



Standard installation details & technical guide

This guide will help to provide you with all the information required to understand how our i-Roof™ solution is installed and which responsibilities sit with Roofspace Solutions and which sit with our customers. Should you have any questions relating to this document please contact our knowledgeable i-Roof™ team in our office on:

T: 01789 768 000
E: info@roofspacesolutions.co.uk



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1.0 PRODUCT OVERVIEW

1.1 System Overview



- Bespoke site and plot specific design completed by Roofspace Solutions's Design Team and Engineers in conjunction with clients architect's designs.
- One-to-one site evaluation and pre-construction instructions carried out, with your Site Manager, prior to arrival for installation by Roofspace Solutions' Contracts Manager.
- Pre-start inspection before delivery by Roofspace Solutions' Contracts Manager.
- Roofspace Solutions' overseen delivery of fully engineered and designed panelised room-in-roof system, dormers, roof lights, fascia, soffit and chimneys.
- Fully managed installation of Roofspace Solutions i-Roof™ and ancillary items.
- Post-installation check by Roofspace Solutions' Contracts Manager for sign over of plot back to client.

- 1 i-Roof™ panels allow completion of all roof finishes and ancillary items to standard manufacturer's installation details.
- 2 The Roof Cassettes are fully insulated in the controlled environment of the Roofspace Solutions' manufacturing facility. Insulation to achieve house builders required U/Value.
- 3 i-Roof™ spandrels are fully insulated and manufactured off-site to provide completion at gable and party walls.

1.0 SYSTEM OVERVIEW

1.2 Roof Panel to Wall Plate - Flush Fascia

What is a QMARK?

The Q-Mark Timber Frame Elements Scheme is a third-party product certification scheme operated by BM TRADA Certification Ltd. The scheme is based on the principles of ISO 9001, EN 4501/12, ISO Guide 62/65 and confirms compliance to prEN 14732, together with a specific set of performance criteria set by BM TRADA for prefabricated structural (load bearing) elements, which includes wall, floor and roof elements (diaphragm assemblies).

Who are BM TRADA?

BM TRADA provides independent certification, testing, inspection, training and technical services around the world. They can help customers, both large and small, to prove their business and product credentials and to improve performance and compliance. With an international presence across many industry sectors, they offer a special focus and long history of excellence in supply chain certification, product certification and testing, and technical services to the timber, building, food, retail, fire and furniture industries.

Scheme Objectives:

- To improve the quality and performance of timber frame elements.
- To provide unambiguous evidence of compliance with the standards.
- To provide manufacturers with a clear route to CE Marking.
- To provide Specifiers, Regulators and Inspection Authorities with the appropriate information for them to identify suitable products.

What does it mean?

Building control authorities require building systems to have 3rd party accreditation as evidence the product is suitable for the purpose it is specified and compliant with building regulations.



CERTIFICATE OF REGISTRATION

This is to certify that Construction Product:

Pre-fabricated Timber Frame Elements

Intended for use as Roof Elements

Manufactured by:

Roofspace Solutions Limited
Abbey Mills
Birmingham Road
Alcester
Warwickshire
B49 5JG

and manufactured in the factory at

Roofspace Solutions Limited
Abbey Mills, Birmingham Road, Alcester, Warwickshire, B49 5JG

Meets the selected requirements of the **BM TRADA Q-Mark Scheme for Timber Frame Elements** and prEN 14732

The company agrees to manufacture its products in accordance with the Scheme requirements and to use the Scheme Mark in accordance with the applicable requirements

Certificate number:
QTF-005

Date of Initial Certification:
02/07/2014

Date of Last Issue:
24/07/2023

Certificate Expiry Date:
01/07/2026



Steve Roberts
Product Certification Operations Manager
For and on behalf of BM TRADA

BM TRADA is a trading name of Warringtonfire Testing and Certification Limited, Chiltern House, Stoking Lane, High Wycombe, Buckinghamshire, HP14 4AE, UK
Registered Office: Warringtonfire Testing and Certification Limited, 3rd Floor, Davidson Building, 5 Southampton Street, London, WC2E 7NA, UK
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This certificate remains the property of Warringtonfire Testing and Certification Limited. This certificate and all copies or reproductions of the certificate shall be returned to Warringtonfire Testing and Certification Limited or destroyed if requested. Further certification regarding the scope of this certificate and verification of the certificate is available through BM TRADA or at the above address or at www.bmtrada.com



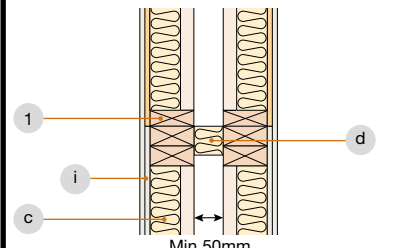
1.3 Robust Detail

What is a Robust Detail?
Robust Details are the alternative to pre-completion sound testing to meet the requirements of Part E of the building regulations. Using the Roofspace Solutions i-Roof™ panelised roof system removes the uncertainties and costs associated with pre-completion sound testing.

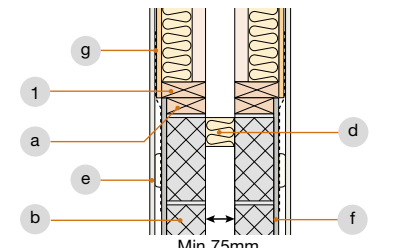
Appendix A2 – Specific Flanking Conditions

RoofSpace i-Roof™ “room-in-roof” panel system using robustdetails® timber or masonry cavity walls. Refer to Table 6 in Introduction.

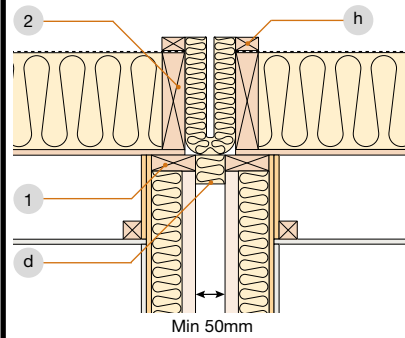
1. Room-in-roof junction with timber frame cavity walls



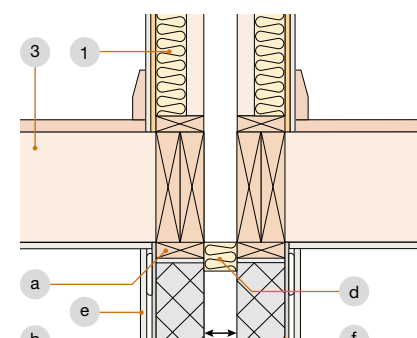
2. Room-in-roof junction with masonry cavity walls



3. Separating wall – roof junction



4. Internal floor cassette junction option



Key

- 1 RoofSpace i-Roof™ spandrel panel.
- 2 RoofSpace i-Roof™ roof panel.
- 3 RoofSpace internal floor cassette.
- a Timber wall plate bedded on 10mm mortar bed to take out unevenness in blockwork.
- b Minimum 100mm blockwork.
- c Timber frame separating wall leaf.
- d Cavity closer.
- e Gypsum-based board dependent on Robust Detail being used.
- f Nominal 8mm render coat (refer to relevant robustdetails® separating wall).
- g Vertical metal straps at 1200mm centres if required.
- h 25 x 38mm counterbatten.
- i 2 layers gypsum-based board total nominal 22 kg/m².

Spandrel panel cavity insulation (optional)

The cavity between the spandrel panels may be insulated with mineral wool rolls or batts with a density of 18-40 kg/m³. Ensure insulation thickness is no greater than 10mm wider than cavity width to avoid excessive compression of the insulation.

Contact details for Roofspace Solutions:
Telephone: 01789 768 000
Email: info@roofspacesolutions.co.uk
Web: www.roofspacesolutions.co.uk

This guidance relates only to specific aspects of Part E (England & Wales) & Part G (Northern Ireland)

robustdetails®

Edition 4
September 2018 Update

1.4 Fixing Overview

Ancillaries	Fixing detail
Chamfered Wall Plate	3.1mm x 90mm ARS nails at 300mm c/c
Purlin to Spandrel	2 No. 6.5mm x 200mm timberloks fixed through outside ply glulam into top hat stud
Ridge Board to Spandrel	2 No. 3.1mm x 90mm ARS nails fixed through top bearer of spandrel into ridge purlins perpendicular topitch of roof

Roof Cassettes	
To Wall Plate	3.1mm x 90mm ARS nails at 100mm c/c
To Purlin	3.1mm x 90mm ARS nails skew nailed at 45° 150mm
To Ridge Board	Through panel location timbers into u/s of each joist with 3.1mm x 90mm ARS nails c/c
To Gable Spandrel	Fixed through, internally, at 45 degrees into gable ladder joist with 3.1mm x 90mm ARS nails at 150mm c/c
To Party Wall Spandrel	Fixed through, internally, at 45 degrees into sound blocking timber with 3.1mm x 90mm ARS nails at 150mm centres
To Intermediate Spandrel	From both sides at 45 degrees into sound blocking timber with 3.1mm x 90mm ARS nails at 300mm centres
To Roof Cassette	3.1mm x 90mm ARS nails skewed at 300mm alternating entry centres along full rafter length

Spandrel Panels	
To Wall Plate	3.1mm x 90mm ARS nails at 100mm c/c Spandrel nail fixed through sole chord of gable spandrel into wall plate a 600mm centres with 3.1mm x 90mm ARS nails. Vertical straps by Roofspace Solutions at 2m centres fixed through both sole chord and wall plate with minimum 3mm x 30mm square twist nails into timber studs and 4x No.8 gauge screws through wall plugs over 2 block courses.
To Top Hat Spandrel	Fixed from below, through into sole bearer of top hat spandrel with 3.1mm x 90mm ARS nails at 150mm centres

1.0 PRODUCT OVERVIEW

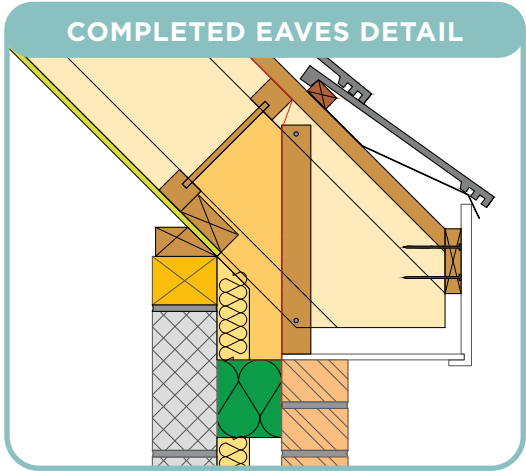
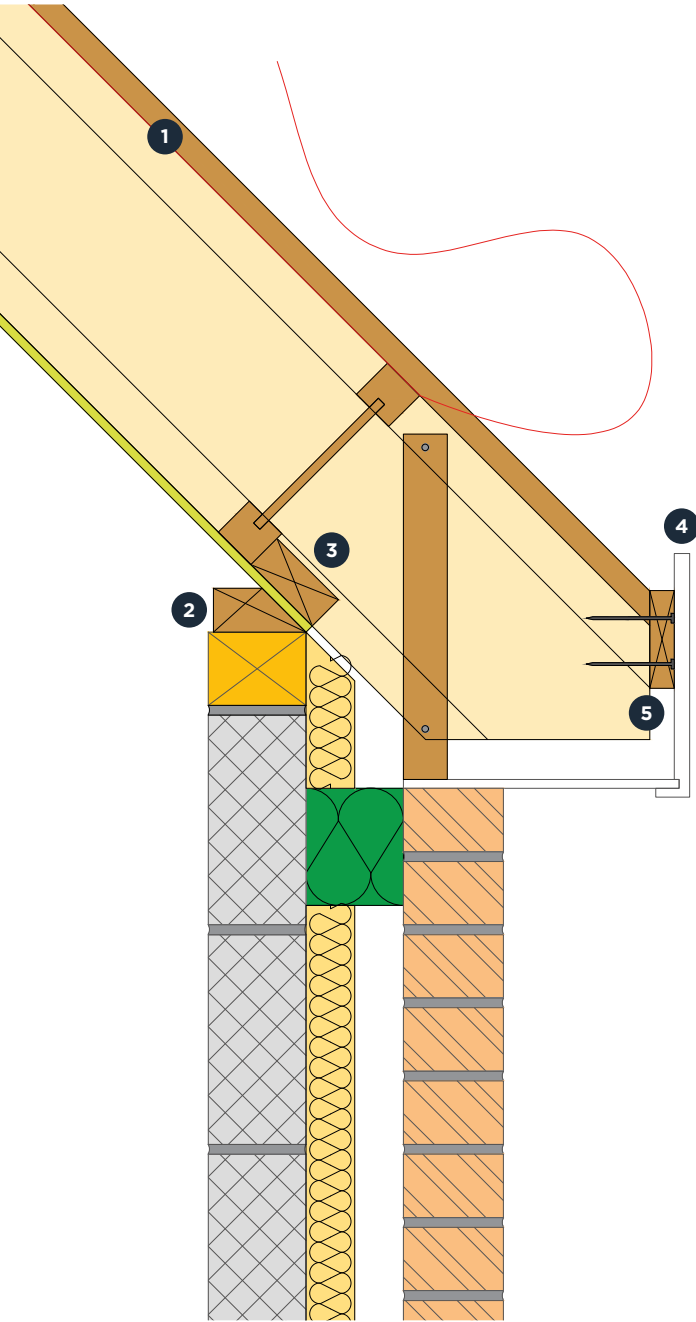
1.5 Tolerances

The Roofspace Solutions i-Roof™ is designed to be constructed on a substructure, constructed by the housebuilder to a pre determined level. Every care must be taken by the housebuilder to ensure dimensional accuracy corresponds with their own working drawing throughout the construction.

- The substructure must be set out accurately using a laser level, steel tape or equivalent.
- Lengths of all walls should be within +/- 10mm.
- Diagonals should be equal to ensure squareness of building, acceptable differences -
 - up to 10m : +/- 5mm.
 - more than 10m : +/- 10mm.
- Ensure the walls supporting the wall plate are levelled to +/- 5mm, and the perimeter lined within +/- 10mm.

2.0 ROOF PANEL

2.1 Roof Panel to Wall Plate



1. Loose insulation packed over eaves bearer between eaves spurs.
2. Panel membrane skirt neatly trimmed around joists and dressed down over loose insulation into cavity. Counter battens *1 extended to 50mm from fascia bearer and fixed with 90mm ARS nails.

- 1 Roofspace Solutions i-Roof™ protective membrane skirt dressed up over panel. To be fixed down over eaves insulation after fixing of cassette and packing of insulation.
- 2 100mm x 50mm chamfered wall plate fixed to wall plate with 90mm ARS nails at 300mm centres. Fitted after panels landed and skew nailed to top of site laid and strapped wall plate.
- 3 38mm x8 9mm C16 wall plate bearer fixed through to wall plate with 3.1mm x 90mm ARS nails at 100mm c/c.
- 4 16mm UPVu fascia fixed to fascia bearer and trimmed face of eaves spur with 2 no. 65mm trim top nails. Soffit friction fitted into groove of fascia and trapped down to top of brickwork with 4x1 soldiers or 2x2 bears.
- 5 Fascia bearer fixed to top of all i-Joist spurs with 2 No 90mm ARS nails. See site specific design for requirement.

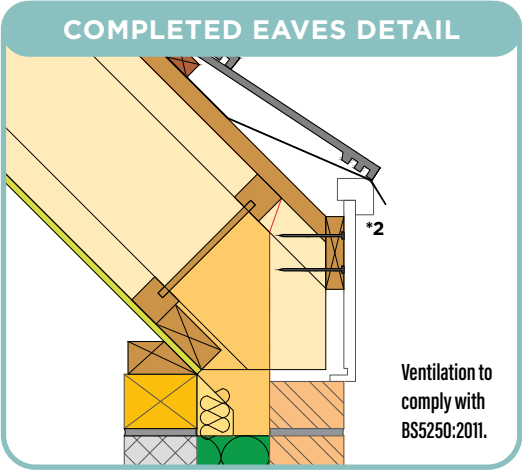
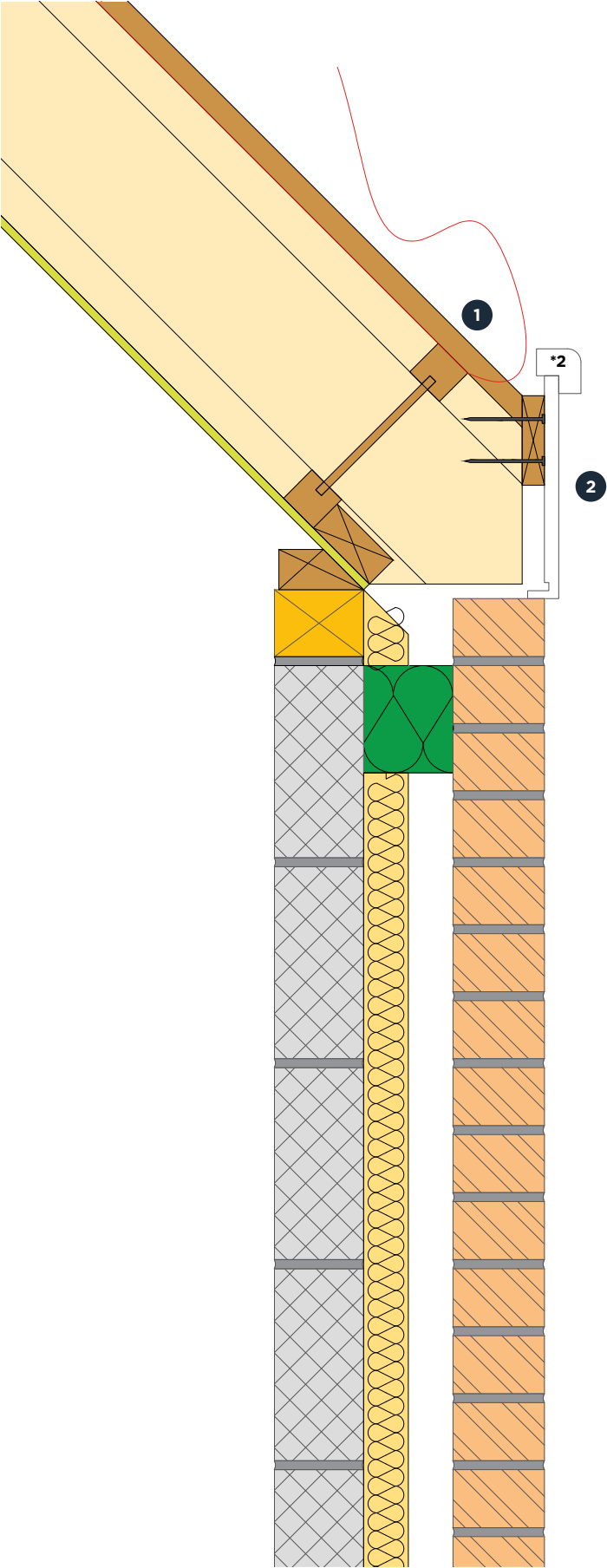
Housebuilder and Roof Tiler Responsibilities

100mm x 75mm wall plate to be bedded, lined and level on a 10mm mortar bed. Wall plate to be in minimum 3m lengths with half lap joints at both corners and running length. Wall plate strapped at maximum 2m centres to standard housebuilders specification with a minimum of 3 no. screw fixings.

