

#### INTRODUCTION

The details in this section have been developed for internally insulated cavity wall constructions. The introduction document "Limiting Thermal Bridging and Air Infiltration Acceptable Construction Details" provides practical information with regards to implementation of these details onsite. This guide should be read in conjunction with these details.

Section 3 is a construction method that is typically combined with sections 1, 4 & 5 and is similar thermally to section 6. It is not intended to be used as a stand alone construction in this document. As a result psi values have not been provided for the section and the  $\gamma$ -value of 0.08 should not be claimed for these details as a stand alone construction. The appropriate psi values to be used are those provided for constructions with internal insulation in sections 1, 4 & 5

The details are indicative. They focus on the issues of thermal performance and air tightness. Other issues are not considered fully. Insulation thicknesses for the main building elements have not been provided, as these depend on the thermal properties of the materials chosen, as well as on the desired U-value.

Masonry materials shown on the drawings are blocks and bricks. Other masonry materials, including precast and insitu concrete, may be substituted without loss of thermal performance or increased technical risk. The use of thermally resistant materials, beyond that depicted, will naturally increase the thermal performance of the building fabric.

All materials and workmanship are to be installed to Technical Guidance Document D 'Materials and workmanship'.

Due to the practicalities of fixing insulated dry lining to blockwork, insulation should be installed in accordance with manufacturers specifications.

All details are shown with a brick or block outer leaf for simplification. However, other types of masonry materials may be used as a substitution, such as blockwork with render, precast and in situ concrete, or tile hanging or weather boarding, without loss of thermal performance or increased technical risk. All external cladding systems should be proper materials as defined in Part D.

The suitability of full fill cavity construction depends on the site exposure and the nature of the outer leaf. Further information is given in in BR 262 "Thermal Insulation: Avoiding Risks" HomeBond Housebuilding Manual and relevant Irish Agreement Board certificates.

Cavity barriers are shown as continuous lines of dab (adhesive) on drawings. Other suitable cavity barriers may be used for different internal insulation fixing methods. For cavity barriers associated with cavity walls see Section 1 Walls –insulation in cavity.

These diagrams illustrate good practice for design and construction of interfaces only in respect to ensuring thermal performance and air barrier continuity. The guidance must be implemented with due regard to all other requirements imposed by the Building Regulations.

### (3) WALLS:- INTERNAL INSULATION

TGDL 2011

Table D3	Section 3 - Internal Insulation	Target U-Values
Junction detail identifier 2011 Edition	Junction detail	U-Values defined in tables D1, D4 & D5 for constructions combined with internal insulation
		$\psi$ -value (W/mK)
<b>Section 3</b>	<b>Details</b>	
3.01	Ground Floor - Insulation above slab	Psi values provided in tables D1, D4, & D5 for constructions combined with internal insulation
3.02	Ground Floor - Insulation below slab	
3.03	Timber Suspended Ground Floor	
3.04	Concrete Intermediate Floor	
3.05	Timber Intermediate Floor	
3.06	Masonry Separating Wall - plan	
3.07	Masonry Partition Wall - plan	
3.08	Stud Partition Wall - plan	
3.09	Eaves - Ventilated roof space	
3.10	Eaves - Unventilated roof space	
3.11	Eaves - Ventilated - Insulation between and under rafters - Dormer	
3.12	Eaves - Unventilated - Insulation between and under rafters - Dormer	
3.13	Eaves - Ventilated - Insulation between and under rafters - Pitched ceiling	
3.14	Eaves - Unventilated - Insulation between and over rafters	
3.15	Ventilated Roof - Attic Floor Level	
3.16	Gable - Insulation between and under rafters - Ventilated Rafter Void	
3.17	Gable - Insulation between and under rafters - Unventilated Rafter Void	
3.18	Gable - Insulation between and over rafters - Unventilated Rafter Void	
3.19	Flat Roof - Parapet	
3.20	Flat Roof - Eaves	
3.21	Ope Steel - Lintel	
3.22	Ope - Prestressed concrete lintels	
3.23	Ope - Jamb with proprietary cavity closer	
3.24	Ope - Concrete Forward Sill	
3.25	Ope - Concrete Back Sill	

THERMAL PERFORMANCE

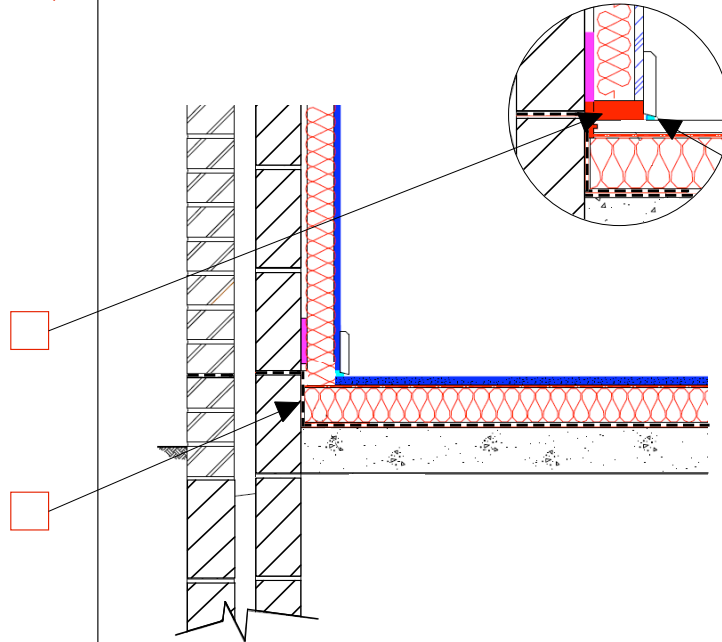
CHECKLIST  
(TICK ALL)

AIR BARRIER - CONTINUITY

CHECKLIST  
(TICK ALL)

Inject an approved insulating expanding foam between the insulated dry-lining and the floor insulation

Floor insulation to tightly abut blockwork wall



Seal gap between skirting board and floor with a flexible sealant

Seal all penetrations through air barrier using a flexible sealant

*Complying with checklist will help achieve design air permeability*

Detail applicable:- Ground-bearing floor; raft foundation; in-situ suspended ground floor slab; pre-cast suspended ground floor. Insulation above slab, with timber floor finish

OPTION  
(TICK ONE)

AIR BARRIER - OPTIONS

- Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or
- Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or
- Airtightness membrane and tapes

THERMAL PERFORMANCE

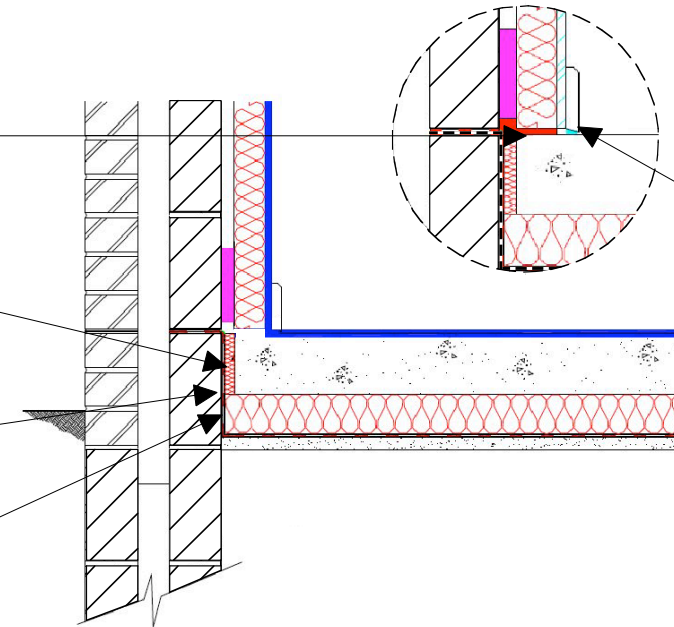
CHECKLIST (TICK ALL)

