INTRODUCTION

The details in this section have been developed for a range of externally insulated single leaf masonry/cavity block 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. Details are given for the junctions with a range of roof, ground floor and internal floor types, as well as at external wall open.

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 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.”

All details are shown with a thin coat render system for simplification. However, a range of cladding may be used without any loss of thermal performance. All external cladding systems should be proper materials as defined in Part D. It is recommended that insulating and cladding components are part of a system to ensure compatibility.

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.

ACCEPTABLE CONSTRUCTION DETAILS - SECTION (2)

2-01 Ground Floor - Insulation above slab
2-02 Ground Floor - Insulation below slab
2-03 Timber Suspended Ground Floor
2-04 Concrete Intermediate Floor
2-05 Masonry Separating Wall - plan
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2-08 Eaves - Ventilated roof space
2-09 Eaves - Unventilated roof space
2-10 Eaves - Ventilated - Insulation between and under rafters - Dormer
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2-12 Eaves - Ventilated - Insulation between and under rafters - Pitched ceiling
2-13 Eaves - Unventilated - Insulation between and over rafters
2-14 Ventilated Roof - Attic Floor Level
2-15 Gable - Insulation between and under rafters - Ventilated Rafter Void
2-16 Gable - Insulation between and under rafters - Unventilated Rafter Void
2-17 Gable - Insulation between and over rafters - Unventilated Rafter Void
2-18 Flat Roof - Eaves
2-19 Flat Roof - Parapet
2-20 Ope - Lintel
2-21 Ope - Jamb

The details in this section should also be read with Section G: General details

G-01 Masonry Separating Wall Head - Section
G-02 Masonry Partition Head - Section
G-03 Timber Stud Partition Head - Section
G-04 Metal Stud Partition Head - Section

To limit the air permeability to a reasonable level as defined in Part L of the Building Regulations a high degree of attention to detail, good workmanship and appropriate site procedures are required. For further information see introductory document.
(2) WALLS:- EXTERNAL INSULATION
SOLID MASONARY/CAVITY BLOCK WALLS

Ground Floor - Insulation above slab

THERMAL PERFORMANCE
CHECKLIST
(TICK ALL)

- Floor insulation to tightly abut blockwork wall
- Ensure wall insulation is installed at least 200 mm below top of floor insulation
- Ensure block with a maximum Thermal Conductivity of .20 W/mK in the direction of heat flow is used and that block is suitable for use in foundations

Complying with checklist qualifies builder to claim 1/4 value in Table 3 of IP 1/06 and Table K1 of DEAP 2006

AIR BARRIER - CONTINUITY
CHECKLIST
(TICK ALL)

- Seal between wall and floor air barrier with a flexible sealant OR 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
The wall insulation installed below the wall DPC must be fit for purpose with regards to water absorption
Material on top of floor insulation can be screed or floating floor
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
Where blocks with a maximum Thermal Conductivity of .20 W/mK are being used consideration should be given to avoid cracking in plaster due to drying of mortar

AIR BARRIER - OPTIONS
(TICK ONE)

- Wet-finish plaster coat, or
- Masonry wall with scratch coat, and finished with plasterboard, or
- Plasterboard 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

ACCEPTABLE CONSTRUCTION DETAIL
Ground Floor - Insulation above slab
(2) WALLS: EXTERNAL INSULATION
SOLID MASONARY/CAVITY BLOCK WALLS

<table>
<thead>
<tr>
<th>THERMAL PERFORMANCE</th>
<th>AIR BARRIER - CONTINUITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHECKLIST (TICK ALL)</td>
<td>CHECKLIST (TICK ALL)</td>
</tr>
<tr>
<td>Floor insulation to tightly abut blockwork wall</td>
<td>Seal between wall and floor air barrier with a flexible sealant OR seal gap between skirting board and floor with a flexible sealant</td>
</tr>
<tr>
<td>Ensure wall insulation is installed at least 600 mm below ground level R-value 4.0 m² K/W</td>
<td>Seal all penetrations through air barrier using a flexible sealant</td>
</tr>
</tbody>
</table>

Complying with checklist qualifies builder to claim 1/4 value in Table 3 of IP 1/06 and Table K1 of DEAP 2006

Complying with checklist will help achieve design air permeability

GENERAL NOTES
The wall insulation installed below the wall DPC must be fit for purpose with regards to water absorption

Material on top of floor insulation can be screed or floating floor

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

<table>
<thead>
<tr>
<th>OPTION (TICK ONE)</th>
<th>AIR BARRIER - OPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wet-finish plaster coat, or</td>
</tr>
<tr>
<td></td>
<td>Masonry wall with scratch coat, and finished with plasterboard, or</td>
</tr>
<tr>
<td></td>
<td>Plasterboard 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</td>
</tr>
<tr>
<td></td>
<td>Airtightness membrane and tapes</td>
</tr>
</tbody>
</table>

ACCEPTABLE CONSTRUCTION DETAIL

Ground Floor - Insulation above slab
## General Notes

The wall insulation installed below the wall DPC must be fit for purpose with regards to water absorption.