*1 - Counter batten depth dependent on tile underlay and roof finish. To comply with high or low resistivity build ups as detailed in BS5250:2011. Client to specify.

2.0 ROOF PANEL

2.2 Roof Panel to Wall Plate -
Flush Fascia



- 1 Alignment of eaves tile provided from projection and height of over fascia vent.
- 2 16mm Upvc fascia fixed to fascia bearer with 2 no. 65mm trim top nails.

Housebuilder and Roof Tiler Responsibilities

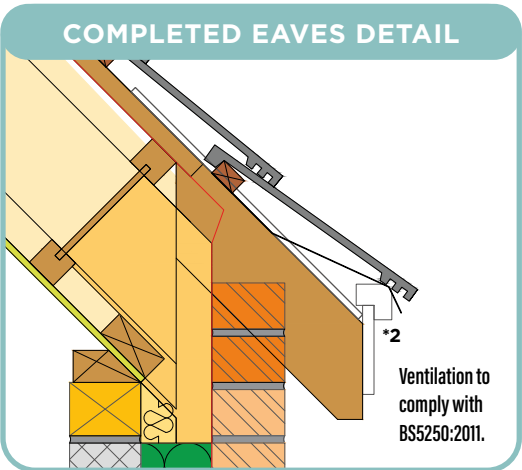
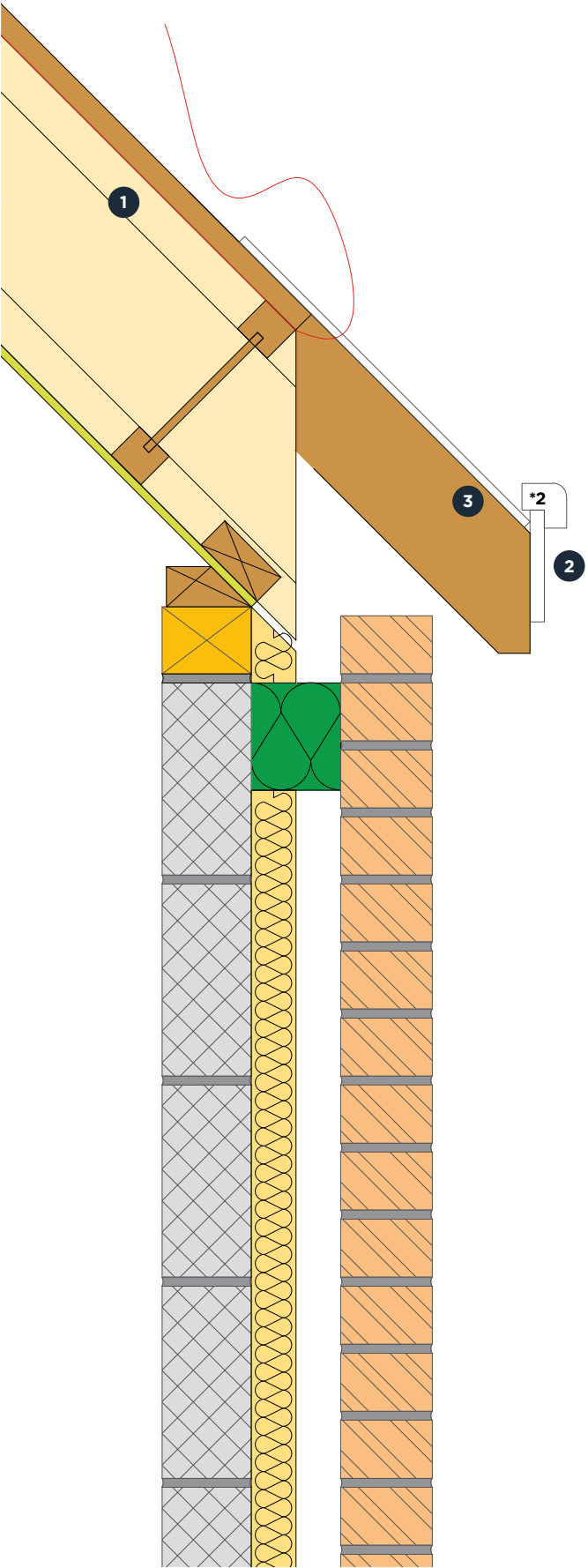
Weather tightness of the roof is the responsibility of the Roof Tiling Contractor and the Roofspace Solutions i-Roof™ system is to be completed as per a traditional pitched roof in line with BS5534 – Code of Practice for slating and tiling and BS5250 – Control of condensation in buildings. Over fascia vent to be provided and installed by the Tiling Contractor.

The Roofspace Solutions i-Roof™ should be protected after installation within 2 weeks of erection, with air and moisture permeable membrane fitted by the Tiling Contractor to the manufacturers instructions.

*2 - Ventilation only required when using high resistivity (HR), underlays or roof finishes as described in BS5250:2011. Client to specify.

2.0 ROOF PANEL

2.3 Roof Panel to Wall Plate -
Exposed Eaves



- 1 Softwood eaves spur factory fitted to Roofspace Solutions i-Roof™ panel and cut to provide correct site specific eaves detail. Eaves spur to be painted by the housebuilder to ensure correct aesthetic appearance and weather resistance.
- 2 16mm UPVu fascia fixed to fascia bearer and trimmed face of eaves spur with 2 no. 65mm trim top nails.
- 3 Over soffit and fascia fitted by Roofspace Solutions as per site specific details, material and colour.

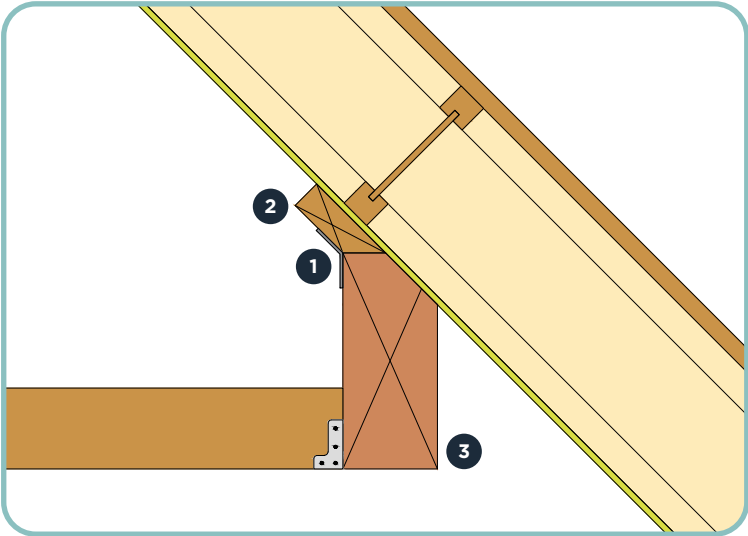
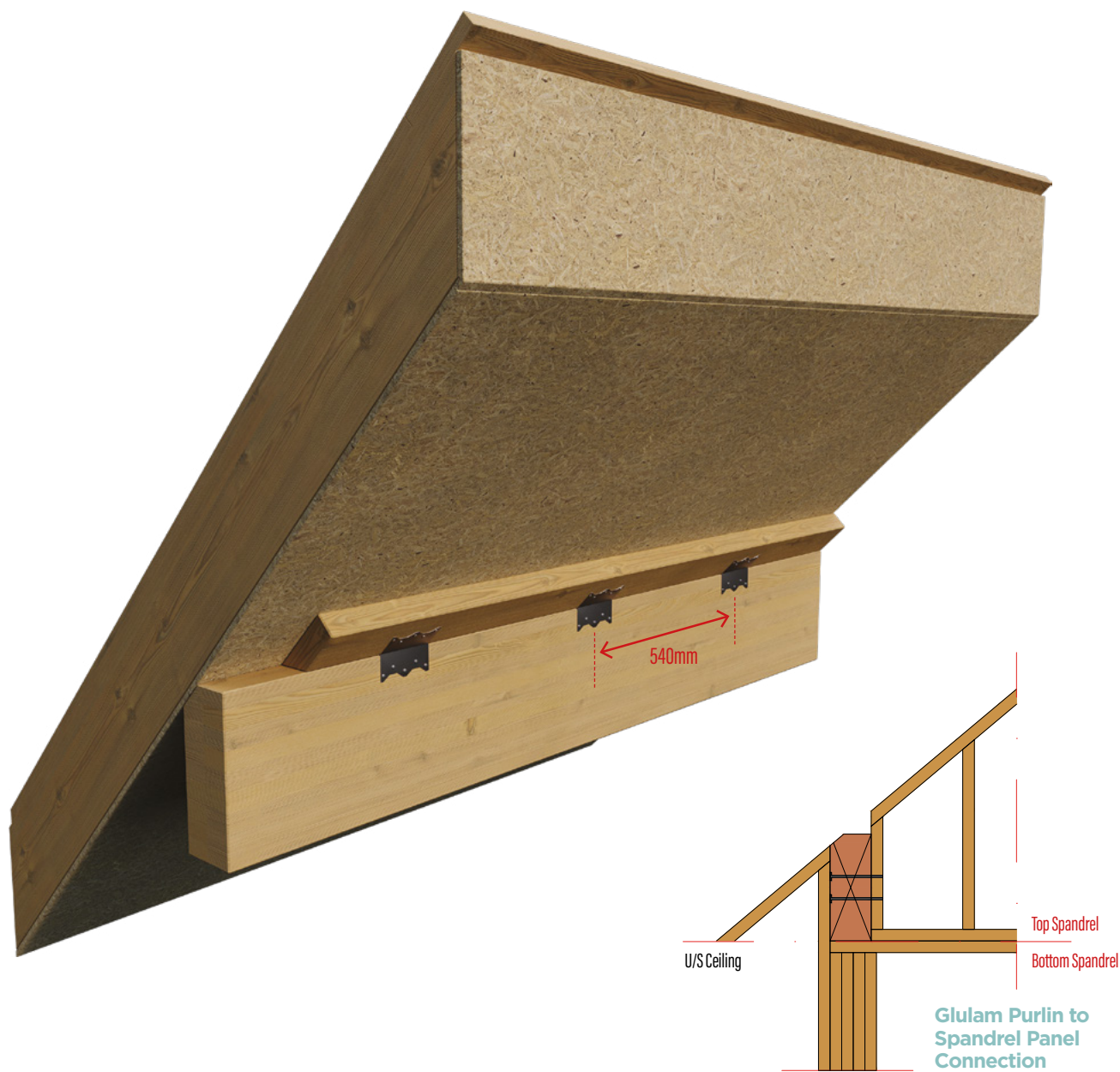
Housebuilder and Roof Tiler Responsibilities

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The Roofspace Solutions i-Roof™ should be protected after installation within 2 weeks of erection, with air and moisture permeable membrane fitted by the Tiling Contractor to the manufacturers instructions.

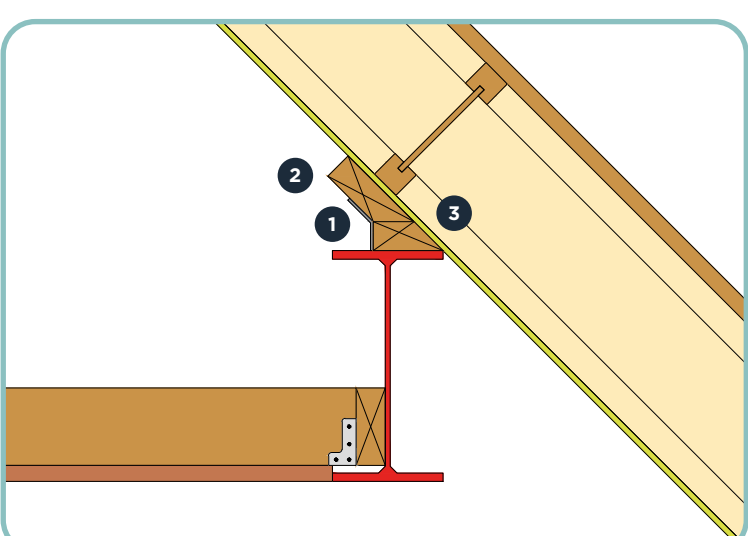
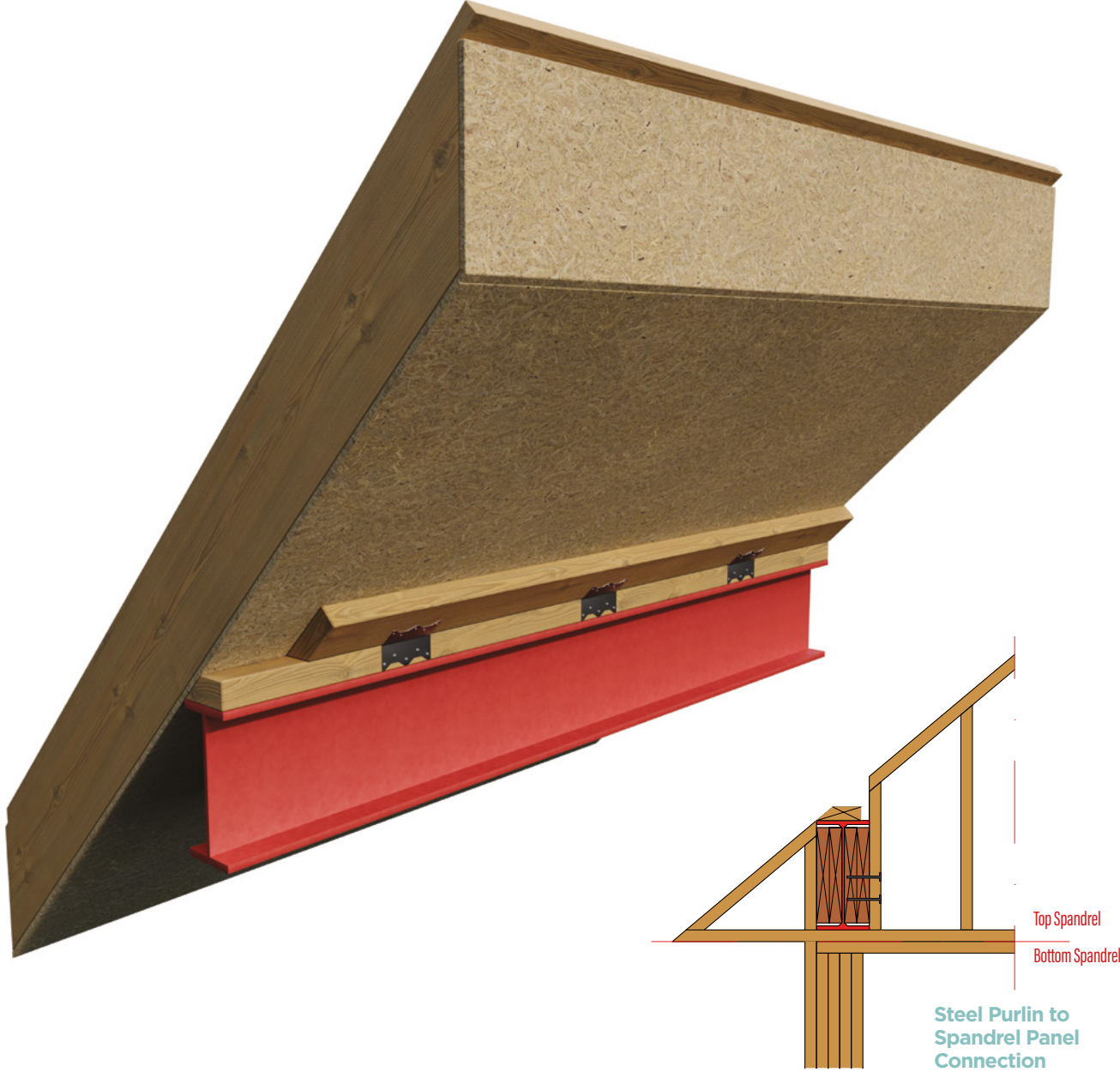
*2 - Ventilation only required when using high resistivity (HR), underlays or roof finishes as described in BS5250:2011.

2.4 A Roof Panel to Intermediate Glulam Purlin



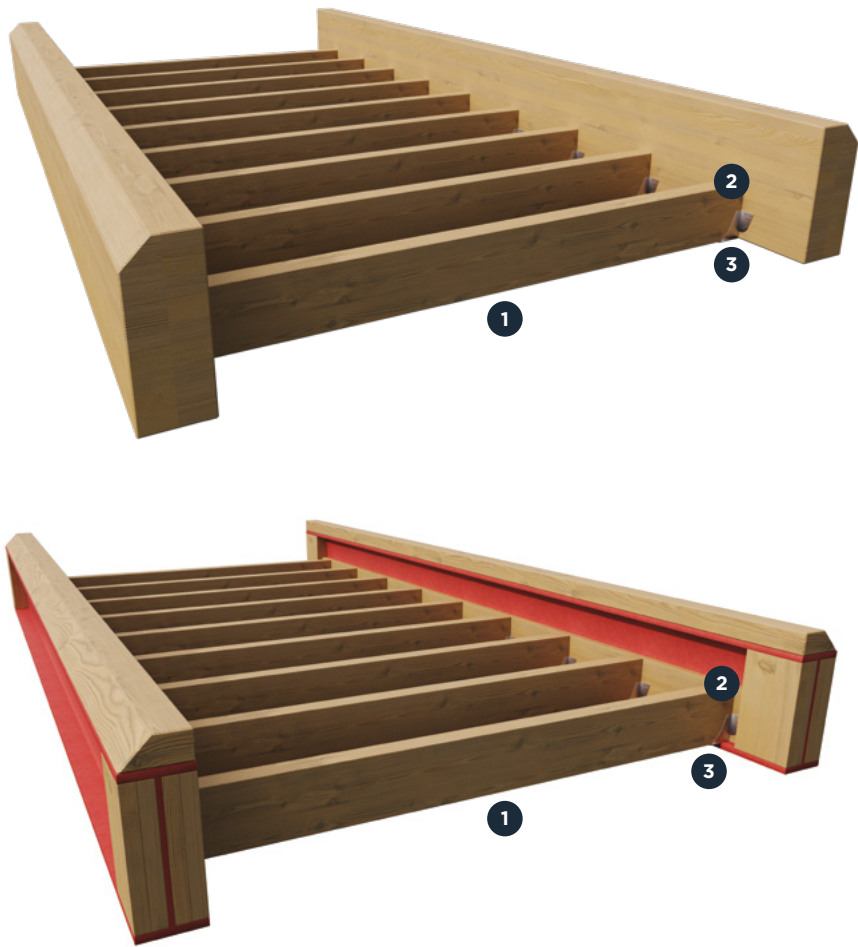
- 1 Variable angle plates to be fixed to support ledger and glulam purlin as specified on design drawings. Nail plates fixed with a minimum of 10 x No. 3.4mm x 35mm square twist nails ensuring all holes are filled.
- 2 150mm x 50mm C16 chamfered timber purlin bearer fixed to joists and structural noggin with 3.1mm x 90mm ARS nails at 70mm centres.
- 3 Chamfered glulam purlin.