Inject insulating expanding foam between the insulated dry-lining and the floor insulation / timber floor finish

Install perimeter insulation with an R-value as per relevant detail in section I, 4 or 5

Ensure continuity between insulation below slab and insulation around perimeter

Floor insulation to tightly abut blockwork wall



AIR BARRIER - CONTINUITY

CHECKLIST (TICK ALL)

Seal gap between skirting board and floor with a flexible sealant

Seal all penetrations through air barrier using a flexible sealant

Complying with checklist will help achieve design air permeability

GENERAL NOTES

OPTION (TICK ONE)

AIR BARRIER - OPTIONS

Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or

Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or

Airtightness membrane and tapes

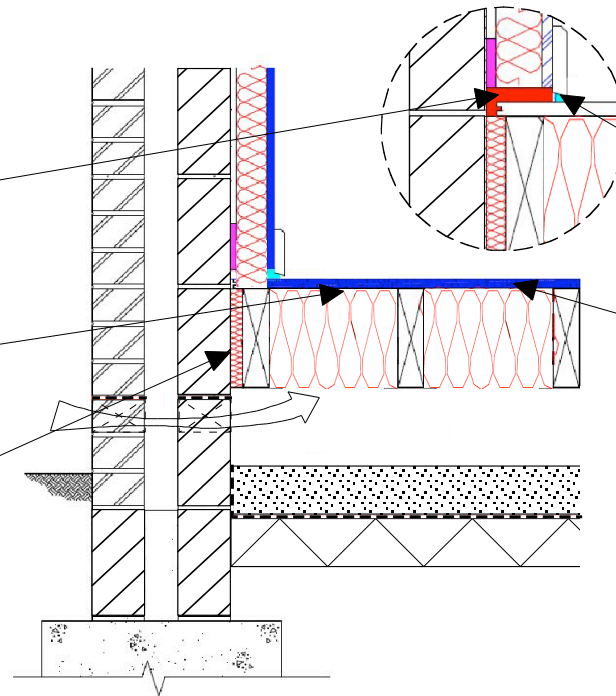
THERMAL PERFORMANCE

CHECKLIST (TICK ALL)

Inject insulating expanding foam between the insulated dry-lining and the timber floor deck

Ensure insulation is in contact with underside of timber flooring

Install perimeter insulation between the wall and the joist, or held in place with battens between joists with a minimum R-value as per relevant detail in section 1, 4 or 5



AIR BARRIER - CONTINUITY

CHECKLIST (TICK ALL)

Seal gap between skirting board and floor with a flexible sealant

Seal joints in timber floor with suitable glue. Fully support and fix any square edge joints in the decking to the joists

Seal all penetrations through air barrier using a flexible sealant

Provide similar air seals at all internal partitions

Complying with checklist will help achieve design air permeability

GENERAL NOTES

If installing compressible insulation, ensure full insulation depth between joists

Fully ventilate sub floor

OPTION (TICK ONE)

AIR BARRIER - OPTIONS

Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or

Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or

Airtightness membrane and tapes

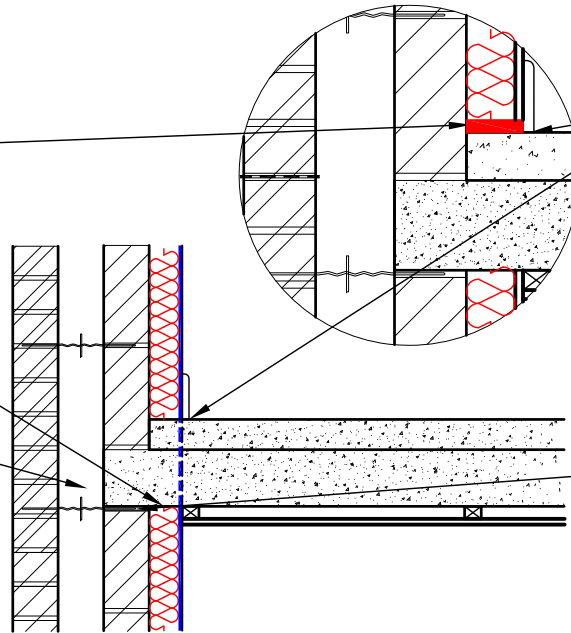
**THERMAL PERFORMANCE**

CHECKLIST  
(TICK ALL)

Inject insulating expanding foam between the insulated dry-lining and the concrete screed

Ensure insulated dry-lining tightly abuts underside of floor slab

Install insulation in cavity as per section 1, 4 or 5 as appropriate



**AIR BARRIER - CONTINUITY**

CHECKLIST  
(TICK ALL)

Seal gap between skirting board and floor and between head of insulated dry-lining and underside of floor slab with flexible sealant. (Dotted blue line is notional to depict air barrier continuity through floor zone)

Seal all penetrations through air barrier using a flexible sealant

Ensure continuous mortar bed between floor slab and top of blockwork wall.

*Complying with checklist will help achieve design air permeability*

**GENERAL NOTES**

OPTION  
(TICK ONE)

**AIR BARRIER - OPTIONS**

- Masonry inner leaf with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or
- Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or
- Airtightness membrane and tapes

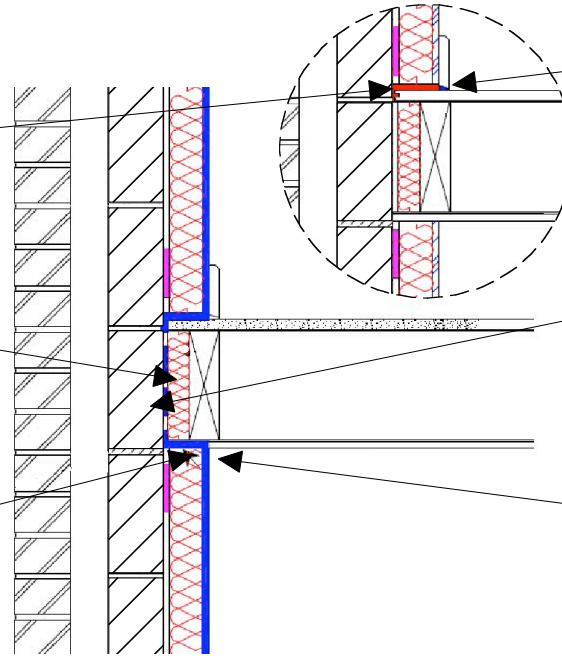
THERMAL PERFORMANCE

CHECKLIST (TICK ALL)

Inject insulating expanding foam between the insulated dry-lining and the timber floor finish

Continue wall insulation across floor abutment zone. Install insulation with a minimum R-value as per relevant detail in section 1, 4 or 5 as appropriate

Ensure insulated dry-lining tightly abuts underside of ceiling



AIR BARRIER - CONTINUITY

CHECKLIST (TICK ALL)

Seal gap between skirting board and floor using a flexible sealant

Mortar joints around built-in joists should be recessed or struck and carefully pointed with flexible sealant. Alternatively, joists may be fitted with proprietary shoes as they are installed. Seal shoe to blockwork face with a flexible sealant. (Dotted blue line is notional, to depict continuity of air barrier through floor zone)

Fix ceilings first, and seal all gaps between ceiling and masonry wall with flexible sealant.

