INTRODUCTION

The details in this section have been developed for internally insulated cavity wall construction. 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 shows the use of internal insulation on masonry walls and is similar thermally to Section 6. It is not a typical construction method and is provided for information purposes only. As a result psi values have not been provided for the section and the y-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 construction with internal insulation in section 6.

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 material 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 in-situ 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 manufacturer's 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, 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 construction depends on the site exposure and nature of the outer leaf. Further information is given in BR 262 "Thermal Insulation: Avoiding Risks" and relevant Irish Agrément Board certificates.

Technical Guidance Document B and Supplementary Guidance to TGD B provides guidance in relation to the provision of cavity barriers in air cavities, cavity barriers within combustible insulation layers and fire protection of structural elements.

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 Building Regulations.

The 2021 edition of the ACDs updates the drawings to take account of industry practice. The performance requirements remain the same as for the 2011 edition.
<table>
<thead>
<tr>
<th>Junction detail Identifier</th>
<th>Section 3 – Internal Insulation</th>
<th>Target U-values</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Junction detail</td>
<td>U-value = 0.18 Wm²K. Insulation between studs(^{1,3}) (roof U = 0.16) (floor U = 0.18)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ψ-value (W/mK)</td>
</tr>
</tbody>
</table>

Refer to Table D6 for Section 3 Psi values
(3) WALLS: INTERNAL INSULATION

Ground Floor - Insulation Above Slab

DETAIL 3.01, 2021

THERMAL PERFORMANCE

CHECKLIST
(TICK ALL)

Ensure continuity of wall and floor insulation

Install perimeter insulation with an R-value of 4.35 m²K/W

Floor insulation to tightly abut blockwork wall

AIR BARRIER - CONTINUITY

CHECKLIST
(TICK ALL)

Seal between wall and floor air barriers with suitable air tightness tape or a flexible sealant

Seal all penetrations through air barrier with suitable air tightness tape, grommets or flexible sealant

Complying with checklist will help achieve design air permeability and may affect a reduced testing regime.

GENERAL NOTES

An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L

Refer to Technical Guidance Document Part C for details on radon protection

OPTION
(TICK ONE)

AIR BARRIER - OPTIONS

Air tightness membrane and tapes, or

Masonry leaf with insulated dry-lining and effective vapour control layer, or

Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners
### General Notes

An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L

Refer to Technical Guidance Document Part C for details on radon protection

### Option Table

<table>
<thead>
<tr>
<th>Option (Tick One)</th>
<th>Air Barrier - Options</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Air tightness membrane and tapes, or</td>
</tr>
<tr>
<td></td>
<td>Masonry leaf with insulated dry-lining and effective vapour control layer, or</td>
</tr>
<tr>
<td></td>
<td>Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners</td>
</tr>
</tbody>
</table>

### Checklist

<table>
<thead>
<tr>
<th>Check</th>
<th>THERMAL PERFORMANCE CHECKLIST (Tick All)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ensure continuity of wall and floor insulation</td>
</tr>
<tr>
<td></td>
<td>Install perimeter insulation with an R-value of 4.35 m²K/W</td>
</tr>
<tr>
<td></td>
<td>Floor insulation to tightly abut blockwork wall</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Check</th>
<th>AIR BARRIER - CONTINUITY CHECKLIST (Tick All)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Seal between wall and floor air barriers with suitable air tightness tape or a flexible sealant</td>
</tr>
<tr>
<td></td>
<td>Seal all penetrations through air barrier with suitable air tightness tape, grommets or flexible sealant</td>
</tr>
</tbody>
</table>

*Complying with checklist will help achieve design air permeability and may affect a reduced testing regime.*
### Timber Suspended Ground Floor

#### THERMAL PERFORMANCE

**CHECKLIST (TICK ALL)**

- Ensure insulation is in contact with underside of timber flooring. Fix with netting, breather membrane or retaining batten below floor insulation.
- Install perimeter insulation between the wall and the joist, or held in pace with battens between joists with a minimum R-value of 4.35 m²K/W.

#### AIR BARRIER - CONTINUITY

**CHECKLIST (TICK ALL)**

- Seal between wall and floor air barriers with suitable air tightness tape or 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 with suitable air tightness tape, grommets or flexible sealant.
- Provide similar air seals at all internal partitions.