2.4 B Roof Panel to Intermediate Steel Purlin



- 1 Variable angle plates to be fixed to support ledger and support bearer as specified on design drawings. Nail plates fixed with a minimum of 10x No. 3.4mm x 35mm square twist nails ensuring all holes are filled.
- 2 150mm x 50mm C16 chamfered timber purlin bearer fixed to joists and structural noggin with 3.1mm x 90mm ARS nails at 70mm centres.
- 3 Chamfered support bearer.

2.5 Ceiling Construction



Central strutting of joists required as per table below.

Timber strutting requirements	
Joist span (m)	Rows of struts
Up to 2.5	0
2.5 - 4.5	1
Over 4.5	2

Table 5.1a: Source - NHBC standards 2013.

C16	Dead load excluding self weigh of joist not more than 0.25kN/m2
Size of Joist	Maximum clear span (m)
47 x 72mm	1.17
47 x 97mm	1.75
47 x 120mm	2.30
47 x 145mm	2.91
47 x 170mm	3.53
47 x 195mm	4.14
47 x 220mm	4.76

Table 5.1b: Source - Eurocode 5 span tables.

- 1

C16 Ceiling joists hung off Cullen™ joist hangers face fixed to inside of purlins at 600mm centres, nailed with 3.75mm x 30mm square twist nails. Set out from centres of plot.
- 2

Top of ceiling joists restrained with 2 No. 90mm ARS skew nails, on from either side.
- 3

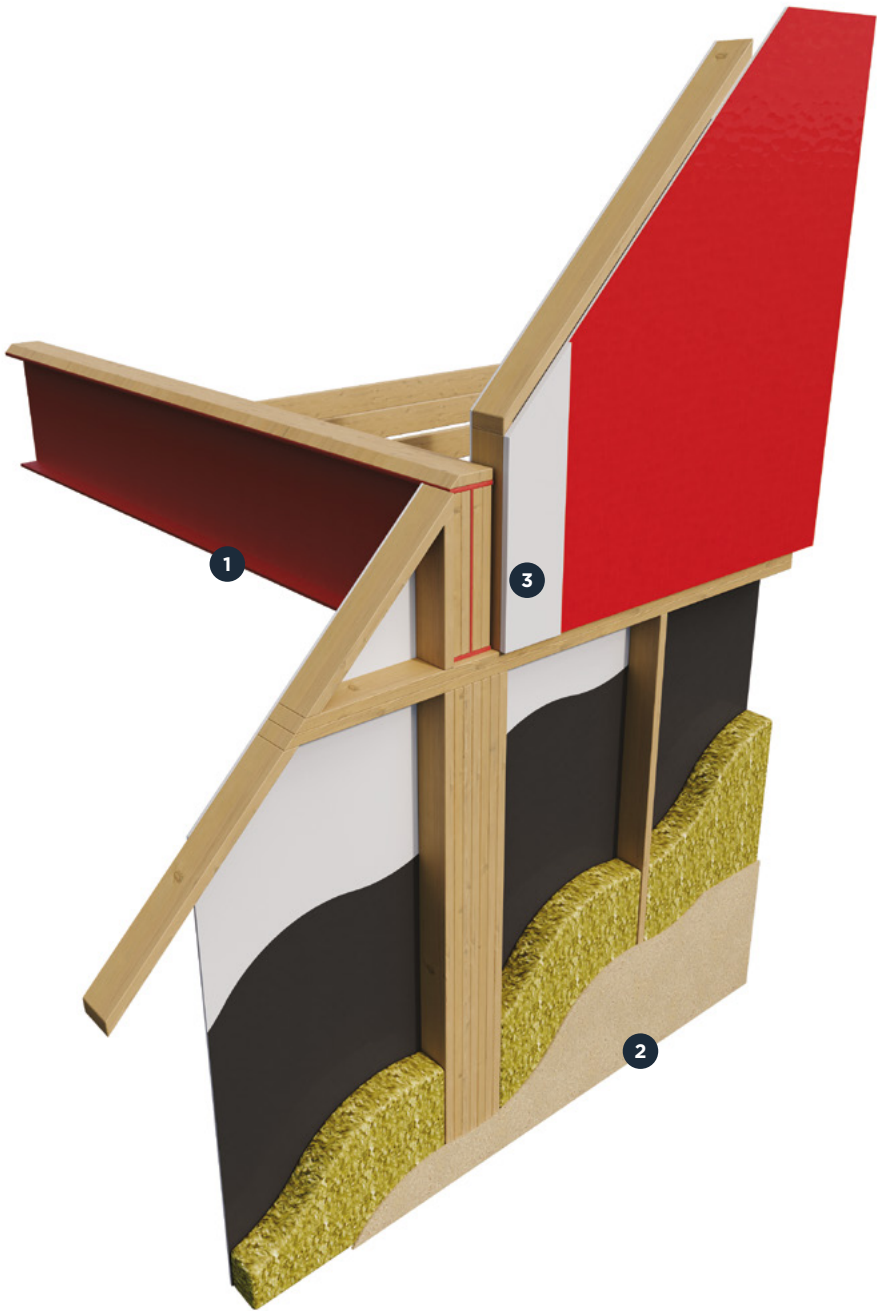
C16 Ceiling joist hung off Cullen™ joist hangers face fixed to steel ceiling bearer at 600mm centres, nailed with 3.75mm x30mm square twist nails. Set out from center of plot.

Housebuilder Responsibilities

Installation of loft hatch trimmers and loft hatch.

Fixing of plaster catches to raked ceiling past intermediate purlins to allow correct interaction of raked and horizontal dry lining.

2.6 Steel Purline to Spandrel Panel Connection



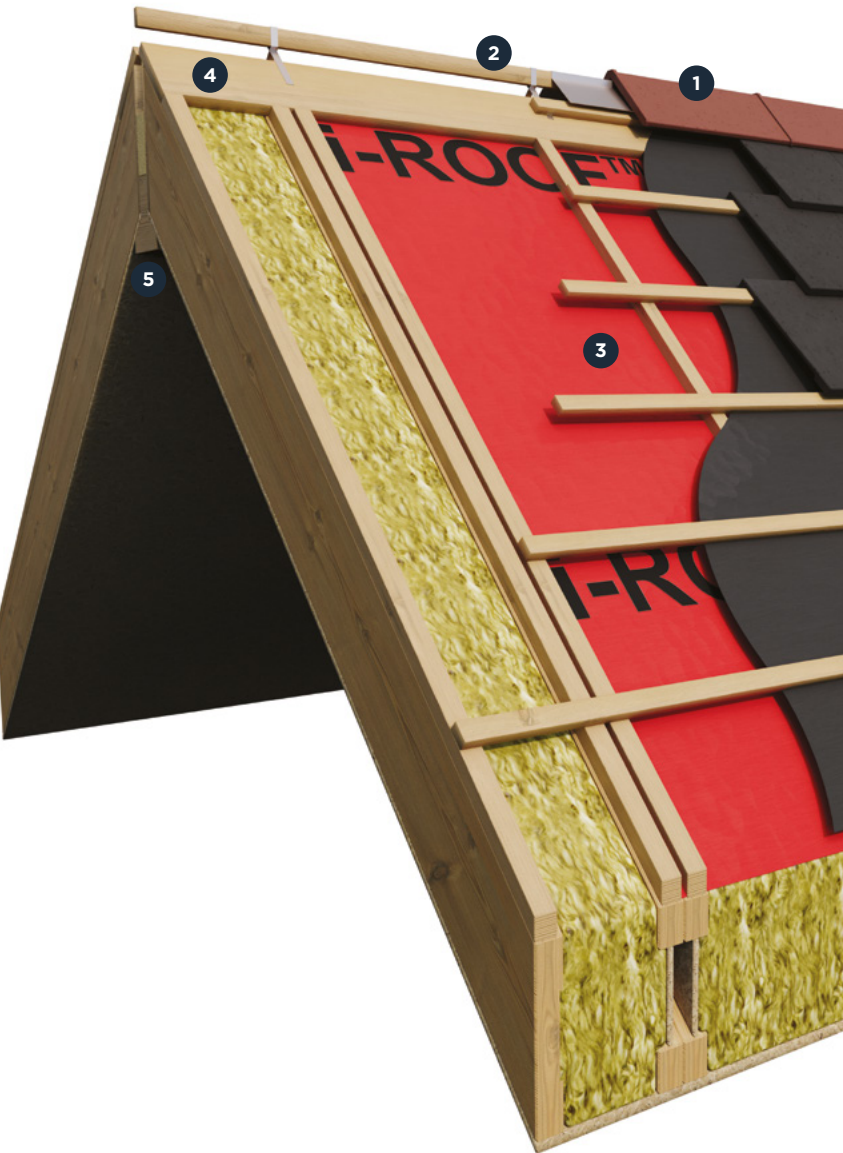
- 1

Steel (as specified by Roofspace Solutions Engineer) sat in protected pocket in top spandrel.
- 2

External face of party wall spandrel clad in 9mm OSB if Design stipulates it.
- 3

Pocket that purlin sits in to be clad with 2 layers of 12.5mm plaster board (plasterboard cut back for clarity of detail). Pocket to be fully insulated with mineral wool on site by Roofspace Solutions.

2.7 Roof Panel to Ridge



- 1 Mechanically fixed ridge system by Tilers.
- 2 Ridge trees fixed to Roofspace Solutions ridge board with fixing provided as part of ridge system.
- 3 Vapour permeable underlay.*3
- 4 150mm x 25mm C16 timber ridge boards fixed to Roofspace Solutions' panels to ensure continuous fixing platform for follow on Tiler's mechanically fixed ridge system.*4
- 5 Roof Cassettes fixed through panel location timbers into U/S of each joist with 90mm ARS nails.

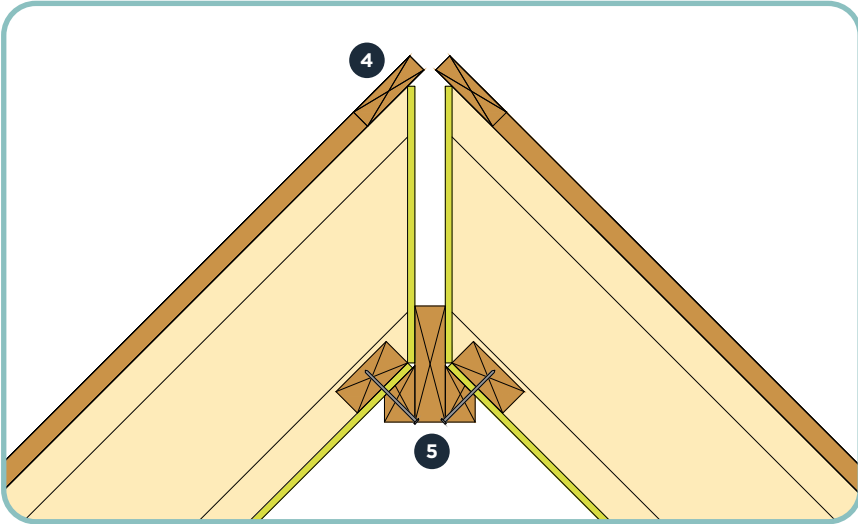
Housebuilder and Roof Tiler Responsibilities

The waterproof envelope of the property is the responsibility of the Tiling Contractor.

All roof coverings to comply with the relevant British Standards fixed in accordance with the manufacturer's instructions.

A breather membrane must be used.

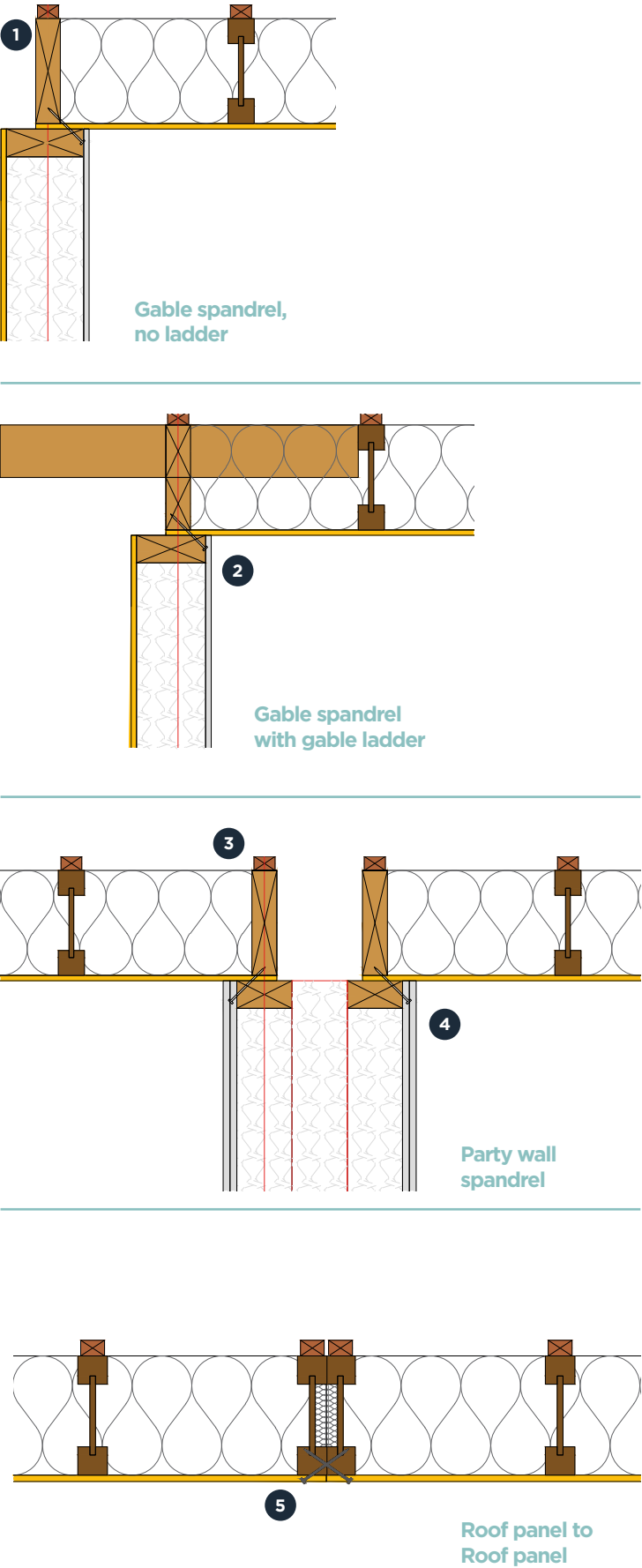
Tiles and membrane to be installed as per the manufacturer's instructions, following the Zonal Fixing Method.



*3 - Vapour permeable underlay as recognised by building warranty supplier. Tested and certified water penetration class WI to EN 1928. Installed to providers instruction.

*4 - If ridge ventilation is required install in accordance with BS5250:2011 and suppliers instruction.

2.8 Roof Panel to Spandrel Panel



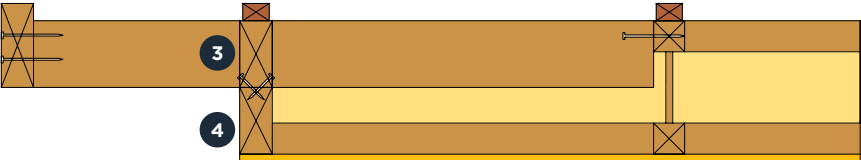
- 1 Fixed through, internally, at 45 degrees into gable ladder joist with 3.1mm x 90mm ARS nails at 150mm c/c.
- 2 Fixed through, internally, at 45 degrees into solid blocking timber with 3.1mm x 90mm ARS nails at 150mm centres.
- 3 All panel closers timbers set out and designed to span centrally over block work below.
- 4 Fixed through, internally, at 45 degrees into sole flange of i-Joist with 3.1mm x 90mm ARS nails at 150mm centres.
- 5 Roof panels to be connected together with skew 3.1mm x 90mm ARS nails at 150mm centres.

2.9 Roof Panel Gable Ladder

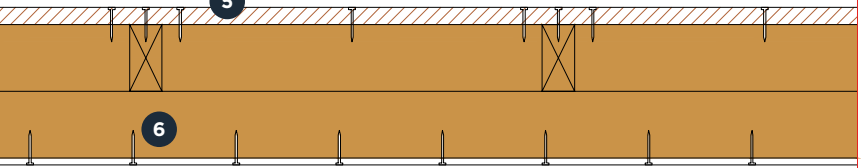


- 1 Ladder rungs projecting fully into panel and skew nailed to top flange of i-Joist.
- 2 47mm x 97mm C16 ladder rungs at 600mm centres.
- 3 47mm x 97mm C16 noggin fixed through to ladder bearer with 30mm nails at 150mm alternating centres.
- 4 47mm x 97mm ladder bearer fixed through from underside of OSB with 3x 50mm nails.
- 5 25mm x 38mm counter batten fixed through to ladder noggin and rungs with 3x 65mm ARS nails at 300mm centres.
- 6 47mm x 97mm C16 ladder rungs fixed with 2 (3.1mm x 90mm) ARS nails into ladder bearer.
- 7 Job specific gable closer.