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

Where blocks with a maximum Thermal Conductivity of .20 W/mK are being used consideration should be given to avoid cracking in plaster due to drying of mortar.

## Acceptable Construction Detail

### Ground Floor - Insulation below slab

#### General Notes

The wall insulation installed below the wall DPC must be fit for purpose with regards to water absorption.

- **Detail applicable:** Ground-bearing floor; raft foundation; pre-cast suspended ground floor. Insulation above slab, with timber floor finish.
- **Where blocks with a maximum Thermal Conductivity of .20 W/mK are being used:** Consideration should be given to avoid cracking in plaster due to drying of mortar.

#### Acceptable Construction Detail

**Ground Floor - Insulation below slab**

<table>
<thead>
<tr>
<th>THERMAL PERFORMANCE CHECKLIST (TICK ALL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor insulation to tightly abut blockwork wall</td>
</tr>
<tr>
<td>Install perimeter insulation with a min. R-value of 0.75 m²K/W</td>
</tr>
<tr>
<td>Ensure wall insulation is installed at least 200 mm below top of floor</td>
</tr>
<tr>
<td>Ensure block with a maximum Thermal Conductivity of .20 W/mK in the direction of heat flow is used and that block is suitable for use in foundations</td>
</tr>
</tbody>
</table>

*Complying with checklist qualifies builder to claim value in Table 3 of IP 1/06 and Table K1 of DEAP 2006*

<table>
<thead>
<tr>
<th>AIR BARRIER - CONTINUITY CHECKLIST (TICK ALL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seal between wall and floor air barrier with a flexible sealant OR seal gap between skirting board and floor with a flexible sealant</td>
</tr>
<tr>
<td>Seal all penetrations through air barrier using a flexible sealant</td>
</tr>
</tbody>
</table>

*Complying with checklist will help achieve design air permeability*

<table>
<thead>
<tr>
<th>AIR BARRIER - OPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet-finish plaster coat, or</td>
</tr>
<tr>
<td>Masonry wall with scratch coat, and finished with plasterboard, or</td>
</tr>
<tr>
<td>Plasterboard 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</td>
</tr>
<tr>
<td>Airtightness membrane and tapes</td>
</tr>
</tbody>
</table>
**GENERAL NOTES**

The wall insulation installed below the wall DPC must be fit for purpose with regards to water absorption

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

**AIR BARRIER - OPTIONS**

- Wet-finish plaster coat, or
- Masonry wall with scratch coat, and finished with plasterboard, or
- Plasterboard 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

**ACCEPTABLE CONSTRUCTION DETAIL**

Ground Floor - Insulation below slab
**GENERAL NOTES**

Support joists on tassel walls to avoid building-in to external walls

The wall insulation installed below the wall DPC must be fit for purpose with regards to water absorption

If injecting expanding foam between joist and external wall, take care to avoid bridging wall DPC

Where blocks with a maximum Thermal Conductivity of .20 W/mK are being used consideration should be given to avoid cracking in plaster due to drying of mortar

---

**ACCEPTABLE CONSTRUCTION DETAIL**

---

**THERMAL PERFORMANCE CHECKLIST (TICK ALL)**

- Pack gap between floor joist and blockwork wall with compressible insulation if over 25 mm; otherwise inject insulating expanding foam
- Ensure wall insulation is installed at least 200 mm below top of floor insulation
- Ensure insulation is in contact with underside of timber flooring
- Ensure block with a maximum Thermal Conductivity of .20 W/mK in the direction of heat flow is used and that block is suitable for use in foundations

*Complying with checklist qualifies builder to claim 1/4 value in Table 3 of IP 1/06 and Table K1 of DEAP 2006*

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

- Seal between wall and floor air barrier with a flexible sealant OR 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*

---

**AIR BARRIER - OPTIONS**

- Wet-finish plaster coat, or
- Masonry wall with scratch coat, and finished with plasterboard, or
- Plasterboard 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)**