#### AIR BARRIER - OPTIONS

- Air tightness membrane and tapes, or
- Masonry leaf with insulated dry-lining and effective vapour control layer, or
- Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners.

### GENERAL NOTES

An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L.

Refer to Technical Guidance Document Part C for details on sub-floor ventilation.
### THERMAL PERFORMANCE

**CHECKLIST**

(TICK ALL)

Continue wall insulation across floor abutment zone. Install insulation with a minimum R-value of 4.35 m²K/W

### AIR BARRIER - CONTINUITY

**CHECKLIST**

(TICK ALL)

Seal between wall air barriers with suitable air tightness tape or mortar joints around built-in joists should be carefully pointed with flexible sealant or joists may be fitted with proprietary shoes as they are installed. Seal shoe to blockwork face with a flexible sealant

Seal all penetrations through air barrier with suitable air tightness tape, grommets or flexible sealant

Note: Dotted blue line is notional, to depict continuity of air barrier through floor

*Complying with checklist will help achieve design air permeability and may effect a reduced testing regime.*

### GENERAL NOTES

Timber floor joist may be laid in joists 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

Refer to Technical Guidance Document B and Supplementary Guidance to TGD B for guidance on cavity barriers and fire protection of structures

An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L

### OPTION

**CHECKLIST**

(TICK ONE)

Air tightness membrane and tapes, or

Masonry leaf with insulated dry-lining and effective vapour control layer, or

Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners
Insulation to separating wall/party wall to be taken one meter in from external wall

Install insulation in cavity. (Use appropriate material where cavity barrier is required).

Seal all penetrations through air barrier with suitable air tightness tape, grommets or flexible sealant

Seal between wall and floor air barriers with suitable air tightness tape or a flexible sealant.

Complying with checklist will help achieve design air permeability and may effect a reduced testing regime.

Refer to Technical Guidance Document B and Supplementary Guidance to TGD B for guidance on cavity barriers and fire protection of structures

Refer to Technical Guidance Document E for guidance on sound insulation

An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L

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

Air tightness membrane and tapes, or

Masonry leaf with insulated dry-lining and effective vapour control layer, or

Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners.
<table>
<thead>
<tr>
<th>THERMAL PERFORMANCE CHECKLIST (TICK ALL)</th>
<th>AIR BARRIER - CONTINUITY CHECKLIST (TICK ALL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Install insulation in cavity. (Refer to section 6 detail for solid walls.)</td>
<td>Ensure continuity of air barrier through partition wall (Dotted blue line is notional, to depict air barrier continuity through partition)</td>
</tr>
<tr>
<td></td>
<td>Seal all penetrations through air barrier with suitable air tightness tape, grommets or flexible sealant</td>
</tr>
</tbody>
</table>

**GENERAL NOTES**
An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L

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

**OPTION (TICK ONE) AIR BARRIER - OPTIONS**

- Air tightness membrane and tapes, or
- Masonry leaf with insulated dry-lining and effective vapour control layer, or
  - Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners
### General Notes

An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L

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 tightness membrane and tapes, or

Masonry leaf with insulated dry-lining and effective vapour control layer, or

Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners

### AIR BARRIER - CONTINUITY

(Tick All)

- Seal between wall and floor air barriers with suitable air tightness tape or a flexible sealant
- Maintain continuity of air barrier behind stud partition wall
- Seal all penetrations through air barrier with suitable air tightness tape, grommets or flexible sealant

Complying with checklist will help achieve design air permeability and may affect a reduced testing regime.

### AIR BARRIER - OPTIONS

- None

### Thermal Performance

<table>
<thead>
<tr>
<th>Checklist (Tick All)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintain continuity of air barrier behind stud partition wall</td>
</tr>
<tr>
<td>Seal all penetrations through air barrier with suitable air tightness tape, grommets or flexible sealant</td>
</tr>
</tbody>
</table>

Complying with checklist will help achieve design air permeability and may affect a reduced testing regime.
**(3) WALLS: INTERNAL INSULATION**

