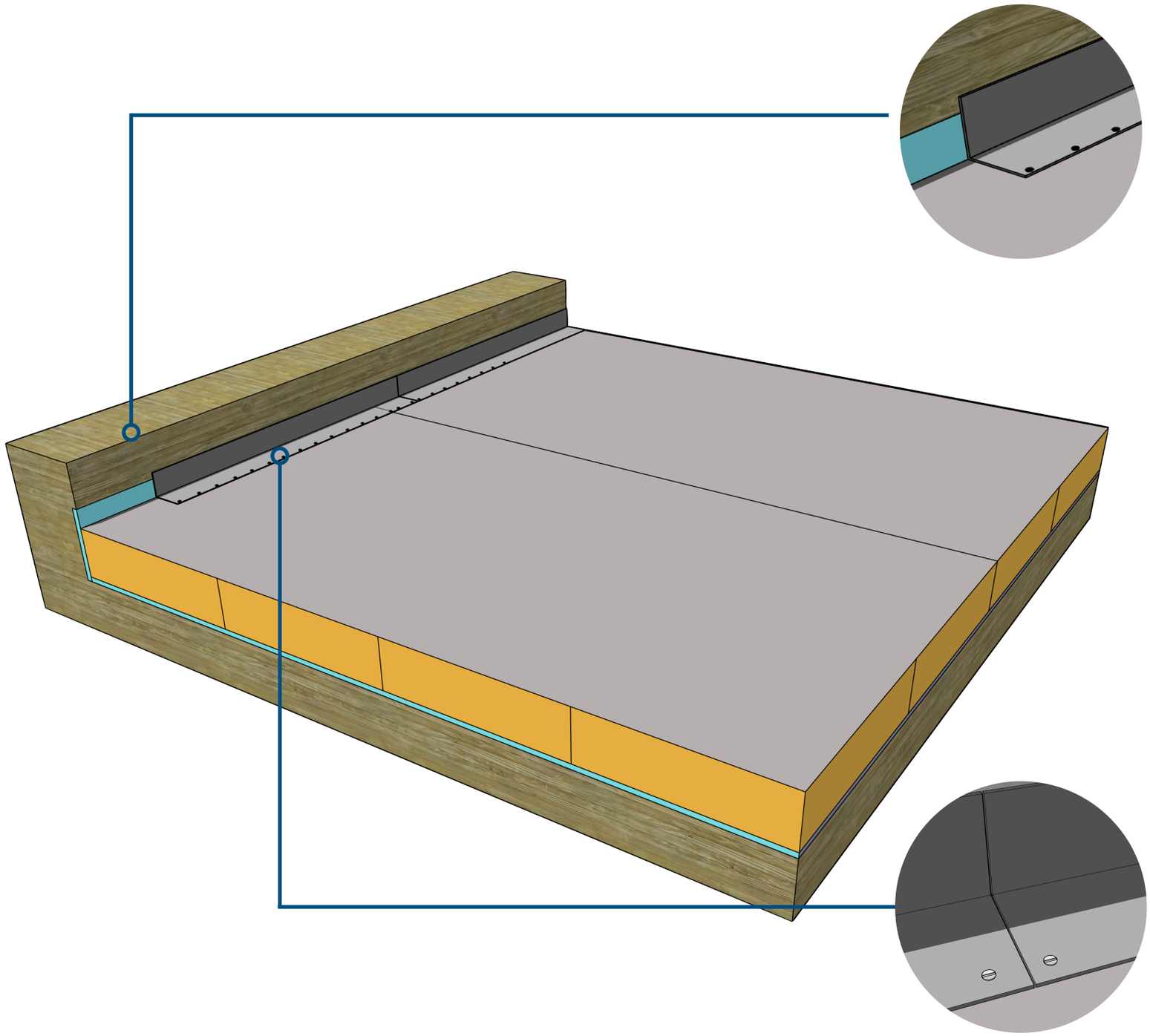
2 |

The Fatrafol PVC membrane strap will come across the top horizontal surface of the hob and down the inside vertical face, lapping over the Fatranyl internally coated PVC coated angle and 100mm onto the Fatrafol PVC field sheet membrane. A continuous weld is to be installed in the full width and length of the horizontal section of the Fatranyl internally coated PVC angle to ensure tenting of the vertical upturn membrane strap does not occur.

3 |

The Fatrafol 810v PVC membrane strap is then hot air fusion welded to the Fatrafol PVC field sheet membrane achieving a minimum weld width of 40mm, fully concealing the vertical upturn detail and providing a waterproofed finish. Once the welding process has been completed, ensure all welds are fully probed for any welding defects.

DOOR SUBSIL TERMINATION | INTERNAL PEEL STOP ANGLES



1 |

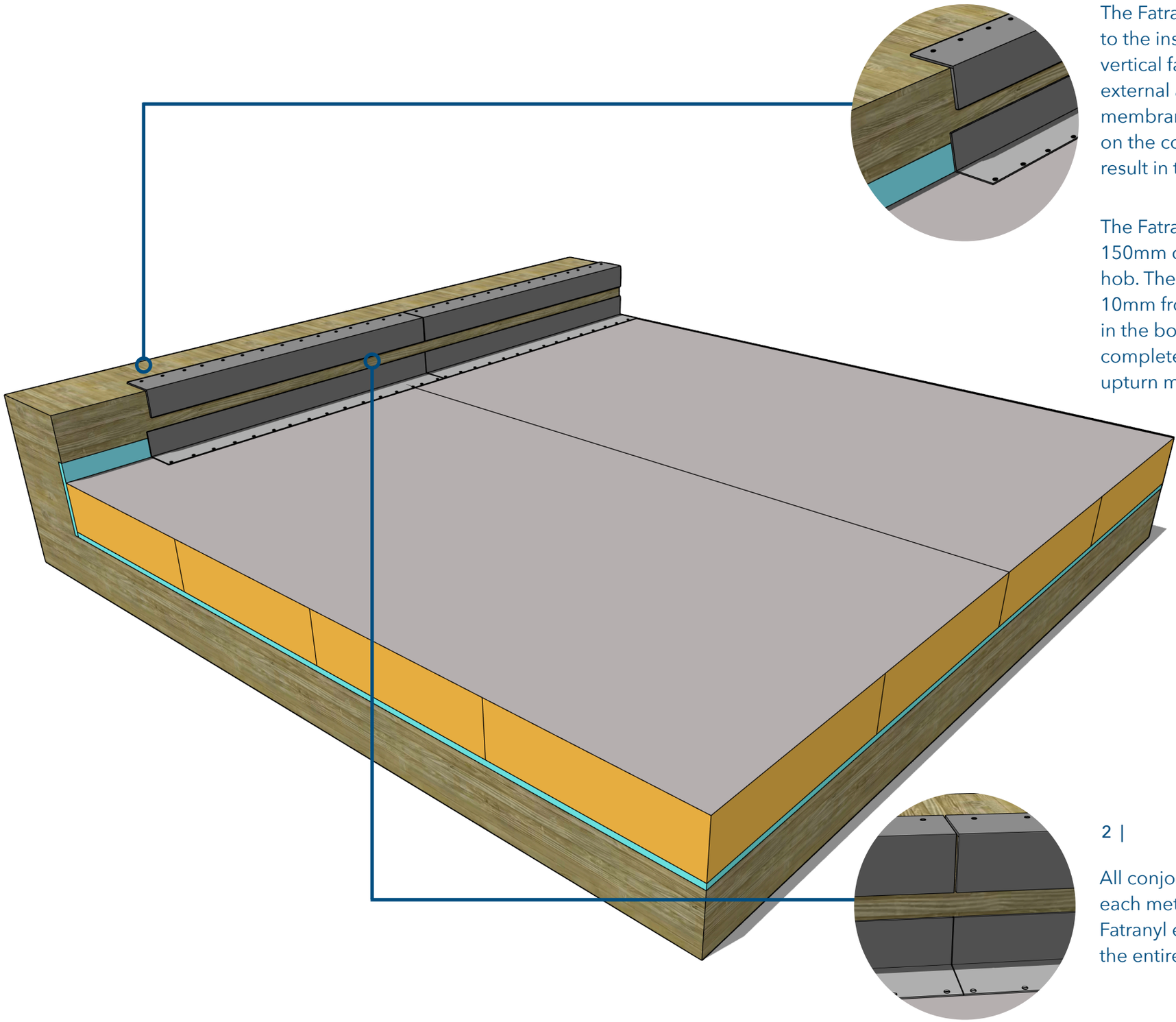
Once the field sheet has been fully installed, a Fatranyl internally coated PVC peel stop angle must be installed to all horizontal and vertical junctions. When installing Fatranyl internally coated angles, ensure the angles contour fully with the substrate and do not protrude off the surface.

The Fatranyl angle is mechanically anchored over the field sheet at 150mm centres using Fatra approved fixings into the substrate. The fixing locations must always be no closer than 10mm from the edge of the Fatranyl angle but always in the bottom third section to allow enough room to complete a hot air fusion weld when installing the PVC membrane strap.

2 |

All conjoining angles must have 2 - 5mm gap between each metal to allow for structural movement. The Fatranyl internally coated angle minimises shrinkage which may occur. Internally coated angles are to be installed to every horizontal and vertical junction and are to be fixed over the field sheet membrane at all times.

DOOR SUBSIL TERMINATION | EXTERNAL PVC ANGLES



1 |

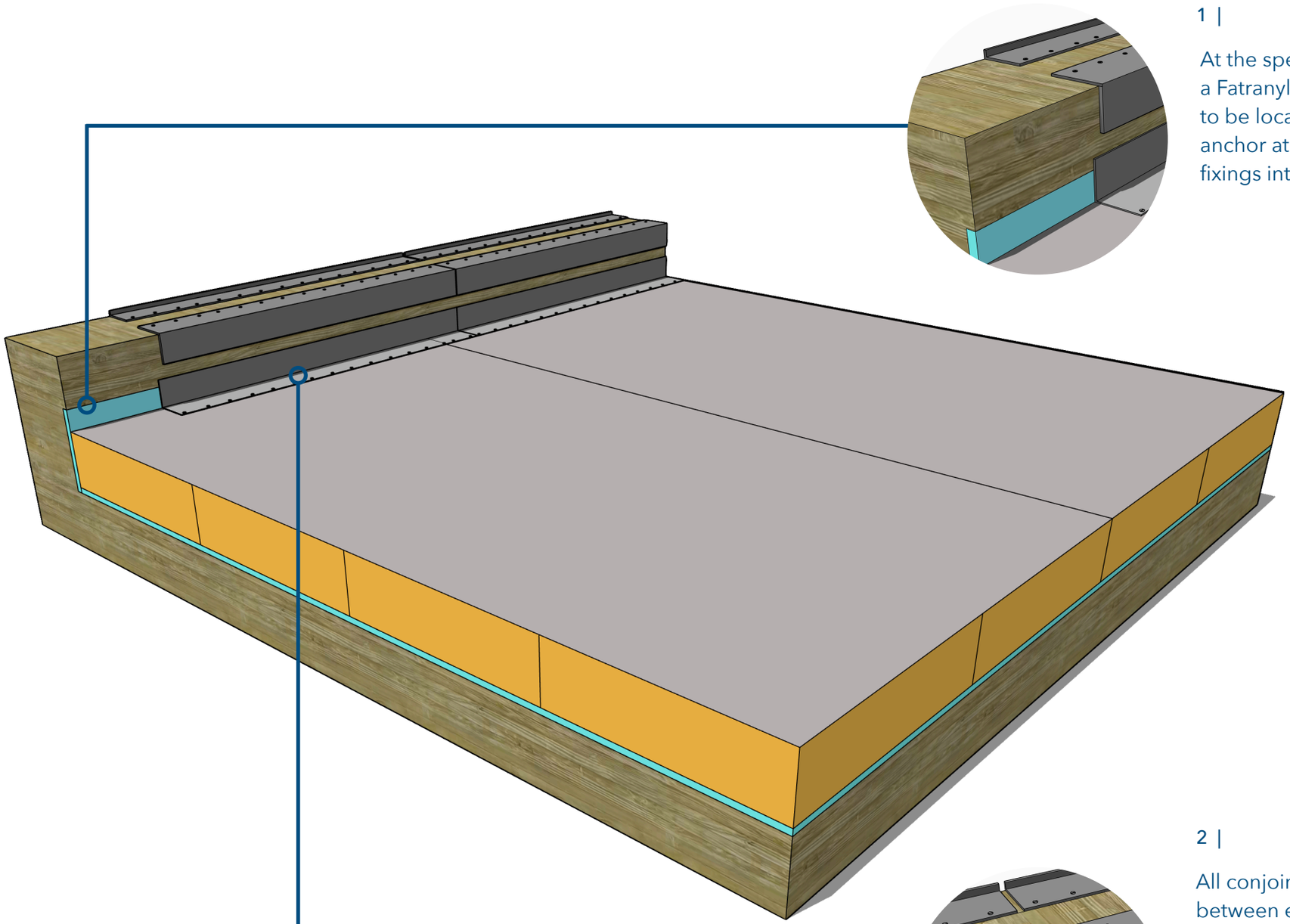
The Fatranyl external PVC coated angles are installed to the inside perimeter hob edge where the inside vertical face meets the top horizontal surface. Fatranyl external angle is used to protect the Fatrafol PVC membrane from the sharp edges that may be present on the corner of the door threshold hob which may result in the membrane defecting over time.