Seal all penetrations through air barrier using a flexible sealant

Complying with checklist will help achieve design air permeability

GENERAL NOTES

Suspended timber floors may be laid in joist hangers rather than being built-in

For timber engineered joists, proprietary filler pieces must be fitted on both sides of web, between top and bottom flanges. Refer to manufacturers' details

OPTION (TICK ONE)

AIR BARRIER - OPTIONS

Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or

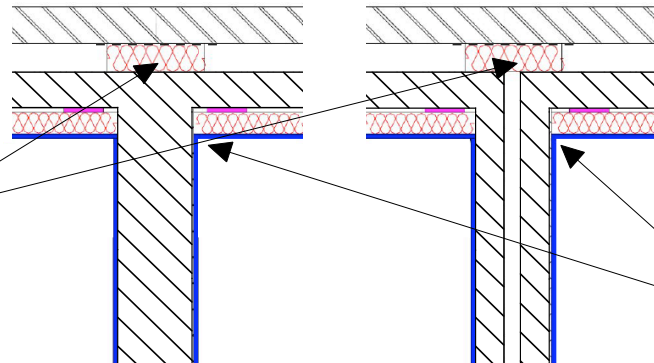
Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or

Airtightness membrane and tapes

THERMAL PERFORMANCE

CHECKLIST  
(TICK ALL)

Install insulation in cavity as per relevant detail in section 1, 4 or 5 (Use appropriate material where cavity barrier or full-fill insulation is employed)



AIR BARRIER - CONTINUITY

CHECKLIST  
(TICK ALL)



Seal all penetrations through air barrier using a flexible sealant



Fix insulated plasterboard to external wall first. Seal all gaps between board and separating wall with either adhesive or flexible sealant

Complying with checklist will help achieve design air permeability

GENERAL NOTES

See TGD-B for guidance on fire safety and TGD-E for guidance on sound insulation

Read this detail in conjunction with detail G-01, Masonry Separating Wall Head

OPTION  
(TICK ONE)

AIR BARRIER - OPTIONS



Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or



Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or



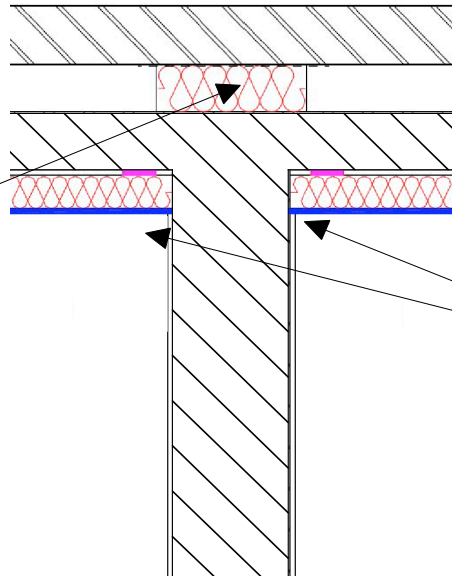
Airtightness membrane and tapes



THERMAL PERFORMANCE

CHECKLIST  
(TICK ALL)

Install insulation in cavity as per relevant detail in section 1, 4 or 5 (Use appropriate material where cavity barrier or full-fill insulation is employed)



AIR BARRIER - CONTINUITY

CHECKLIST  
(TICK ALL)



Seal all penetrations through air barrier using a flexible sealant



Fix insulated plasterboard to external wall first. Seal all gaps between board and masonry partition wall with either adhesive or flexible sealant.

Complying with checklist will help achieve design air permeability

GENERAL NOTES

Read this detail in conjunction with detail G-02, Masonry Partition Wall Head

OPTION  
(TICK ONE)

AIR BARRIER - OPTIONS



Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or



Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or

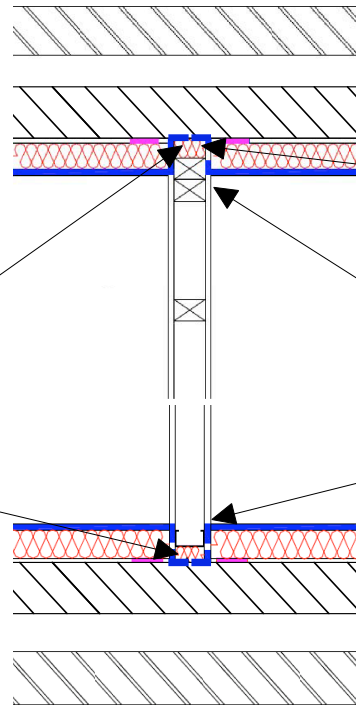


Airtightness membrane and tapes

**THERMAL PERFORMANCE**

CHECKLIST  
(TICK ALL)

Install insulation with a minimum R-value as per relevant detail in section 1, 4 or 5



Detail applicable to timber stud and metal stud partitions

**AIR BARRIER - CONTINUITY**

CHECKLIST  
(TICK ALL)

Fix partition lining first. Seal all gaps between lining and inner leaf of cavity with flexible sealant. (Dotted blue line is notional, to depict air barrier continuity through partition.)



Seal between insulated dry-lining and partition linings



Seal all penetrations through air barrier using a flexible sealant



Complying with checklist will help achieve design air permeability

**GENERAL NOTES**

Read this detail in conjunction with details G-03, Timber Stud Partition Head, or G-04, Metal Stud Partition Head as appropriate

OPTION  
(TICK ONE)

**AIR BARRIER - OPTIONS**



Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or



Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or



Airtightness membrane and tapes

THERMAL PERFORMANCE

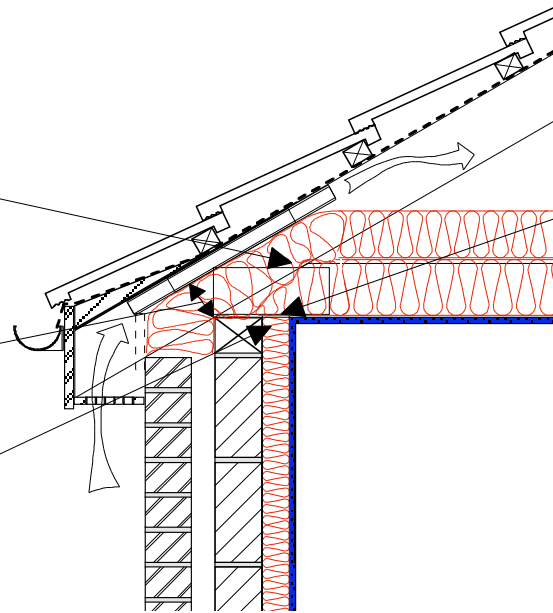
CHECKLIST (TICK ALL)

Ensure continuity of insulation throughout junction

Ensure full depth of insulation between and over joists abuts eaves insulation

Ensure gap between wall plate and proprietary eaves vent is completely filled with insulation with a minimum R-value as per relevant detail in section 1, 4 or 5

Ensure insulated dry-lining tightly abuts underside of ceiling



AIR BARRIER - CONTINUITY

CHECKLIST (TICK ALL)

Fix ceiling first, and seal all gaps between ceiling and masonry wall with either adhesive or flexible sealant

Bed wall plate on continuous mortar bed

Seal all penetrations through air barrier using a flexible sealant

Complying with checklist will help achieve design air permeability

GENERAL NOTES

Thermal performance of junction can be improved by incorporating an eaves wind barrier (plywood, OSB, softboard or other suitable material) around insulation to be sealed to connect with the ventilator strip thereby mitigating wind chill from the vent inlet in the eaves.