**Eaves - Ventilated Attic**

<table>
<thead>
<tr>
<th>THERMAL PERFORMANCE CHECKLIST (TICK ALL)</th>
<th>AIR BARRIER - CONTINUITY CHECKLIST (TICK ALL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure gap between wall plate and proprietary eaves vent is completely filled with insulation having a minimum R-value per relevant detail in section 6</td>
<td>Seal between wall and ceiling air barriers with suitable air tightness tape or a flexible sealant</td>
</tr>
<tr>
<td>Ensure continuity of insulation throughout junction</td>
<td>Seal all penetrations through air barriers with suitable air tightness tape, grommets or a flexible sealant</td>
</tr>
<tr>
<td>Ensure full depth of insulation between and over joists abuts eaves insulation</td>
<td></td>
</tr>
<tr>
<td>Ensure wall insulation or cavity barrier, as appropriate, tightly abuts underside of ceiling joist</td>
<td></td>
</tr>
</tbody>
</table>

**GENERAL NOTES**

Thermal performance of junction can be improved by incorporating an eaves wind barrier (plywood, OSB, softboard or other suitable material)

Use of over-joist insulation eliminates the cold bridge caused by the joist

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

An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L

Refer to Technical Guidance Document B and Supplementary Guidance to TGD B for guidance on cavity barriers and fire protection of structures

Read this detail in conjunction with detail 3.15, Gable - Attic Floor Level

**OPTION (TICK ONE) AIR BARRIER - OPTIONS**

- Air tightness membrane and tapes, or
- Masonry leaf with insulated dry-lining and effective vapour control layer, or
- Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners

Complying with checklist will help achieve design air permeability and may effect a reduced testing regime.
Ensure continuity of Insulation throughout junction

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

Ensure wall insulation or cavity barrier, as appropriate, tightly abuts underside of ceiling joist

Ensure gap between wall plate and vapour permeable underlay is completely filled with insulation having a minimum R-value per relevant detail in section 6

Seal between wall and ceiling air barriers with suitable air tightness tape or a flexible sealant

Seal all penetrations through air barriers with suitable air tightness tape, grommets or a flexible sealant

Complying with checklist will help achieve design air permeability and may effect a reduced testing regime.

Air tightness membrane and tapes, or

Masonry leaf with insulated dry-lining and effective vapour control layer, or

Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners.
### Eaves - Insulation Between and Under Rafters
#### Ventilated Rafter Void - Dormer

**THERMAL PERFORMANCE**

- Ensure insulation is installed tightly between rafters and is in contact with under-rafter insulation
- Ensure gap between wall plate and proprietary eaves vent is completely filled with insulation having a minimum R-value per relevant detail in section 6
- Ensure full depth of insulation between and over joists abuts eaves insulation
- Ensure continuity of Insulation throughout junction
- Ensure wall insulation or cavity barrier, as appropriate, tightly abuts underside of ceiling joist

**AIR BARRIER - CONTINUITY**

- Seal between wall and ceiling air barriers with suitable air tightness tape or a flexible sealant
- Full-depth nogging installed between ceiling joists to carry air barrier through ceiling zone, sealed to air barrier in roof with flexible sealant or airtight tape
- Seal all penetrations through air barriers with suitable air tightness tape, grommets or a flexible sealant

**GENERAL NOTES**

Thermal performance of junction can be improved by incorporating an eaves wind barrier (plywood, OSB, softboard or other suitable material)

Use of over and under-joist/rafter insulation eliminates the cold bridge caused by joist/rafter

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

An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L

Refer to Technical Guidance Document B and Supplementary Guidance to TGD B for guidance on cavity barriers and fire protection of structures

Read this detail in conjunction with detail 3.16, Gable - Insulation Between and Under Rafters - Ventilated Rafter Void

**OPTION**

- Air tightness membrane and tapes, or
- Masonry leaf with insulated dry-lining and effective vapour control layer, or
- Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners

**AIR BARRIER - OPTIONS**

- Seal between wall and ceiling air barriers with suitable air tightness tape or a flexible sealant
- Full-depth nogging installed between ceiling joists to carry air barrier through ceiling zone, sealed to air barrier in roof with flexible sealant or airtight tape
- Seal all penetrations through air barriers with suitable air tightness tape, grommets or a flexible sealant

Complying with checklist will help achieve design air permeability and may effect a reduced testing regime.
### THERMAL PERFORMANCE

**CHECKLIST (TICK ALL)**

- Ensure insulation is installed tightly between rafters and is in contact with under-rafter insulation
- Ensure gap between wall plate and vapour permeable underlay is completely filled with insulation having a minimum R-value per relevant detail in section 6
- Ensure continuity of Insulation throughout junction
- Ensure full depth of insulation between and over joists abuts eaves insulation
- Ensure wall insulation or cavity barrier, as appropriate, tightly abuts underside of ceiling joist