The Fatranyl angles are mechanically anchored at 150mm centres using Fatra approved fixings into the hob. The fixing locations must always be no closer than 10mm from the edge of the Fatranyl angle but always in the bottom third section to allow enough room to complete a hot air fusion weld when installing the PVC upturn membrane.

2 |

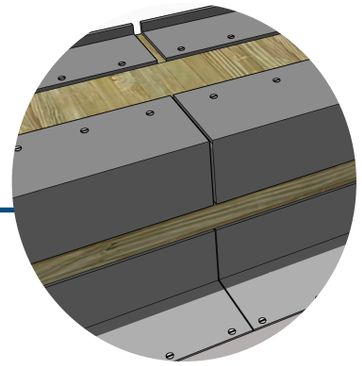
All conjoining angles must have 2 - 5mm gap between each metal to allow for structural movement. The Fatranyl externally coated angles are to be installed to the entire length of the door threshold hob.

DOOR SUBSIL TERMINATION | INTERNALLY COATED PVC ANGLE



1 |

At the specified dimensions and location, install a Fatranyl internally coated PVC angle which is to be located behind the door sill. Mechanically anchor at 150mm centres using Fatra approved fixings into the substrate.

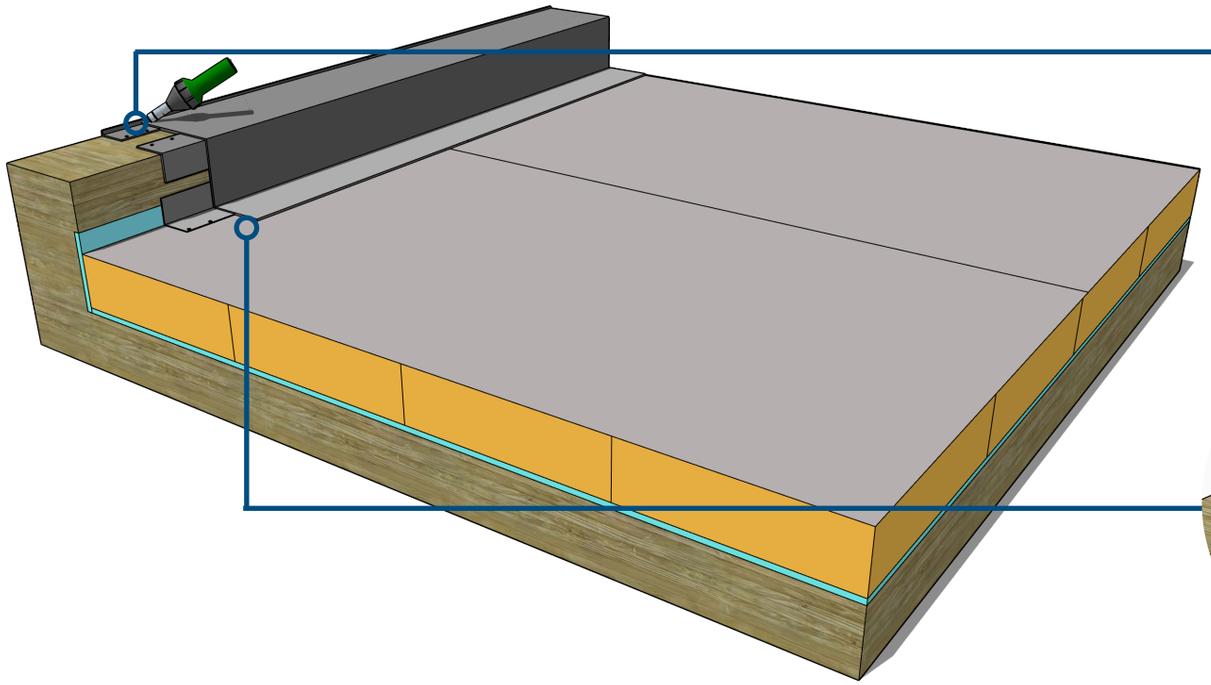


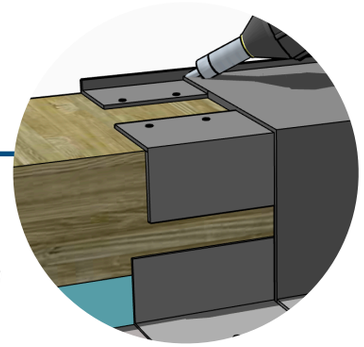
2 |

All conjoining angles must have a 2mm gap between each metal to allow for structural movement. The Fatranyl internally coated angle minimises shrinkage which may occur.

Consultation with a Fatra technical representative is advised prior to installing door threshold angles. Site specific PVC coated can be fabricated on request to achieve the most efficient detail when detail door thresholds.

DOOR SUBSIL TERMINATION | PVC MEMBRANE STRAP

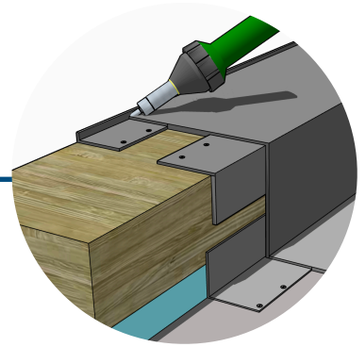




1 |

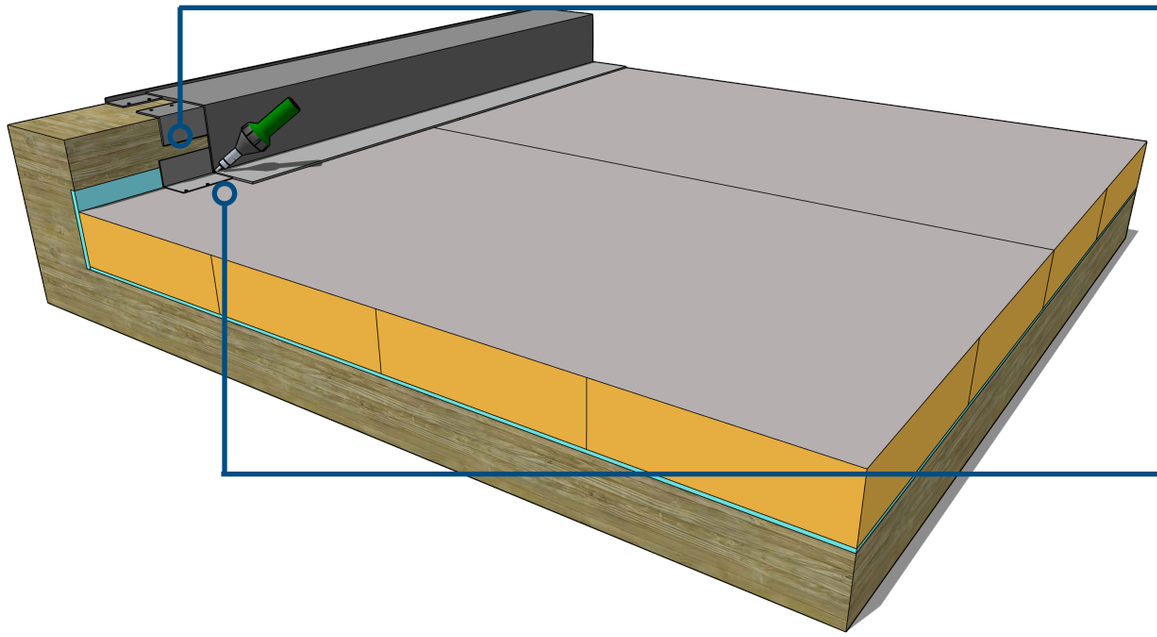
Once the Fatranyl PVC coated termination angles have been installed a Fatrafol 810v reinforced membrane strap is installed to encapsulate the door threshold hob.

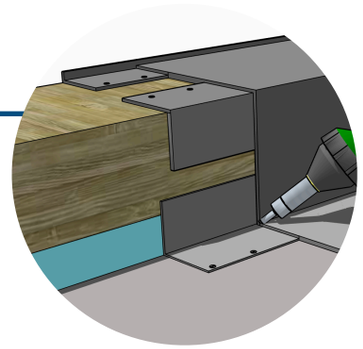
A Fatrafol 810v PVC membrane strap is to be hot air fusion welded approximately 1mm from the horizontal and vertical junction of the Fatranyl PVC internally coated metal achieving a continuous minimum weld width of 40mm along the entire length of the Fatranyl angle.



2 |

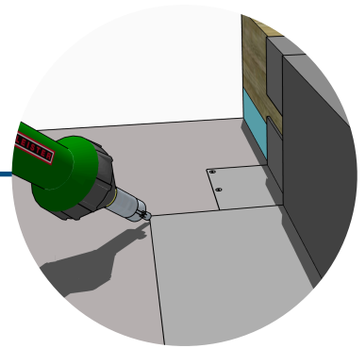
The Fatrafol PVC membrane strap will come across the horizontal plane of the door threshold hob lapping over the Fatranyl externally coated angle which is installed to the edge of the door threshold hob and over the internally PVC coated angle whilst lapping 100mm onto the Fatrafol PVC field sheet membrane.





3 |

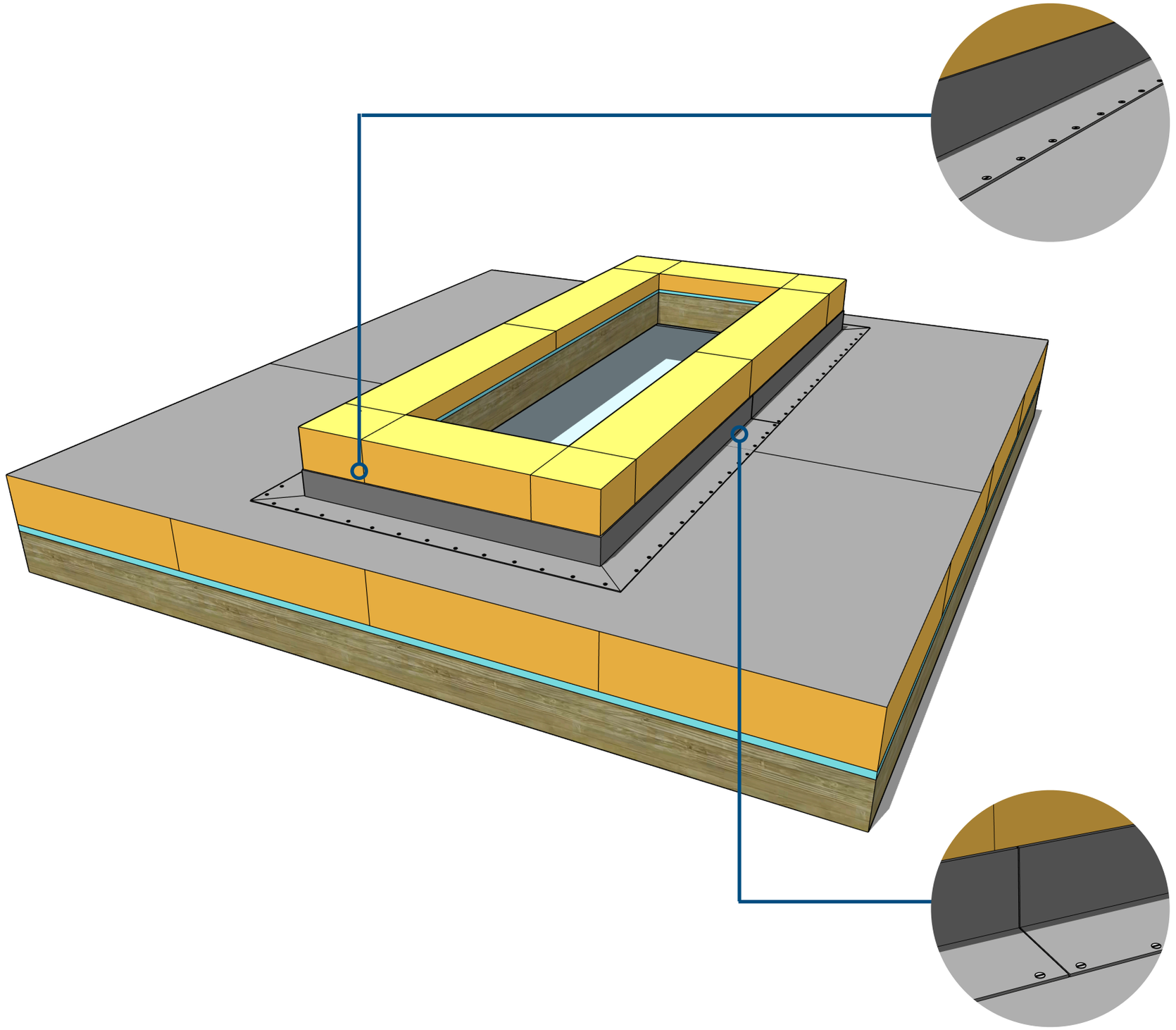
A continuous weld is to be installed in the horizontal and vertical corner junction of the Fatranyl internally coated PVC angle to ensure tenting of the vertical upturn membrane strap does not occur.