Section through out look joist



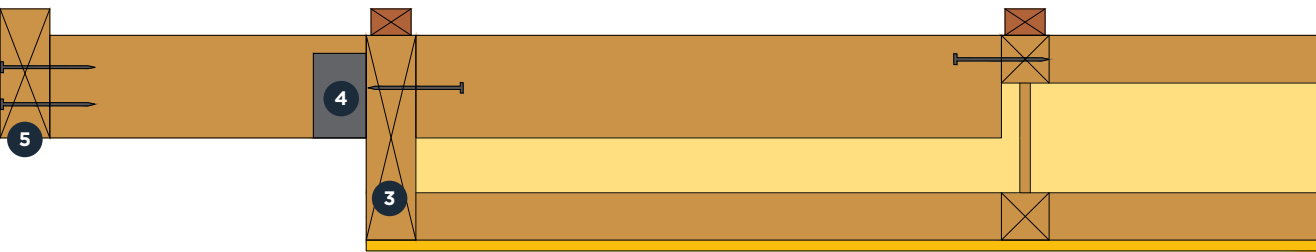
Side elevation



2.10 Gable Ladder - Site Installation



Section through out look joist



- 1 Restraint noggin at 1200mm centres.
- 2 Look out joists at 300mm centres.
- 3 Gable joist.
- 4 47mm x 97mm C16 look out joists fixed with Cullen TM midi hanger to panel with 3.75 x 30mm sheradised square twist nails. All holes filled.
- 5 47mm x 122mm C16 end rail, site fixed with 2 no.ARS nails per joist.

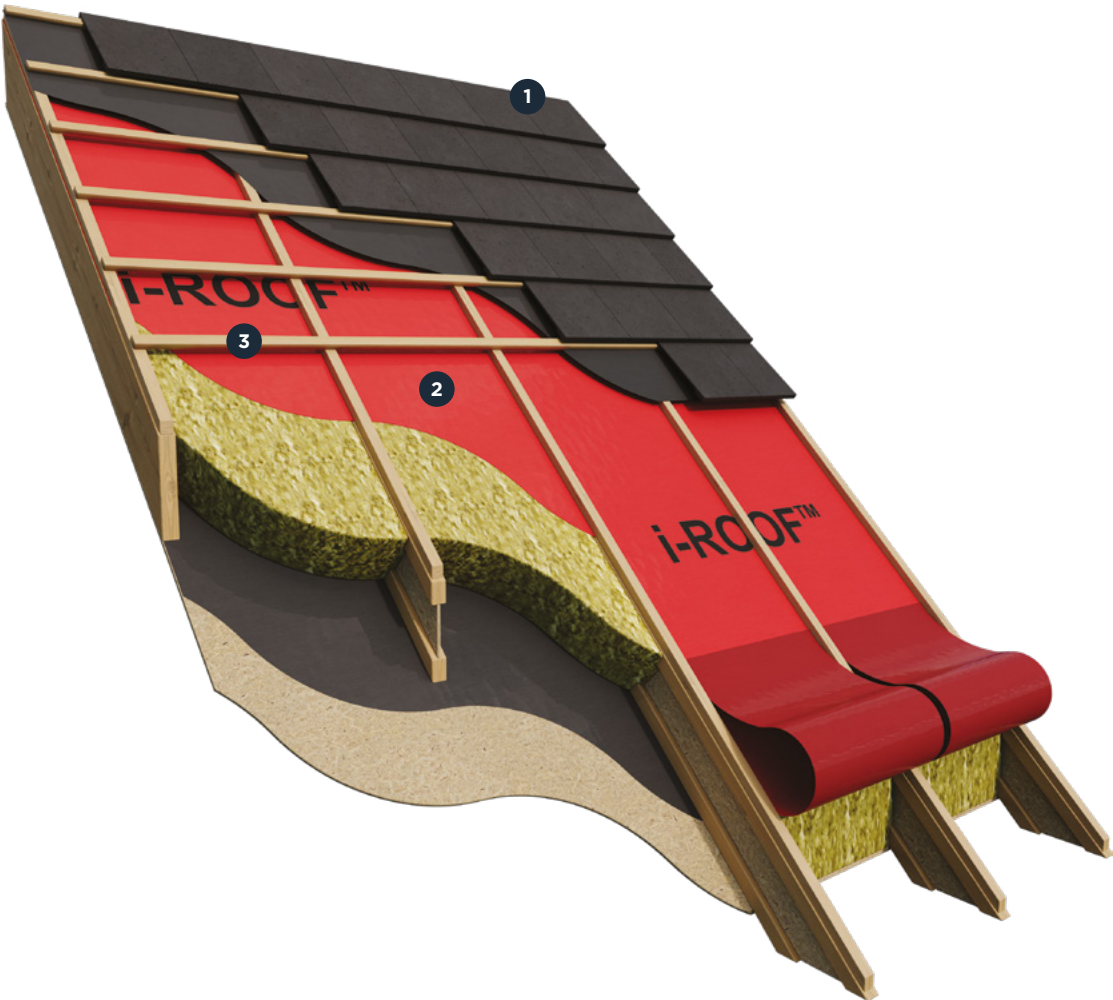
Housebuilder Responsibilities
External brickwork to be brought up tight to underside of all rungs and side faces.

Tiling Contractor Responsibilities
Fixing of tiling batten over gable ladder with nails specified in Zonal Fixing Method by the Tile Manufacturer.

Housebuilder Responsibilities
External brickwork to be brought up tight to underside of all rungs and side faces.

Tiling Contractor Responsibilities
Fixing of tiling batten over gable ladder with nails specified in Zonal Fixing Method by the Tile Manufacturer.

2.11 External Cladding



- 1 Tiles to be installed as per the manufacturers instructions following the Zonal Fixing Method.
- 2 Vapour permeable underlay.*3
- 3 Batten lengths should be a minimum 1.2m long and fixed to all intersecting i-beam rafters spanning at least 3. Not more than 1 in 4 battens should be joined over a singular i-beam rafter, where joined battens should be butt jointed and nailed either side of joint.

Tiling Contractor Responsibilities

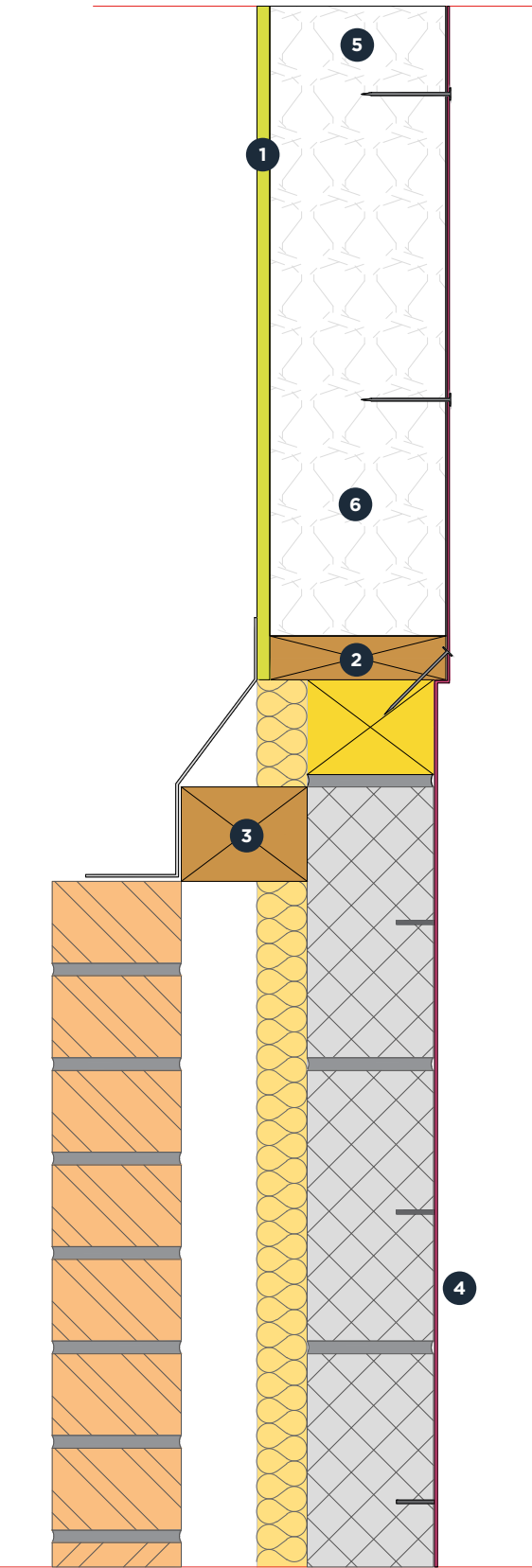
The waterproof envelope of the property is the responsibility of the Tiling Contractor.

All roof coverings to comply with the relevant British Standards and fixed in accordance with the manufacturer's instructions.

The size, specification and spacing of tiling battens should be in accordance with the Tile Manufacturer's recommendations. Nails used to fix battens should be 3.35mm (10 gauge) x 65mm long.

*3 - Vapour permeable underlay as recognised by building warranty supplier. Tested and certified water penetration class W1 to EN 1928. Installed to providers instruction.

3.1 Gable Spandrel to Wall Plate



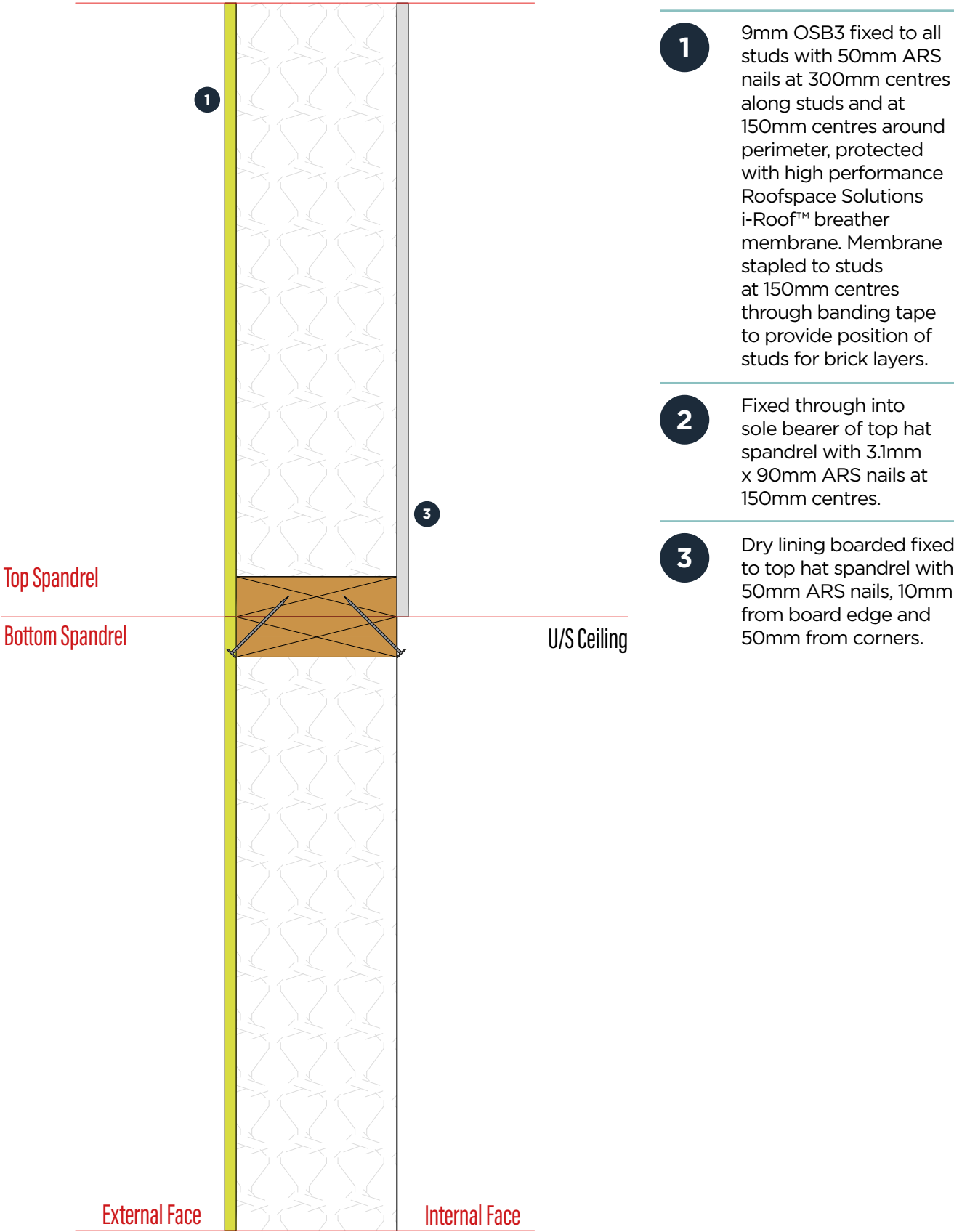
- 1 9mm OSB3 fixed to all studs with 50mm ARS nails at 300mm centres along studs and at 150mm centres around perimeter, protected with high performance Roofspace Solutions i-Roof™ breather membrane. Membrane stapled to studs at 150mm centres through banding tape to provide position of studs for brick layers.
- 2 Spandrel fixed through sole chord of gable spandrel into wall plate a 150mm centres with 3.1mm x 90mm ARS nails at 45 degree angles.
- 3 Site responsible for fitting Cavity Barrier & Tray.
- 4 Vertical straps by Roofspace Solutions at 2m centres fixed through both sole chord and wall plate with minimum 3mm x 30mm square twist nails into timber studs and 4x No.8 gauge screws through wall plugs over 2 block courses.
- 5 Structural spandrel consisting of 140mm x 38mm CLS studs at max. 600mm centres. Studs fixed to sole and head chords with 2 No. 90mm ARS nails. Spandrel fully insulated with mineral wool to achieve client's U-Value and internal face clad in VCL membrane.
- 6 140mm spandrel stepped out 10mm to allow correct interaction of plasterboard between transition from block work to timber frame.

Housebuilder Responsibilities

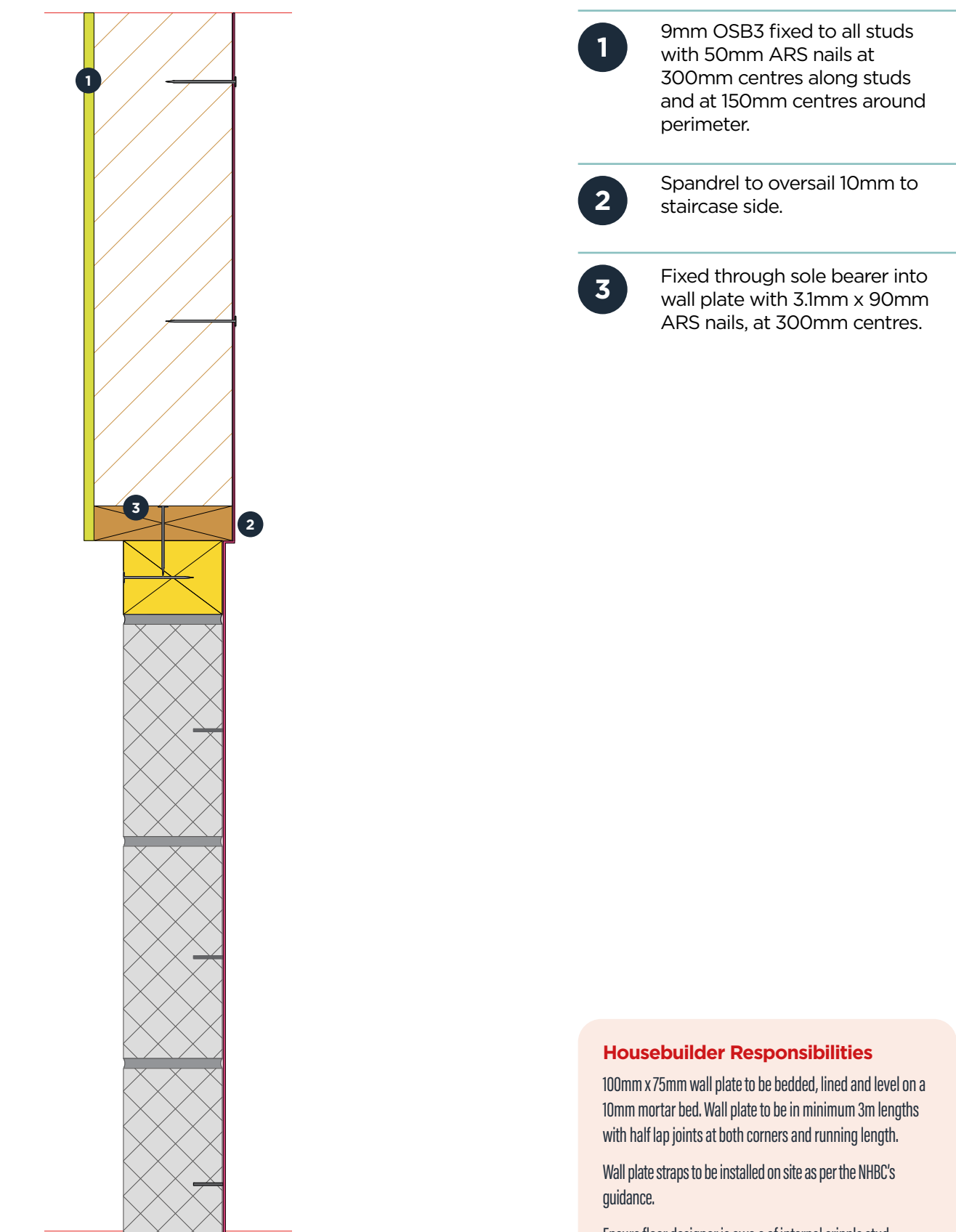
100mm x 75mm wall plate to be bedded, lined and level on a 10mm mortar bed. Wall plate to be in minimum 3m lengths with half lap joints at both corners and running length.

Wall plate straps to be installed on site as per the NHBC's guidance.