### AIR BARRIER - CONTINUITY

**CHECKLIST (TICK ALL)**

- Seal between wall and ceiling air barriers with suitable air tightness tape or a flexible sealant
- Full-depth nogging installed between ceiling joists to carry air barrier through ceiling zone, sealed to air barrier in roof with flexible sealant or airtight tape
- Seal all penetrations through air barriers with suitable air tightness tape, grommets or a flexible sealant

### GENERAL NOTES

- Vapour permeable roof underlay to be used in strict accordance with approved third party certification
- Use of over-joists and under-rafter insulation eliminates the cold bridge caused by joist/rafter
- Eaves insulation must not hinder free water drainage below tiling battens
- An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L
- Refer to Technical Guidance Document B and Supplementary Guidance to TGD B for guidance on cavity barriers and fire protection of structures
- Read this detail in conjunction with detail 3.17, Gable - Insulation Between and Under Rafters - Unventilated Rafter Void

### AIR BARRIER - OPTIONS

**OPTION (TICK ONE)**

- Air tightness membrane and tapes, or
- Masonry leaf with insulated dry-lining and effective vapour control layer, or
- Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners
**THERMAL PERFORMANCE CHECKLIST (TICK ALL)**

- Ensure insulation is installed tightly between rafters and is in contact with under-rafter insulation
- Ensure continuity of Insulation throughout junction
- 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 having a minimum R-value per relevant detail in section 6
- Ensure wall insulation or cavity barrier, as appropriate, tightly abuts underside of ceiling insulation

**AIR BARRIER - CONTINUITY CHECKLIST (TICK ALL)**

- Seal between wall and ceiling air barriers with suitable air tightness tape or a flexible sealant
- Seal all penetrations through air barriers with suitable air tightness tape, grommets or a flexible sealant

**GENERAL NOTES**

Use proprietary eaves ventilator to ensure ventilation in accordance with Technical Guidance Document F. Installation of the eaves ventilator must not prevent free water drainage below the tiling battens.

- Thermal performance of junction can be improved by incorporating an eaves wind barrier (plywood, OSB, softboard or other suitable material)
- Use of over under-joist/rafter insulation eliminates the cold bridge caused by the joist/rafter
- Refer to Technical Guidance Document B and Supplementary Guidance to TGDB for guidance on cavity barriers and fire protection of structures
- An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L
- Read this detail in conjunction with detail 3.16, Gable - Ventilation Rafter Void

**OPTION (TICK ONE) **

**AIR BARRIER - OPTIONS**

- Air tightness membrane and tapes, or
- Masonry leaf with insulated dry-lining and effective vapour control layer, or
- Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners
### (3) WALLS: INTERNAL INSULATION

**Eaves - Insulation Between and Over Rafters - Unventilated Rafter Void - Dormer**

#### THERMAL PERFORMANCE

**CHECKLIST (TICK ALL)**

1. Ensure insulation is installed tightly between rafters and is in contact with over-rafter insulation.
2. Ensure gap between wall plate and vapour permeable underlay is completely filled with insulation having a minimum R-value per relevant detail in section 6.
3. Ensure full depth of insulation between and over joists abuts eaves insulation.
4. Ensure continuity of Insulation throughout junction.
5. Ensure wall insulation or cavity barrier, as appropriate, tightly abuts underside of ceiling joist.

#### AIR BARRIER - CONTINUITY

**CHECKLIST (TICK ALL)**

- Seal between wall and ceiling air barriers with suitable air tightness tape or a flexible sealant.
- Full-depth nogging installed between ceiling joists to carry air barrier through ceiling zone, sealed to air barrier in roof with flexible sealant or airtight tape.
- Seal all penetrations through air barriers with suitable air tightness tape, grommets or a flexible sealant.

*Complying with checklist will help achieve design air permeability and may effect a reduced testing regime.*

#### GENERAL NOTES

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

The use of over-rafter insulation eliminates the cold bridge caused by the rafter.

An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L.

Refer to Technical Guidance Document B and Supplementary Guidance to TGD B for guidance on cavity barriers and fire protection of structures.