- Pack gap between floor joist and blockwork wall with compressible insulation if over 25 mm; otherwise inject insulating expanding foam
- Ensure wall insulation is installed at least 200 mm below top of floor insulation
- Ensure insulation is in contact with underside of timber flooring

*Complying with checklist qualifies builder to claim 1/4 value in Table 3 of IP 1/06 and Table K1 of DEAP 2006*

### AIR BARRIER - CONTINUITY

**CHECKLIST (TICK ALL)**

- Seal between wall and floor air barrier with a flexible sealant OR 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

- Support joists on tassel walls to avoid building-in to external walls
- The wall insulation installed below the wall DPC must be fit for purpose with regards to water absorption
- If injecting expanding foam between joist and external wall, take care to avoid bridging wall DPC

### AIR BARRIER - OPTIONS

**OPTION (TICK ONE)**

- Wet-finish plaster coat, or
- Masonry wall with scratch coat, and finished with plasterboard, or
- Plasterboard 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
(2) WALLS: EXTERNAL INSULATION
SOLID MASONRY/CAVITY BLOCK WALLS

Concrete Intermediate Floor

THERMAL PERFORMANCE
CHECKLIST
(TICK ALL)

- Complying with checklist qualifies builder to claim value in Table 3 of IP 1/06 and Table K1 of DEAP 2006.

- Fire stopping to be provided at intermediate floor where necessary using suitable insulant as per certification details.

GENERAL NOTES

Detail is diagrammatic only. Where floor is a separating floor, acoustic insulation should be provided. See TGD-E.

ACCEPTABLE CONSTRUCTION DETAIL

Concrete Intermediate Floor

AIR BARRIER - CONTINUITY
CHECKLIST
(TICK ALL)

- Seal gap between skirting board and floor with a flexible sealant

- Seal between the wall air barrier and the top and underside of the floor slab. (Dotted blue line is notional, to depict air barrier continuity through floor zone.)

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

- Seal all penetrations through air barrier using flexible sealant

AIR BARRIER - OPTIONS

- Wet-finish plaster coat, or
- Masonry wall with scratch coat, and finished with plasterboard, or
- Plasterboard 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

Complying with checklist will help achieve design air permeability.
Complying with checklist qualifies builder to claim 1/4 value in Table 3 of IP 1/06 and Table K1 of DEAP 2006.

**THERMAL PERFORMANCE CHECKLIST (TICK ALL)**

- Continue external wall insulation across abutment zone

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

- Seal all penetrations through air barrier using a flexible sealant

**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

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

- Wet-finish plaster coat, or
- Masonry wall with scratch coat, and finished with plasterboard, or
- Plasterboard 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

**ACCEPTABLE CONSTRUCTION DETAIL**

Masonry Separating Wall
Complying with checklist qualifies builder to claim value in Table 3 of IP 1/06 and Table K1 of DEAP 2006!

When partition wall is built later than external wall, ensure air barrier continuity across junction

Seal between air barrier on external wall and the blockwork, to the partition wall. (Dotted blue line is notional, to depict air barrier continuity through partition, depending on whether partition toothed into external wall or braced with ties)

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 detail G-02, Blockwork Partition Head

ACCEPTABLE CONSTRUCTION DETAIL

Masonry Partition Wall

Masonr Partition Wall

THERMAL PERFORMANCE
CHECKLIST (TICK ALL)

Continue external wall insulation across abutment zone

AIR BARRIER - CONTINUITY
CHECKLIST (TICK ALL)

AIR BARRIER - OPTIONS

Wet-finish plaster coat, or

Masonry wall with scratch coat, and finished with plasterboard, or

Plasterboard 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
Complying with checklist qualifies builder to claim value in Table 3 of IP 1/06 and Table K1 of DEAP 2006!