3.2 Gable Spandrel - Base to Top



3.3 Intermediate Spandrel to Wall Plate



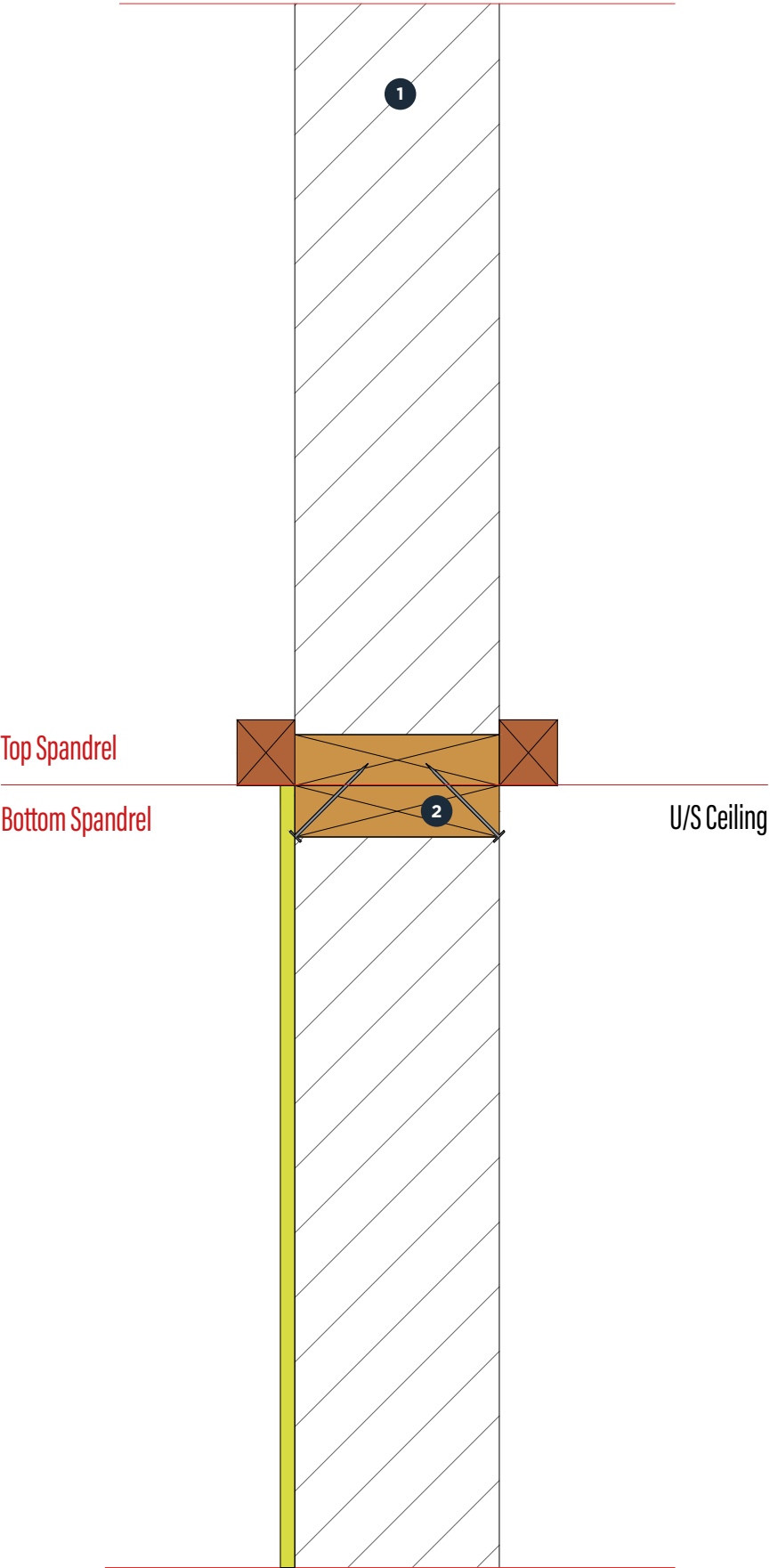
Housebuilder Responsibilities

100mm x 75mm wall plate to be bedded, lined and level on a 10mm mortar bed. Wall plate to be in minimum 3m lengths with half lap joints at both corners and running length.

Wall plate straps to be installed on site as per the NHBC's guidance.

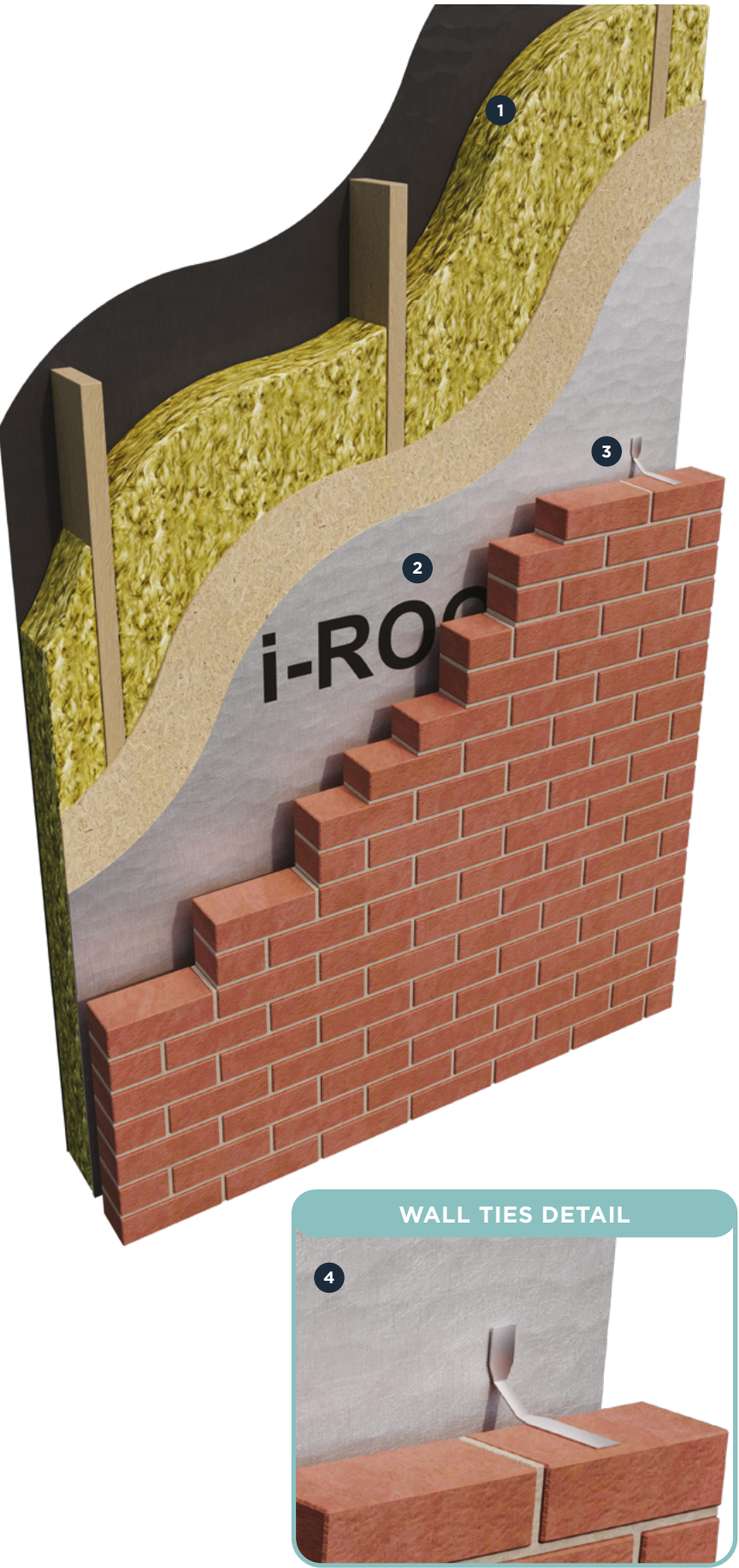
Ensure floor designer is aware of internal cripple stud positions and they have factored them into their second floor joist design.

3.4 Gable Spandrel - Base to Top



- 1 Top spandrel left as frame to allow access to all loft areas.
- 2 Fixed through into sole bearer of top hat spandrel with 3.1mm x 90mm ARS nails at 300mm centres from both sides.

3.5 External Spandrel - External Brick Work



- 1 Roofspace Solutions i-Roof™ fully insulated spandrel panel with OSB3 to external face and VCL to internal face.
- 2 Breather membrane stapled through banding tape to provide position of studs to fix brick ties.
- 3 Brick ties to be fixed to manufacturer's instructions with fixings provided/suggested.
- 4 Wall ties fixed to timber studs. Centres to be specified by the building designer. Wall ties to be fixed as per the manufacturers guidance.



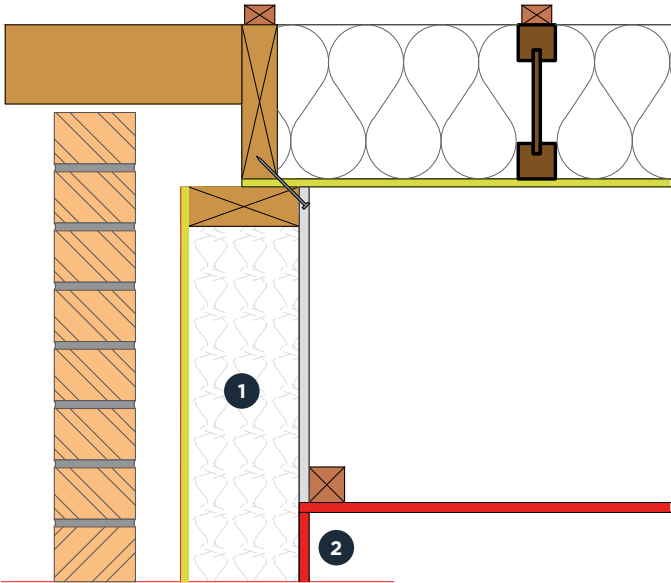
Housebuilder Responsibilities

Ensure a 50mm cavity is continuous to verge interaction with tiles and kept clear from debris at all times.

Provide ventilation to the cavity equivalent to open brick perpend every 1.2m and place to prevent the ingress of rain - to the housebuilder's standard specification. Site to supply brick ties

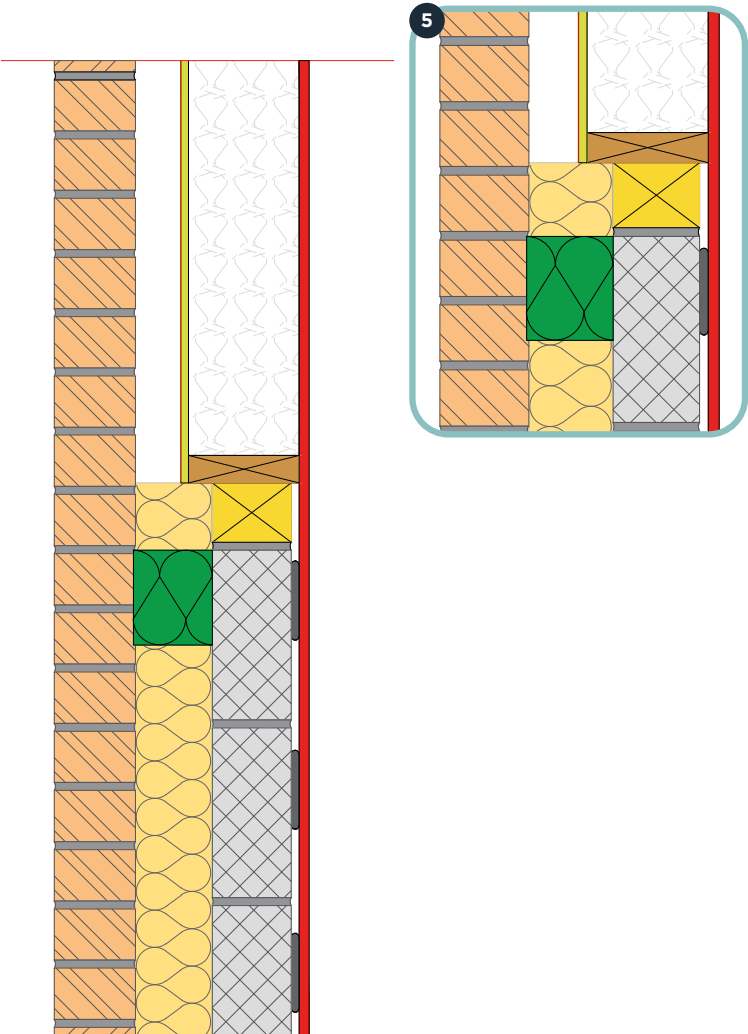
3.0 WALLS

3.6 External Spandrel - Internal Finishing



- 1 Roofspace Solutions i-Roof™ top gable wall spandrel is fitted with 1 layer of 30 minute fire rated plasterboard with class O classification to BS 476-7 above ceiling level.
- 2 Horizontal plasterboard fitted flush against spandrel with vertical plasterboard butt jointed to U/S and mastic sealed.
- 3 Roofspace Solutions i-Roof™ spandrel is over sailed 10mm to allow flush through installation of plasterboard over interaction detail.
- 4 Plasterboard fitted by dry liners. Screwed through to Roofspace Solutions i-Roof™ studs, and dabbed to block work below wall plate level. See Detail 5.8 for specifications required.
- 5 Where the client uses a full fill cavity wall and a horizontal break is required at wall plate level the insulation manufacturer's BBA must be worked to.

The typical detail is the top of the cavity insulation is protected with a cavity tray or similar waterproof barrier to weep vents.



Housebuilder Responsibilities

Ensure 30 minute fire rated board is specified for internal linings and fitted in accordance with manufacturers instructions.

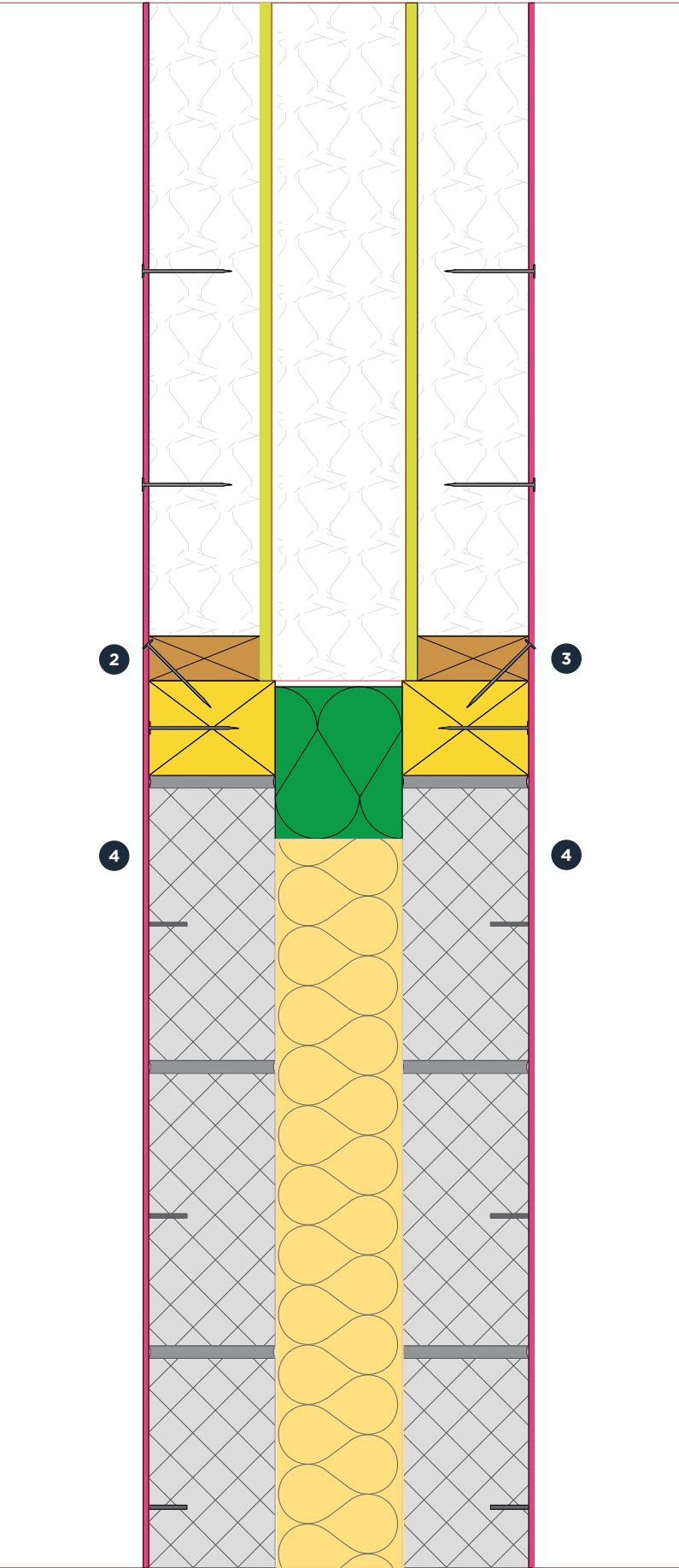
The Roofspace Solutions i-Roof™ system is not resistant to the damage of fire during the construction phase until all internal and external barriers are in place. It is the responsibility of the housebuilder to meet Building Regulation standards.

Ensure all interaction details are correct and installed as per manufacturer's instructions.

Site responsible for cavity barrier and tray.

4.0 PARTY WALLS

4.1 Party Wall Spandrel to Wall Plate



- 1 Vertical straps by Roofspace Solutions at 2m centres, fixed through both sole chord and wall plate with minimum 3 x 30mm square twist nails into timber studs and 3 no. screws through wall plugs over 2 block courses.
- 2 Spandrel skew fixed through sole chord of gable spandrel into wall plate at 600mm centres with 3.1mm x 90mm ARS nails.
- 3 PLASTERBOARD FITTED Spandrel stepped out 10mm. NO PLASTER BOARD FITTED Spandrel flush.
- 4 Wall plate strapped to block work to NHBC specification.

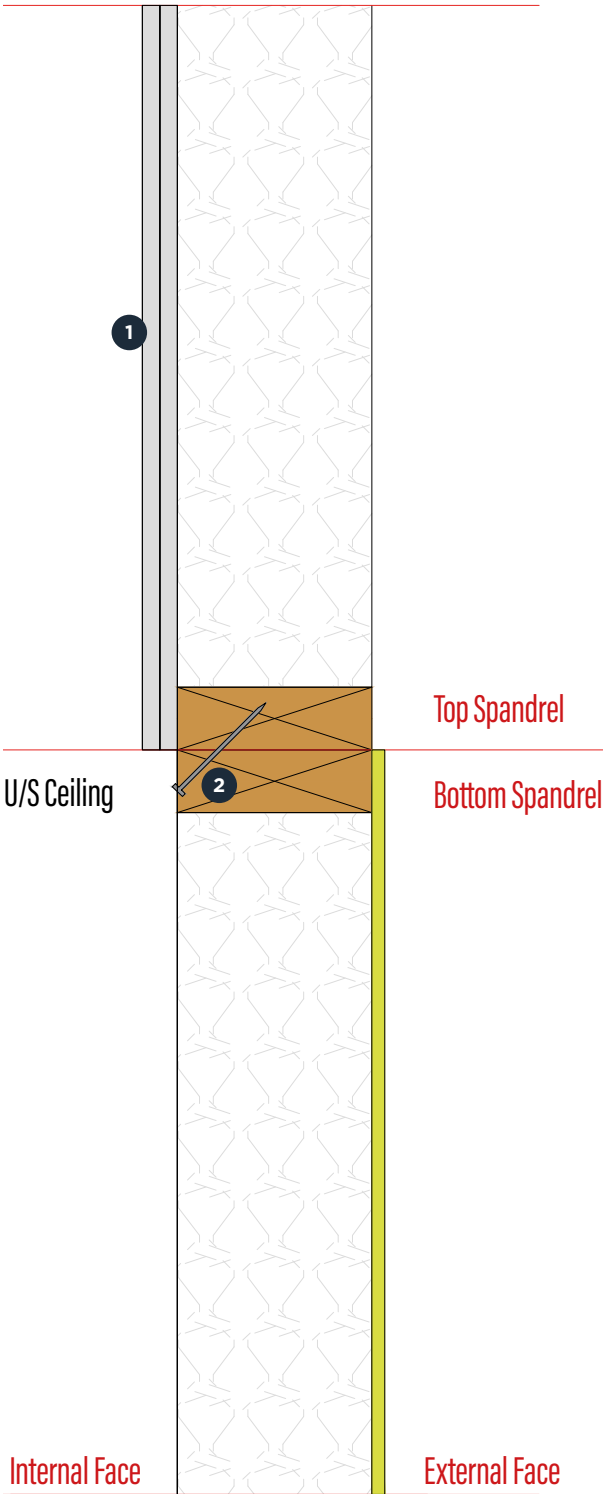
Housebuilder Responsibilities

100 x 75mm wall plate to be bedded, lined and level on a 10mm mortar bed. Wall plate to be in minimum 3m lengths with half lap joints at both corners and running length.