Read this detail in conjunction with detail 3.18, Gable - Insulation Between and Over Rafters.

#### OPTION (TICK ONE)

**AIR BARRIER - OPTIONS**

- Air tightness membrane and tapes, or
- Masonry leaf with insulated dry-lining and effective vapour control layer, or
- Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners.

---

**DETAIL 3.14, 2021**
### Walls: Internal Insulation

**Ventilated Roof - Attic Floor Level**

<table>
<thead>
<tr>
<th>THERMAL PERFORMANCE CHECKLIST (TICK ALL)</th>
<th>AIR BARRIER - CONTINUITY CHECKLIST (TICK ALL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure full depth of insulation between and over joists extends to inner leaf of wall</td>
<td>Seal between wall and ceiling air barriers with suitable air tightness tape or a flexible sealant</td>
</tr>
<tr>
<td>Compressible insulation between last truss or joist, and gable wall</td>
<td>Seal all penetrations through air barriers with suitable air tightness tape, grommets or a flexible sealant</td>
</tr>
<tr>
<td>Ensure wall insulation or cavity barrier, as appropriate, tightly abuts underside of ceiling joist</td>
<td></td>
</tr>
</tbody>
</table>

**General Notes**

The use of over-joist insulation eliminates the cold bridge caused by the joist.

Refer to Technical Guidance Document B and Supplementary Guidance to TGD B for guidance on cavity barriers and fire protection of structures.

An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L.

Read this detail in conjunction with detail 3.09, Eaves - Ventilated Attic, or 3.10 Eaves - Unventilated Attic, as appropriate.

**Option (Tick one) | Air Barrier - Options**

- [ ] Air tightness membrane and tapes, or
- [ ] Masonry leaf with insulated dry-lining and effective vapour control layer, or
- [ ] Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners.

Complying with checklist will help achieve design air permeability and may affect a reduced testing regime.
### Gable - Insulation Between and Under Rafters - Ventilated Rafter Void

#### THERMAL PERFORMANCE

**CHECKLIST (TICK ALL)**

- Fit insulation over top of wall within gable ladder.
- Maintain 50 mm ventilated void above top of insulation.
- Ensure insulation continuity throughout junction.
- Ensure top of wall is levelled with mortar to correct pitch.
- Pack gap between rafter and wall with insulation.
- Ensure wall insulation or cavity barrier, as appropriate, tightly abuts underside of ceiling insulation.
- Ensure insulation is installed tightly between rafters and is in contact with under-rafter insulation.

#### GENERAL NOTES

- Use a proprietary eaves ventilator to ensure ventilation in accordance with Technical Guidance Document F. Installation of the eaves ventilator must not prevent free water drainage below the tiling battens.
- Use of under-rafter insulation eliminates the cold bridge caused by the rafter.
- An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L.
- Refer to Technical Guidance Document B and Supplementary Guidance to TGD B for guidance on cavity barriers and fire protection of structures.
- Read this detail in conjunction with detail 3.11, Eaves - Insulation Between and Under Rafters - Ventilated Rafter Void.

#### AIR BARRIER - OPTIONS

- Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners.
- Masonry leaf with insulated dry-lining and effective vapour control layer, or
- Air tightness membrane and tapes, or

#### AIR BARRIER - CONTINUITY

**CHECKLIST (TICK ALL)**

- Seal between wall and ceiling air barriers with suitable air tightness tape or a flexible sealant.
- Seal all penetrations through air barriers with suitable air tightness tape, grommets or a flexible sealant.

*Complying with checklist will help achieve design air permeability and may effect a reduced testing regime.*

---

**DETAIL 3.16, 2021**
### Gable - Insulation Between and Under Rafters - Unventilated Rafter Void

**THERMAL PERFORMANCE**

**CHECKLIST (TICK ALL)**

- Fully fill gable ladder with insulation over top of wall
- Ensure insulation continuity throughout junction
- Ensure top of wall is levelled with mortar to correct pitch
- Pack gap between rafter and wall with insulation
- Ensure wall insulation or cavity barrier, as appropriate, tightly abuts underside of ceiling insulation
- Ensure insulation is installed tightly between rafters and is in contact with under-rafter insulation

**AIR BARRIER - CONTINUITY**

**CHECKLIST (TICK ALL)**

- Seal between wall and ceiling air barriers with suitable air tightness tape or a flexible sealant
- Seal all penetrations through air barriers with suitable air tightness tape, grommets or a flexible sealant

