A handbook of thermal bridging details incorporating Porotherm blocks

Book 7 — Thermal bridging solutions for external wall cavity details using *Porotherm®*

Prepared for Wienerberger Ltd

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Porotherm

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Purpose of the handbook

This handbook contains details for Wienerberger Porotherm Walling system (Wienerberger can be contacted at www.wienerberger.co.uk). The thermal bridging details in this book are for external wall with full fill and partial fill cavity insulation, party wall and internal partition wall junctions.

The drawings provided are for typical details and show all the elements essential in achieving the calculated ψ-values. All other site requirements and all relevant building regulations must be taken into consideration when implementing the details.

Each detail in this handbook includes drawings of the junction, ψ-values calculated by an experienced thermal modeller and a process checklist for use on site to facilitate the achievement of the calculated ψ-values. One example is provided for the floor details, to demonstrate how they can be used in selecting the appropriate ψ-values depending on the U value of the plain elements.

List of Constructive Details

There are a total of 48 details, labelled CD0059 to CD0106 with their corresponding E or P number as per the latest version of the SAP conventions document, to assist Energy Assessors in identifying the relevant junctions.

The Handbook details Porotherm blocks for two different conductivity values of 0.26 $W \cdot m^{-1} \cdot K^{-1}$ (140 mm block) and 0.29 $W \cdot m^{-1} \cdot K^{-1}$ (100 mm block).

This handbook begins with the partial fill cavity external wall - ground floor junctions, moving on to lintels and windows, intermediate floor and roof, corner, party wall with an external wall and partition wall with an external wall. These are followed by the same junctions with a full fill cavity external wall and then party wall and partition wall junctions . Where the junction is for a separating wall between dwellings, the ψ-values should be applied to each dwelling.

External Masonry Cavity Wall. Partial Fill		
Detail number	Detail title	SAP Ref
CD0059	External Masonry Cavity Wall. Partial Fill Suspended beam-and-block floor — Insulation above slab	E5
CD0060	External Masonry Cavity Wall. Partial Fill Suspended beam-and-block floor — Insulation above slab. Thermal block	E5
CD0061	External Masonry Cavity Wall. Partial Fill Concrete ground bearing floor — Insulation below slab	E5
CD0062	External Masonry Cavity Wall. Partial Fill Concrete ground bearing floor — Insulation below slab. Thermal block	E5
CD0063	External Masonry Cavity Wall. Partial Fill Birtley Porotherm lintel	E1
CD0064	External Masonry Cavity Wall. Partial Fill Catnic CTJ lintel	E1
CD0065	External Masonry Cavity Wall. Partial Fill Keystone Porocav lintel	E1
CD0066	External Masonry Cavity Wall. Partial Fill Box and angle	E1
CD0067	External Masonry Cavity Wall. Partial Fill Sill	E3
CD0068	External Masonry Cavity Wall. Partial Fill Jamb	E4
CD0069	External Masonry Cavity Wall. Partial Fill Intermediate timber floor within a dwelling	E6
CD0070	External Masonry Cavity Wall. Partial Fill Separating concrete floor between dwellings	E7
CD0071	External Masonry Cavity Wall. Partial Fill Pitched Roof. Gable - Insulation at ceiling Level — Ventilated rafter void	E12
CD0072	External Masonry Cavity Wall. Partial Fill Pitched Roof. Gable - Insulation at rafter Level — Unventilated rafter void	E13
CD0073	External Masonry Cavity Wall. Partial Fill Pitched Roof. Eaves - Insulation at ceiling Level — Ventilated rafter void	E10
CD0074	External Masonry Cavity Wall. Partial Fill Pitched Roof. Eaves - Insulation at rafter Level — Unventilated rafter void	E11
CD0075	External Masonry Cavity Wall. Partial Fill Normal corner	E16
CD0076	External Masonry Cavity Wall. Partial Fill Inverted corner	E17
CD0077	External Masonry Cavity Wall. Partial Fill Party wall between dwellings	E18
CD0078	External Masonry Cavity Wall. Partial Fill Partition wall within a dwelling	N/A

External Masonry Cavity Wall. Full Fill		
Detail number	Detail title	SAP Ref
CD0079	External Masonry Cavity Wall. Full Fill Suspended beam-and-block floor — Insulation above slab	E5
CD0080	External Masonry Cavity Wall. Full Fill Suspended beam-and-block floor — Insulation above slab. Thermal block	E5
CD0081	External Masonry Cavity Wall. Full Fill Concrete ground bearing floor — Insulation below slab	E5
CD0082	External Masonry Cavity Wall. Full Fill Concrete ground bearing floor — Insulation below slab. Thermal block	E5
CD0083	External Masonry Cavity Wall. Full Fill Birtley Porotherm lintel	E1
CD0084	External Masonry Cavity Wall. Full Fill Catnic CTJ lintel	E1
CD0085	External Masonry Cavity Wall. Full Fill Keystone Porocav lintel	E1
CD0086	External Masonry Cavity Wall. Full Fill Box and angle	E1
CD0087	External Masonry Cavity Wall. Full Fill Sill	E3
CD0088	External Masonry Cavity Wall. Full Fill Jamb	E4
CD0089	External Masonry Cavity Wall. Full Fill Intermediate timber floor within a dwelling	E6
CD0090	External Masonry Cavity Wall. Full Fill Separating concrete floor between dwellings	E7
CD0091	External Masonry Cavity Wall. Full Fill Pitched Roof. Gable - Insulation at ceiling Level — Ventilated rafter void	E12
CD0092	External Masonry Cavity Wall. Full Fill Pitched Roof. Gable - Insulation at rafter Level — Unventilated rafter void	E13
CD0093	External Masonry Cavity Wall. Full Fill Pitched Roof. Eaves - Insulation at ceiling Level — Ventilated rafter void	E10
CD0094	External Masonry Cavity Wall. Full Fill Pitched Roof. Eaves - Insulation at rafter Level — Unventilated rafter void	E11
CD0095	External Masonry Cavity Wall. Full Fill Normal corner	E16
CD0096	External Masonry Cavity Wall. Full Fill Inverted corner	E17
CD0097	External Masonry Cavity Wall. Full Fill Party wall between dwellings	E18
CD0098	External Masonry Cavity Wall. Full Fill Partition wall within a dwelling	N/A

Party wall between dwellings		
Detail number	Detail title	SAP Ref
CD0099	Party wall between dwellings Suspended beam-and-block floor — Insulation above slab	P1
CD0100	Party wall between dwellings Suspended beam-and-block floor — Insulation above slab. Thermal block	P1
CD0101	Party wall between dwellings Concrete ground bearing floor — Insulation below slab	P1
CD0102	Party wall between dwellings Concrete ground bearing floor — Insulation below slab. Thermal block	P1
CD0103	Party wall between dwellings Roof - Insulation at ceiling Level — Ventilated loft	P4
CD0104	Party wall between dwellings Roof - Insulation at rafter Level — Unventilated rafter void	P5

Partition wall within a dwelling		
Detail number	Detail title	SAP Ref
CD0105	Partition wall within a dwelling Suspended beam-and-block floor — Insulation above slab	N/A
CD0106	Partition wall within a dwelling Concrete ground bearing floor — Insulation below slab	N/A

How to use this handbook

The details have been prepared taking into consideration the range of U values appropriate to achieve compliance within The Building Regulations 2013 (England and Wales), Part L. Therefore all of the building elements have an upper U value limit of 0.30 $W \cdot m^{-2} \cdot K^{-1}$ for a wall, 0.25 $W \cdot m^{-2} \cdot K^{-1}$ for a floor and 0.20 $W \cdot m^{-2} \cdot K^{-1}$ for the roof element, inline with the limiting fabric parameters given in Approved Document L2A.

The ψ-values are provided for different bands of U values. For each band the ψ-value is calculated for the worst case after considering the effect of thickness and conductivity of insulation independently. This ψ-value can therefore be taken for the complete range of U values quoted.