Wall plate straps to be installed as per NHBC's guidance.

4.0 PARTY WALLS

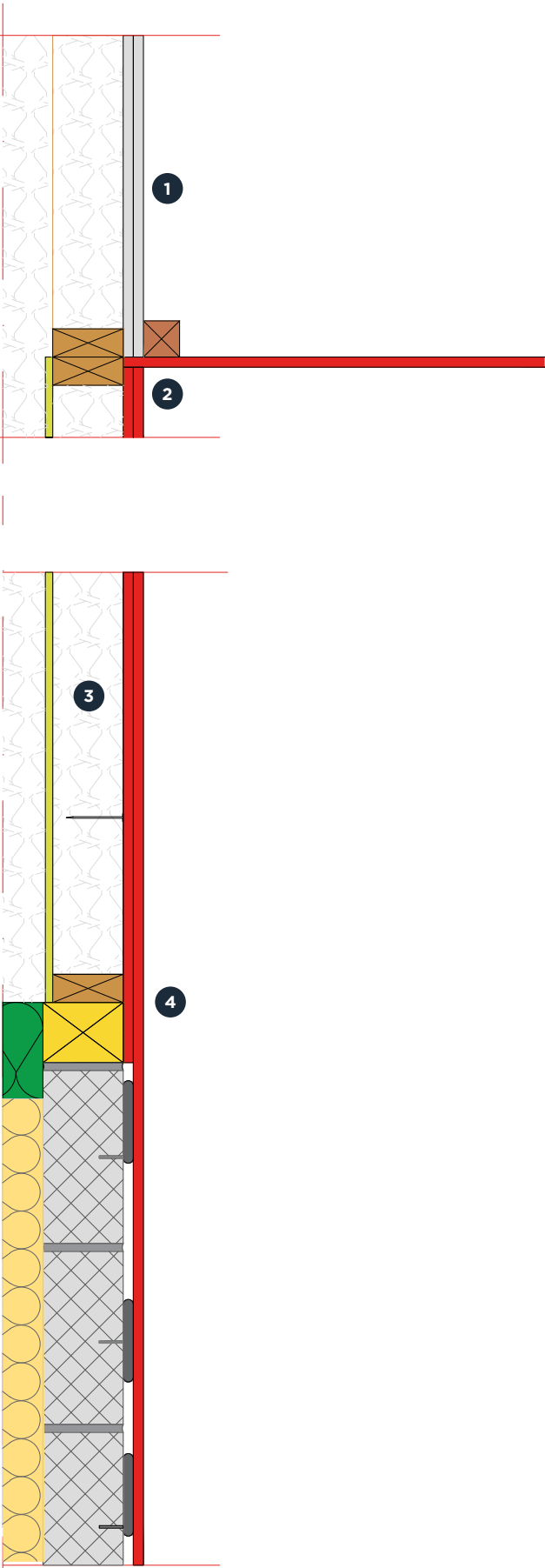
4.2 Party Wall Spandrel - Base to Top



- 1 2 layers of dry lining boarded fixed to top hat spandrel with 50mm ARS nails 10mm from board edge and 50mm from corners. All joints staggered.
- 2 Fixed through into sole bearer of top hat spandrel with 3.1mm x 90mm ARS nails at 150mm centres.

4.0 PARTY WALLS

4.3 Party Wall Spandrel - Internal Finishing Detail



- 1 Roofspace Solutions i-Roof™ party wall top spandrel is factory fitted with 2 layers of 30 minute fire rated plasterboard with class O classification to BS 476-7 above horizontal ceiling level.
- 2 Horizontal plasterboard fitted flush against spandrel with vertical plasterboard butt jointed to U/S and sealed with intumescent mastic by housebuilder.
- 3 Roofspace Solutions i-Roof™ spandrel is to finish flush with inside face of block work.
- 4 Minimum of 2 layers Plasterboard fitted by dry liners, screwed through to Roofspace Solutions i-Roof™ studs and dabbed to block work below wall plate level. To achieve a total 60 minute fire resistance. First layer to over sail joint between spandrel and wall plate.

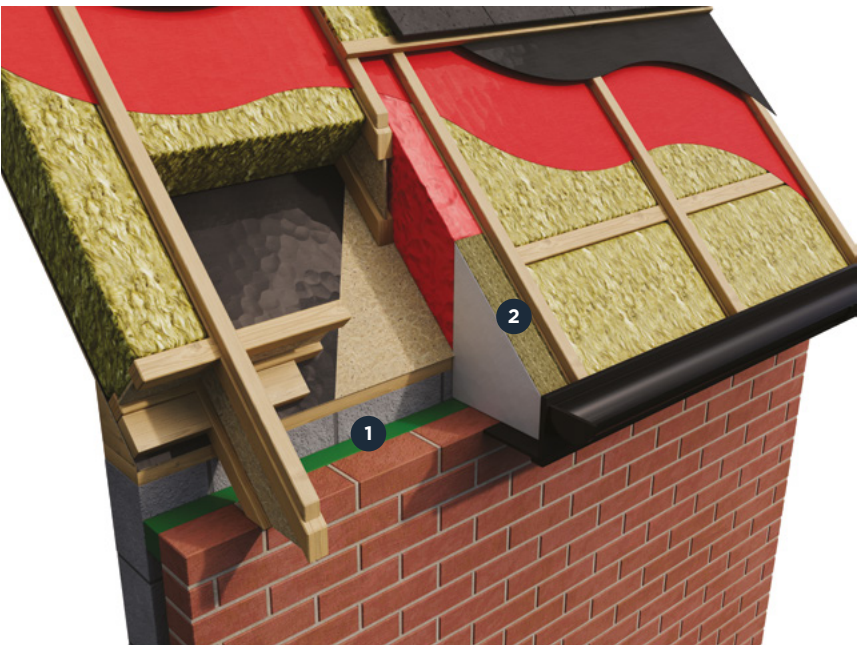
Housebuilder Responsibilities

Ensure a finished specification achieves a 60 minute fire resistance to both leaves of wall.

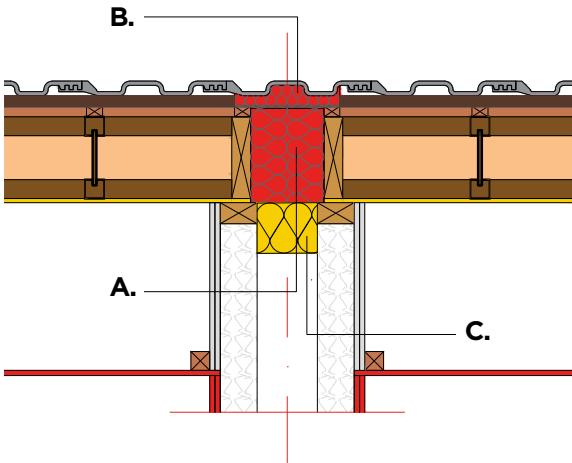
Ensure secondary layer of plasterboard is fitted with joints staggered against primary fitted layer. It is the responsibility of the housebuilder to meet Building Regulation standards.

4.0 PARTY WALLS

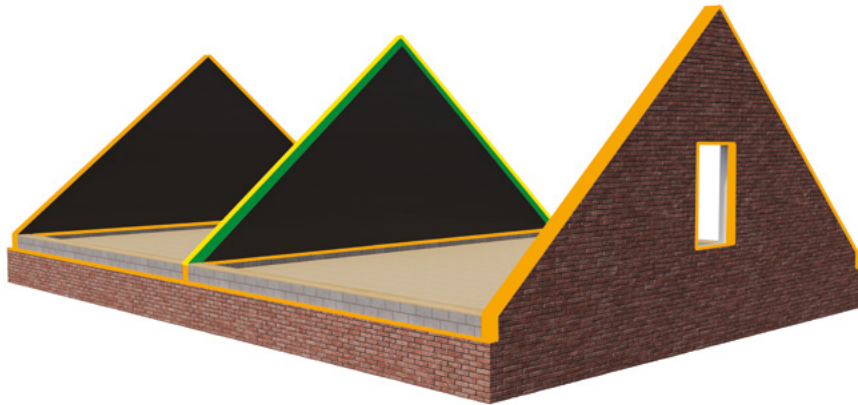
4.4 Cavity Sock System



- 1 Cavity barrier at eaves by housebuilder.
- 2 Eaves box area packed with mineral wool by the Tiling Contractor.



- A. Void between cavity sock and U/S of roofing membrane packed with mineral wool insulation by tiling contractor.
- B. Wire reinforced mineral wool, packed between tile battens and profile of tiles by tiling contractors.
- C. Cavity socks by Roofspace Solutions.



- Key**
- 60 minute fire resistant cavity barrier installed by Roofspace Solutions.
 - Polythene sleeved cavity carrier installed by housebuilder.
 - Fire stopping installed by Roof Tiler.

Housebuilder Responsibilities

Ensure all cavity barriers are present and fit correctly.

Tiling Contractor Responsibilities

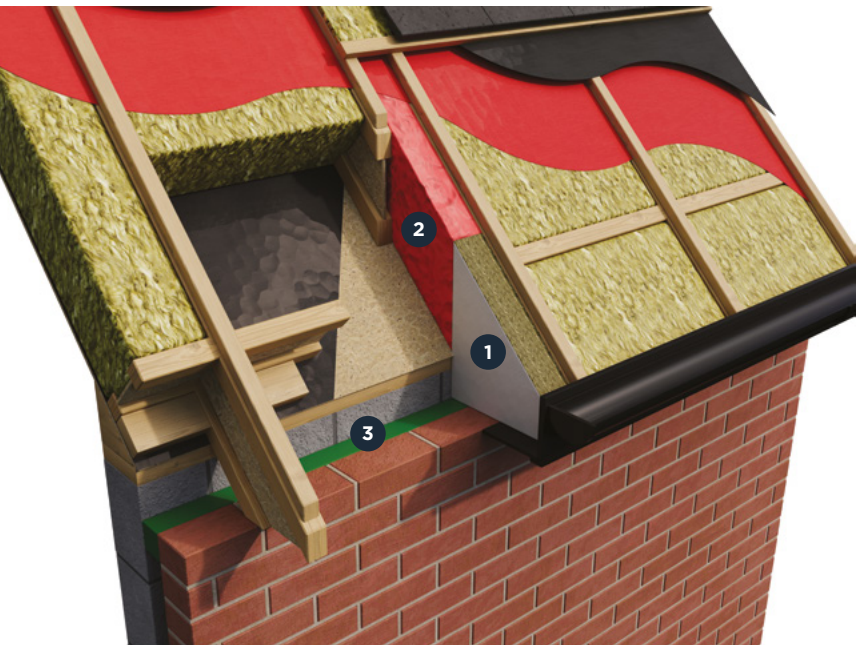
Ensure fire integrity of compartment wall is finished to underside of roof covering.

Housebuilder Responsibilities

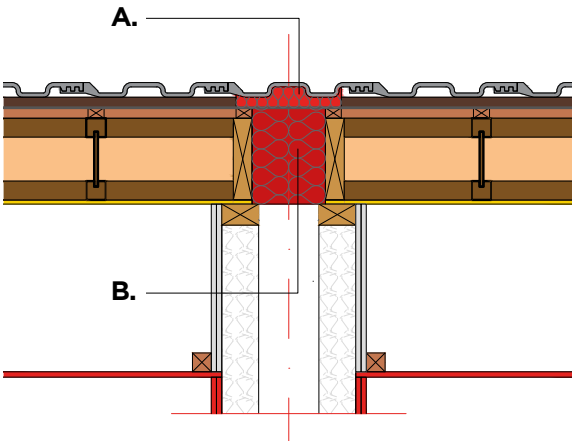
Ensure fire integrity below wall plate level.

4.0 PARTY WALLS

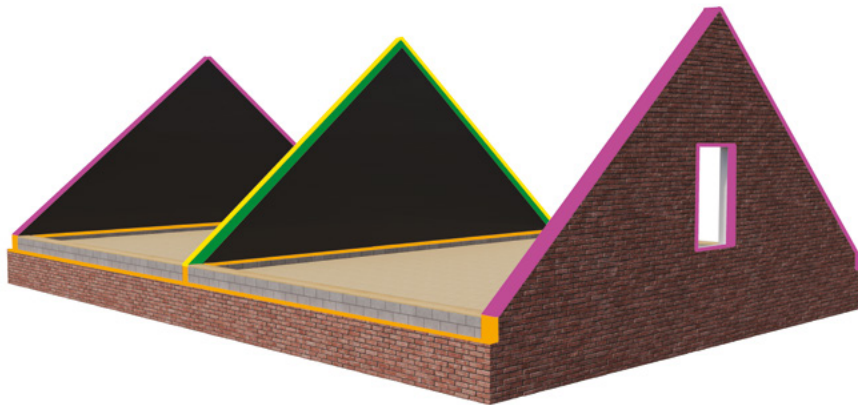
4.5 ARC Cavity Sock System



- 1 ARC soffit slab supplied and installed by Roofspace Solutions.
- 2 ARC cavity sock supplied and installed by Roofspace Solutions.
- 3 Cavity barrier at eaves by housebuilder.



- A. Wire reinforced mineral wool, packed between tile battens and profile of tiles by tiling contractors.
- B. ARC cavity sock supplied and installed by Roofspace Solutions.

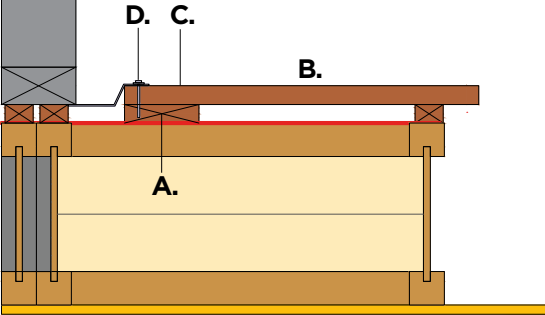


- Key**
- ARC party wall system by Roofspace Solutions
 - ARC gable system by Roofspace Solutions if requested by client.
 - Fire stopping installed by housebuilder.
 - Wire reinforced mineral wool, packed between tile battens and profile of tiles by tiling contractors.

Housebuilder Responsibilities

Ensure all cavity barriers are present and fit correctly.

5.1 Dormer to Roof Cassette Fixing



1 GRP dormers to sit over two ply i-joists and to be fixed to top flange of joist with 6 CAM plates. Structural opening of panel is dictated by dormer cheeks and is usually wider than window reveal.

2 2 x 25x100 mm timber plates fixed over i-joists when counter battens are site removed. To provide flat substrate for lead work by tilers.

- A. 25x100mm timber plate fixed to noggins within i-Roof cassette.
- B. Tile battens run over roofers membrane and under secret gutter.
- C. Membrane wrapped up and around tilers batten and returned under secret gutter with excess trimmed.
- D. Flange screwed into end of roof batten with self drilling screws with washers by roofing contractor.

Housebuilder Responsibilities

External
Completing lead work to NHBC Technical Standard February 2011. Ensure tiling works completed in accordance with dormer manufacturer's standard details and NHBC standards.

Internal
Fitting plaster catch to header panel to allow correct interaction between horizontal dormer ceiling and raked ceiling. Vapour Control Layer to be provided by housebuilder.

Ensure dormers are insulated as per dormer manufacturer installation instructions.



GRP dormers are ancillary components fitted to the RoofSpace i-Roof system in accordance with the manufacturer's accredited fixing details. GRP dormers supplied as part of the Roofspace Solutions i-Roof™ package are either CGMA or BBA approved in accordance with NHBC requirements.

Logo above remain the property and copyright of the CGMA is representative of the dormer not Roofspace Solutions i-Roof™.

5.2 GRP Chimney to Roof Cassette Fixing



1 Light weight chimney stack to be sat on 3 layers of breather membrane with 300mm skirt. Positioned central between two full length i-joist rafters and to be fixed with a minimum of 8 number 65mm screws per flank (4 per skirt side).

Aesthetic appearance of chimney to match client drawings*
*Maximum chimney dimensions 1500mm(h) x 1100mm(w) 550m(d) - maximum weight 150kg. For any site supplied chimneys outside this guidance must be confirmed to Roofspace prior to commence of final design.

Housebuilder Responsibilities

Pointing and haunching of chimney prior to installation by Roofspace Solutions (where required).

Tiling Contractor Responsibilities

Lead detailing to LSA standard details. Over lap 3ply chimney breather membrane over tiling membrane.