DETAIL 2.07, JULY 2008

(2) WALLS: EXTERNAL INSULATION
SOLID MASONARY/CAVITY BLOCK WALLS

THERMAL PERFORMANCE
CHECKLIST (TICK ALL)

Continue external wall insulation across abutment zone

AIR BARRIER - CONTINUITY
CHECKLIST (TICK ALL)

Install external air barrier before stud; or install barrier before partition lining and seal all gaps between air barrier and stud with flexible sealant. (Dotted blue line depicts air barrier continuity through partition stud member)

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

ACCEPTABLE CONSTRUCTION DETAIL

OPTION (TICK ONE)

AIR BARRIER - OPTIONS

- Wet-finish plaster coat, or
- Masonry wall with scratch coat, and finished with plasterboard, or
- Plasterboard 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
(2) WALLS:- EXTERNAL INSULATION
SOLID MASONRY/CAVITY BLOCK WALLS

**Eaves - Ventilated Attic**

**THERMAL PERFORMANCE**

- Ensure continuity of insulation throughout junction
- Ensure full depth of insulation between and over joists extends to inner edge of wall plate
- Ensure gap between wall plate and proprietary eaves vent is completely filled with insulation having a min. R-value across the insulation thickness of 1.2 m² K/W

**AIR BARRIER - CONTINUITY**

- Bed wall plate on continuous mortar bed
- Fix ceiling first, and seal all gaps between ceiling and masonry wall with either plaster, adhesive or flexible sealant
- Seal all penetrations through air barrier using a flexible sealant

Complying with checklist qualifies builder to claim 1/4 value in Table 3 of IP 1/06 and Table K1 of DEAP 2006

**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 2-14, Gable at Attic Floor Level

**ACCEPTABLE CONSTRUCTION DETAIL**

**OPTION**

- Wet-finish plaster coat, or
- Masonry wall with scratch coat, and finished with plasterboard, or
- Plasterboard 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

Complying with checklist will help achieve design air permeability
Complying with checklist qualifies builder to claim value in Table 3 of IP 1/06 and Table K1 of DEAP 2006!

**THERMAL PERFORMANCE**

- 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 having a min. R-value across the insulation thickness of 1.2 m² K/W

**AIR BARRIER - CONTINUITY**

- Bed wall plate on continuous mortar bed
- Fix ceiling first, and seal all gaps between ceiling and masonry wall with either plaster, 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**

- Use of over joist insulation is considered best practice to avoid cold bridge caused by the joist
- Use vapour permeable roof underlay in strict accordance with party certification
- Eaves insulation must not hinder free water drain battens
- Read this detail in conjunction with detail 2-14, C

**OPTION (TICK ONE)**

- Wet-finish plaster coat, or
- Masonry wall with scratch coat, and finished with plasterboard, or
- Plasterboard 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

Acceptable construction detail
### 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 having a min. R-value across the insulation thickness of 1.2 m² K/W

Complying with checklist qualifies builder to claim 1/4 value in Table 3 of IP 1/06 and Table K1 of DEAP 2006

---

### 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 plaster, 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 2-15, Gable - Ventilated Rafter Void.

---

### OPTION (TICK ONE)

**AIR BARRIER - OPTIONS**

- Wet-finish plaster coat, or
- Masonry wall with scratch coat, and finished with plasterboard, or
- Plasterboard 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 having a min. R-value across the insulation thickness of 1.2 m²K/W

Complying with checklist qualifies builder to claim 1/4 value in Table 3 of IP 1/06 and Table K1 of DEAP 2006

**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 plaster, 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
- Installation of the eaves insulation 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 2-16, Gable - Unventilated Rafter Void

**OPTION (TICK ONE)**

- Wet-finish plaster coat, or
- Masonry wall with scratch coat, and finished with plasterboard, or
- Plasterboard 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

**ACCEPTABLE CONSTRUCTION DETAIL**

**Eaves - Insulation between and under rafters**

**Unventilated Rafter Void - Dormer**
### 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 2-15, Gable - Ventilated Rafter Void

### OPTIONS

<table>
<thead>
<tr>
<th>AIR BARRIER - OPTIONS</th>
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<tbody>
<tr>
<td>☐ Wet-finish plaster coat, or</td>
</tr>
<tr>
<td>☐ Masonry wall with scratch coat, and finished with plasterboard, or</td>
</tr>
<tr>
<td>☐ Plasterboard 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</td>
</tr>
<tr>
<td>☐ Airtightness membrane and tapes</td>
</tr>
</tbody>
</table>

### ACCEPTABLE CONSTRUCTION DETAIL

**Eaves - Insulation between and under rafters - Ventilated Rafter Void - Pitched ceiling**

<table>
<thead>
<tr>
<th>THERMAL PERFORMANCE CHECKLIST (TICK ALL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure continuity of insulation throughout junction</td>
</tr>
<tr>
<td>☐</td>
</tr>
<tr>
<td>Ensure insulation is installed tightly between rafters and is in contact with under-rafter insulation</td>
</tr>
<tr>
<td>☐</td>
</tr>
<tr>
<td>Ensure gap between wall plate and proprietary eaves vent is completely filled with insulation having a min. R-value across the insulation thickness of 1.2 m² K/W</td>
</tr>
<tr>
<td>☐</td>
</tr>
<tr>
<td>Ensure full depth of insulation between and below rafters abuts eaves insulation</td>
</tr>
<tr>
<td>☐</td>
</tr>
</tbody>
</table>