In all of the details the wall finish drawn is plasterboard on dabs. This was chosen for consistency and also as it is a common construction method. It is not, however, essential to use this internal finish solution to achieve the stated ψ-value. The same applies for the use of rendered block or brick for the outer leaf. Additionally the mortar joints are indicative and may not necessarily coincide with those shown in the diagrams. The maximum external wall cavity width is 200 mm and the ψ-values have been calculated for the 100 mm and 140 mm thick Porotherm blocks. It is also noted that care must be taken with regards to the Regulatory requirements relating to the combustibility of the insulation and the need to use fire stops, where applicable.

As a general rule, unless a specific solution for a wall or floor finish is either indicated in the *Notes* section or is explicitly mentioned in the annotations, it should be considered optional. The main driver in selecting the materials for each detail would be to achieve the U value bands as provided in each detail.

Some basic guidance on how to achieve air tightness is also provided. As a general rule, acceptable air barrier options to the inner face of the Porotherm block are wet plaster or Ecoparge, prior to the application of plasterboard on dabs. Where plasterboard on dabs is used, a continuous ribbon of adhesive should also be applied around all openings, along the top and bottom of the wall and at internal and external corners. In general, all penetrations through the air barrier should be sealed with a flexible sealant. This type of guidance can also be found in the current Accredited Construction Details, available at the DCLG portal. A series of tips on interpreting the information in each Constructive Detail, is given below, starting from the first to the last page.

Front page — Illustration

The drawing

The front page drawing is in full colour, and the annotations identify the critical parameters that must be observed in order for this junction to achieve the calculated ψ-values. The annotations are also consistent with the wording used in the *Notes* section, to make it easier to read and understand the important elements.

The Notes

This section relates to the steps in the build process of the junction that are essential for the construction of the detail with regards to achieving the stated ψ-values. Any other guidance by all relevant Building Regulations must be followed and this detail focuses only on the thermal performance and provides basic guidance with regards to air tightness.

Main body — ψ-values

The drawing

The second drawing provides additional information to that given on the front page. It indicates the position of the air barrier (Ecoparge coating or wet plaster) that must be maintained and provides the necessary information to enable the U value calculation to be carried out.

ψ-values

A table of ψ-values (psi-values) and temperature factors is provided for each detail. The banding of U values provides the specifier with the flexibility to use different U values for the main elements, but ensures that the calculated ψ-value is still valid within that range. The ψ-values were calculated and checked by an experienced individual, as required by Approved Document L1A, using the THERM or TRISCO software, the latter where 3D modelling was required.

The temperature factor is a property of the construction and is used to assess the risk of surface condensation or

mould growth. This parameter is provided in all the junctions. Depending on this value, the BRE Information Paper IP 1/06 *Assessing the effects of thermal bridging at junctions and around openings*, limits the risk of surface condensation or mould growth.

All ψ-values have been calculated in accordance with BRE Report 497 : 2007 *Conventions for calculating linear thermal transmittance and temperature factors* and other relevant standards quoted within that document.

U value examples

Some indicative guidance on the insulation thickness and thermal conductivity values required to achieve the U value example constructions in combination with the Porotherm blocks, are also provided. Depending on the complexity of the detail, there are one or more U value bands available. There is no specification for the type of insulation used, but the necessary information is provided to enable the calculations to be repeated. The U values were calculated in accordance with BRE Report (BR 443 : 2006) *Conventions for U-value calculations* and other relevant British Standards.

A fully detailed U value calculation using the stated thickness and thermal conductivity values may produce lower U values than that indicated in the details, as only the minimum amount of information is provided, such as the use of Porotherm blocks, thickness and conductivity of insulation. Other combinations of thicknesses and conductivities can be used to achieve the U values, and as long as these are within the bands provided, the corresponding ψ-value will still be valid. This provides the user with considerable flexibility compared to more traditional representations of ψ-values, while maintaining the accuracy and technical rigour of the calculation.

Last page — Checklist

Guidance checklist

This part of the detail relates to the quality assurance aspect, which used in combination with guidance given on the first page, would provide reassurance to the builder that this detail will perform as expected. The creation of the list is a combination of the thermal modelling analysis of the detail and site experience.

The *Notes* box is intended for the inspector or the site supervisor to record any additional information or changes that may have occurred to the final built detail. It can be used as a log of the work done for each detail and as a process for checking by the site supervisor, to ensure the detail was constructed as detailed and so that the calculated ψ-values can be achieved.

Example using CD0059

Lets assume that you are using this junction detail where the wall consists of 100 mm Porotherm blocks (λ = 0.29 $W \cdot m^{-1} \cdot K^{-1}$) and 50 mm of foil-faced insulation with a λ value of 0.022 $W \cdot m^{-1} \cdot K^{-1}$. If using the example construction provided, the U value of the wall will be 0.30 $W \cdot m^{-2} \cdot K^{-1}$, or less, which means that the corresponding ψ-values would be the ones given in the second line and first column of the table, so either 0.095 $W \cdot m^{-1} \cdot K^{-1}$, 0.096 $W \cdot m^{-1} \cdot K^{-1}$ or 0.090 $W \cdot m^{-1} \cdot K^{-1}$.

Now you need to decide on the U value of the floor. This U value will be dependent on its exposed perimeter length to area ratio (P/A), so for example if the U value is 0.22 $W \cdot m^{-2} \cdot K^{-1}$ for a P/A ratio of 0.50, then the corresponding U value for a P/A ratio of 0.25 would be between 0.12 and 0.19 $W \cdot m^{-2} \cdot K^{-1}$ (Case 2). In this case, the ψ-value for this detail would be 0.096 $W \cdot m^{-1} \cdot K^{-1}$. Following the examples provided for the floor U value, this floor U value could be achieved using between 60 mm and 120 mm of insulation with a λ value of 0.023 $W \cdot m^{-1} \cdot K^{-1}$.

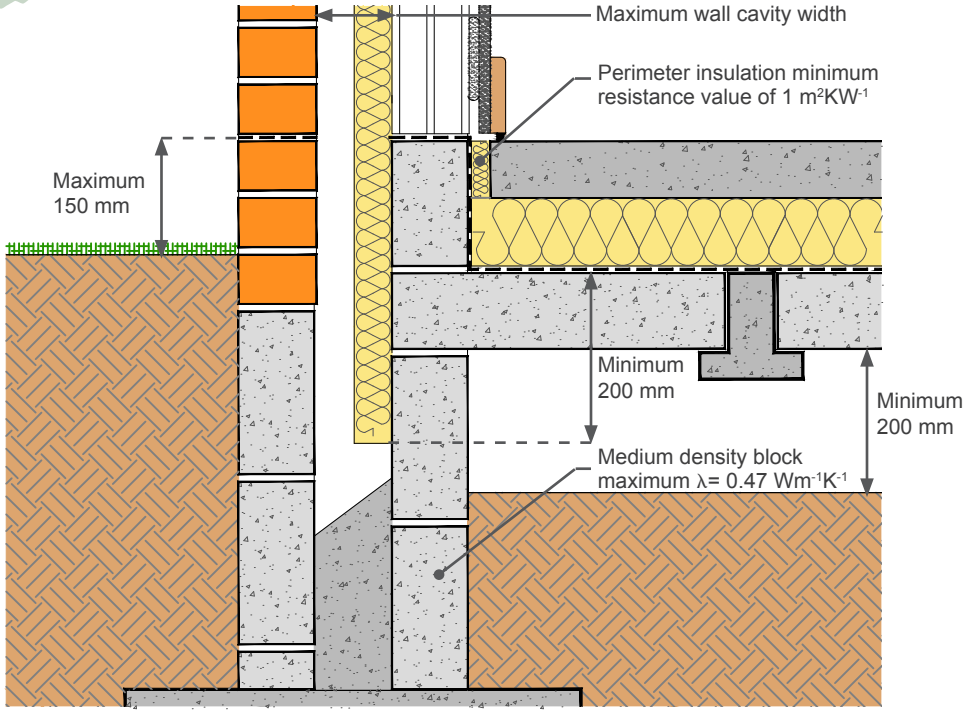
If the U value you chose was 0.22 $W \cdot m^{-2} \cdot K^{-1}$ but for a ratio of 0.35, then the corresponding floor U value for the floor at P/A = 0.25 would be higher then 0.20 $W \cdot m^{-2} \cdot K^{-1}$, which means that the ψ-value for this detail would be 0.090 $W \cdot m^{-1} \cdot K^{-1}$.