4 |

The Fatrafol 810v PVC membrane strap is then hot air fusion welded to the Fatrafol PVC field sheet membrane achieving a minimum weld width of 40mm fully concealing the vertical upturn detail and providing a waterproofed finish.

SKYLIGHT TERMINATION | INTERNAL PEEL STOP ANGLES



1 |

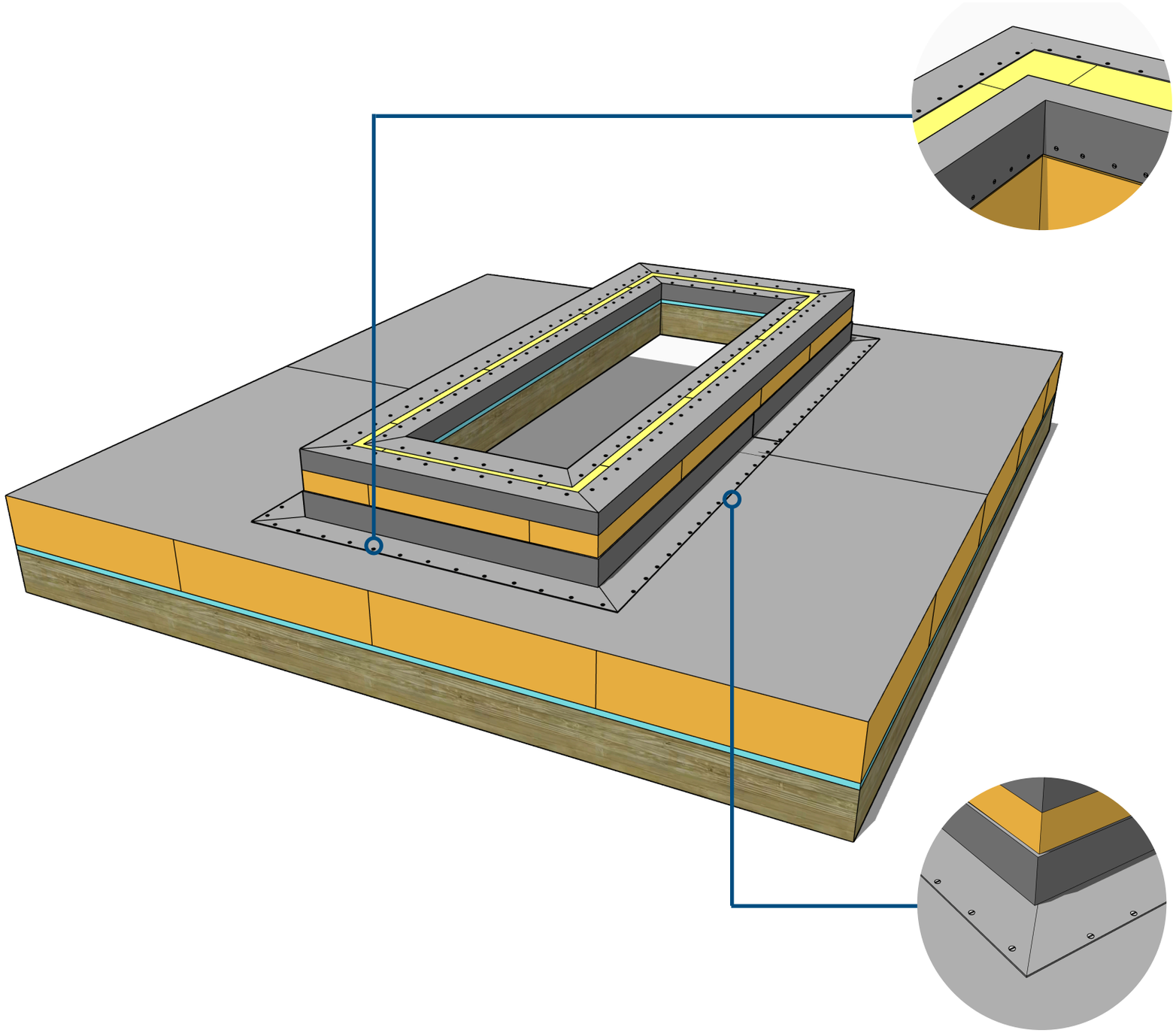
Once the field sheet has been fully installed, a Fatranyl internally coated PVC peel stop angle must be installed to all horizontal and vertical junctions. When installing Fatranyl internally coated angles, ensure the angles contour fully with the substrate and do not protrude off the surface.

The Fatranyl angle is mechanically anchored over the field sheet at 150mm centres using Fatra approved fixings into the substrate. The fixing locations must always be no closer than 10mm from the edge of the Fatranyl angle but always in the bottom third section to allow enough room to complete a hot air fusion weld when installing the PVC membrane strap.

2 |

All conjoining angles must have 2 - 5mm gap between each metal to allow for structural movement. The Fatranyl internally coated angle minimises shrinkage which may occur. Internally coated angles are to be installed to every horizontal and vertical junction and are to be fixed over the field sheet membrane at all times.

SKYLIGHT TERMINATION | EXTERNAL PVC ANGLES



1 |

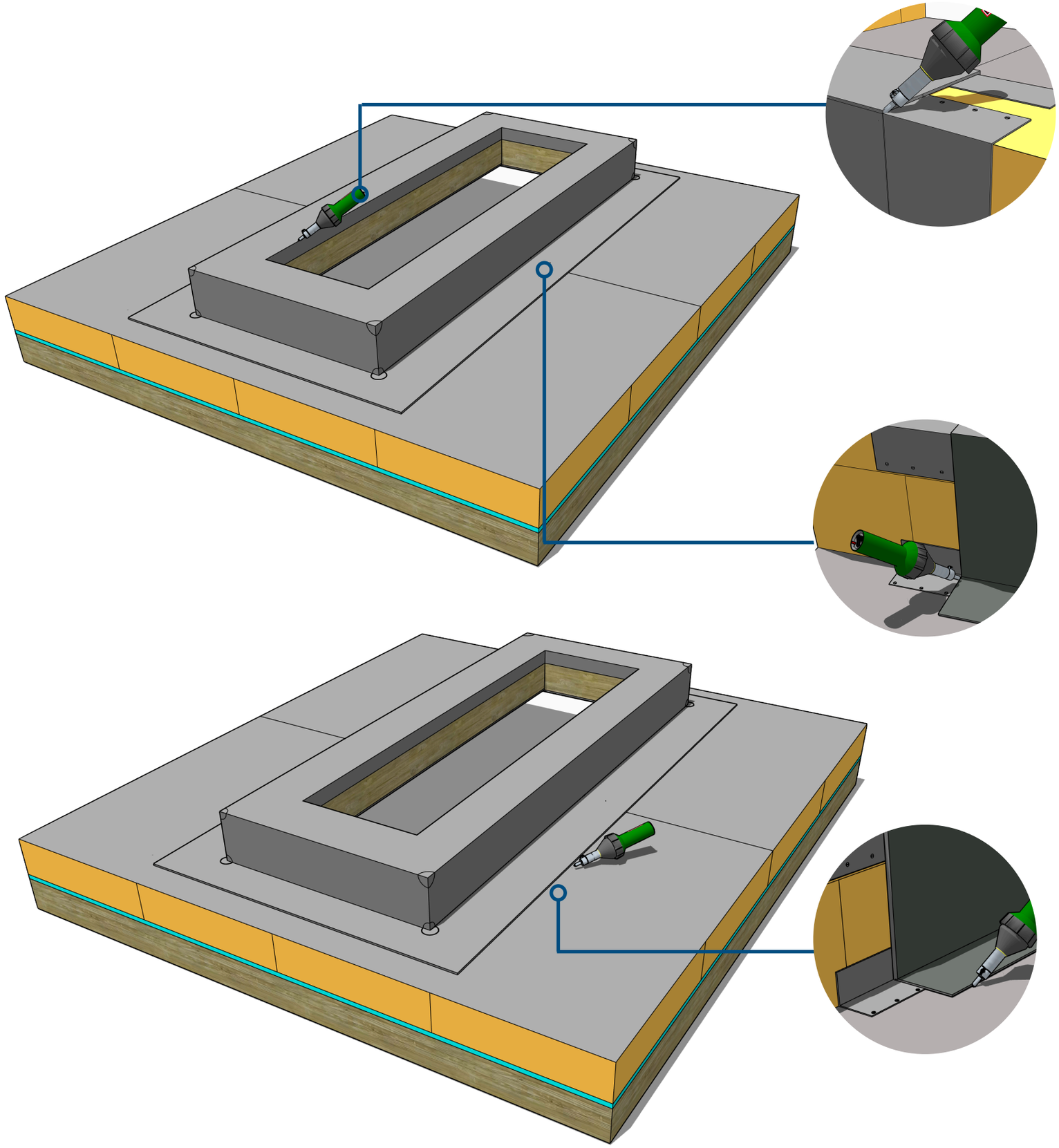
The Fatranyl external PVC coated angles are installed to the skylight hob edges where the inside vertical face meets the top horizontal surface. Fatranyl external angle is used to protect the Fatrafol PVC membrane from the sharp edges that may be present on the corner of the perimeter hob which may result in the membrane defecting over time.

Install a Fatranyl externally coated PVC coated angle to the top inside and outside edge of the skylight hob. The fixing locations must always be no closer than 10mm from the edge of the Fatranyl angle but always in the bottom third section to allow enough room to complete a hot air fusion weld when installing the PVC upturn membrane.

2 |

All conjoining angles must have 2 - 5mm gap between each metal to allow for structural movement. The Fatranyl externally coated angles are to be installed to the entire length of the perimeter hobs.

SKYLIGHT TERMINATION | PVC MEMBRANE STRAP



1 |

Once the Fatranyl termination angles have been installed a Fatrafol 810v reinforced membrane strap is installed to encapsulate the skylight hob.

Where the Fatranyl angle has been implemented a Fatrafol 810v PVC strap is to be hot air fusion welded approximately 1mm from the outside edge of the Fatranyl PVC coated termination angle achieving a continuous minimum weld width of 40mm along the entire length of the Fatranyl angle