*Complying with checklist qualifies builder to claim 1/4 value in Table 3 of IP 1/06 and Table K1 of DEAP 2006*

<table>
<thead>
<tr>
<th>AIR BARRIER - CONTINUITY CHECKLIST (TICK ALL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Bed wall plate on continuous mortar bed</td>
</tr>
<tr>
<td>☐ Fix ceiling first, and seal all gaps between ceiling and masonry wall with either plaster, adhesive or flexible sealant</td>
</tr>
<tr>
<td>☐ Seal all penetrations through air barrier using a flexible sealant</td>
</tr>
</tbody>
</table>

*Complying with checklist will help achieve design air permeability*
Complying with checklist qualifies builder to claim a½ value in Table 3 of IP 1/06 and Table K1 of DEAP 2006.

**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 joists abuts eaves insulation
- Ensure gap between wall plate and over-rafter insulation is completely filled with insulation having a min. R-value across the insulation thickness of 1.2 m²K/W

Fire stopping to be provided where necessary using suitable insulant as per certification details.

**GENERAL NOTES**

- Vapour permeable roof underlay to be used in strict accordance with approved third party certification
- If required by BSS250, 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 2-17, Gable - Insulation between and over rafters

**ACCEPTABLE CONSTRUCTION DETAIL**

**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 plaster, adhesive or flexible sealant
- Seal all penetrations through air barrier using a flexible sealant

Complying with checklist will help achieve design air permeability

**AIR BARRIER - OPTIONS**

- Wet-finish plaster coat, or
- Masonry wall with scratch coat, and finished with plasterboard, or
- Plasterboard 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**

Continue wall insulation a minimum of 250 mm over top of attic insulation

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

**GENERAL NOTES**

Thermal performance of junction can be improved significantly by using blockwork with a thermal conductivity of ≤0.20 W/mK in direction of heat flow in wall at roof level or alternatively by running insulation of R-value 1.5 m² 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

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

Read this detail in conjunction with details 2-08: Eaves - Ventilated Attic, or 2-09: Eaves - Unventilated Attic, as appropriate

**ACCEPTABLE CONSTRUCTION DETAIL**

**Ventilated Roof - Attic Floor Level**

**AIR BARRIER - OPTIONS**

<table>
<thead>
<tr>
<th>OPTION (TICK ONE)</th>
<th>AIR BARRIER - OPTIONS</th>
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<tbody>
<tr>
<td>□</td>
<td>Wet-finish plaster coat, or</td>
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<tr>
<td>□</td>
<td>Masonry wall with scratch coat, and finished with plasterboard, or</td>
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<tr>
<td>□</td>
<td>Plasterboard 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</td>
</tr>
<tr>
<td>□</td>
<td>Airtightness membrane and tapes</td>
</tr>
</tbody>
</table>

Complying with checklist qualifies builder to claim 1/4 value in Table 3 of IP 1106 and Table K1 of DEAP 2006

Complying with checklist will help achieve design air permeability
Complying with checklist qualifies builder to claim value in Table 3 of IP 1/06 and Table K1 of DEAP 2006.

DETAIL 2.15, JULY 2008

**Gable - Insulation between and under rafters - Ventilated Rafter Void**

**THERMAL PERFORMANCE**

- 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 levelled with mortar to correct pitch, and that wall insulation is taken up level with wall top
- 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

**AIR BARRIER - CONTINUITY**

- 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

**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 2-10, Eaves - Ventilated Rafter Void, or 2-12: Eaves - Ventilated Rafter Void - Pitched ceiling, as appropriate

**AIR BARRIER - OPTIONS**

- Wet-finish plaster coat, or
- Masonry wall with scratch coat, and finished with plasterboard, or
- Plasterboard 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

Complying with checklist qualifies builder to claim 1/4 value in Table 3 of IP 1/06 and Table K1 of DEAP 2006.
**Gable - Insulation between and under rafters - Unventilated Rafter Void**

**THERMAL PERFORMANCE CHECKLIST (TICK ALL)**

- Fit insulation over top of wall within gable ladder. Fill void unless underlay requires to be draped, when 25 mm void must be maintained
- Ensure top of wall is levelled with mortar to correct pitch, and that wall insulation is taken up level with wall top
- 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