Use of over joist insulation is considered best practice, as it eliminates the cold bridge caused by the joist

Use a proprietary eaves ventilator to ensure ventilation in accordance with BS5250. Installation of the eaves ventilator must not prevent free water drainage below the tiling battens

Read this detail in conjunction with detail 3-15, Gable - Attic Floor Level

OPTION (TICK ONE)

AIR BARRIER - OPTIONS

Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or

Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or

Airtightness membrane and tapes

THERMAL PERFORMANCE

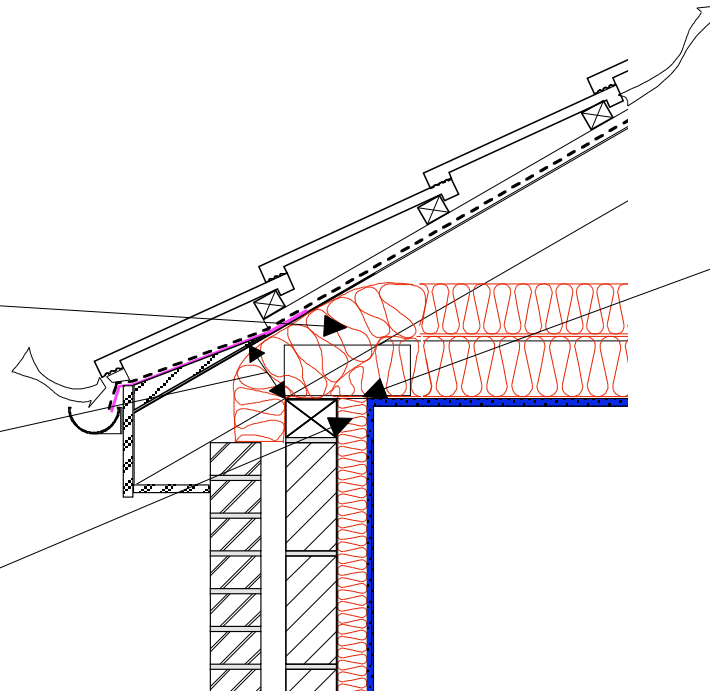
CHECKLIST (TICK ALL)

Ensure continuity of insulation throughout junction

Ensure full depth of insulation between and over joists abuts eaves insulation

Ensure gap between wall plate and proprietary eaves vent is completely filled with insulation with a minimum R-value as per relevant detail in section 1, 4 or 5

Ensure insulated dry-lining tightly abuts underside of ceiling



AIR BARRIER - CONTINUITY

CHECKLIST (TICK ALL)

Fix ceiling first, and seal all gaps between ceiling and masonry wall with either adhesive or flexible sealant

Bed wall plate on continuous mortar bed

Seal all penetrations through air barrier using a flexible sealant

Complying with checklist will help achieve design air permeability

GENERAL NOTES

Use of over joist insulation is considered best practice, as it eliminates the cold bridge caused by the joist

Use proprietary eaves ventilator to ensure ventilation in accordance with BS5250

Use vapour permeable roof underlay in strict accordance with third party certification

Eaves insulation must not hinder free water drainage below the tiling battens

Read this detail in conjunction with detail 3-15, Gable - Attic Floor Level

OPTION (TICK ONE)

AIR BARRIER - OPTIONS

Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or

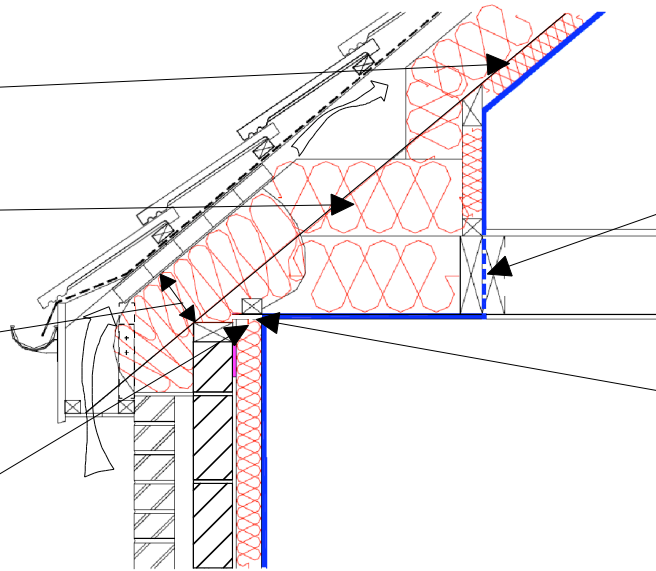
Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or

Airtightness membrane and tapes

THERMAL PERFORMANCE

CHECKLIST (TICK ALL)

- Ensure continuity of insulation throughout junction
- Ensure insulation is installed tightly between rafters and is in contact with under-rafter insulation
- Ensure full depth of insulation between and over joists abuts eaves insulation
- Ensure gap between wall plate and proprietary eaves vent is completely filled with insulation with a minimum R-value as per relevant detail in section 1, 4 or 5
- Ensure insulated dry-lining tightly abuts underside of ceiling



AIR BARRIER - CONTINUITY

CHECKLIST (TICK ALL)

- Bed wall plate on continuous mortar bed
- Install double, full depth timber nogging between floor joists, and seal between nogging, ceiling and upper stud wall with a flexible sealant. (Dotted blue line is notional, to depict air barrier continuity through noggings.)
- Fix ceiling first, and seal all gaps between ceiling and masonry wall with either adhesive or flexible sealant
- Seal all penetrations through air barrier using a flexible sealant

Complying with checklist will help achieve design air permeability

GENERAL NOTES

Thermal performance of junction can be improved by incorporating an eaves wind barrier (plywood, OSB, softboard or other suitable material) around insulation to be sealed to connect with the ventilator strip thereby mitigating wind chill from the vent inlet in the eaves.

Use a proprietary eaves ventilator to ensure ventilation in accordance with BS5250. Installation of the eaves ventilator must not prevent free water drainage below the tiling battens

If required by BS5250, use vapour control plasterboard or separate vapour control layer behind plasterboard.

Use of over joist and under rafter insulation is considered best practice, as it eliminates the cold bridge caused by the joist/rafter

Read this detail in conjunction with detail 3-16, Gable - Insulation between and under rafters - Ventilated Rafter Void

OPTION (TICK ONE)

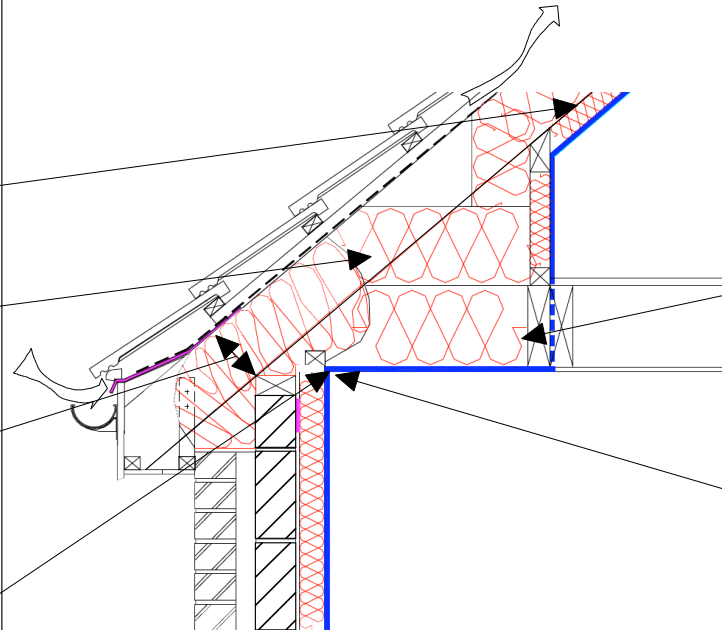
AIR BARRIER - OPTIONS

- Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or
- Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or
- Airtightness membrane and tapes