In summary, for the ground floor details, the P/A ratio tables provide the user with additional flexibility to calculate the corresponding floor U values, without having to perform each calculation separately.

Terms and conditions

External Masonry Partial Fill Cavity Wall Suspended beam and block floor. Insulation above slab

CD0059



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

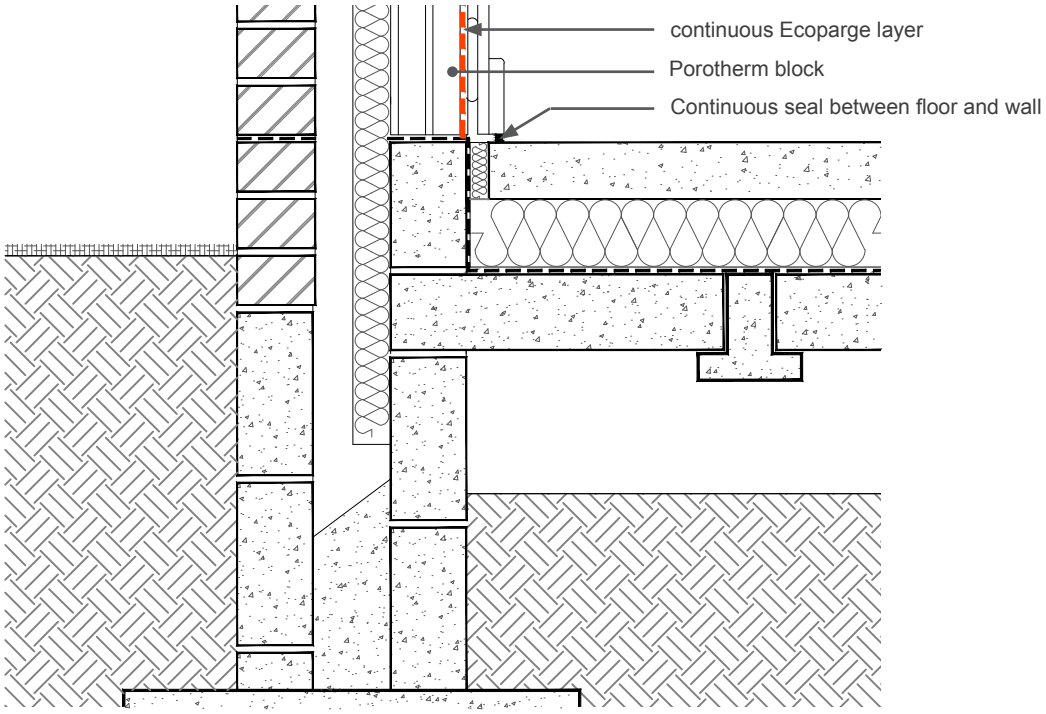
Notes

- Perimeter insulation strip with a minimum resistance value of 1 $m^2 \cdot K \cdot W^{-1}$ (eg 25 mm of insulation with λ= 0.025 $W \cdot m^{-1} \cdot K^{-1}$) and installed up to floor finish
- Medium density blocks below floor level with a maximum λ= 0.47 $W \cdot m^{-1} \cdot K^{-1}$
- Maximum distance between interior and exterior floor level of 150 mm
- Minimum underfloor cavity height of 200 mm
- Minimum 200 mm overlap of cavity wall insulation from top of the floor beam
- Maximum cavity width 200mm
- Ensure that the partial fill insulation is secured firmly against the inner leaf of the cavity wall
- Ensure that the cavities and wall ties are kept clean of mortar or other debris during construction
- Ensure that the floor insulation tightly abuts blockwork wall
- Ensure that there is a seal between the wall and floor air barrier with no gaps between the skirting board and the floor. The use of Ecoparge will ensure air barrier continuity of the wall.

External Masonry Partial Fill Cavity Wall

Suspended beam and block floor. Insulation above slab

CD0059



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

These values are valid for any wall U value less than 0.30 $W \cdot m^{-2} \cdot K^{-1}$

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Floor U value between 0.08 and 0.11 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value between 0.12 and 0.19 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value greater or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.108	0.92	0.107	0.92	0.097	0.92
0.29	0.095	0.92	0.096	0.92	0.090	0.92

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Case 1: Floor U value between 0.08 and 0.11 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimeter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 135 mm and 205 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.11	0.12	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13

Case 2: Floor U value between 0.12 and 0.19 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimeter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 60 mm and 120 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ration other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.18	0.19	0.19	0.20	0.21	0.21	0.22	0.22	0.23	0.23	0.23	0.23	0.23	0.23	0.24	0.24	0.24

Case 3: Floor U value ≥ 0.20 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimeter / area of 0.25)

For example, floor U values for the range shown above can be achieved with 50 mm insulation with a $\lambda \leq$ 0.023 $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ration other than 0.25. The ψ values can only be used when the actual floor U value is greater than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.19	0.20	0.22	0.22	0.23	0.24	0.24	0.25	0.25	0.25	0.26	0.26	0.26	0.26	0.27	0.27	0.27

Note: U values 0.26 and above are above the limit for the floor U value according to The Building Regulations 2013 (England and Wales) (As amended).

In all the example calculations, wall ties are stainless steel, with 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$):

Wall U values ≤ 0.30 can be achieved with :

- 50 mm ≤ foil facing insulation thickness ≤ 65 mm with conductivity ≤ 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values ≤ 0.25 can be achieved with:

- 65 mm ≤ foil facing insulation thickness ≤ 85 mm with conductivity ≤ 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values ≤ 0.20 can be achieved with:

- 90 mm minimum foil facing insulation thickness with conductivity ≤ 0.022 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Partial Fill Cavity Wall

Suspended beam and block floor. Insulation above slab

CD0059

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

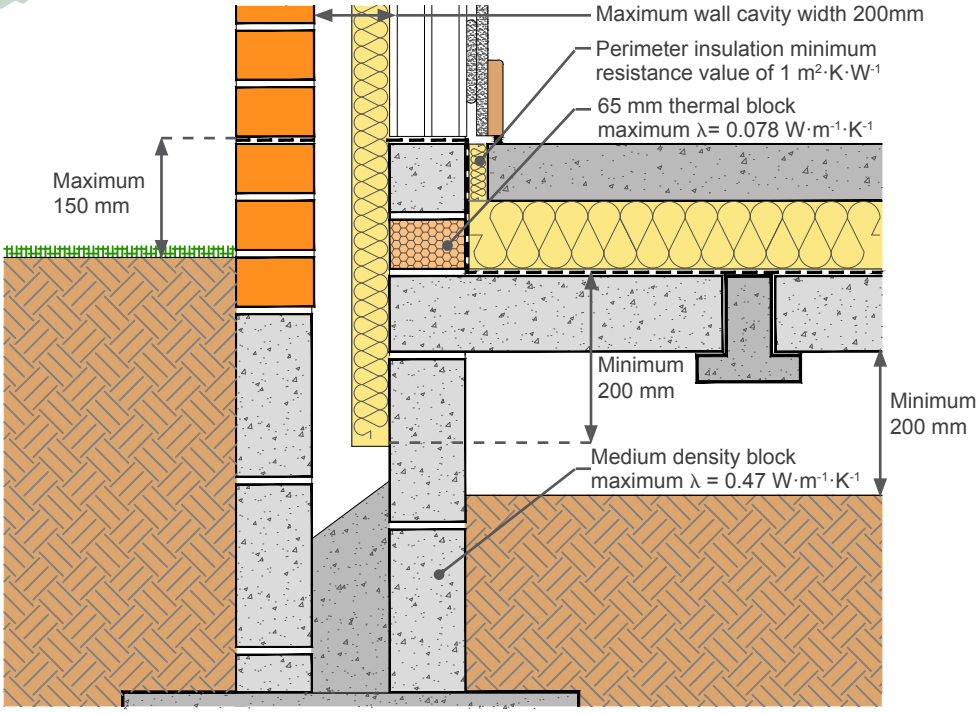
Site name: ..... Plot No: .....

Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the perimeter insulation as specified?		
	— Minimum resistance value of 1 $m^2 \cdot K \cdot W^{-1}$	☐ ☐	.....
	— Installed up to floor finish	☐ ☐	.....
2.	Is the partial fill insulation continued at least 200 mm below the underside of the floor insulation?	☐ ☐	.....
3.	Is the underfloor cavity height of 200 mm or more?	☐ ☐	.....
4.	Is the maximum distance between interior and exterior floor level of 150 mm?	☐ ☐	.....
5.	Is the wall partial fill insulation secured firmly?	☐ ☐	.....
6.	Is the floor insulation abutting the blockwork wall, leaving no gaps?	☐ ☐	.....
7.	Is the continuity of the air barrier between the floor and the wall achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Partial Fill Cavity Wall Suspended beam and block floor. Insulation above slab. Thermal block

CD0060



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

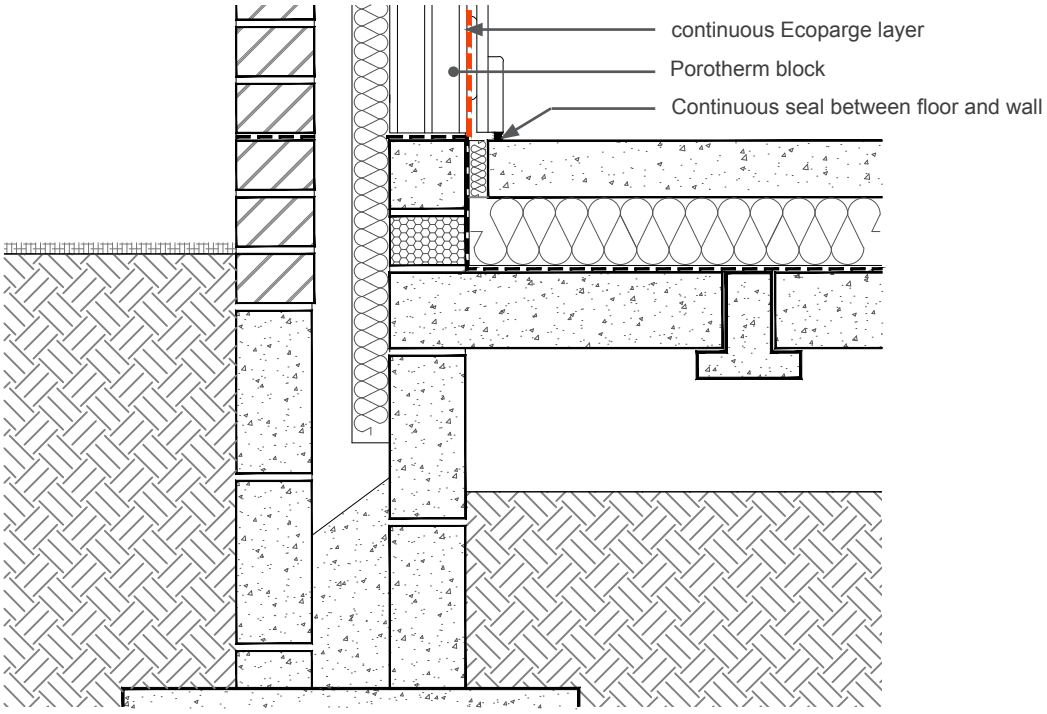
Notes

- Perimeter insulation strip with a minimum resistance value of 1 $m^2 \cdot K \cdot W^{-1}$ (eg 25 mm of insulation with λ= 0.025 $W \cdot m^{-1} \cdot K^{-1}$) and installed up to floor finish
- Thermal block of a minimum height of 65 mm and a maximum λ= 0.078 $W \cdot m^{-1} \cdot K^{-1}$
- Medium density blocks below floor level with a maximum λ= 0.47 $W \cdot m^{-1} \cdot K^{-1}$
- Maximum distance between interior and exterior floor level of 150 mm
- Minimum underfloor cavity height of 200 mm
- Minimum 200 mm overlap of cavity wall insulation from top of the floor beam
- Maximum cavity width 200mm
- Ensure that the partial fill insulation is secured firmly against the inner leaf of the cavity wall
- Ensure that the cavities and wall ties are kept clean of mortar or other debris during construction
- Ensure that the floor insulation tightly abuts blockwork wall
- Ensure that there is a seal between the wall and floor air barrier with no gaps between the skirting board and the floor. The use of Ecoparge will ensure air barrier continuity of the wall.

External Masonry Partial Fill Cavity Wall

Suspended beam and block floor. Insulation above slab. Thermal block

CD0060



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

These values are valid for any wall U value less than 0.30 $W \cdot m^{-2} \cdot K^{-1}$

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Floor U value between 0.08 and 0.11 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value between 0.12 and 0.19 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value greater or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.090	0.93	0.075	0.94	0.064	0.94
0.29	0.075	0.94	0.068	0.94	0.058	0.94

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Case 1: Floor U value between 0.08 and 0.11 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimteter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 135 mm and 205 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.11	0.12	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13

Case 2: Floor U value between 0.12 and 0.19 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimteter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 60 mm and 120 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.18	0.19	0.19	0.20	0.21	0.21	0.22	0.22	0.23	0.23	0.23	0.23	0.23	0.23	0.24	0.24	0.24

Case 3: Floor U value ≥ 0.20 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimteter / area of 0.25)

For example, floor U values for the range shown above can be achieved with 50 mm insulation with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is greater than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.19	0.20	0.22	0.22	0.23	0.24	0.24	0.25	0.25	0.25	0.26	0.26	0.26	0.26	0.27	0.27	0.27

Note: U values 0.26 and above are above the limit for the floor U value according to The Building Regulations 2013 (England and Wales) (As amended).

In all the example calculations, wall ties are stainless steel, with 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$):

Wall U values ≤ 0.30 can be achieved with :

- 50 mm $\leq$ foil facing insulation thickness $\leq$ 65 mm with conductivity ≤ 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values ≤ 0.25 can be achieved with:

- 65 mm $\leq$ foil facing insulation thickness $\leq$ 85 mm with conductivity ≤ 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values ≤ 0.20 can be achieved with:

- 90 mm minimum foil facing insulation thickness with conductivity ≤ 0.022 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Partial Fill Cavity Wall