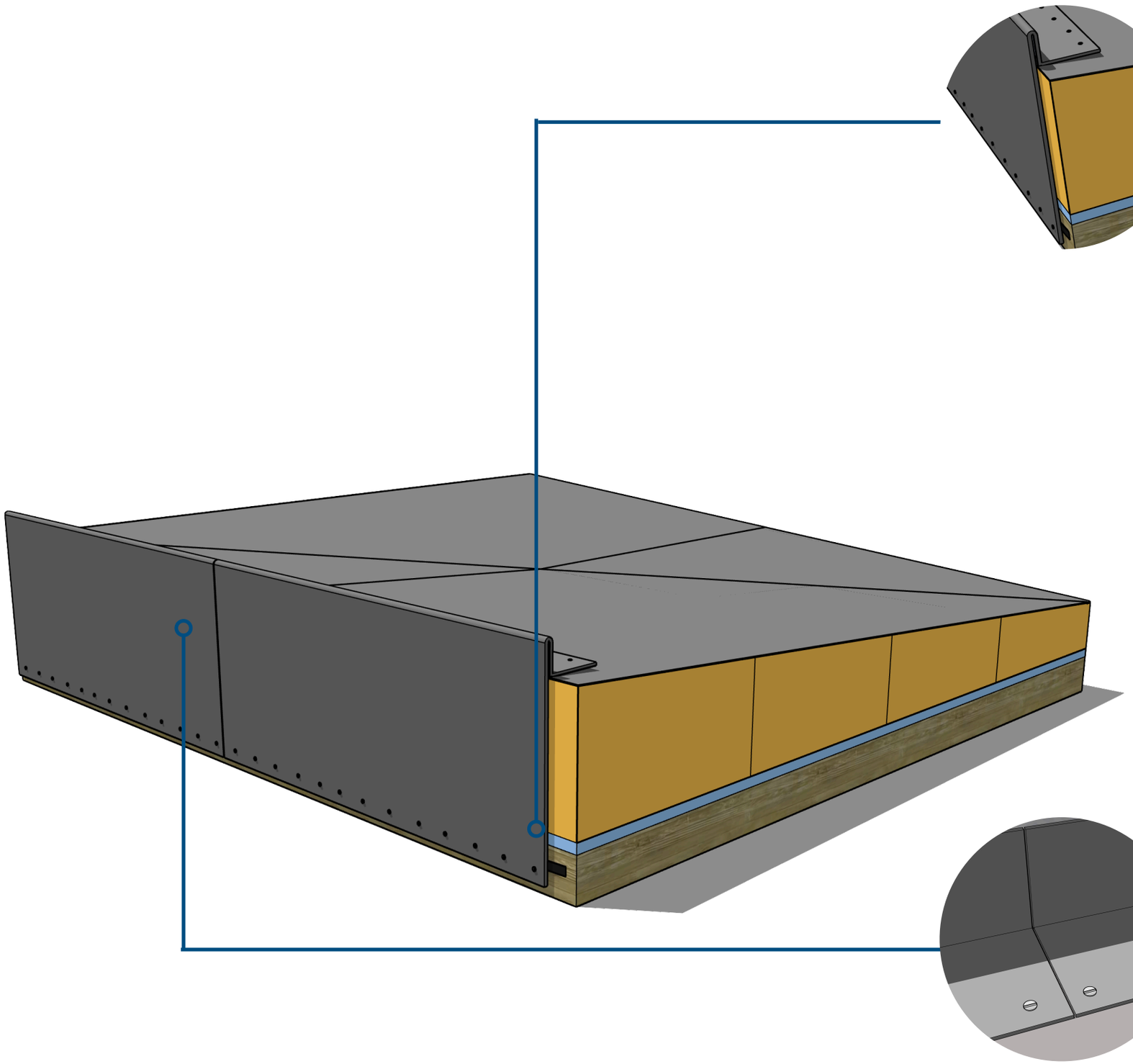
2 |

The Fatrafol PVC membrane strap will come across the top horizontal surface of the hob and down the inside vertical face, lapping over the Fatranyl internally coated PVC coated angle and 100mm onto the Fatrafol PVC field sheet membrane. A continuous weld is to be installed in the full width and length of the horizontal section of the Fatranyl internally coated PVC angle to ensure tenting of the vertical upturn membrane strap does not occur.

3 |

The Fatrafol 810v PVC membrane strap is then hot air fusion welded to the Fatrafol PVC field sheet membrane achieving a minimum weld width of 40mm, fully concealing the vertical upturn detail and providing a waterproofed finish. Once the welding process has been completed, ensure all welds are fully probed for any welding defects. Ensure all internal / external corners are closed with Fatra pre made pvc corner patches

VERGE TERMINATION | PVC COATED ANGLES



1 |

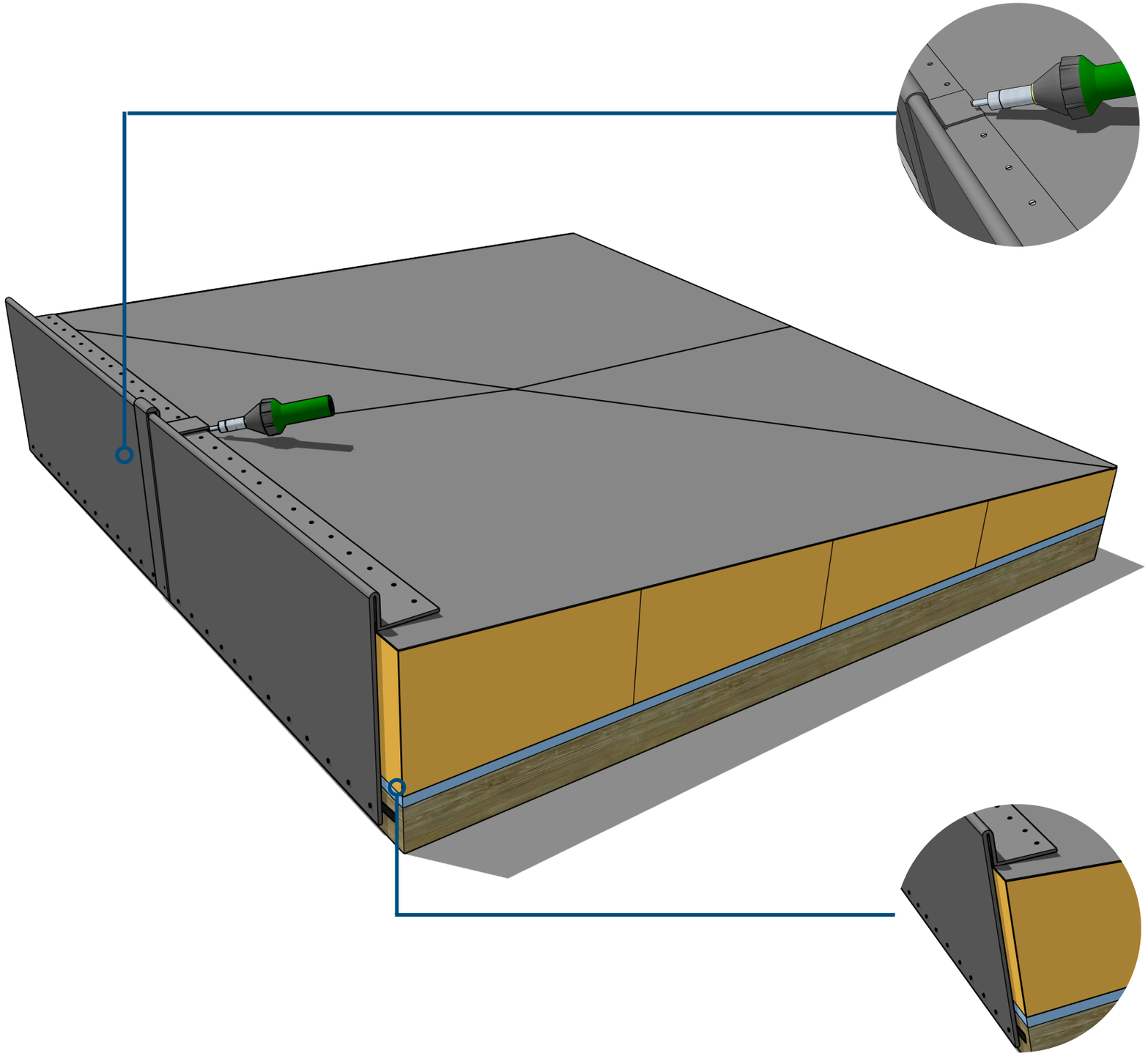
Where the membrane connects to a verge which has no perimeter hob or boundary wall a Fatranyl PVC coated verge angle is used. Consultation with a Fatra Technical representative is advised to discuss the project specific objectives and requirements.

Fix the Fatranyl PVC coated verge termination angle along the horizontal section at 150mm centres using Fatra approved fixings to secure into place. Fix the horizontal section of the verge angle which sits on top of the substrate. The fixing locations must always be no closer than 10mm from the edge of the Fatranyl angle but always in the bottom third section to allow enough room to complete a hot air fusion weld when installing the PVC membrane. Ensure external face is fastened into either substrate or connected to a ledger angle and fixed adequately to ensure no dislodgement of the angle due to high winds.

2 |

All conjoining angles must have 2 - 5mm gap between each metal to allow for structural movement. The Fatranyl verge angles are to be installed to the entire length of the perimeter edge.

VERGE TERMINATION | PVC COATED ANGLES



3 |

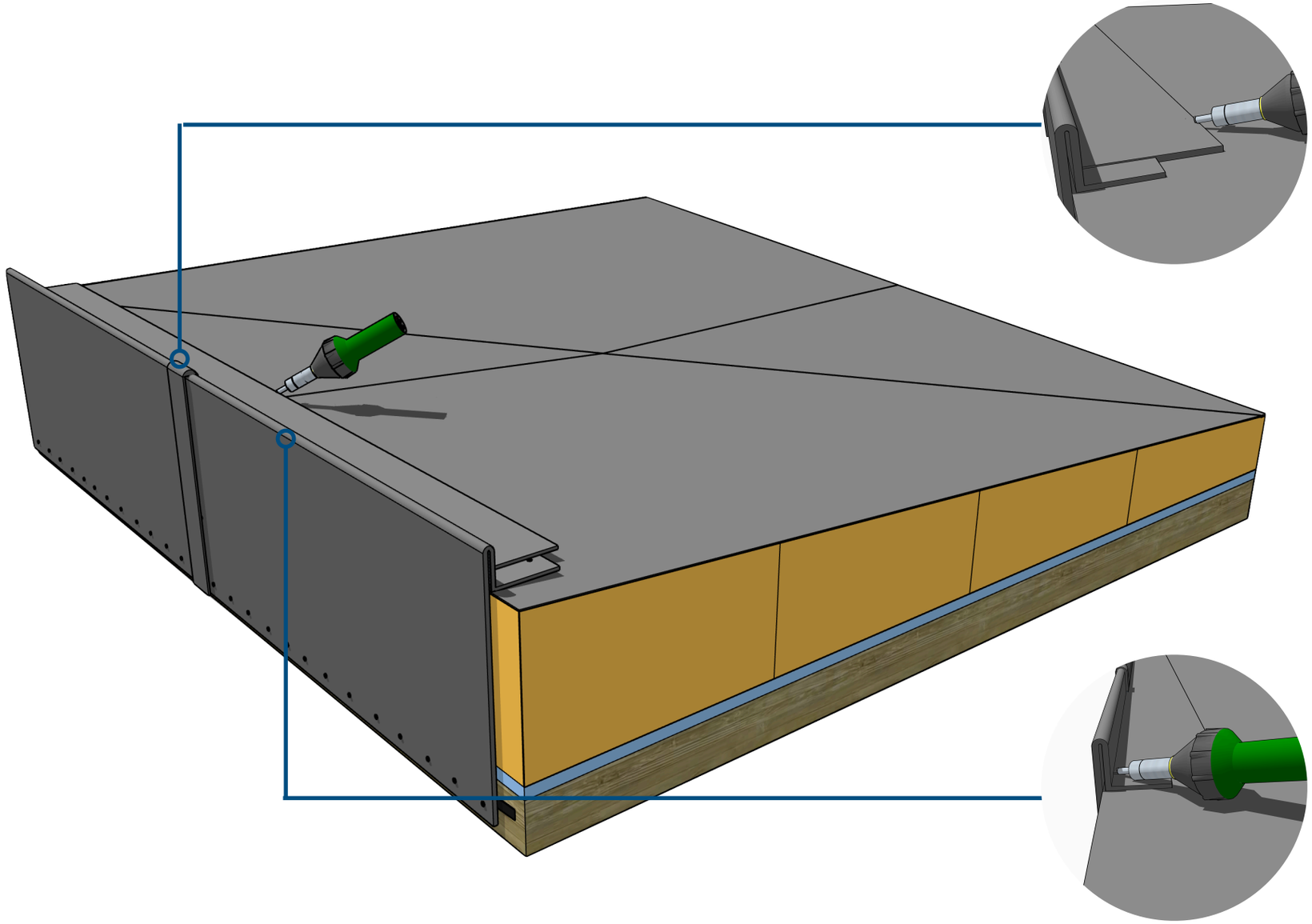
Once these have been fixed into place, a Fatrafol 804 detailing membrane butt strap must be hot air fusion welded over the expansion gaps of the conjoining metals. This is to be installed to the top horizontal face running down the outside vertical face and slightly underneath the externally coated PVC angle to completely waterproof the joints. A minimum 40mm weld is to be achieved around the entire perimeter of the butt strap with the exception of the underside section. The butt strap is not to be fully welded to the outside face underside of the but strap to ensure the butt strap does not tear or damage when exposed to structural movement.

4 |

Any Fatranyl verge termination angles must be sealed against the outside vertical face of the building using Fatra butyl sealing tape to air seal the termination and avoid corrosion.

Fixing of the outside vertical face or installing a ledger support angle maybe required to suitably secure the Fatranyl angle and prevent the Fatranyl angle being dislodged or damaged when exposed to high winds. Consultation with a Fatra technical representative and approved engineered is advised prior to implementing this detail.

VERGE TERMINATION | PVC MEMBRANE STRAP



1 |

Once the Fatranyl PVC coated verge termination angles have been installed a Fatrafol 810v reinforced membrane strap is installed to encapsulate the verge detail.

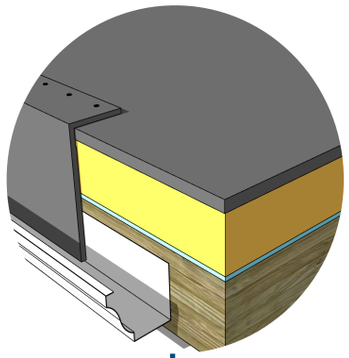
A Fatrafol 810v PVC membrane strap is to be hot air fusion welded approximately 1mm from the edge of the Fatranyl PVC coated verge angle achieving a continuous minimum weld width of 40mm along the entire length of the Fatranyl angle.