**THERMAL PERFORMANCE**

**CHECKLIST (TICK ALL)**

- Ensure continuity of insulation throughout junction
- Ensure insulation is installed tightly between rafters and is in contact with under-rafter insulation
- Ensure full depth of insulation between and over joists abuts eaves insulation
- Ensure gap between wall plate and proprietary eaves vent is completely filled with insulation with a minimum R-value as per relevant detail in section 1, 4 or 5
- Ensure insulated dry-lining tightly abuts underside of ceiling



**AIR BARRIER - CONTINUITY**

**CHECKLIST (TICK ALL)**

- Bed wall plate on continuous mortar bed
- Install double, full depth timber nogging between floor joists, and seal between nogging, ceiling and upper stud wall with a flexible sealant. (Dotted blue line is notional, to depict air barrier continuity through noggings.)
- Fix ceiling first, and seal all gaps between ceiling and masonry wall with either adhesive or flexible sealant
- Seal all penetrations through air barrier using a flexible sealant

*Complying with checklist will help achieve design air permeability*

**GENERAL NOTES**

If required by BS5250, use vapour control plasterboard or separate vapour control layer behind plasterboard.  
 Vapour permeable roof underlay to be used in strict accordance with approved third party certification  
 Use of over joist and under rafter insulation is considered best practice, as it eliminates the cold bridge caused by the joist/rafter  
 Eaves insulation must not hinder free water drainage below the tiling battens  
 Read this detail in conjunction with detail 3-17, Gable - Insulation between and under rafters - Unventilated Rafter Void

**OPTION (TICK ONE)**

**AIR BARRIER - OPTIONS**

- Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or
- Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or
- Airtightness membrane and tapes

**THERMAL PERFORMANCE**

CHECKLIST  
(TICK ALL)

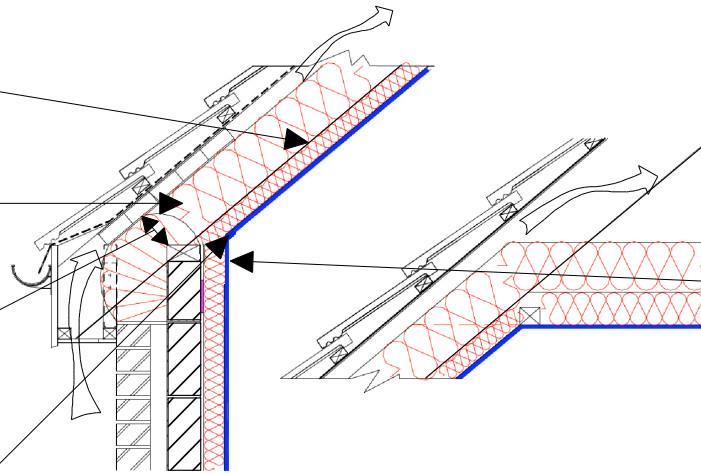
Ensure continuity of insulation throughout junction

Ensure insulation is installed tightly between rafters and is in contact with under-rafter insulation

Ensure full depth of insulation between and under rafters abuts eaves insulation

Ensure gap between wall plate and proprietary eaves vent is completely filled with insulation with a minimum R-value as per relevant detail in section 1, 4 or 5

Ensure insulated dry-lining tightly abuts underside of ceiling



**AIR BARRIER - CONTINUITY**

CHECKLIST  
(TICK ALL)

Bed wall plate on continuous mortar bed

Fix ceiling first, and seal all gaps between ceiling and masonry wall with either adhesive or flexible sealant

Seal all penetrations through air barrier using a flexible sealant

*Complying with checklist will help achieve design air permeability*

**GENERAL NOTES**

Thermal performance of junction can be improved by incorporating an eaves wind barrier (plywood, OSB, softboard or other suitable material) around insulation to be sealed to connect with the ventilator strip thereby mitigating wind chill from the vent inlet in the eaves.

Use a proprietary eaves ventilator to ensure ventilation in accordance with BS5250. Installation of the eaves ventilator must not prevent free water drainage below the tiling battens

If required by BS5250, use vapour control plasterboard or separate vapour control layer behind plasterboard.

Use of over joist and under rafter insulation is considered best practice, as it eliminates the cold bridge caused by the joist/rafter

Read this detail in conjunction with detail 3-16, Gable - Ventilated Rafter Void

OPTION  
(TICK ONE)

**AIR BARRIER - OPTIONS**

Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or

Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or

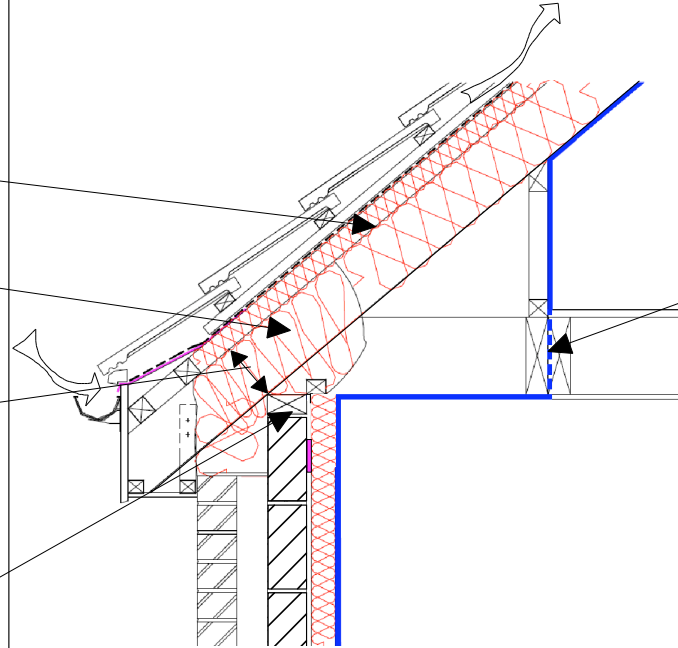
Airtightness membrane and tapes



**THERMAL PERFORMANCE**

CHECKLIST  
(TICK ALL)

- Ensure continuity of insulation throughout junction
- Ensure insulation is installed tightly between rafters and is in contact with over-rafter insulation
- Ensure full depth of insulation between and over rafters abuts eaves insulation
- Ensure gap between wall plate and proprietary eaves vent is completely filled with insulation with a minimum R-value as per relevant detail in section 1, 4 or 5
- Ensure insulated dry-lining tightly abuts underside of ceiling



**AIR BARRIER - CONTINUITY**

CHECKLIST  
(TICK ALL)

- Bed wall plate on continuous mortar bed
- Install double, full depth timber nogging between floor joists, and seal between nogging, ceiling and upper stud wall with a flexible sealant. (Dotted blue line is notional, to depict air barrier continuity through noggings.)
- Fix ceiling first, and seal all gaps between ceiling and masonry wall with either adhesive or flexible sealant
- Seal all penetrations through air barrier using a flexible sealant

*Complying with checklist will help achieve design air permeability*

**GENERAL NOTES**

- Vapour permeable roof underlay to be used in strict accordance with approved third party certification
- If required by BS5250, use vapour control plasterboard or separate vapour control layer behind plasterboard.
- Use of over rafter insulation is considered best practice, as it eliminates the cold bridge caused by the joist/rafter
- Read this detail in conjunction with detail 3-18, Gable - Insulation between and over rafters

OPTION  
(TICK ONE)

**AIR BARRIER - OPTIONS**

- Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or
- Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or
- Airtightness membrane and tapes