Suspended beam and block floor. Insulation above slab. Thermal block

CD0060

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

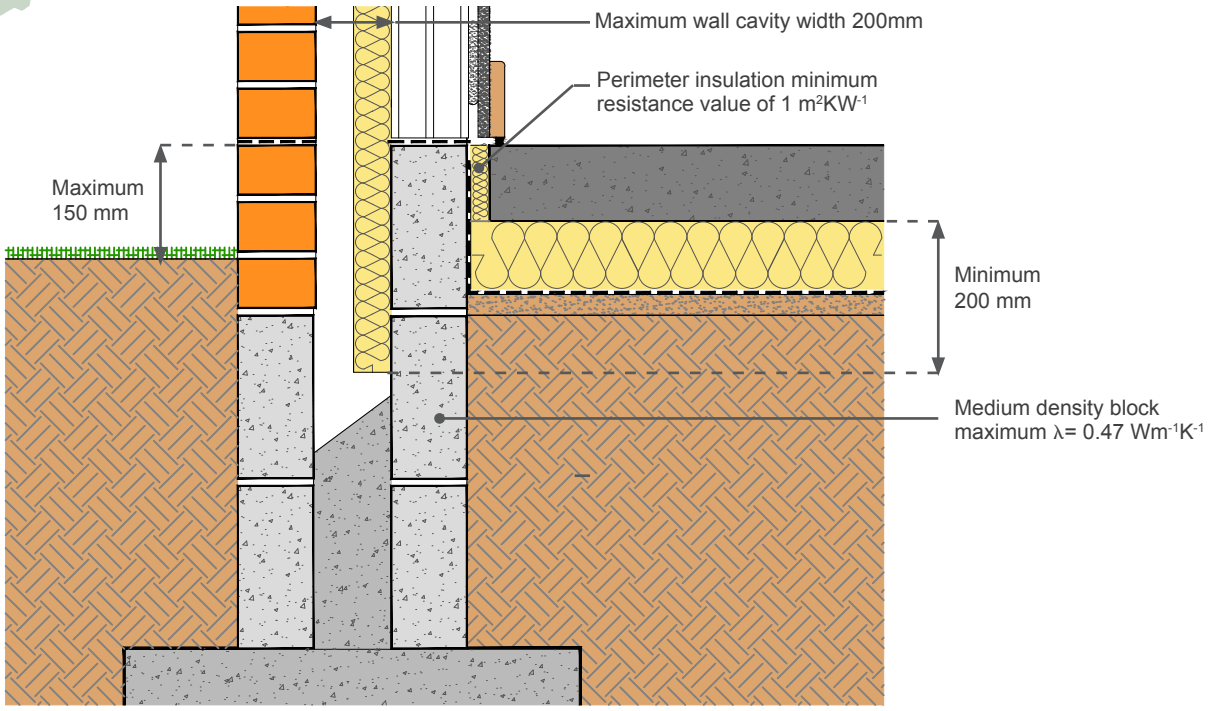
Site name: ..... Plot No: .....

Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the perimeter insulation as specified?		
	— Minimum resistance value of 1 $m^2 \cdot K \cdot W^{-1}$	☐ ☐	.....
	— Installed up to floor finish	☐ ☐	.....
2.	Is the thermal block of a minimum height of 65 mm and with a maximum conductivity value of 0.078 $W \cdot m^{-1} \cdot K^{-1}$?	☐ ☐	.....
3.	Is the partial fill insulation continued at least 200 mm below the underside of the floor insulation?	☐ ☐	.....
4.	Is the underfloor cavity height of 200 mm or more?	☐ ☐	.....
5.	Is the maximum distance between interior and exterior floor level of 150 mm?	☐ ☐	.....
		☐ ☐	.....
6.	Is the wall partial fill insulation secured firmly?	☐ ☐	.....
7.	Is the floor insulation abutting the blockwork wall, leaving no gaps?		
8.	Is the continuity of the air barrier between the floor and the wall achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Partial Fill Cavity Wall
Concrete ground bearing floor.
Insulation below slab

CD0061



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

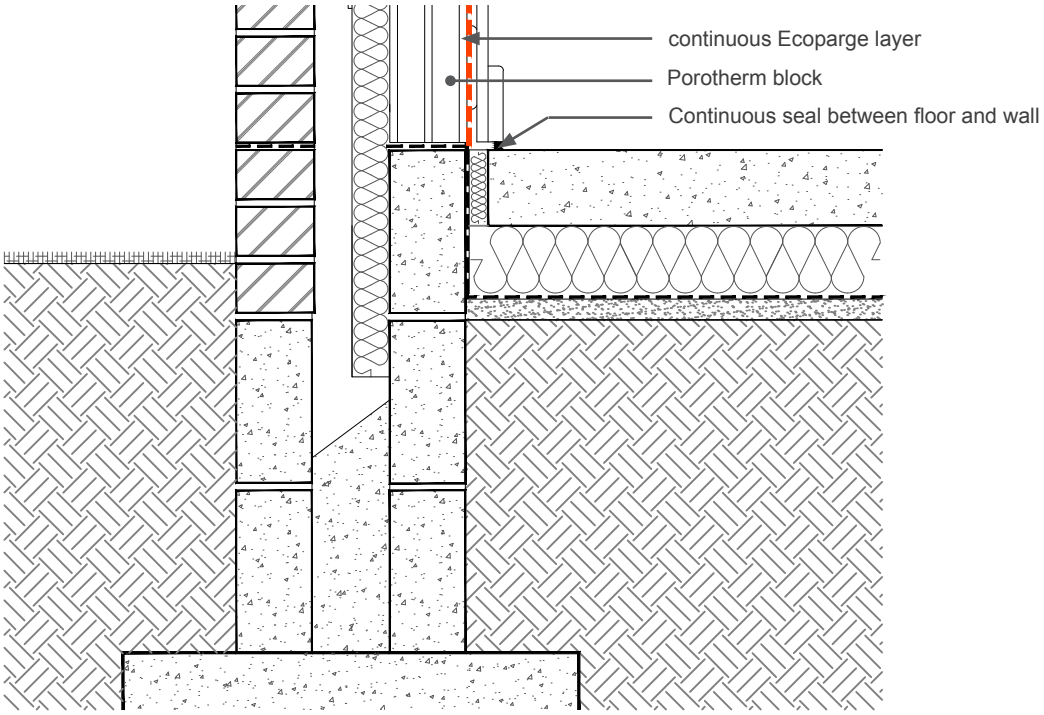
Notes

- Perimeter insulation strip with a minimum resistance value of 1 $m^2 \cdot K \cdot W^{-1}$ (eg 25 mm of insulation with λ= 0.025 $W \cdot m^{-1} \cdot K^{-1}$) and installed up to floor finish
- Medium density blocks below floor level with a maximum λ= 0.47 $W \cdot m^{-1} \cdot K^{-1}$
- Maximum distance between interior and exterior floor level of 150 mm
- Minimum 200 mm overlap of cavity wall insulation from the top of the floor insulation
- Maximum cavity width 200mm
- Ensure that the partial fill insulation is secured firmly against the inner leaf of the cavity wall
- Ensure that the cavities and wall ties are kept clean of mortar or other debris during construction
- Ensure that the floor insulation tightly abuts blockwork wall
- Ensure that there is a seal between the wall and floor air barrier with no gaps between the skirting board and the floor
- The use of Ecoparge will ensure air barrier continuity of the wall.

External Masonry Partial Fill Cavity Wall

Concrete ground bearing floor. Insulation below slab

CD0061



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

These values are valid for any wall U value less than 0.30 $W \cdot m^{-2} \cdot K^{-1}$

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Floor U value between 0.08 and 0.11 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value between 0.12 and 0.19 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value greater or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.125	0.93	0.113	0.925	0.075	0.915
0.29	0.116	0.93	0.106	0.925	0.069	0.915

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Case 1: Floor U value between 0.08 and 0.11 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimteter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 135 mm and 205 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.11	0.12	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13

Case 2: Floor U value between 0.12 and 0.19 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimteter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 60 mm and 120 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.18	0.19	0.19	0.20	0.21	0.21	0.22	0.22	0.23	0.23	0.23	0.23	0.23	0.23	0.24	0.24	0.24

Case 3: Floor U value ≥ 0.20 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimteter / area of 0.25)

For example, floor U values for the range shown above can be achieved with 50 mm insulation with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is greater than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.19	0.20	0.22	0.22	0.23	0.24	0.24	0.25	0.25	0.25	0.26	0.26	0.26	0.26	0.27	0.27	0.27

Note: U values 0.26 and above are above the limit for the floor U value according to The Building Regulations 2013 (England and Wales) (As amended).