5.3 Roof Light Interaction



1 Chamfered 38x89 CLS timbers skew nailed to top and bottom chords of I-joists.

Housebuilder Responsibilities

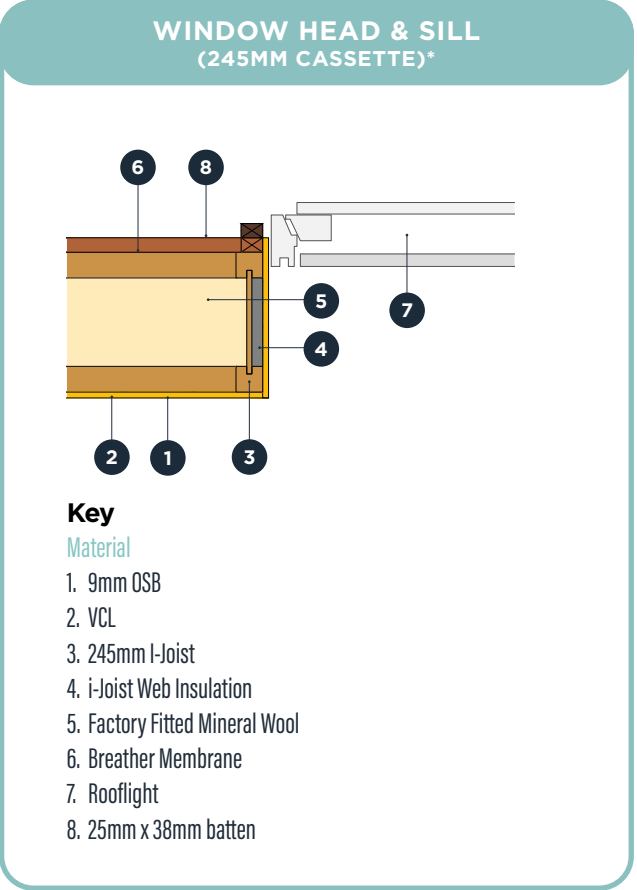
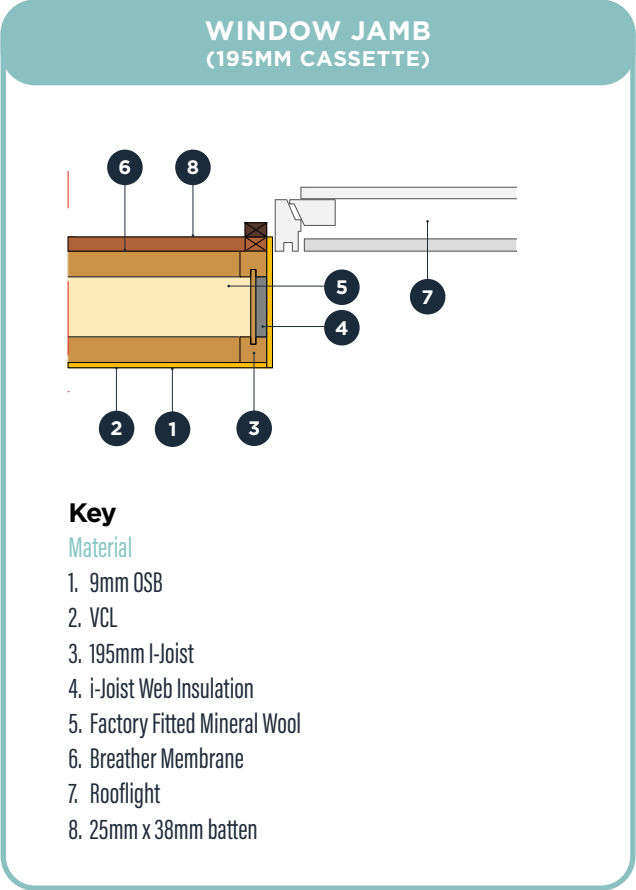
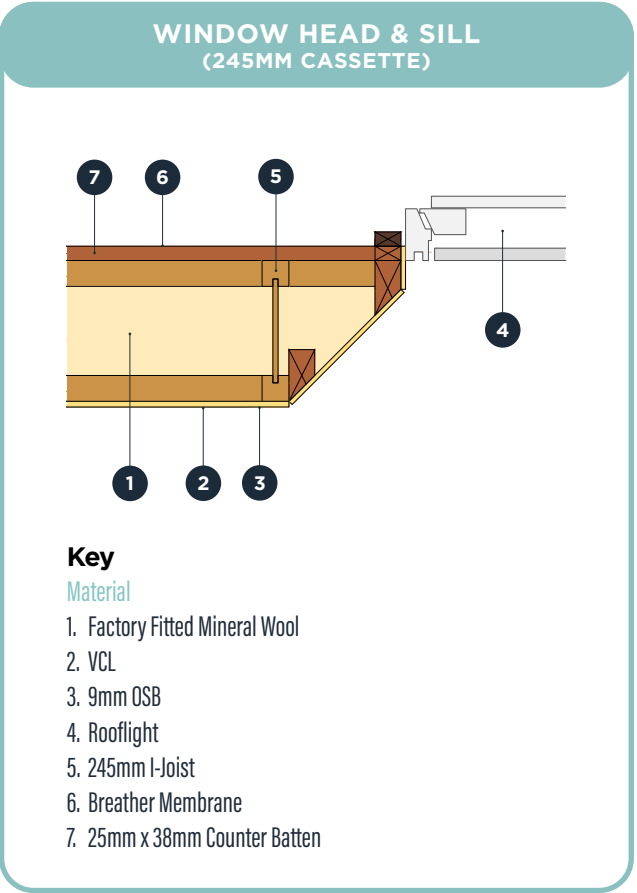
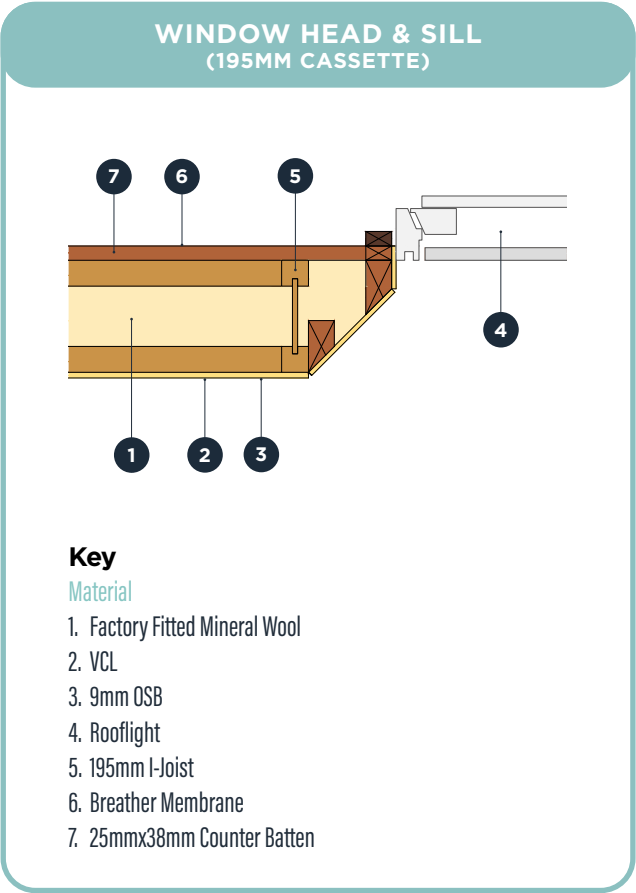
Ensure there is no cold bridging around roof light's frame.

Ensure effective vapour barrier is fixed between roof light frame and Roofspace Solutions i-Roof™ panel.

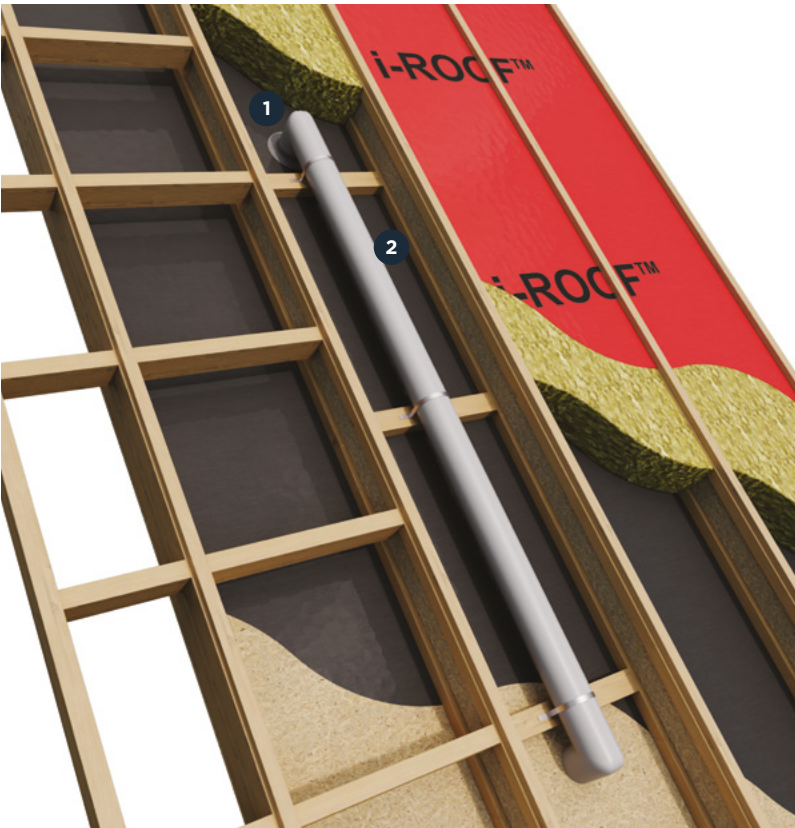


Thermal collar to be activated by pulling the release tab prior to dry lining.

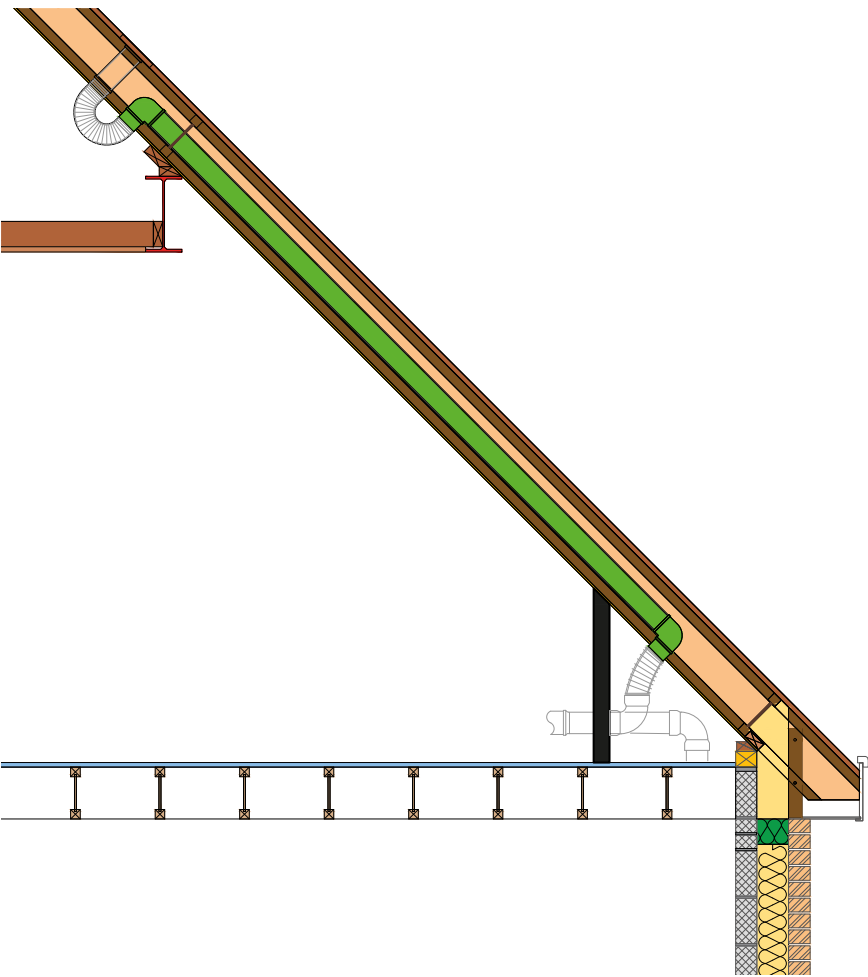
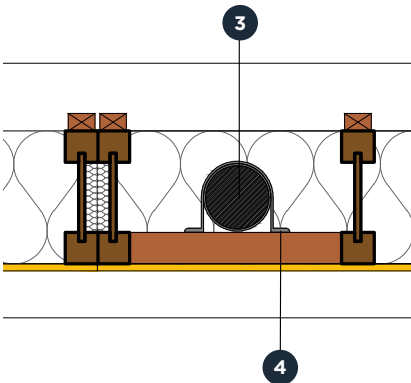
5.3 Roof Light Interaction



5.4 SVP within Roof Cassette



- 1 Pipe taped to VCL internally at top and bottom connection.
- 2 110mm diameter SVP within panels positioned as per client requirements.
- 3 SVP pipe fully wrapped insulation.
- 4 SVP clips screwed to timber batten.



Housebuilder Responsibilities

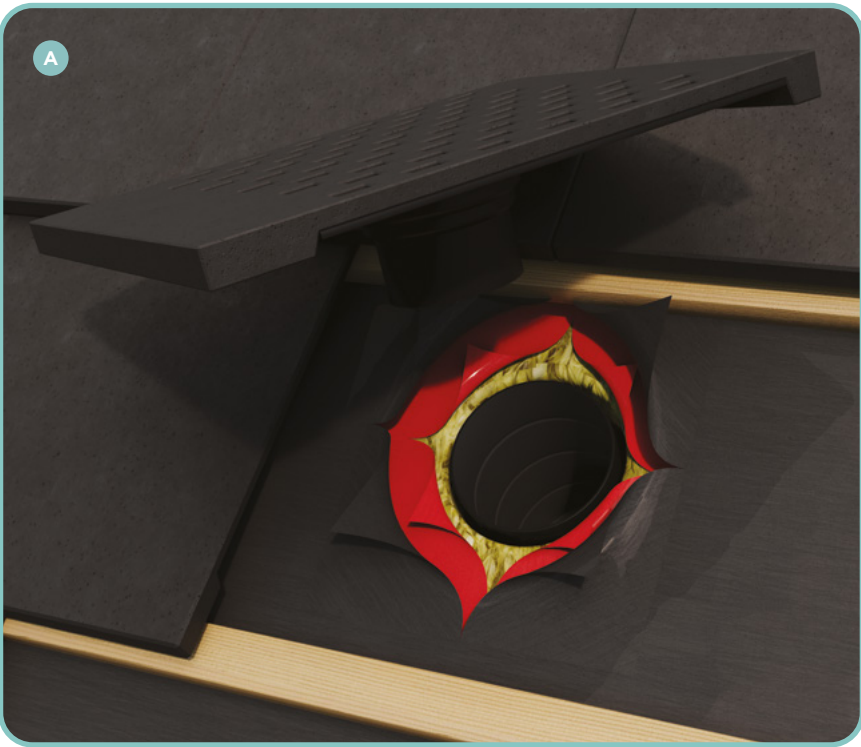
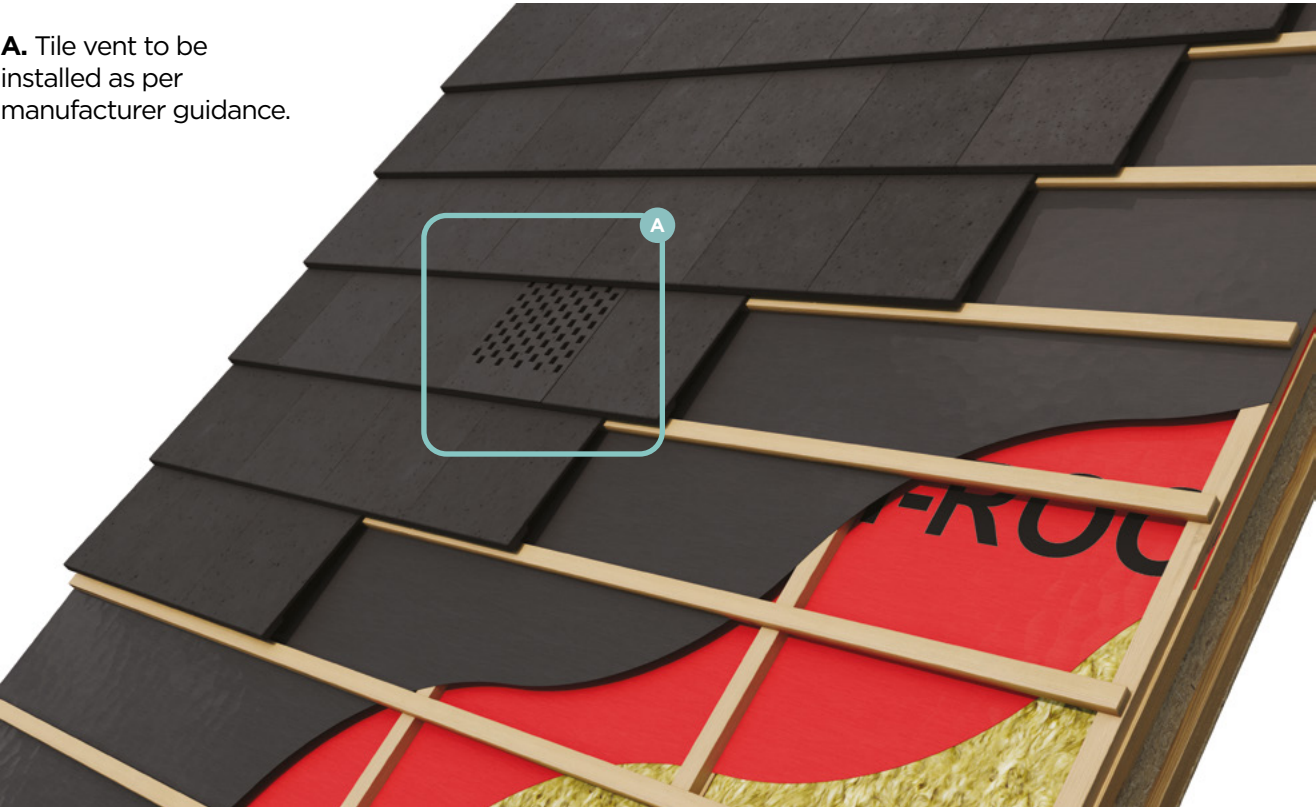
Ensure pipe is connected and sealed correctly.

Where pipe re-enters loft zone ensure flexible duct connections are taped to soil vent tile and SVP in Roofspace Solutions i-Roof™ system.

Ensure flexible duct is securely fixed to SVP and tile vent.

5.5 Vent Tile

A. Tile vent to be installed as per manufacturer guidance.



- Vent tile guidance steps**
- 1. Cut through tilers membrane and Roofspace breather membrane.
 - 2. Pull insulation aside
 - 3. Core drill through VCL membrane and OSB ensuring no rafters are affected.
 - 4. Install the Tile vent to manufacturer guidance.
 - 5. Repair the VCL membrane with VCL tape and fire foam around hole ensuring a tight seal.

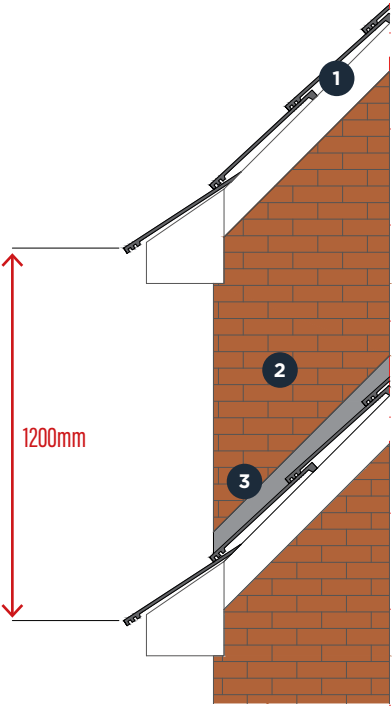
Housebuilder Responsibilities

A breathable membrane must be used.