2 |

The Fatrafol PVC membrane strap is to be installed across the entire length of the verge lapping 100mm onto the Fatrafol PVC field sheet membrane. The Fatrafol 810v PVC membrane strap is then hot air fusion welded to the Fatrafol PVC field sheet membrane achieving a minimum weld width of 40mm fully concealing the verge detail and providing a waterproofed finish.

If a mechanically fixed system is implemented, fixing of the Fatranyl verge angle can be carried out prior to installation of the Fatrafol 810v field sheet membrane to enable the field sheet to be welded directly to the Fatranyl PVC coated verge termination angle. Consultation with a Fatra technical representative is advised or refer to project specific specification for further details.

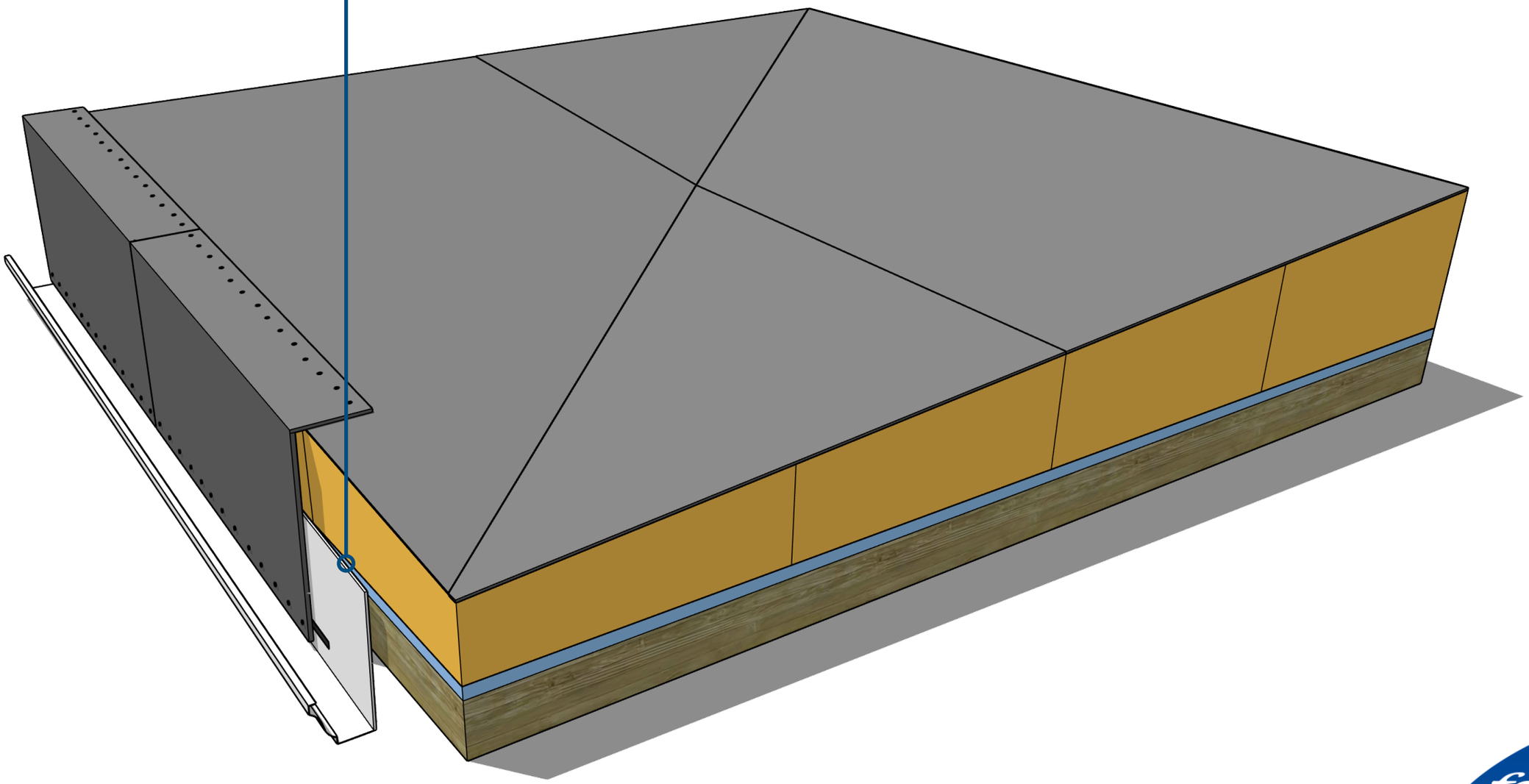
EAVES GUTTER TERMINATION | CRUSH & FOLD PVC ANGLES



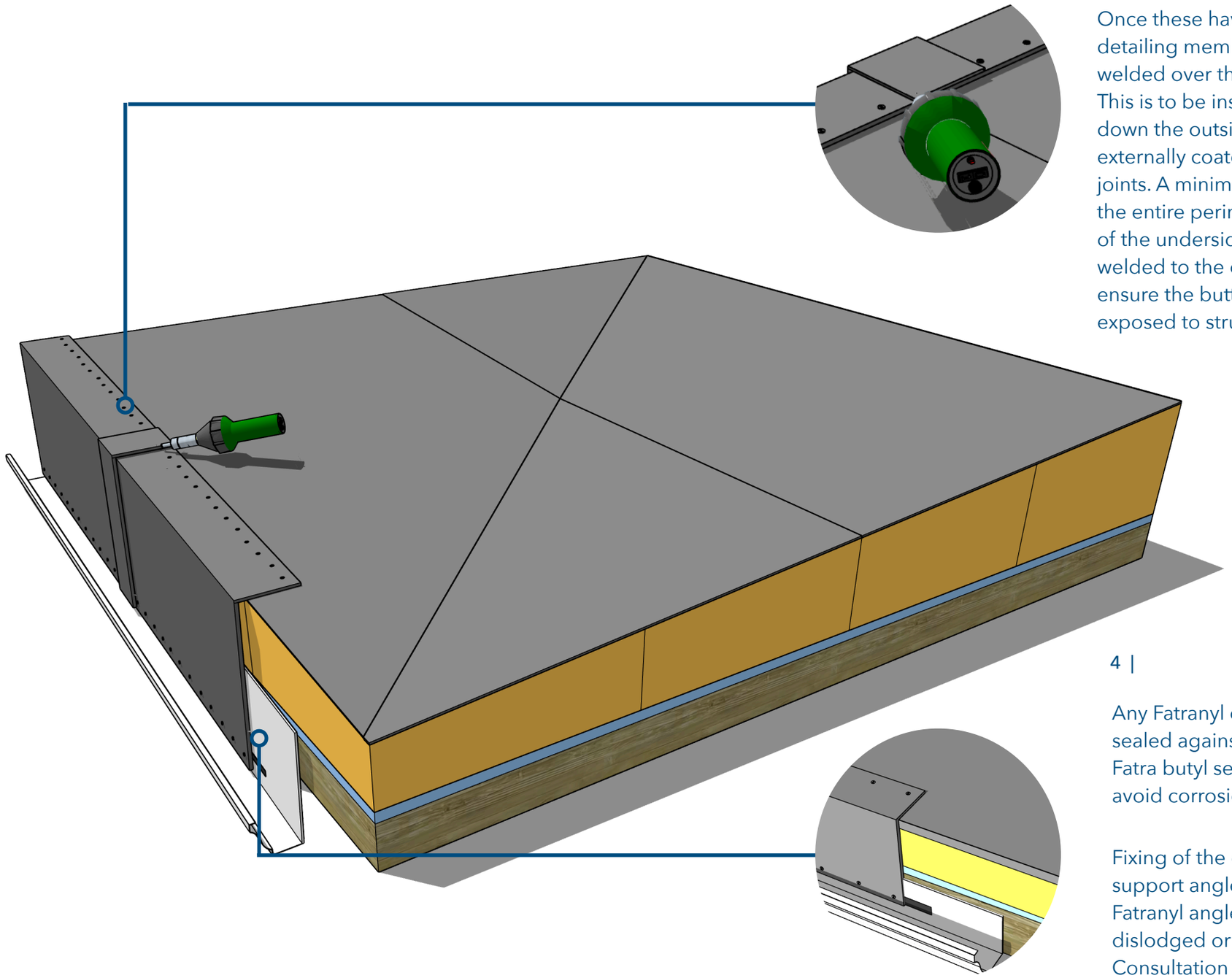
1 |

Where the membrane connects to an eaves gutter, a Fatranyl PVC coated crush & fold angle is used. Consultation with a Fatra Technical representative is advised to discuss the project specific objectives and requirements.

Fix the Fatranyl PVC coated crush & fold termination angle along the entire length of the eaves gutter at 150mm centres using Fatra approved fixings to secure into place. Fix the horizontal section of the Fatranyl angle which sits on top of the substrate. The fixing locations must always be no closer than 10mm from the edge of the Fatranyl angle but always in the bottom third section to allow enough room to complete a hot air fusion weld when installing the PVC membrane. Ensure to fix into the face or connect gutter angle to a ledger angle to ensure angle can not be dislodged by high winds.



EAVES GUTTER TERMINATION | CRUSH & FOLD PVC ANGLES



3 |

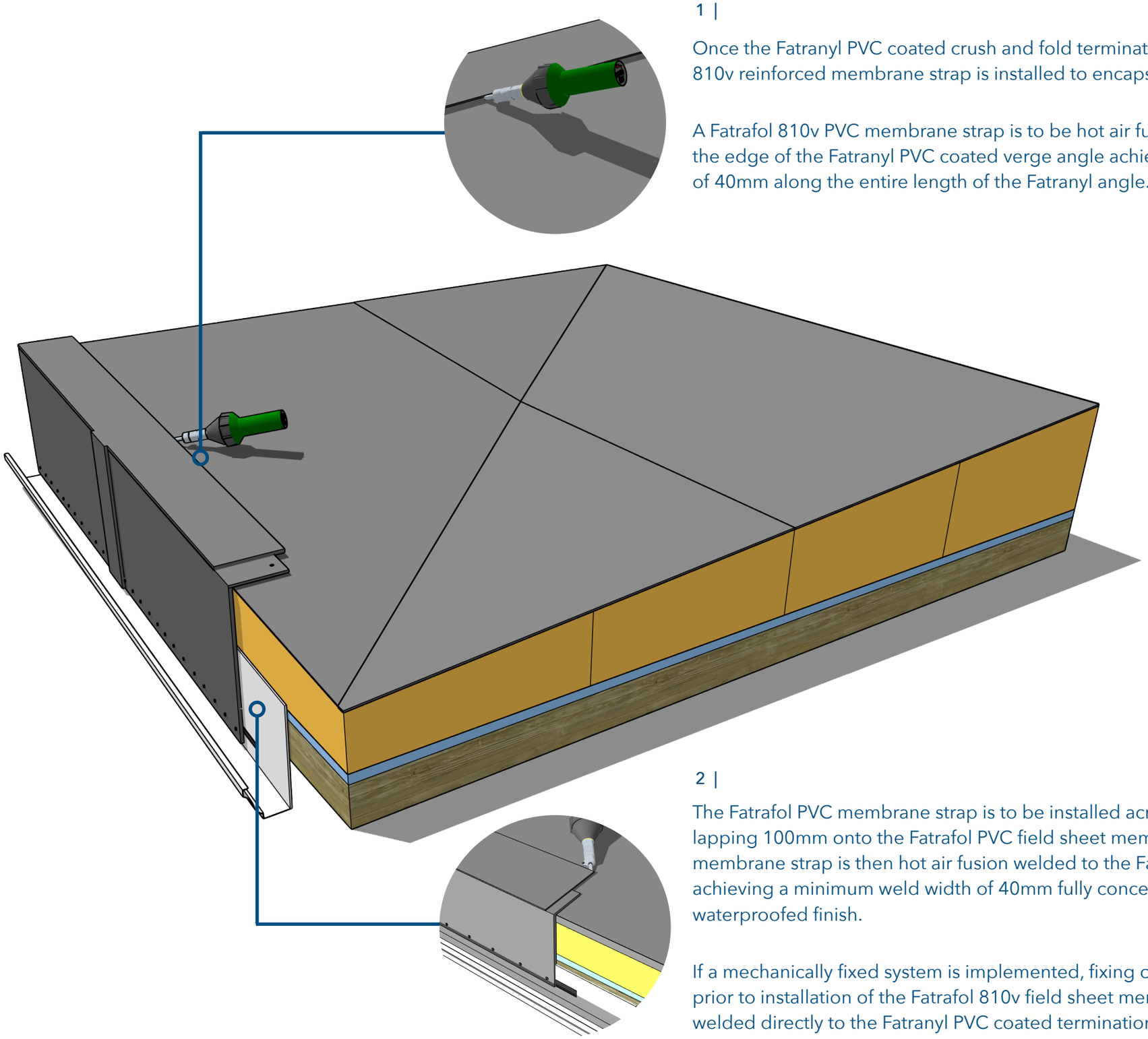
Once these have been fixed into place, a Fatrafol 804 detailing membrane butt strap must be hot air fusion welded over the expansion gaps of the conjoining metals. This is to be installed to the top horizontal face running down the outside vertical face and slightly underneath the externally coated PVC angle to completely waterproof the joints. A minimum 40mm weld is to be achieved around the entire perimeter of the butt strap with the exception of the underside section. The butt strap is not to be fully welded to the outside face underside of the but strap to ensure the butt strap does not tear or damage when exposed to structural movement.