In all the example calculations, wall ties are stainless steel, with 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$):

Wall U values ≤ 0.30 can be achieved with :

- 50 mm ≤ foil facing insulation thickness ≤ 65 mm with conductivity ≤ 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values ≤ 0.25 can be achieved with:

- 65 mm ≤ foil facing insulation thickness ≤ 85 mm with conductivity ≤ 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values ≤ 0.20 can be achieved with:

- 90 mm minimum foil facing insulation thickness with conductivity ≤ 0.022 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Partial Fill Cavity Wall

Concrete ground bearing floor. Insulation below slab

CD0061

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

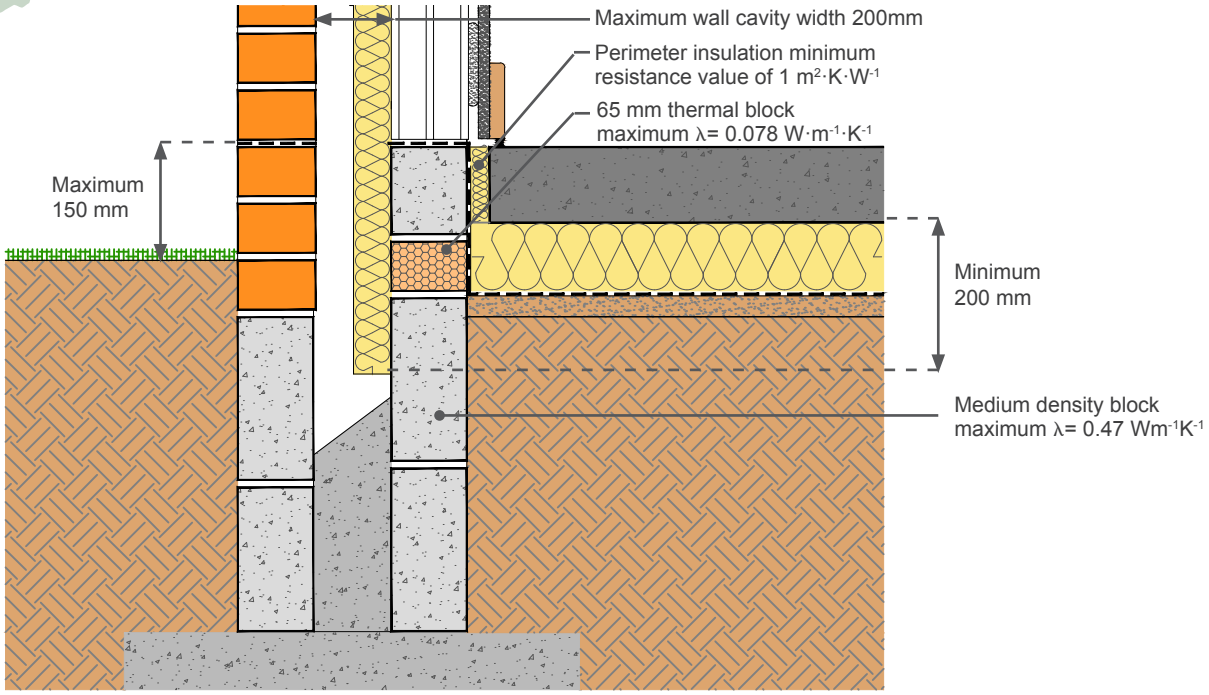
Site name: ..... Plot No: .....

Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the perimeter insulation as specified?		
	— Minimum resistance value of 1 $m^2 \cdot K \cdot W^{-1}$	☐ ☐	.....
	— Installed up to floor finish	☐ ☐	.....
2.	Is the partial fill insulation continued at least 200 mm below the top of the floor insulation?	☐ ☐	.....
3.	Is the maximum distance between interior and exterior floor level of 150 mm?	☐ ☐	.....
4.	Is the wall partial fill insulation secured firmly?	☐ ☐	.....
5.	Is the floor insulation abutting the blockwork wall, leaving no gaps?	☐ ☐	.....
6.	Is the continuity of the air barrier between the floor and the wall achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Partial Fill Cavity Wall
Concrete ground bearing floor.
Insulation below slab. Thermal block

CD0062



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

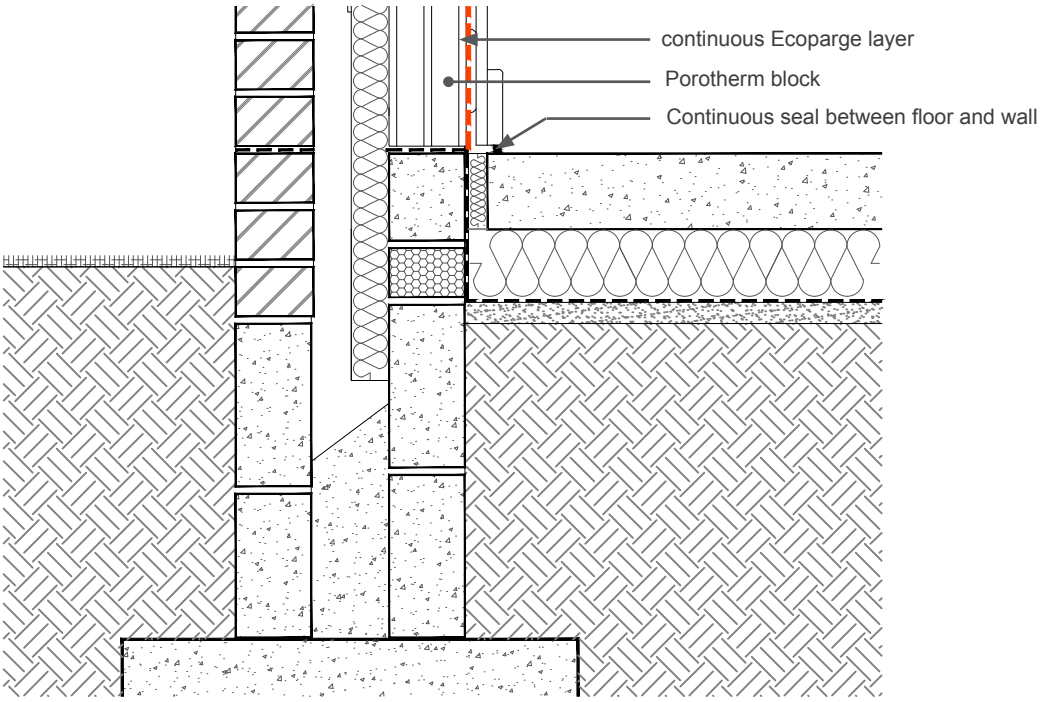
Notes

- Perimeter insulation strip with a minimum resistance value of 1 $m^2 \cdot K \cdot W^{-1}$ (eg 25 mm of insulation with $\lambda = 0.025\ W \cdot m^{-1} \cdot K^{-1}$) and installed up to floor finish
- Medium density blocks below floor level with a maximum $\lambda = 0.47\ W \cdot m^{-1} \cdot K^{-1}$
- Thermal block of a minimum height of 65 mm and a maximum $\lambda = 0.078\ W \cdot m^{-1} \cdot K^{-1}$
- Maximum distance between interior and exterior floor level of 150 mm
- Minimum 200 mm overlap of cavity wall insulation from the top of the floor insulation
- Maximum cavity width 200mm
- Ensure that the partial fill insulation is secured firmly against the inner leaf of the cavity wall
- Ensure that the cavities and wall ties are kept clean of mortar or other debris during construction
- Ensure that the floor insulation tightly abuts blockwork wall
- Ensure that there is a seal between the wall and floor air barrier with no gaps between the skirting board and the floor
- The use of Ecoparge will ensure air barrier continuity of the wall.