*Complying with checklist will help achieve design air permeability and may effect a reduced testing regime.*

### GENERAL NOTES

- Use of under rafter insulation eliminates the cold bridge caused by the rafter
- Vapour permeable roof underlay to be used in accordance with approved third party certification
- An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L
- Refer to Technical Guidance Document B and Supplementary Guidance to TGD B for guidance on cavity barriers and fire protection of structures
- Refer to Technical Guidance Document B and Supplementary Guidance to TGD B for guidance on cavity barriers and fire protection of structures
- Read this detail in conjunction with detail 3.12, Eaves - Insulation Between and Under Rafters - Unventilated Rafter Void

### AIR BARRIER - OPTIONS

**OPTION (TICK ONE)**

- Air tightness membrane and tapes, or
- Masonry leaf with insulated dry-lining and effective vapour control layer, or
- Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners
Fit insulation over top of wall within gable ladder. Fully fill void between wall head and over-rafter insulation.

Ensure top of wall is levelled with mortar to correct pitch.

Ensure insulation continuity throughout junction.

Pack gap between rafter and wall with insulation.

Ensure wall insulation or cavity barrier, as appropriate, tightly abuts underside of ceiling insulation.

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

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

Use of over-rafter insulation eliminates the cold bridge caused by the rafter.

An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L.

Refer to Technical Guidance Document B and Supplementary Guidance to TGD B for guidance on cavity barriers and fire protection of structures.

Read this detail in conjunction with detail 3.14, Eaves - Insulation Between and Over Rafters - Unventilated Rafter Void.

Complying with checklist will help achieve design air permeability and may effect a reduced testing regime.

Option (Tick One)

Air tightness membrane and tapes, or

Masonry leaf with insulated dry-lining and effective vapour control layer, or

Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners.
### THERMAL PERFORMANCE

**CHECKLIST (TICK ALL)**

- Ensure full depth of over deck insulation extends to roof edge
- Fully fill void between top of wall and underside of roof deck with insulation
- Ensure wall insulation or cavity barrier, as appropriate, tightly abuts underside of ceiling insulation

### GENERAL NOTES

- BS 5250:2011 + A1:2016 provides for a high performance vapour barrier to be laid above the deck, turned up at perimeter of the insulation and sealed to weathering membrane
- Refer to Technical Guidance Document B and Supplementary Guidance to TGD B for guidance on cavity barriers and fire protection of structures
- An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L
- Use compatible materials during construction

### AIR BARRIER - CONTINUITY

**CHECKLIST (TICK ALL)**

- Seal between wall and ceiling air barriers with suitable air tightness tape or a flexible sealant
- Seal all penetrations through air barriers with suitable air tightness tape, grommets or a flexible sealant

**Complying with checklist will help achieve design air permeability and may affect a reduced testing regime.**

### AIR BARRIER - OPTIONS

**OPTION (TICK ONE)**

- Air tightness membrane and tapes, or
- Masonry leaf with insulated dry-lining and effective vapour control layer, or
- Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners
### THERMAL PERFORMANCE

#### CHECKLIST (TICK ALL)

- Ensure roof insulation tightly abuts inner face of parapet wall
- Ensure gap between wall plate and roof deck is completely filled with insulation having a minimum R-value per relevant detail in section 6
- Ensure wall insulation or cavity barrier, as appropriate, tightly abuts underside of ceiling joist

### AIR BARRIER - CONTINUITY

#### CHECKLIST (TICK ALL)

- Seal between wall and ceiling air barriers with suitable air tightness tape or a flexible sealant
- Seal all penetrations through air barriers with suitable air tightness tape, grommets or a flexible sealant

### GENERAL NOTES

BS 5250:2011 + A1:2016 provides for a high performance vapour barrier to be laid above the deck, turned up at the perimeter of the insulation and sealed to the weathering membrane.

An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L.

Refer to Technical Guidance Document B and Supplementary Guidance to TGD B for guidance on cavity barriers and fire protection of structures.