4 |

Any Fatranyl crush and fold termination angle must be sealed against the outside vertical face of the gutter using Fatra butyl sealing tape to air seal the termination and avoid corrosion.

Fixing of the outside vertical face or installing a ledger support angle maybe required to suitably secure the Fatranyl angle and prevent the Fatranyl angle being dislodged or damaged when exposed to high winds. Consultation with a Fatra technical representative and approved engineered is advised prior to implementing this detail.

EAVES GUTTER TERMINATION | PVC MEMBRANE STRAP



1 |

Once the Fatranyl PVC coated crush and fold termination angles have been installed a Fatrafol 810v reinforced membrane strap is installed to encapsulate the eaves gutter detail.

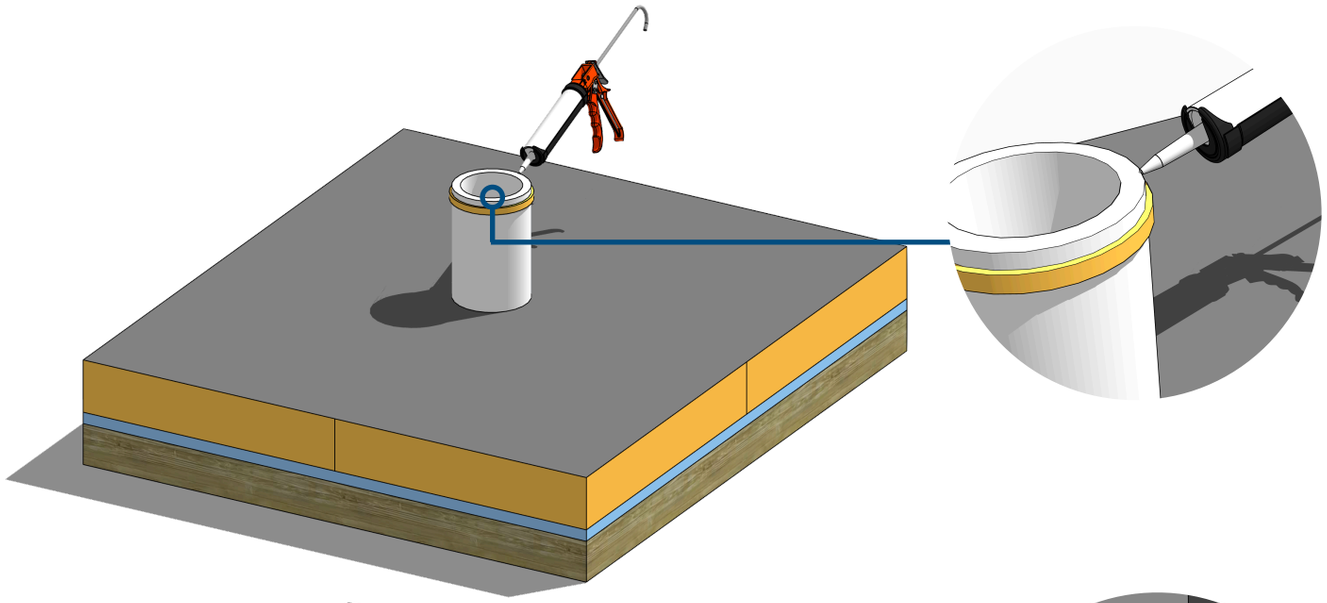
A Fatrafol 810v PVC membrane strap is to be hot air fusion welded approximately 1mm from the edge of the Fatranyl PVC coated verge angle achieving a continuous minimum weld width of 40mm along the entire length of the Fatranyl angle.

2 |

The Fatrafol PVC membrane strap is to be installed across the entire length of the gutter lapping 100mm onto the Fatrafol PVC field sheet membrane. The Fatrafol 810v PVC membrane strap is then hot air fusion welded to the Fatrafol PVC field sheet membrane achieving a minimum weld width of 40mm fully concealing the gutter detail and providing a waterproofed finish.

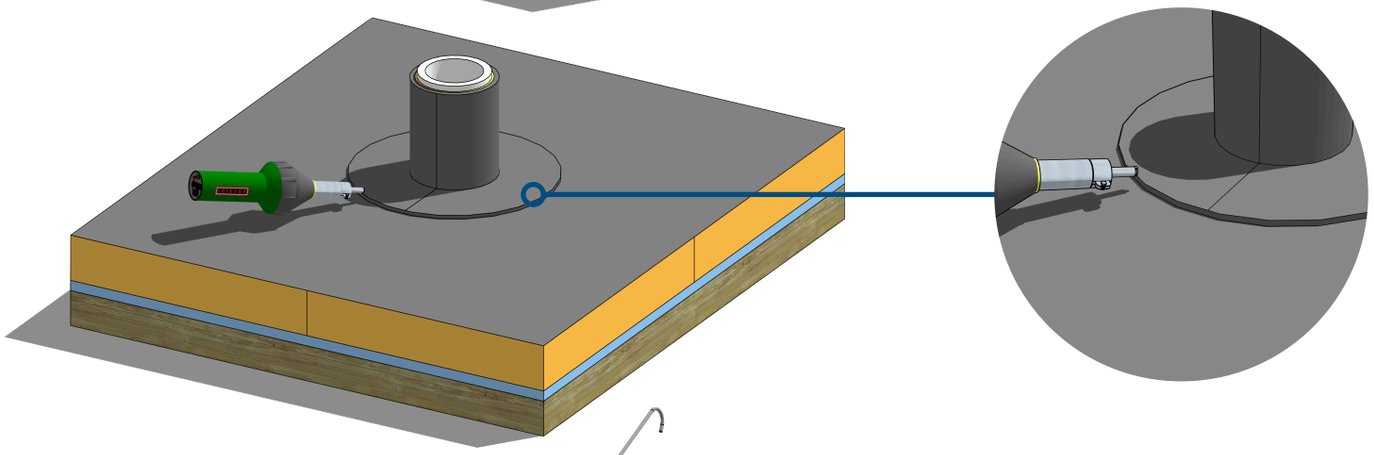
If a mechanically fixed system is implemented, fixing of the Fatranyl angle can be carried out prior to installation of the Fatrafol 810v field sheet membrane to enable the field sheet to be welded directly to the Fatranyl PVC coated termination angle. Consultation with a Fatra technical representative is advised or refer to project specific specification for further details.

PIPE/POST | DETAILING



1 |

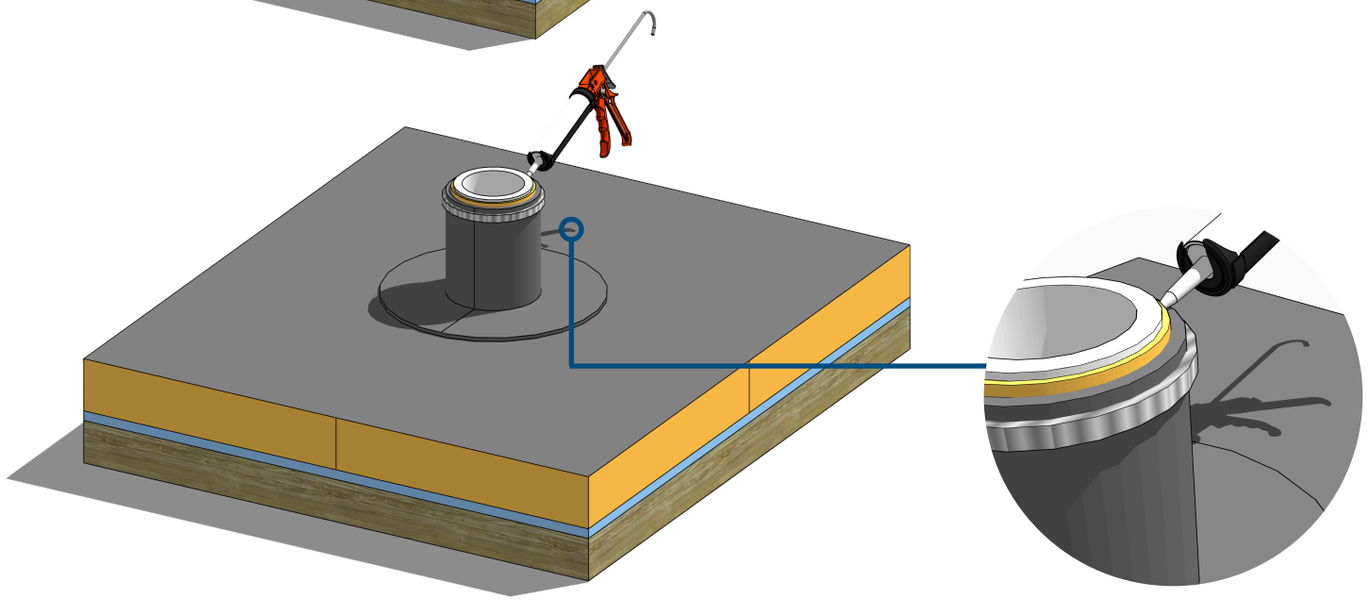
Where there are pipes, posts, balustrades and similar penetrations present, Fatra prefabricated pipe collars are to be used to waterproof these details. Once the Fatra PVC field sheet membrane has been installed, install a bead of approved sealant around the penetration approximately 5mm below the highest point where the pipe collar will finish.



2 |

Wrap the Fatra pipe collar around the penetration. The prefabricated Fatra PVC membrane pipe collar is hot air fusion welded down the vertical and horizontal overlapping section of the PVC pipe collar to secure into place.

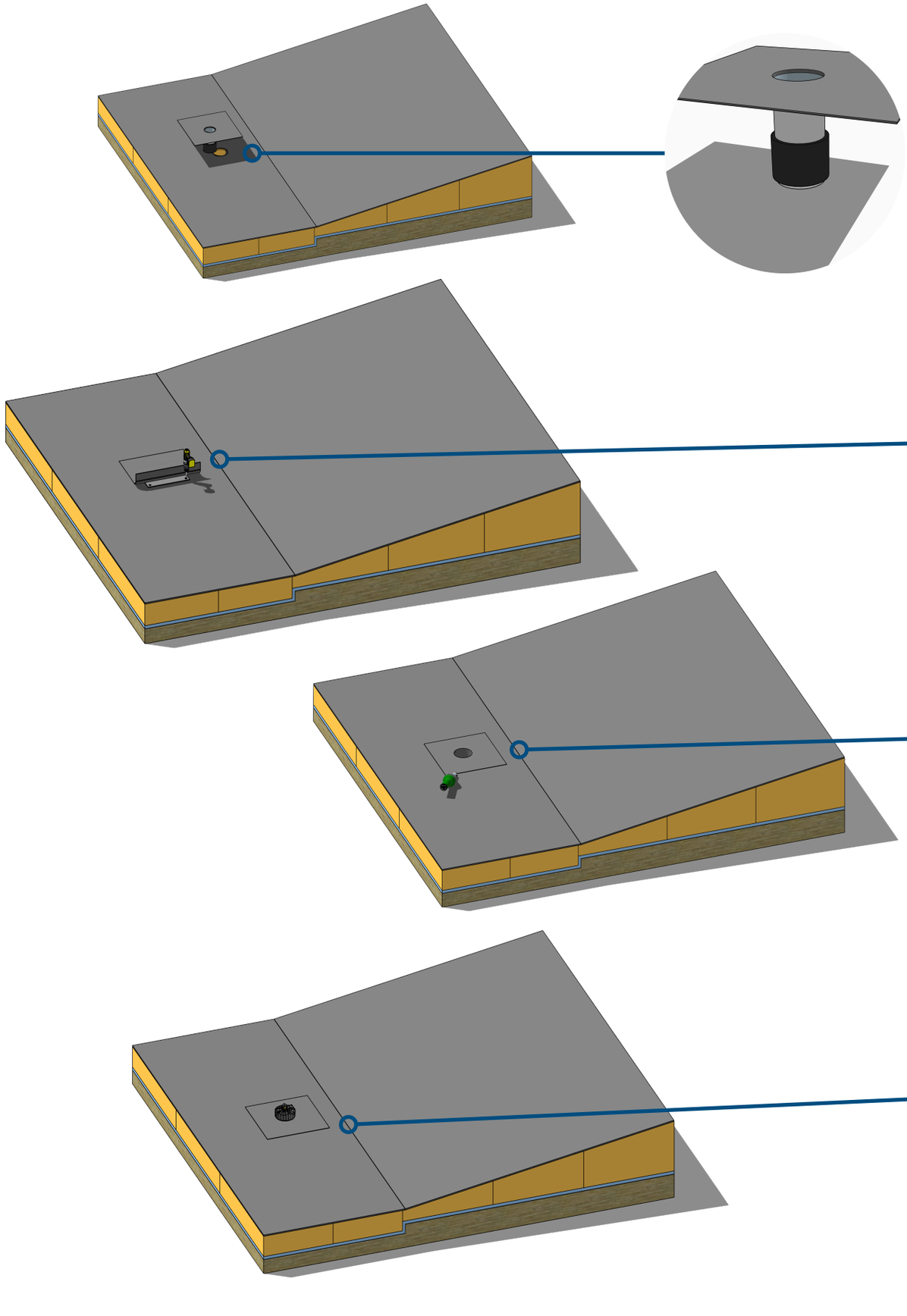
The Fatra PVC pipe collar base flange is then hot air fusion welded to the Fatrafol PVC field sheet membrane achieving a continuous 40mm weld around the diameter of the flange.