External Masonry Partial Fill Cavity Wall

Concrete ground bearing floor. Insulation below slab. Thermal block

CD0062



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

These values are valid for any wall U value less than 0.30 $W \cdot m^{-2} \cdot K^{-1}$

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Floor U value between 0.08 and 0.11 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value between 0.12 and 0.19 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value greater or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.100	0.94	0.090	0.94	0.055	0.93
0.29	0.091	0.94	0.083	0.94	0.050	0.93

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Case 1: Floor U value between 0.08 and 0.11 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimteter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 135 mm and 205 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.11	0.12	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13

Case 2: Floor U value between 0.12 and 0.19 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimteter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 60 mm and 120 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.18	0.19	0.19	0.20	0.21	0.21	0.22	0.22	0.23	0.23	0.23	0.23	0.23	0.23	0.24	0.24	0.24

Case 3: Floor U value ≥ 0.20 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimteter / area of 0.25)

For example, floor U values for the range shown above can be achieved with 50 mm insulation with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is greater than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.19	0.20	0.22	0.22	0.23	0.24	0.24	0.25	0.25	0.25	0.26	0.26	0.26	0.26	0.27	0.27	0.27

Note: U values 0.26 and above are above the limit for the floor U value according to The Building Regulations 2013 (England and Wales) (As amended).

In all the example calculations, wall ties are stainless steel, with 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$):

Wall U values ≤ 0.30 can be achieved with :

- 50 mm ≤ foil facing insulation thickness ≤ 65 mm with conductivity ≤ 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values ≤ 0.25 can be achieved with:

- 65 mm ≤ foil facing insulation thickness ≤ 85 mm with conductivity ≤ 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values ≤ 0.20 can be achieved with:

- 90 mm minimum foil facing insulation thickness with conductivity ≤ 0.022 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Partial Fill Cavity Wall

Concrete ground bearing floor. Insulation below slab. Thermal block

CD0062

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

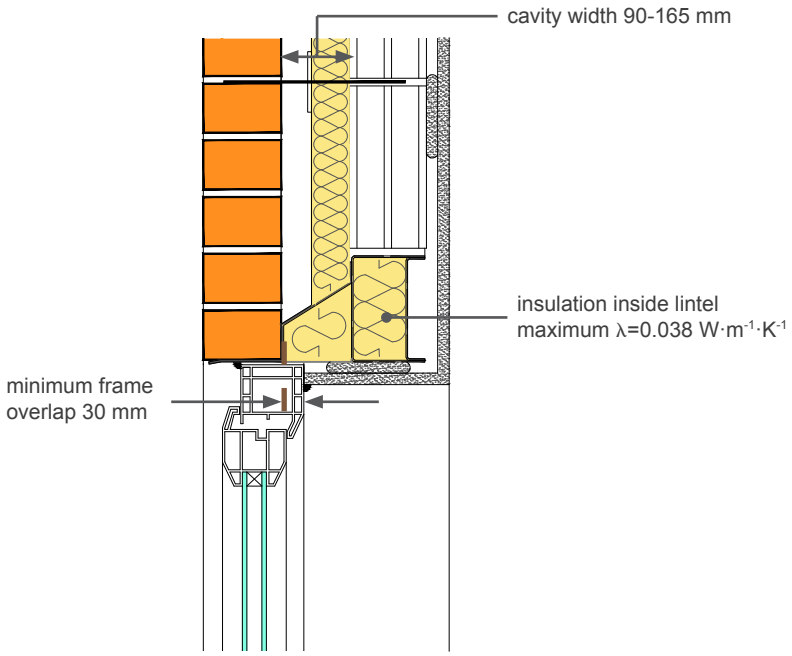
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the perimeter insulation as specified?		
	— Minimum resistance value of 1 $m^2 \cdot K \cdot W^{-1}$	☐ ☐	.....
	— Installed up to floor finish	☐ ☐	.....
2.	Is the thermal block of a minimum height of 65 mm and with a maximum conductivity value of 0.078 $W \cdot m^{-1} \cdot K^{-1}$?	☐ ☐	.....
3.	Is the partial fill insulation continued at least 200 mm below the top of the floor insulation?	☐ ☐	.....
4.	Is the maximum distance between interior and exterior floor level of 150 mm?	☐ ☐	.....
5.	Is the wall partial fill insulation secured firmly?	☐ ☐	.....
6.	Is the floor insulation abutting the blockwork wall, leaving no gaps?	☐ ☐	.....
7.	Is the continuity of the air barrier between the floor and the wall achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Partial Fill Cavity Wall

Birtley Two Part Porotherm lintel

CD0063



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

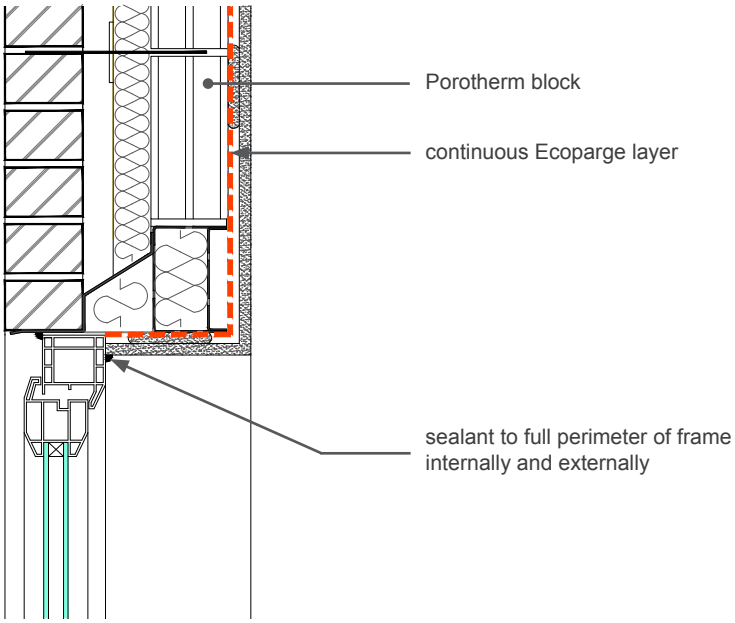
Notes

- Minimum frame overlap of 30mm
- Cavity width between 90 and 165 mm (range covered by Birtley lintels)
- Ensure continuity of the insulation throughout the junction leaving no gaps
- Ensure that the partial fill wall insulation is secured firmly against the inner leaf of the cavity wall
- Ensure cavities and wall ties are kept clean of mortar or other debris during construction
- Flexible sealant should be applied to the junction of the plasterboard and the window frame
- the use of Ecoparge will ensure air barrier continuity

External Masonry Partial Fill Cavity Wall

Birtley Two Part Porotherm lintel

CD0063



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	SGTJ90 lintel cavity 90-105 mm		SGTJ110 lintel cavity 110-125 mm		SGTJ130 lintel cavity 130-145 mm		SGTJ150 lintel cavity 150-165 mm	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temp. factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temp. factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temp. factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temp. factor
0.26	0.422	0.85	0.419	0.86	0.410	0.87	0.400	0.88
0.29	0.427	0.81	0.423	0.83	0.411	0.84	0.407	0.84

These values are valid for wall U values ≤ 0.30 $W \cdot m^{-2} \cdot K^{-1}$.