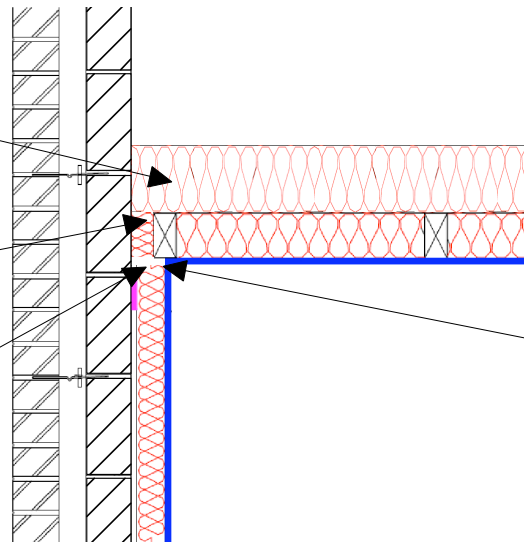
THERMAL PERFORMANCE

CHECKLIST  
(TICK ALL)

Ensure full depth of insulation between and over joists extends to inner edge of wall

Pack compressible insulation between last truss or joist, and gable wall

Ensure insulated dry-lining tightly abuts underside of ceiling



AIR BARRIER - CONTINUITY

CHECKLIST  
(TICK ALL)

Seal all penetrations through air barrier using a flexible sealant

Fix ceiling first, and seal all gaps between ceiling and masonry wall with either adhesive or flexible sealant

*Complying with checklist will help achieve design air permeability*

GENERAL NOTES

Thermal performance of junction can be improved significantly by using blockwork with a thermal conductivity of  $\leq 0.20$  W/mK in direction of heat flow in external wall at attic floor level or alternatively by running insulation of R-value  $1.5 \text{ m}^2 \text{ K/W}$  vertically up internal face of gable wall to a height of 450 mm above ceiling level

Use of over joist insulation is considered best practice, as it eliminates the cold bridge caused by the joist

Read this detail in conjunction with details 3-09, Eaves - Ventilated Attic, or 3-10, Eaves - Unventilated Attic, as appropriate

Where different block materials are being used consideration should be given to avoid cracking in plaster at the junction between the block materials

OPTION  
(TICK ONE)

AIR BARRIER - OPTIONS

Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or

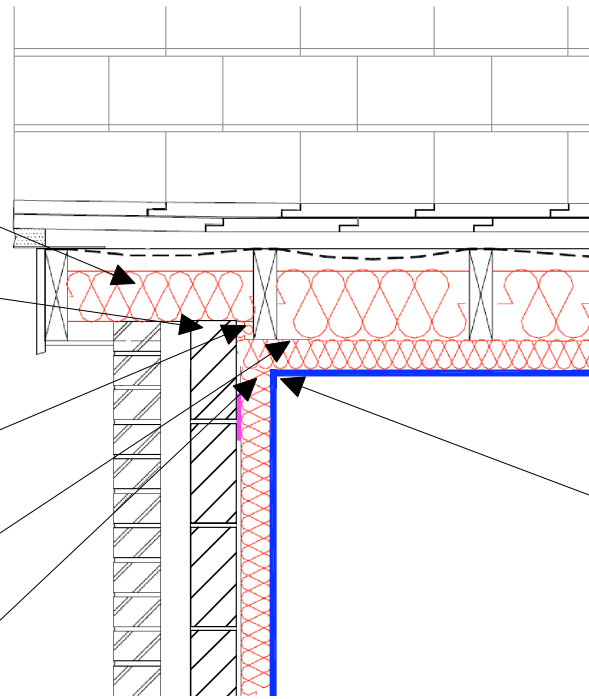
Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or

Airtightness membrane and tapes

**THERMAL PERFORMANCE**

**CHECKLIST  
(TICK ALL)**

- Fit insulation over top of wall within gable ladder. Fully fill void unless underlay requires to be draped, when 25 mm void must be maintained
- Ensure top of wall is leveled with mortar to correct pitch
- Ensure insulation continuity throughout junction
- Ensure full depth of insulation between and under rafters extends to wall. Pack gap between rafter and wall with compressible insulation
- Ensure insulation is installed tightly between rafters and is in contact with under-rafter insulation
- Ensure insulated dry-lining tightly abuts underside of ceiling



**AIR BARRIER - CONTINUITY**

**CHECKLIST  
(TICK ALL)**

- Seal all penetrations through air barrier using a flexible sealant
- Fix ceiling first, and seal all gaps between ceiling and masonry wall with either adhesive or flexible sealant

*Complying with checklist will help achieve design air permeability*

**GENERAL NOTES**

- Ensure ventilation to roof build-up in accordance with BS5250
- If required by BS5250, use vapour control plasterboard or separate vapour control layer behind plasterboard.
- Use of under rafter insulation is considered best practice, as it eliminates the cold bridge caused by the rafter
- Read this detail in conjunction with detail 3-11: Eaves - Insulation between and under rafters - Ventilated Rafter Void
- Ensure cavity is closed with insulant or proprietary cavity closer barrier

**OPTION  
(TICK ONE)**

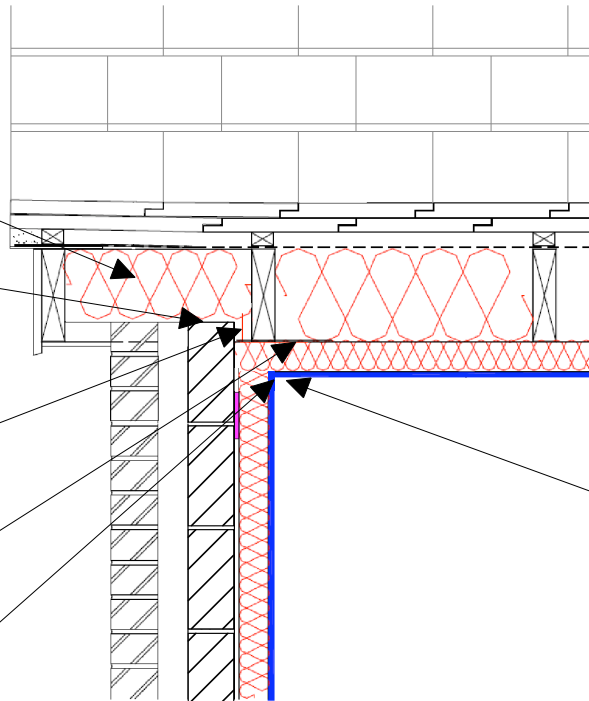
**AIR BARRIER - OPTIONS**

- Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or
- Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or
- Airtightness membrane and tapes

**THERMAL PERFORMANCE**

**CHECKLIST  
(TICK ALL)**

- Fit insulation over top of wall within gable ladder. Fully fill void unless underlay requires to be draped, when 25 mm void must be maintained
- Ensure top of wall is leveled with mortar to correct pitch
- Ensure insulation continuity throughout junction
- Ensure full depth of insulation between and under rafters extends to wall. Pack gap between rafter and wall with compressible insulation
- Ensure insulation is installed tightly between rafters and is in contact with under-rafter insulation
- Ensure insulated dry-lining tightly abuts underside of ceiling



**AIR BARRIER - CONTINUITY**

**CHECKLIST  
(TICK ALL)**

- Seal all penetrations through air barrier using a flexible sealant
- Fix ceiling first, and seal all gaps between ceiling and masonry wall with either adhesive or flexible sealant

*Complying with checklist will help achieve design air permeability*

**GENERAL NOTES**

- Vapour permeable roof underlay to be used in strict accordance with approved third party certification
- If required by BS5250, use vapour control plasterboard or separate vapour control layer behind plasterboard.
- Use of under-rafter insulation is considered best practice, as it eliminates the cold bridge caused by the rafter
- Read this detail in conjunction with detail 3-12, Eaves - Insulation between and under rafters - Unventilated Rafter Void
- Ensure cavity is closed with insulant or proprietary cavity closer barrier