3 |

Install a pressure clamp approximately 5mm from the top of the collar and tighten to create a pressure seal. Once tightened apply a final bead of approved sealant around the top of the pipe collar to seal the detail. If the pipe is hollow, where possible install a rain cap over the pipe to reduce the risk water getting through the pipe and behind the waterproofing system.

RAINWATER | FLOOR OUTLET DETAILING



1 |

Fatra prefabricated rainwater outlets come in various different outlet diameters.

Each outlet comes with a backflow flange to prevent water getting behind the integrated PVC pipe and under the waterproofing membrane system. Using the correct diameter of rainwater outlet, insert the into the drain. Ensure the outlet is recessed slightly so the Fatra ancillary does not protrude above the finish floor level and prevent full drainage into the outlet.

2 |

The Fatra rainwater outlet is fixed in all four corners using Fatra approved fixings to secure into place. Fixing of the outlet prevents the ancillary becoming dislodged or damaged in the event of severe pressure from back flowing.

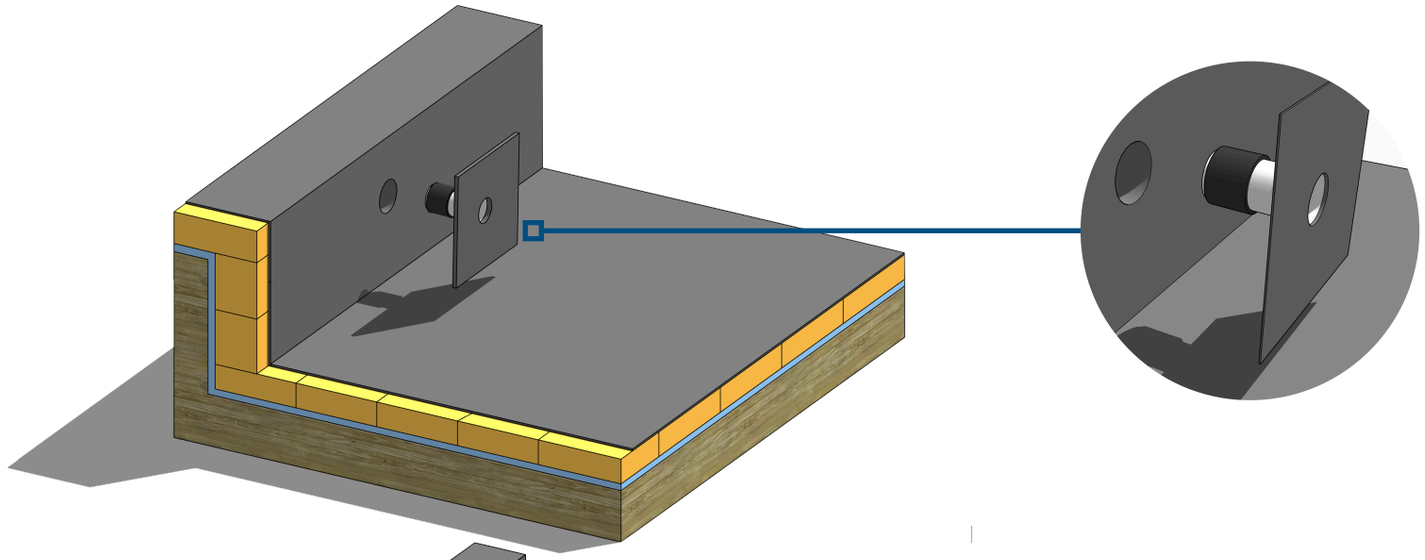
3 |

Once fixed into place the integrated PVC membrane flange is hot air fusion welded around the entire perimeter of the outlet to the Fatrafol PVC field sheet membrane archiving a minimum weld width of 40mm. Once the welding has been completed, adjustable leaf guards can simply be slotted into the outlet and adjusted to attach to the prefabricated rainwater outlet and secured into place.

4 |

Insert Fatra leaf guard into outlet and ensure to install as per manufacturers directions.

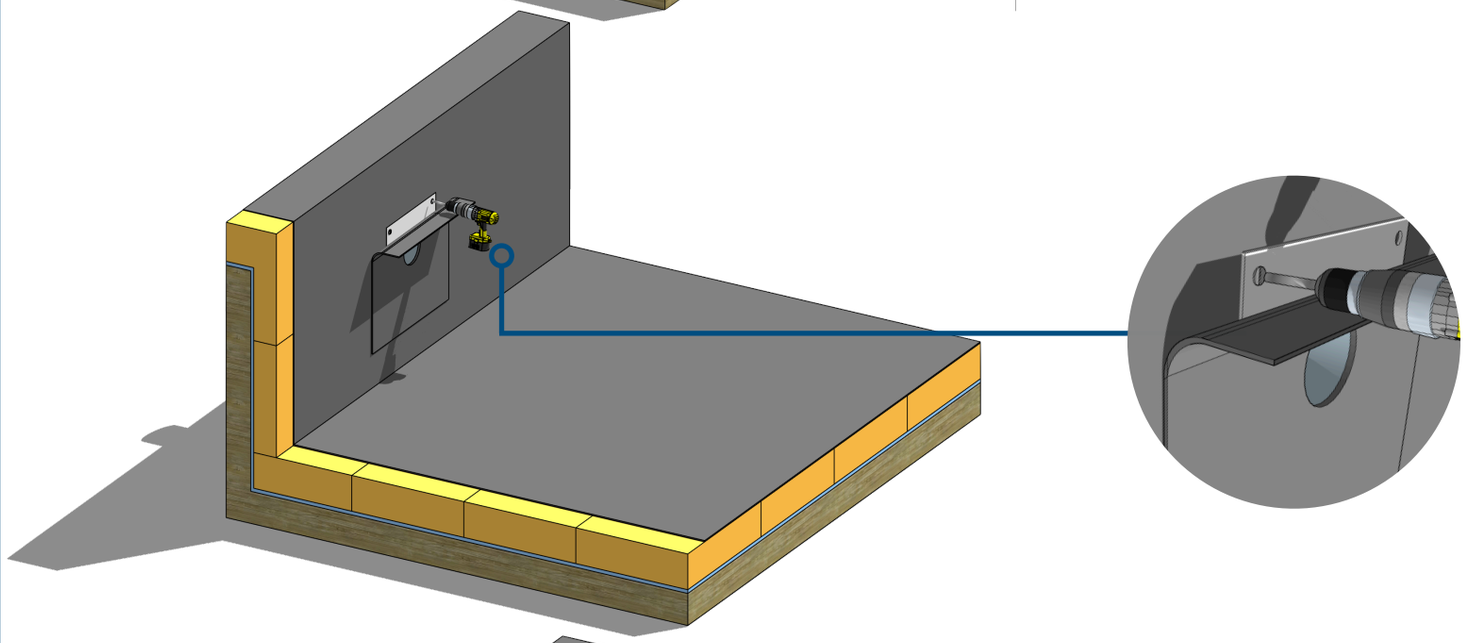
RAINWATER | OVERFLOW DETAILING



1 |

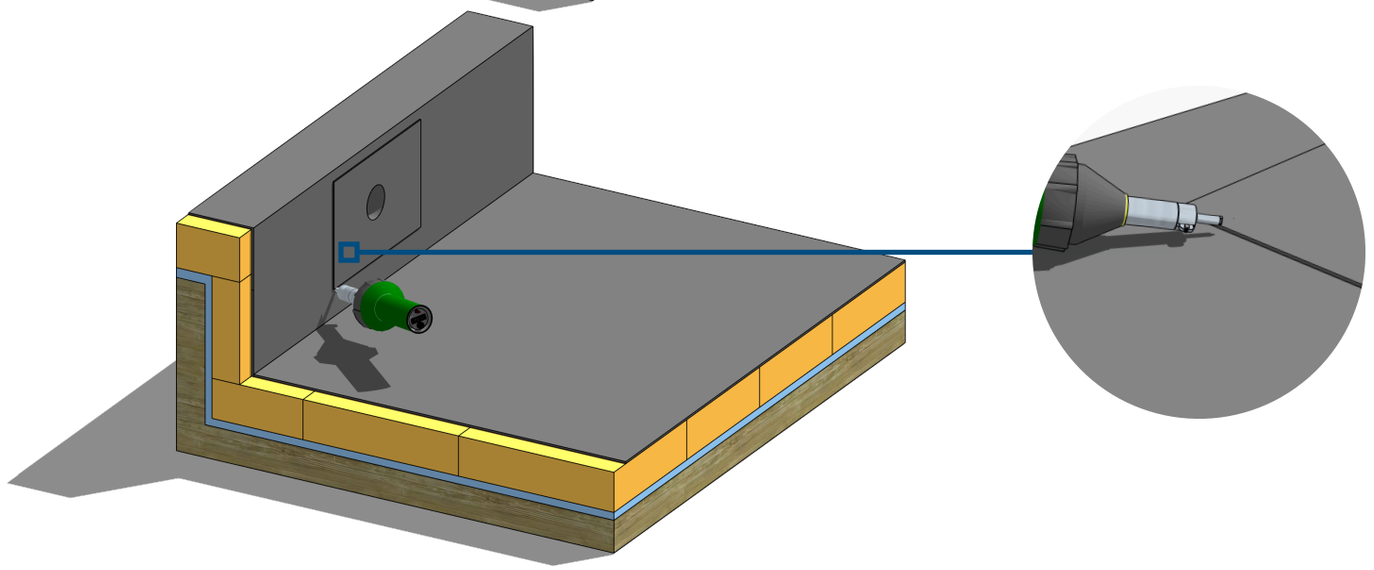
Fatra prefabricated rainwater overflows come in various different outlet diameters.

Each outlet comes with a backflow flange to prevent water getting behind the integrated PVC pipe and under the waterproofing membrane system. Using the correct diameter of rainwater overflow, insert the into the wall overflow.



2 |

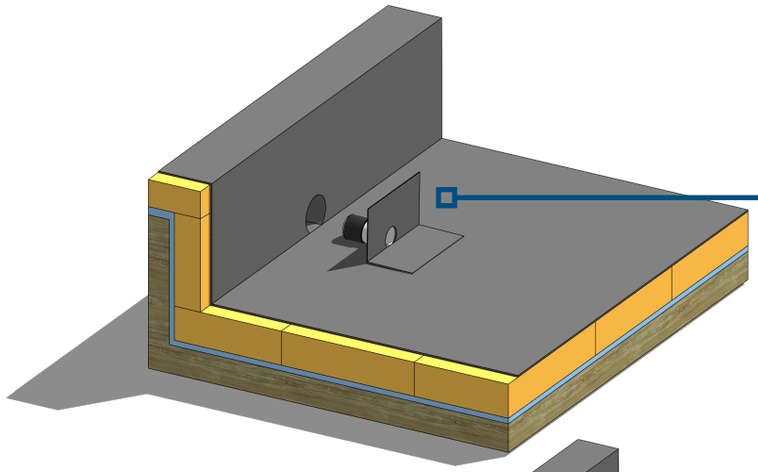
The Fatra rainwater overflow is fixed in all four corners using Fatra approved fixings to secure into place. Fixing of the overflow prevents the ancillary becoming dislodged or damaged in the event of severe pressure.

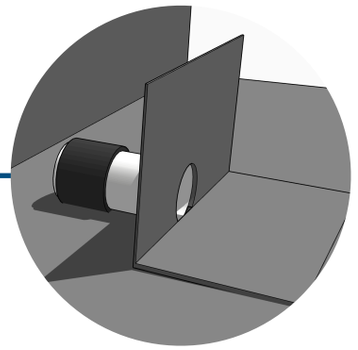


3 |

Once fixed into place the integrated PVC membrane flange is hot air fusion welded around the entire perimeter of the outlet to the Fatrafol PVC sheet membrane archiving a minimum weld width of 40mm.