### OPTION (TICK ONE)

#### AIR BARRIER - OPTIONS

- Air tightness membrane and tapes, or
- Masonry leaf with insulated dry-lining and effective vapour control layer, or
- Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners
### THERMAL PERFORMANCE CHECKLIST (TICK ALL)

- Ensure the thickness of the lintel material is no more than 3mm
- Install insulation to lintel soffit with a minimum R-value of 0.65m²K/W
- Ensure lintel is fully insulated and does not have a base plate

### GENERAL NOTES

An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L

### AIR BARRIER - CONTINUITY CHECKLIST (TICK ALL)

- Seal all penetrations through air barriers with suitable air tightness tape, grommets or a flexible sealant
- Ensure air barrier continuity between the window/door frame and the wall air barrier
- Seal between wall air barriers with suitable air tightness tape

### AIR BARRIER - OPTIONS

- Air tightness membrane and tapes, or
- Masonry leaf with insulated dry-lining and effective vapour control layer, or
  Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners
**THERMAL PERFORMANCE CHECKLIST (TICK ALL)**

- Install insulation to lintel soffit with a minimum R-value of 0.65m²K/W
- Install proprietary cavity closer, or block of insulation, with thermal resistance path through closer having a minimum R-value of 2.4m²K/W

**AIR BARRIER - CONTINUITY CHECKLIST (TICK ALL)**

- Seal all penetrations through air barriers with suitable air tightness tape, grommets or a flexible sealant
- Ensure air barrier continuity between the window/door frame and the wall air barrier
- Seal between wall air barriers with suitable air tightness tape

**GENERAL NOTES**

An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L

**OPTION (TICK ONE)**

- Air tightness membrane and tapes, or
- Masonry leaf with insulated dry-lining and effective vapour control layer, or
- Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners

*Complying with checklist will help achieve design air permeability and may effect a reduced testing regime.*
### THERMAL PERFORMANCE
**CHECKLIST (TICK ALL)**

- Install insulation to jamb reveal with a minimum R-value of 0.65m²K/W
- Install proprietary cavity closer, or block of insulation, with thermal resistance path through closer having a minimum R-value of 2.4m²K/W

### AIR BARRIER - CONTINUITY
**CHECKLIST (TICK ALL)**

- Seal all penetrations through air barriers with suitable air tightness tape, grommets or a flexible sealant
- Ensure air barrier continuity between the window/door frame and the wall air barrier
- Seal between wall air barriers with suitable air tightness tape

### GENERAL NOTES
An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L

### OPTION (TICK ONE)

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</tbody>
</table>
(3) WALLS: INTERNAL INSULATION

Ope - Concrete Forward Sill

DETAIL 3.24, 2021

THERMAL PERFORMANCE CHECKLIST
(TICK ALL)

Ensure insulation tightly abuts underside of window board

Install insulation under sill board with a minimum R-value of 0.65m²K/W

AIR BARRIER - CONTINUITY CHECKLIST
(TICK ALL)

Seal all penetrations through air barriers with suitable air tightness tape, grommets or a flexible sealant

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

Seal between wall air barriers with suitable air tightness tape

GENERAL NOTES

An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L

OPTION (TICK ONE)

AIR BARRIER - OPTIONS

Air tightness membrane and tapes, or

Masonry leaf with insulated dry-lining and effective vapour control layer, or

Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners

Complying with checklist will help achieve design air permeability and may effect a reduced testing regime.
(3) WALLS: INTERNAL INSULATION

THERMAL PERFORMANCE CHECKLIST
(TICK ALL)

Ensure insulation tightly abuts underside of window board

Install insulation under sill board with a minimum R-value of 0.65m²K/W

AIR BARRIER - CONTINUITY CHECKLIST
(TICK ALL)

☐ Seal all penetrations through air barriers with suitable air tightness tape, grommets or a flexible sealant

☐ Ensure air barrier continuity between the window frame and the wall air barrier

☐ Seal between wall air barriers with suitable air tightness tape

Complying with checklist will help achieve design air permeability and may effect a reduced testing regime.

GENERAL NOTES

An effective vapour control layer, which may serve as an air barrier, should be provided on the warm side of the insulation in accordance with Appendix B of Technical Guidance Document L

OPTION
(TICK ONE)

☐ Air tightness membrane and tapes, or

☐ Masonry leaf with insulated dry-lining and effective vapour control layer, or

Insulated plasterboard system sealed to achieve appropriate air tightness, bedded on dabs and mechanically fixed, with continuous ribbon of adhesive around all openings, along top and bottom of wall and at internal and external corners