**OPTION  
(TICK ONE)**

**AIR BARRIER - OPTIONS**

- Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or
- Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or
- Airtightness membrane and tapes

**THERMAL PERFORMANCE**

CHECKLIST  
(TICK ALL)

Fit insulation over top of wall within gable ladder. Fully fill void between wall head and over-rafter insulation

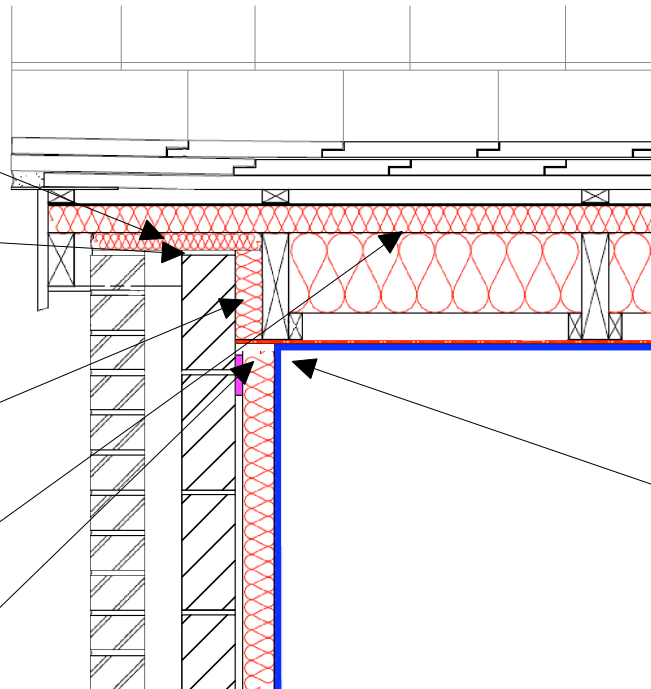
Ensure top of wall is leveled with mortar to correct pitch

Ensure insulation continuity throughout junction

Ensure full depth of insulation between and under rafters extends to wall. Pack gap between rafter and wall with compressible insulation

Ensure insulation is installed tightly between rafters and is in contact with over-rafter insulation

Ensure insulated dry-lining tightly abuts underside of ceiling



**AIR BARRIER - CONTINUITY**

CHECKLIST  
(TICK ALL)

Seal all penetrations through air barrier using a flexible sealant

Fix ceiling first, and seal all gaps between ceiling and masonry wall with either plaster, adhesive or flexible sealant

*Complying with checklist will help achieve design air permeability*

**GENERAL NOTES**

Vapour permeable roof underlay to be used in strict accordance with approved third party certification

If required by BS5250, use vapour control plasterboard or separate vapour control layer behind plasterboard.

Use of over-rafter insulation is considered best practice, as it eliminates the cold bridge caused by the rafter

Ensure bottom of gable ladder is at least 25 mm above bottom of last joist

Read this detail in conjunction with detail 3-14, Eaves - Insulation between and over rafters

Ensure cavity is closed with insulant or proprietary cavity closer barrier

OPTION  
(TICK ONE)

**AIR BARRIER - OPTIONS**

Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or

Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or

Airtightness membrane and tapes

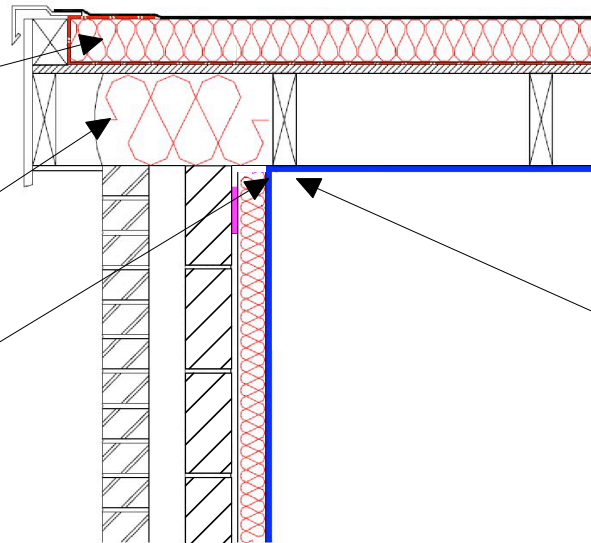
THERMAL PERFORMANCE

CHECKLIST  
(TICK ALL)

Ensure full depth of over deck insulation extends to roof edge

Tightly pack compressible insulation into void between top of wall and underside of roof deck

Ensure insulated dry-lining tightly abuts underside of ceiling



AIR BARRIER - CONTINUITY

CHECKLIST  
(TICK ALL)

Seal all penetrations through air barrier using a flexible sealant

Fix ceiling first, and seal all gaps between ceiling and masonry wall with either plaster, adhesive or flexible sealant

*Complying with checklist will help achieve design air permeability*

GENERAL NOTES

BS5250 requires vapour control layer to be installed between deck and insulation

Turn up vapour control layer at edge of roof insulation, lap with roof waterproofing layer, and seal

Use compatible materials during construction

OPTION  
(TICK ONE)

AIR BARRIER - OPTIONS

Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or

Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or

Airtightness membrane and tapes

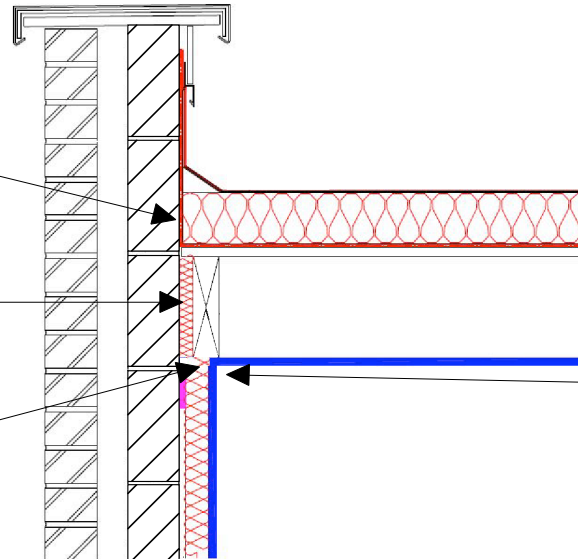
THERMAL PERFORMANCE

CHECKLIST  
(TICK ALL)

Ensure roof insulation tightly abuts inner face of parapet wall

Ensure gap between wall plate and proprietary eaves vent is completely filled with insulation with a minimum R-value as per relevant detail in section 1, 4 or 5

Ensure insulated dry-lining tightly abuts underside of ceiling



AIR BARRIER - CONTINUITY

CHECKLIST  
(TICK ALL)

Seal all penetrations through air barrier using a flexible sealant

Fix ceiling first, and seal all gaps between ceiling and masonry wall with either plaster, adhesive or flexible sealant

*Complying with checklist will help achieve design air permeability*

GENERAL NOTES

BS5250 requires vapour control layer to be installed between deck and insulation

Turn up vapour control layer at edge of roof insulation, lap with roof waterproofing layer, and seal

OPTION  
(TICK ONE)