RAINWATER | WALL OUTLET

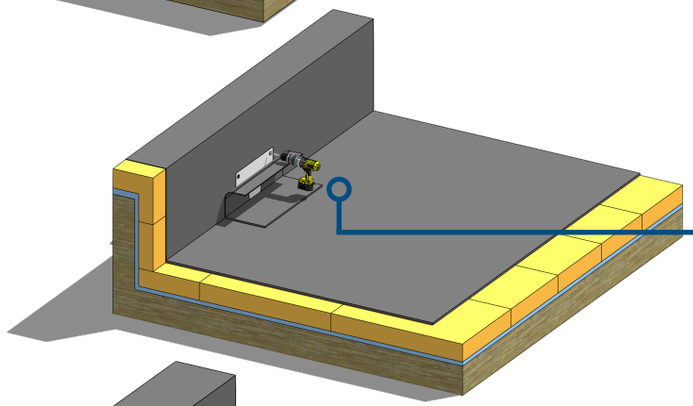


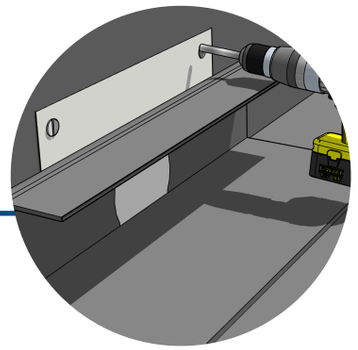


1 |

Fatra prefabricated rainwater outlet come in various different outlet diameters.

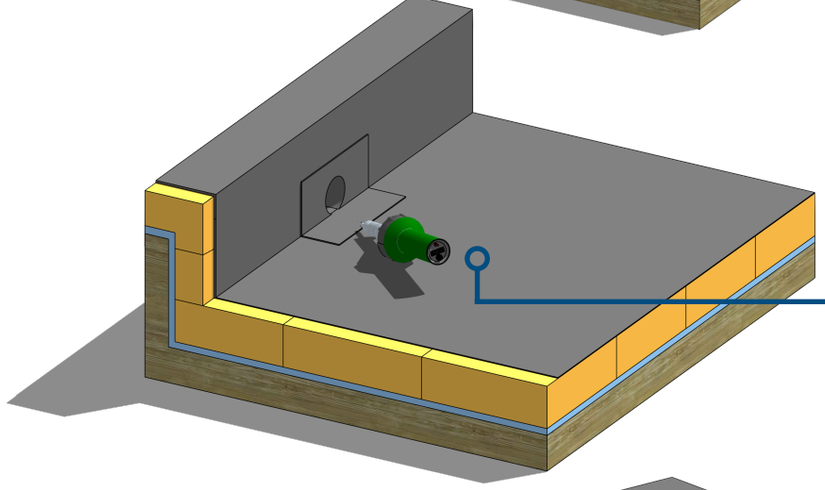
Each outlet comes with a backflow flange to prevent water getting behind the integrated PVC pipe and under the waterproofing membrane system. Using the correct diameter of rainwater outlet, insert the into the wall outlet.

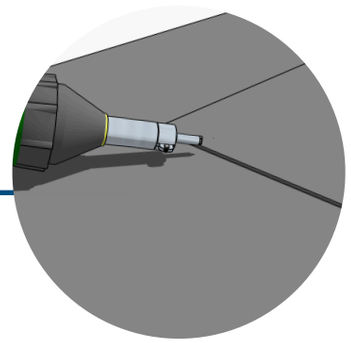




2 |

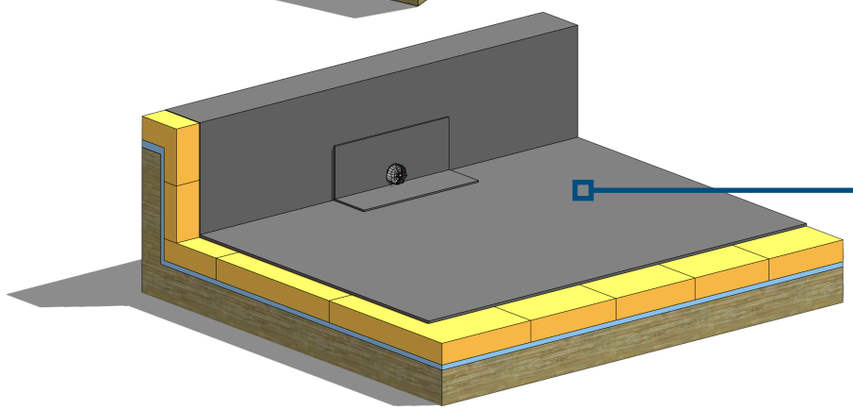
The Fatra rainwater overflow is fixed in all four corners using Fatra approved fixings to secure into place. Fixing of the overflow prevents the ancillary becoming dislodged or damaged in the event of severe pressure.

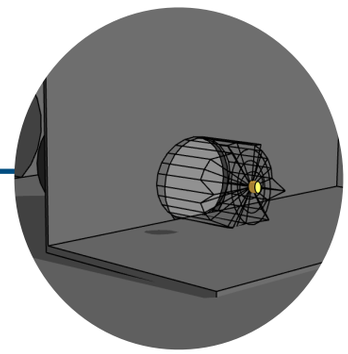




3 |

Once fixed into place the integrated PVC membrane flange is hot air fusion welded around the entire perimeter of the outlet to the Fatrafol PVC sheet membrane archiving a minimum weld width of 40mm.





4 |

Insert Fatra leaf guard into outlet and ensure to install as per manufacturers directions.

HOT AIR FUSION | Welding

HAND | Welding



When installing a membrane covering, the key task is to make entirely watertight and firm joints between waterproofing membrane sheets, membranes and linear plastic-coated metal profiles at the perimeter, and between membranes and accessories (rainwater outlets, vent outlets etc) in order to create a single unit. Two technologies are available to make these structural joints:

This method is based on the so-called fusion welding, which involves heat-melting contact surfaces of membrane overlaps and their simultaneous compression. This is achieved by hot air flowing out of a slot nozzle of a welding machine with continuous temperature control. Move the welding machine gently in the direction of an open joint (with the slot nozzle projecting 3 to 5 mm over the upper membrane edge). Heated contact surfaces must be pressed down immediately behind the nozzle, using a rubber or Teflon roller.

This joining method may be used at temperatures from -5°C for PVC-P/-10°C

AUTOMATIC | Welding



This method is similar to hot-air welding, differing only in that the welded surfaces are heated by thermal transfer from a wedge welder. Heated contact surfaces must be pressed down immediately behind the wedge welder, using a roller. This system is used only for automatic welding machines and is suitable for materials with lower thermal oxidation stability.

If a proper working process is followed, both methods can create joints with shear resistance of at least 80% of the waterproofing membrane shear resistance indicated by the manufacturer. Hot-air welding must be considered the primary method of joining FATRAFOL membranes. Membrane sheets are welded at their overlaps. If using a hand- operated welding machine, the weld must be at least 30 mm wide. Most automatic welding machines have a 40 mm wide welding nozzle.

Where membrane sheets are fastened mechanically, fixing washers must be positioned at least 10 mm from the edge of the lower fastened membrane sheet. The overlap of the upper membrane sheet behind the washer must be 10 mm greater than the weld width – see figure 7. Oval washers must always be aligned lengthwise with the joint axis. Hot-air welding may be performed using a hand-operated welding machine or an automatic welding machine [1)], subject to adherence to this Instructions and applicable standards

HAND | Tools



- Hot-air welding machine with 40 mm and 20 mm wide slot nozzle
- Hot-air mobile automatic welding machine (recommended type: LEISTER VARIMAT, HERZ – Laron etc)
- Impact drill with set of drill bits for concrete and other materials
- Water extractor
- Vacuum pump and bells for vacuum tightness test
- Cordless screwdriver
- Angle grinder with metal cutting disc
- Other electrical equipment and devices such as automatic fastening machines, sealing guns, PU adhesive applicators etc
- Electrical extension cord
- Tension meter
- Folding ruler
- Steel ruler
- Greasy chalk
- Carpenter's pencil
- Knife with hook
- Scissors
- Membrane cutting pad
- Handheld rubber and teflon rollers
- Pressing roller (if membrane is bonded to substrate)
- Brass brush for cleaning slot nozzles
- Hammer Rivet pliers
- Sealant cartridge gun
- Joint testing needle
- PE bottles with delivery tube
- Steel cutter
- Cleaning cloths
- Flat and crosshead screwdrivers
- Rubber spatulas for cleaning membrane surface
- Hacksaw
- Sponges for removing puddles
- Hand metal shears
- PE waste bags
- Broom
- Spatulas for sealant
- Dustpan

TESTING | PROCEDURES

PEEL | Testing

All surfaces that are being welded must be clean of any dirt, debris or moisture before welding. Before commencing the installation test samples must be carried out to determine that the temperature and speed of welding is correct. These will vary depending on the membrane types and the welders technique and skill level. A peel test must be carried out to establish the correct heat and speed of the hot air fusion welding. This consists of using two small strips of membrane that has been welded at the seam. Pull away the upper strip of membrane to test the weld strength. If the seam separates the welding method is inadequate or the membrane is not in a condition to be welded. If tearing occurs it should be outside the seam weld either within the layer of reinforcement or in the synthetic sheeting.

SEAM | Probe Testing

Use a testing probe to check all types of welds (continuous and detail welds including T- joints) no earlier than 1 hour after welding. A testing needle used for this test is usually included in the welder's essential kit and delivered by the welding equipment manufacturer (Leister, Herz etc). Drive the needle in the direction of the weld axis and apply gentle side pressure on the joint to easily detect any non-welded or separated points in the weld. This test should be performed before securing the welds with a joint sealant for roofs with a stabilisation layer, inverted roofs, traffic roofs, green roofs and in all places where the waterproofing layer is to be covered with another layer.

ELECTRONIC | Leak Detection

Electronic leak detection method can be used to test the membrane and establish if moisture is penetrating the membrane and grounding through the substrate. This can be completed by either a dry or wet testing method depending on the specific details on site. The test procedure is a non intrusive method of leak detection and is a highly accurate method of leak detection. Wet testing procedures is done by applying water over the membrane surface and using the water and a conductive medium where an electronic field is created to trace a beach in waterproofing system.

The test procedure is also a non intrusive or destructive method of leak detection and pin points the source of the leak without having to flood the membrane. This method is used to establish if moisture is penetrating the membrane and grounding through the substrate.

SUBMERSION | Testing

Testing of water-tightness - may to some extent be used for this test. The use of this method is limited by roof deck specifications, in particular the permissible load of the load-bearing structure, maximum water level and the roof deck area. Typically, roof decks up to 100 m^2 in area are covered with a continuous water layer while larger roofs are only partly covered, e.g. in valleys between roof planes or in individual tested sectors. The maximum water column height should be determined by a structural engineer, with consideration being given to dynamic load of the roof deck.

MAINTENANCE |

Regular cleaning and clearing of leaves and any other debris is recommended for drainage and any other outlets within the structure to avoid build up and clogging of these areas. Visual checks should also be carried out for any damage caused by excessive weather or environmental damage such as fallen branches, hail etc.

Fatra can provide annual maintenance surveys of the area and issue a full report. This will give you assurance that the system is still performing at its optimum efficiency and is a proactive way of ensuring there is no damage or potential issues that could affect the integrity of the membrane. Contact Fatra for more details on how we can provide a suitable maintenance plan for the area.

INSPECTIONS |

A Fatra field technician is to attend at the start of the project to ensure all parties have read and understood the specification and requirements. Upon completion of the installation, a Fatra technician is to attend and carry out a project completion guide to inspect prior to issuing warranties. Once the inspection has been completed and any defects or rectifications have been completed, a final inspection will be carried to enable the issuing of material warranties.

WARRANTY |

Depending on what system is implemented Fatra can provide material warranties from 15 years to 25 years. A material warranty will only be issued once a Fatra field technician has inspected and passed the installation of the Fatra waterproofing system. All warranties are issued directly to the client.

QUALITY CONTROL |

Fatra systems are ISO 9001 & ISO 14001 accredited
Fatra to provide on going support with design and installation to ensure the most efficient system is implemented based on site specific details
Fatra to provide all relevant information and documentation
Applicator must have relevant licences and insurances to carry out the works in hand
Contractor are to be an approved Fatra applicator

SUBMISSIONS |

Fatra to attend site prior to commencing work and establish all necessary requirements
Fatra to provide technical data sheets, detail drawings of termination, specification and any other relevant documentation prior to commencing onsite.
Client to provide site specific section drawings for all details on each project to enable Fatra to provide detailing drawings for these sections.

MATERIALS |

Materials are to be stored in a safe location and avoid being exposed to the elements or other damage such as mechanical etc.
Fatra to provide a signed document prior to delivering materials to site clarifying that all materials are fit for purpose.

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