All roof coverings to be compliant with British Standards and fitted as per manufacturer's guidance.

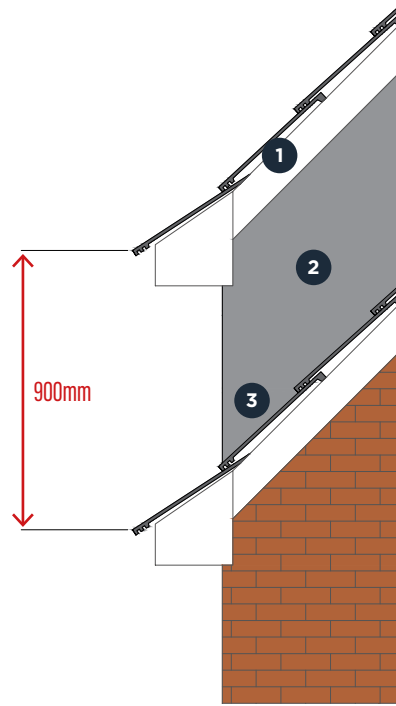
Ensure any penetration in our i-Roof cassettes are correctly sealed.

5.6 Step Completion Details



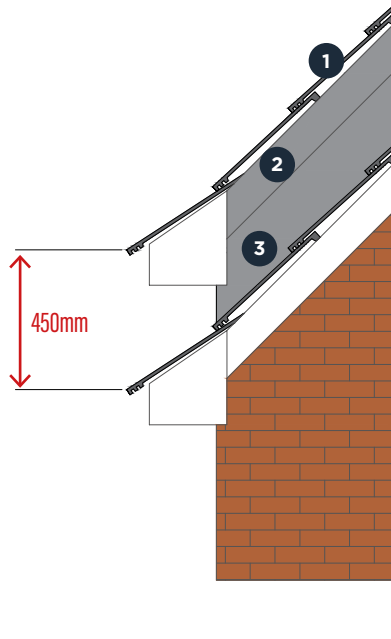
Step above 1200mm

- 1 Gable ladder detail dependant on project.
- 2 Separate installation required in order for masonry wall on higher plot to be completed.
- 3 Minimum 150mm lead upstand.



Step 1175mm - 525mm

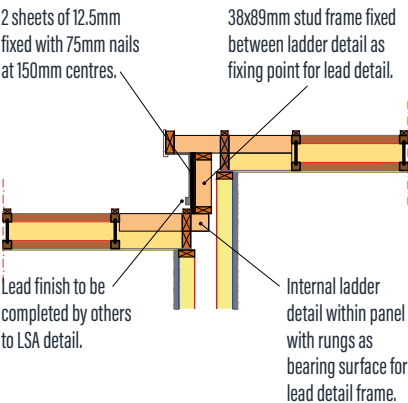
- 1 Gable ladder detail dependant on projection.
- 2 Lead cladding detail to LSA standards.
- 3 Minimum 150mm lead upstand.



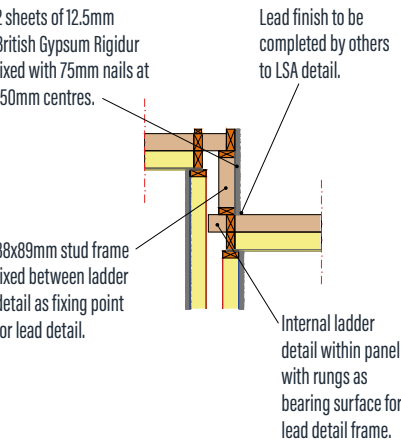
Step 450mm & below

- 1 No gable ladder projection to allow flush box end.
- 2 Lead cladding detail to LSA standards.
- 3 Minimum 150mm lead upstand.

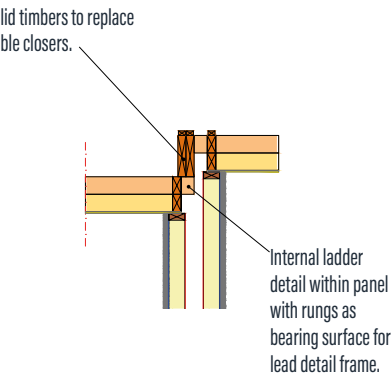
Step above 300mm gable plastic detail



Step above 300mm no gable plastic detail



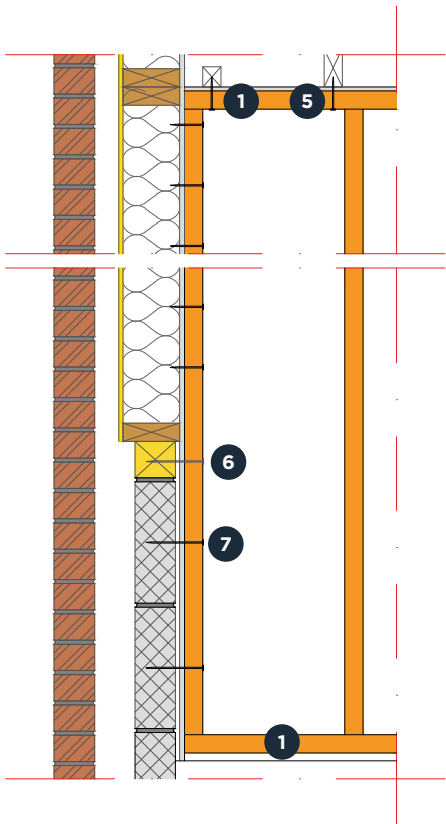
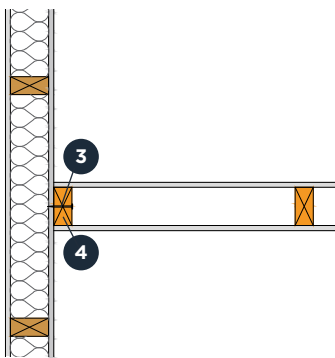
Step 300mm and below detail



5.7 Internal Load / Non-Load Bearing Walls - Fixing to Spandrel



Section A-A



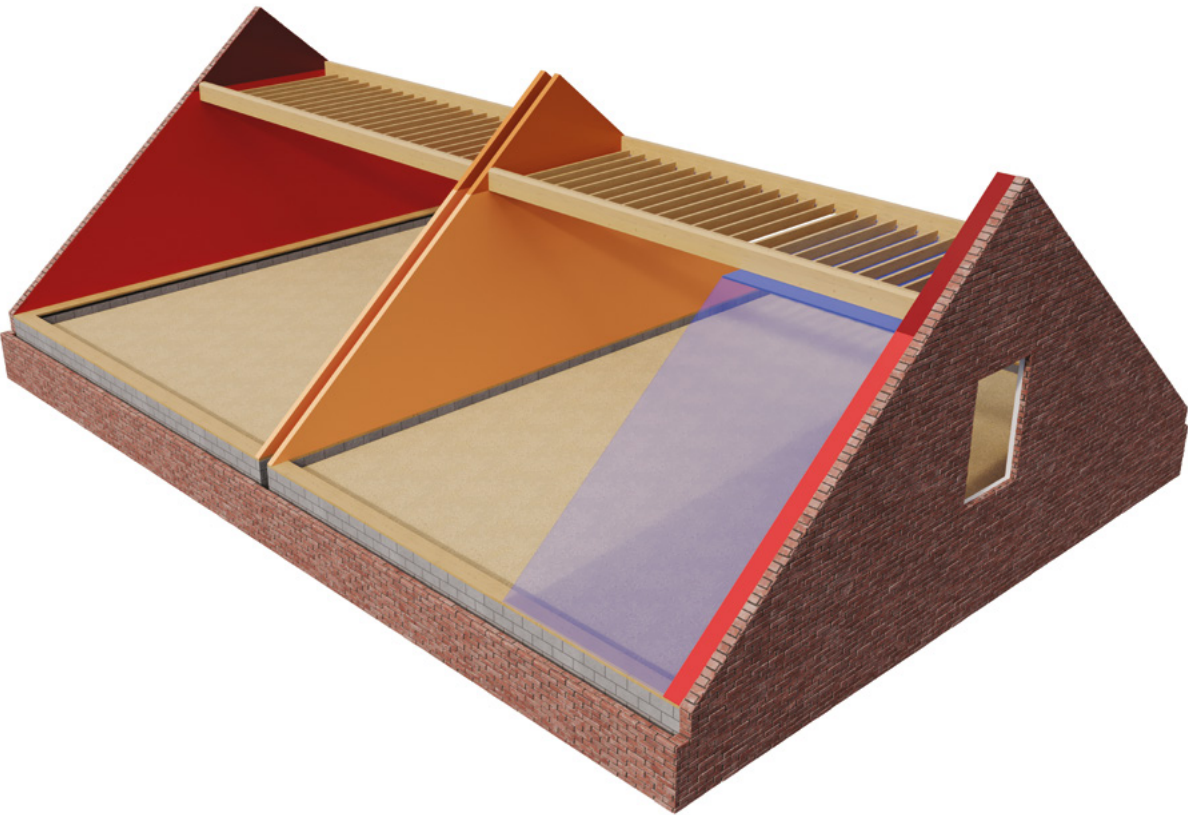
- 1 Lateral restraint of internal walls provided by fixing header and sole rail into ceiling joists and floor deck to housebuilder standard details.
- 2 Plasterboard passed through between internal wall and spandrel to provide continuous fire barrier to wall.
- 3 10 gauge screws (length dictated by internal wall stud depth) fixed through last stud into plasterboard at 150mm centres.
- 4 Internal plasterboard butted up to plasterboard on Spandrel and joint mastic sealed.
- 5 Header plate fixed through to all joists to standard house builder details. Minimum 5mm tolerance gap required.
- 6 Screw fixed into wall plate.
- 7 Screw fixed into masonry wall to standard housebuilder details.

Housebuilder Responsibilities

Ensure internal walls are set back 20mm from face of Roofspace Solutions spandrels prior to plastering.

Ensure correct fire rating is achieved after Roofspace Solutions installation through correct specification and fixing or lining products.

5.8 Plasterboard Details



Spandrel Panels

Gable Spandrel	Above Purlins: 1 Layer of Factory fitted British Gypsum 12.5mm 30 min fire rated plasterboard.	Below Purlins: 1 layer of British Gypsum 15mm 30 minute fire rated plasterboard supplied and installed by site.
Party Wall Spandrel	2 layers of British Gypsum 12.5mm 30 minute fire rated plasterboard to achieve 60 minute fire resistance. Nominal weight 20kg/m².	2 layers of British Gypsum 12.5mm 30 minute fire rated plasterboard to achieve 60 minute fire resistance supplied and installed by site*. Nominal weight 20kg/m².

Ceilings

Raked Ceiling	1 layer of British Gypsum 15mm 30 minute fire rated plasterboard supplied and installed by site.
Horizontal Ceiling	1 layer of British Gypsum 15mm 30 minute fire rated plasterboard supplied and installed by site.

*Roofspace Solutions i-Roof™ can come fitted with one layer of 30 minute fire rated plasterboard (nominal weight 10 kg/m²) factory fitted to Base Party Wall Spandrel.

Housebuilder Responsibilities

All boards fixed in accordance with manufacturers fixing details and Roofspace Solutions recommendations using correctly specified fixings.
When fitting second layer of boards ensure all joints are staggered.

5.9 Installing Services



- 1 Roofspace Solutions i-Roof™ spandrel panel.
- 2 Proprietary socket box clipped to plasterboard.
- 3 TENMAT FF130 socket box insert.
Fitting instructions:-
Step 1: Make small tight hole in insert and pass cable through.
Step 2: Insert FF130 into pre-fixed socket box on plasterboard.
Step 3: Connect wires and socket cover as normal. When installed ensure socket box insert flange is flush with plasterboard.

Housebuilder Responsibilities

Ensure any tears in VCL are taped with UPVC tape.
Ensure correct fire rating is achieved after Roofspace Solutions installation through correct specification and fixing or lining products.
Ensure all sockets are installed by a qualified Electrician.
Use de-rated cabling within stud framework, in accordance with IEE.

Recommended Socket Box Inserts

Manufacturer	Product	Robust Detail
TENMAT	FF 130	Approved Yes

5.10 Installing Gable Windows



- 1 Roofspace Solutions i-Roof™ gable spandrel with VCL to warm side of insulation.
- 2 Breather membrane cut with cavity tray tucked under by a minimum 100mm.
- 3 Timber packers fixed to internal face of aperture to ensure gable frame aligns with external brick work coursing by site.
- 4 DPC wrapped over cavity barrier and lapped with VCL. Where cavity tray is polythene sleeved the polythene wings can be lapped with the Roofspace Solutions i-Roof™ VCL.
- 5 Cavity barrier around gable window.

Housebuilder Responsibilities

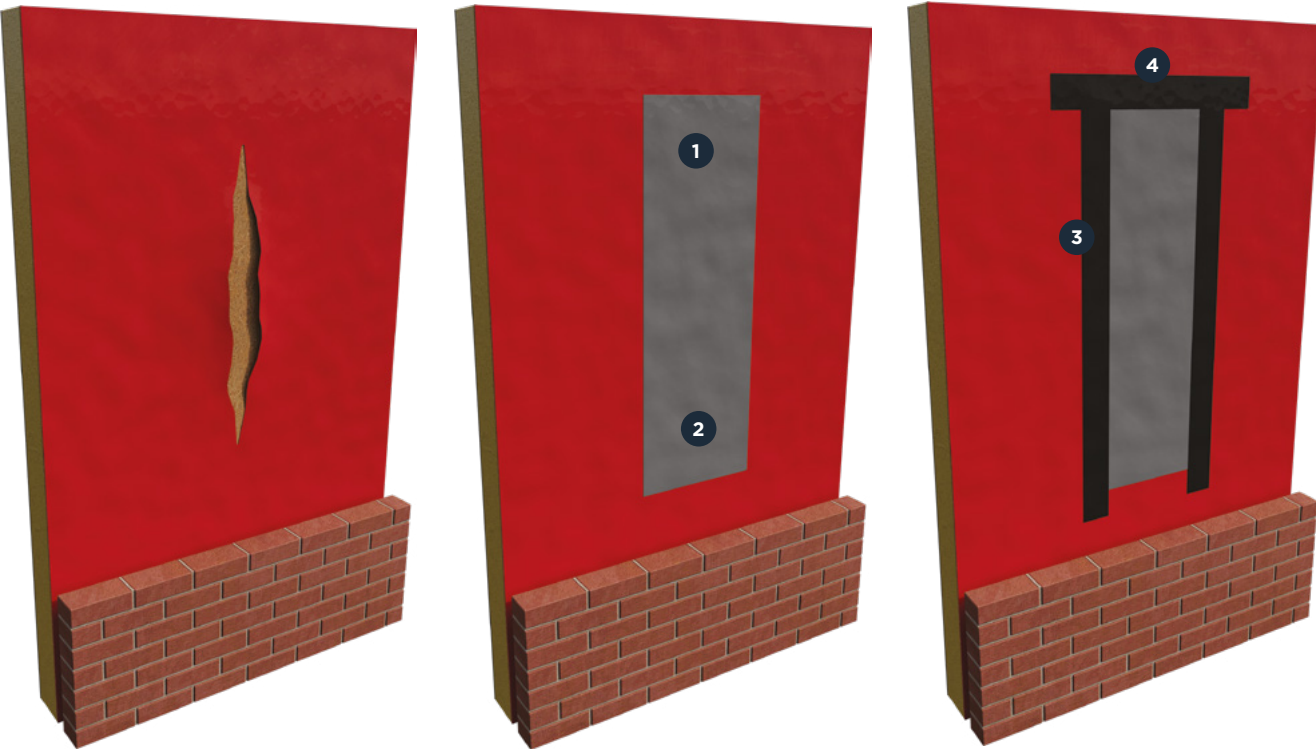
Ensure cavity tray is dressed under Roofspace Solutions i-Roof™ breather membrane.

Ensure VCL is continuous through reveal by lapping cavity barrier's sleeve wings through to Roofspace Solutions i-Roof™ VCL.

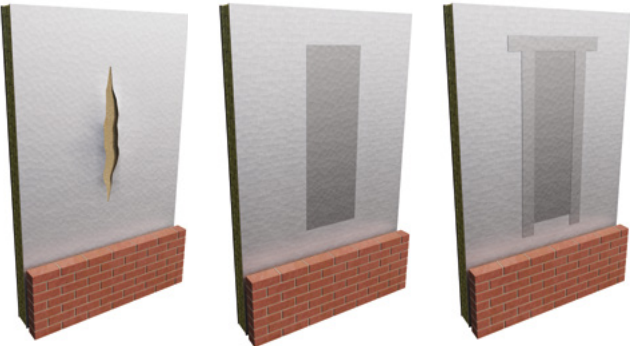
Cavity barrier around gable window to be fitted by site.

5.11 Repairing Tears to Membrane

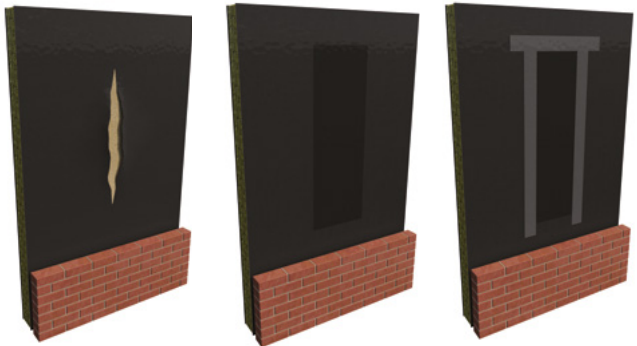
Breather membrane



Reflective membrane



VCL membrane



- 1 Membrane over tear cut neatly. Cut to extend min. 150mm either side of tear.
- 2 New layer of membrane dressed 150mm up recently cut membrane and dressed over tear. Membrane to extend 150mm past lower extent of tear.
- 3 Sides of new membrane taped to existing membrane with reinforced membrane tape.
- 4 Horizontal cut taped over with reinforced membrane tape.

DETAIL SHOWN FOR SPANDREL REPAIR. THE ROOF CASSETTE MEMBRANE IS A TEMPORARY COVERING SO SMALL TEARS DO NOT NEED REPAIRING IF ROOF TILING CAN BE CARRIED OUT IMMEDIATELY. SAME PROCESS APPLIES TO TEARS IN ROOF CASSETTES. TAPE USED FOR ROOF CASSETTE REPAIR IS STANDARD REINFORCED TAPE.



All operatives must follow the Risk Assessment and Method Statement for accessing Roof Cassettes to repair any tears to membrane.