AIR BARRIER - OPTIONS

Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or

Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or

Airtightness membrane and tapes

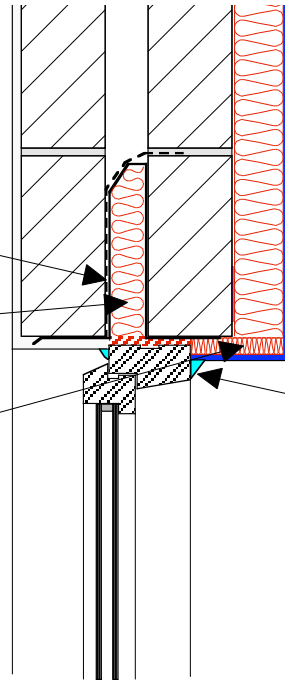
THERMAL PERFORMANCE

CHECKLIST  
(TICK ALL)

Ensure thickness of lintel material is no more than 3 mm

Ensure lintel is fully insulated and does not have a base plate

Install insulation to lintel soffit with a minimum R-value as per relevant detail in section 1, 4 or 5



AIR BARRIER - CONTINUITY

CHECKLIST  
(TICK ALL)

Seal all penetrations through air barrier using a flexible sealant

Apply flexible sealant to interface between plasterboard internal finish, and frame members

*Complying with checklist will help achieve design air permeability*

GENERAL NOTES

OPTION  
(TICK ONE)

AIR BARRIER - OPTIONS

Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or

Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or

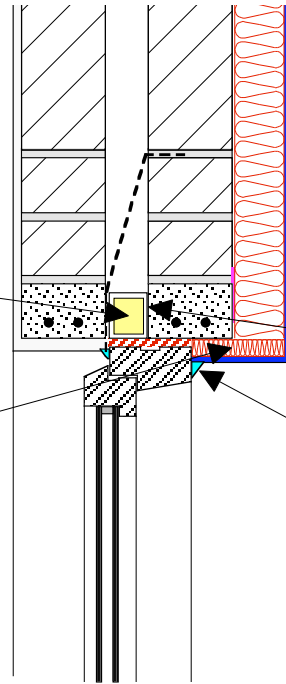
Airtightness membrane and tapes

THERMAL PERFORMANCE

CHECKLIST  
(TICK ALL)

Install proprietary cavity closer, or block of insulation, with thermal resistance path through closer having a minimum R-value as per relevant detail in section I, 4 or 5

Install insulation to lintel soffit, with minimum R-value as per relevant detail in section I, 4 or 5



AIR BARRIER - CONTINUITY

CHECKLIST  
(TICK ALL)

Seal all penetrations through air barrier using a flexible sealant

If forming air barrier to walls with blockwork inner leaf, or with scratch coat on blockwork, install a flexible sealant between cavity closer and blockwork wall

Apply flexible sealant to interface between plasterboard internal finish, and frame members

*Complying with checklist will help achieve design air permeability*

GENERAL NOTES

OPTION  
(TICK ONE)

AIR BARRIER - OPTIONS

Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or

Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or

Airtightness membrane and tapes

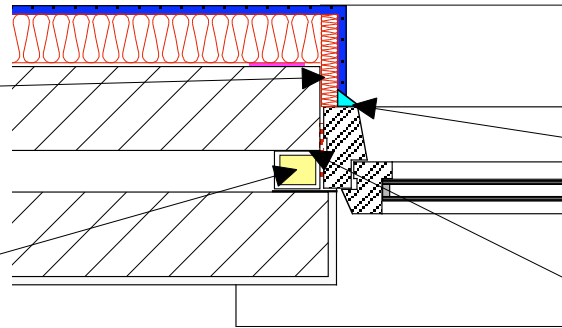


**THERMAL PERFORMANCE**

CHECKLIST  
(TICK ALL)

Install insulation to jamb, with minimum R-value as per relevant detail in section 1, 4 or 5

Install proprietary cavity closer, or block of insulation, with thermal resistance path through closer having a minimum R-value as per relevant detail in section 1, 4 or 5



**AIR BARRIER - CONTINUITY**

CHECKLIST  
(TICK ALL)

Seal all penetrations through air barrier using a flexible sealant

Apply flexible sealant to interface between plasterboard internal finish, and frame members

If forming air barrier to walls with blockwork inner leaf, or with scratch coat on blockwork, install a flexible sealant between cavity closer and blockwork wall

*Complying with checklist will help achieve design air permeability*

**GENERAL NOTES**

OPTION  
(TICK ONE)

**AIR BARRIER - OPTIONS**

Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or

Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or

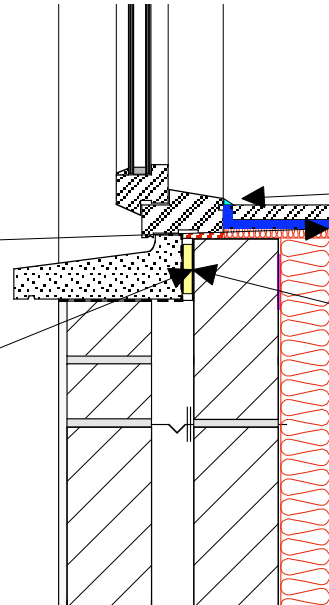
Airtightness membrane and tapes

THERMAL PERFORMANCE

CHECKLIST  
(TICK ALL)

Ensure insulated dry-lining tightly abuts underside of windowboard

Install proprietary cavity closer, or block of insulation, with thermal resistance path through closer having a minimum R-value as per relevant detail in section 1, 4 or 5



AIR BARRIER - CONTINUITY

CHECKLIST  
(TICK ALL)

- Seal all penetrations through air barrier using a flexible sealant
- Apply flexible sealant to interface between plasterboard and windowboard, and between windowboard and frame
- If forming air barrier to walls with blockwork inner leaf, or with scratch coat on blockwork, install a flexible sealant between cavity closer and blockwork wall
- Ensure air barrier continuity between window, and wall plasterboard

*Complying with checklist will help achieve design air permeability*

GENERAL NOTES

OPTION  
(TICK ONE)

AIR BARRIER - OPTIONS

- Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or
- Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or
- Airtightness membrane and tapes

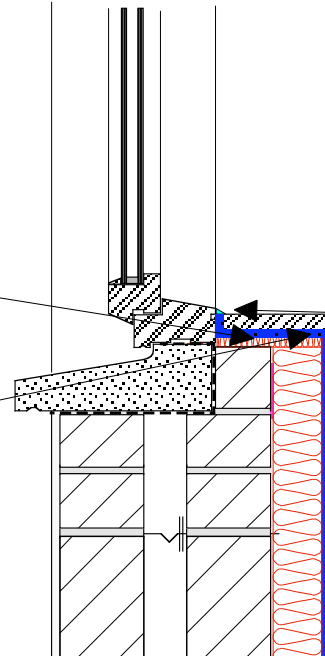
THERMAL PERFORMANCE

CHECKLIST  
(TICK ALL)

Install insulation under sill with a minimum R-value as per relevant detail in section 1, 4 or 5



Ensure insulated dry-lining tightly abuts underside of windowboard



AIR BARRIER - CONTINUITY

CHECKLIST  
(TICK ALL)



Seal all penetrations through air barrier using a flexible sealant



Apply flexible sealant to junctions between plaster/plasterboard and sill board, and between sill board and window frame



Ensure air barrier continuity between the window and the wall air barrier line

*Complying with checklist will help achieve design air permeability*

GENERAL NOTES

Keep cavities clean of mortar snots and other debris during construction

OPTION  
(TICK ONE)

AIR BARRIER - OPTIONS



Masonry inner leaf, with scratch coat applied to internal face of inner leaf, with insulated dry-lining on dabs or mechanically fixed pre-treated timber battens, or



Insulated dry-lining on dabs or battens, with continuous ribbon of adhesive tape around all openings, along top and bottom of wall, and at internal and external corners, or



Airtightness membrane and tapes