*Complying with checklist qualifies builder to claim 1/7 value in Table 3 of IP 116 and Table K1 of DEAP 2006*

**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 under-rafter insulation is considered best practice, as it eliminates the cold bridge caused by the rafter
- Read this detail in conjunction with detail 2-11: Eaves - Insulation between and under rafters - Unventilated Rafter Void

**ACCEPTABLE CONSTRUCTION DETAIL**

**AIR BARRIER - OPTIONS**

- Wet-finish plaster coat, or
- Masonry wall with scratch coat, and finished with plasterboard, or
- Plasterboard 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
Complying with checklist qualifies builder to claim 1/4 value in Table 3 of IP 1/06 and Table K1 of DEAP 2006.

**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.
- Read this detail in conjunction with detail 2-13, Eaves - Insulation between and over rafters.

**ACCEPTABLE CONSTRUCTION DETAIL**

**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 levelled with mortar to correct pitch, and that wall insulation is taken up level with wall top.
- Ensure full depth of insulation between and over 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.

**AIR BARRIER - OPTIONS**

- Wet-finish plaster coat, or
- Masonry wall with scratch coat, and finished with plasterboard, or
- Plasterboard 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

**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.
**THERMAL PERFORMANCE**

**CHECKLIST (TICK ALL)**

Ensure full depth of over deck insulation extends to roof edge

Fit insulation over wall top within gable ladder. Fully fill void, ensuring that insulation is installed tightly between joists and is in contact with roof deck

Ensure wall top is level and that wall insulation is taken up level with wall top

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**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

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**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

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**AIR BARRIER - OPTIONS**

**OPTION (TICK ONE)**

- Wet-finish plaster coat, or
- Masonry wall with scratch coat, and finished with plasterboard, or
- Plasterboard 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

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**ACCEPTABLE CONSTRUCTION DETAIL**

Flat Roof - Eaves
**THERMAL PERFORMANCE CHECKLIST (TICK ALL)**

- Insulation upstand having a minimum R-value of 0.75 m² K/W (in heat flow direction perpendicular to wall surface) around parapet
- 300 mm minimum between top of insulation upstand and bottom of horizontal roof insulation
- Ensure roof insulation tightly abuts inner face of parapet wall

**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

**GENERAL NOTES**

Thermal performance of junction can be improved significantly by using blockwork with a thermal conductivity of ≤ 0.20 W/mK in direction of heat flow in external wall at roof level or alternatively by extending insulation vertically up internal face of parapet wall to a height of 450 mm.

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

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

**ACCEPTABLE CONSTRUCTION DETAIL**

**Flat Roof - Parapet**
Complying with checklist qualifies builder to claim value in Table 3 of IP 1/06 and Table K1 of DEAP 2006

**THERMAL PERFORMANCE CHECKLIST (TICK ALL)**

Ensure wall insulation having a min. R-value of 0.6 m² K/W overlaps frame / packing piece

Complying with checklist will help achieve design air permeability

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

- Seal all penetrations through air barrier using a flexible sealant
- Fill gap between frame / packer and blockwork with expanding foam or flexible sealant
- Apply flexible sealant to junctions of frame with external render and with internal air barrier

**GENERAL NOTES**

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

- Wet-finish plaster coat, or
- Masonry wall with scratch coat, and finished with plasterboard, or
- Plasterboard 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

**ACCEPTABLE CONSTRUCTION DETAIL**

**Ope - Lintel**
### THERMAL PERFORMANCE

**CHECKLIST (TICK ALL)**

Ensure wall insulation having a min. R-value of 0.6 m² K/W overlaps frame / packing piece.

*Complying with checklist qualifies builder to claim ½ value in Table 3 of IP 1/06 and Table K1 of DEAP 2006*

### AIR BARRIER - CONTINUITY

**CHECKLIST (TICK ALL)**

- Seal all penetrations through air barrier using a flexible sealant.
- Fill gap between frame / packer and blockwork with expanding foam or flexible sealant.
- Apply flexible sealant to junctions of frame with external render and with internal air barrier.

*Complying with checklist will help achieve design air permeability*

### GENERAL NOTES

**OPTION (TICK ONE)**

- Wet-finish plaster coat, or
- Masonry wall with scratch coat, and finished with plasterboard, or
- Plasterboard 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

### ACCEPTABLE CONSTRUCTION DETAIL