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values ≤ 0.30 can be achieved with :

- 50 mm ≤ foil facing insulation thickness ≤ 65 mm with conductivity ≤ 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values ≤ 0.25 can be achieved with:

- 65 mm ≤ foil facing insulation thickness ≤ 85 mm with conductivity ≤ 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values ≤ 0.20 can be achieved with:

- 90 mm minimum foil facing insulation thickness with conductivity ≤ 0.022 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Partial Fill Cavity Wall

Birtley Two Part Porotherm lintel

CD0063

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

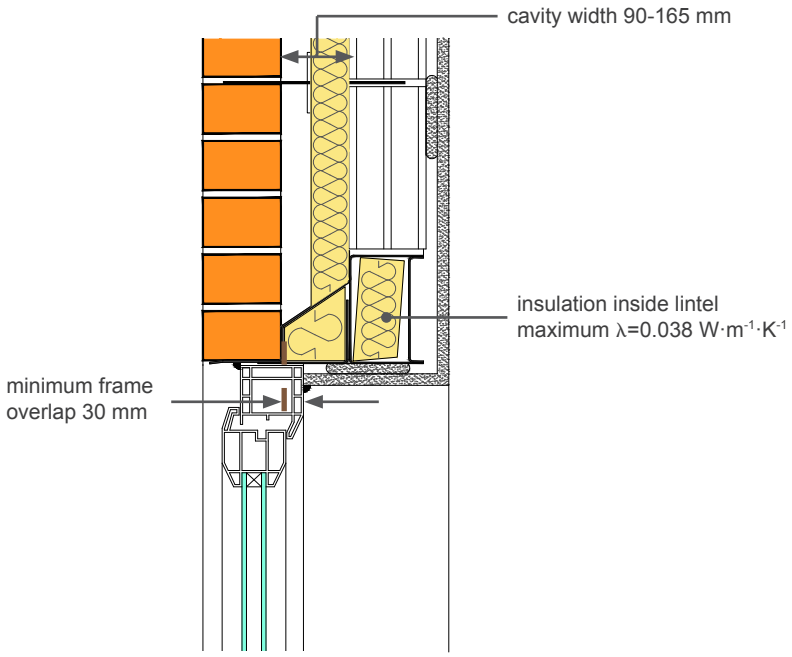
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is there a minimum frame overlap of 30mm?	☐ ☐	.....
2.	Is the Cavity width between 90 and 165 mm?	☐ ☐	.....
3.	Is the insulation continued throughout the junction ensuring there are no gaps?	☐ ☐	.....
4.	Is the partial fill wall insulation secured firmly against the inner leaf of the cavity wall?	☐ ☐	.....
5.	Are all cavities and wall ties are kept clean of mortar or other debris during construction?	☐ ☐	.....
6.	Has flexible sealant been be applied to the junction of the plasterboard and the window frame?	☐ ☐	.....
7.	Is Ecoparge used to ensure air barrier continuity?	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Partial Fill Cavity Wall

Catnic CTJ lintel

CD0064



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

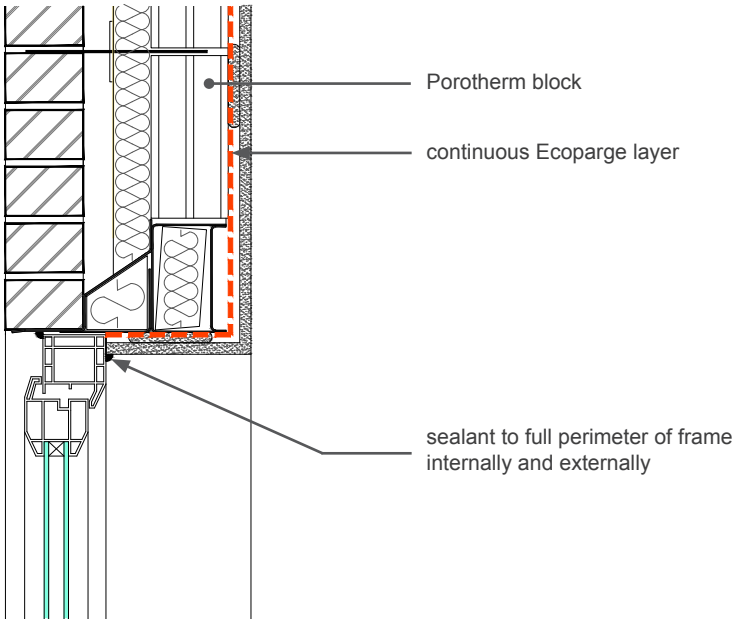
Notes

- Minimum frame overlap of 30mm
- Cavity width between 90 and 165 mm (range covered by Catnic lintels)
- Ensure continuity of the insulation throughout the junction leaving no gaps
- Ensure that the partial fill wall insulation is secured firmly against the inner leaf of the cavity wall
- Ensure cavities and wall ties are kept clean of mortar or other debris during construction
- Flexible sealant should be applied to the junction of the plasterboard and the window frame
- the use of Ecoparge will ensure air barrier continuity

External Masonry Partial Fill Cavity Wall

Catnic CTJ lintel

CD0064



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	CTJ90 lintel cavity 90-105 mm		CTJ110 lintel cavity 110-125 mm		CTJ125 lintel cavity 125-145 mm		CTJ150 lintel cavity 150-165 mm	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temp. factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temp. factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temp. factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temp. factor
0.26	0.543	0.57	0.565	0.57	0.575	0.57	0.611	0.51
0.29	0.546	0.58	0.565	0.59	0.578	0.56	0.598	0.59

These values are valid for wall U values ≤ 0.30 $W \cdot m^{-2} \cdot K^{-1}$.

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values ≤ 0.30 can be achieved with :

- 50 mm ≤ foil facing insulation thickness ≤ 65 mm with conductivity ≤ 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values ≤ 0.25 can be achieved with:

- 65 mm ≤ foil facing insulation thickness ≤ 85 mm with conductivity ≤ 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values ≤ 0.20 can be achieved with:

- 90 mm minimum foil facing insulation thickness with conductivity ≤ 0.022 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Partial Fill Cavity Wall

Catnic CTJ lintel

CD0064

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

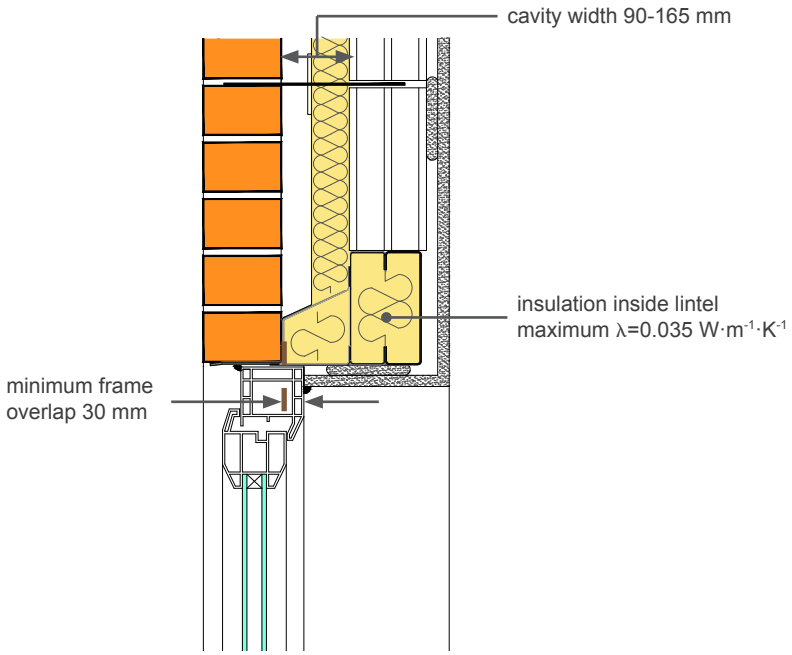
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is there a minimum frame overlap of 30mm?	☐ ☐	.....
2.	Is the Cavity width between 90 and 165 mm?	☐ ☐	.....
3.	Is the insulation continued throughout the junction ensuring there are no gaps?	☐ ☐	.....
4.	Is the partial fill wall insulation secured firmly against the inner leaf of the cavity wall?	☐ ☐	.....
5.	Are all cavities and wall ties are kept clean of mortar or other debris during construction?	☐ ☐	.....
6.	Has flexible sealant been be applied to the junction of the plasterboard and the window frame?	☐ ☐	.....
7.	Is Ecoparge used to ensure air barrier continuity?	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Partial Fill Cavity Wall

Keystone Poro-Cav lintel

CD0065



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

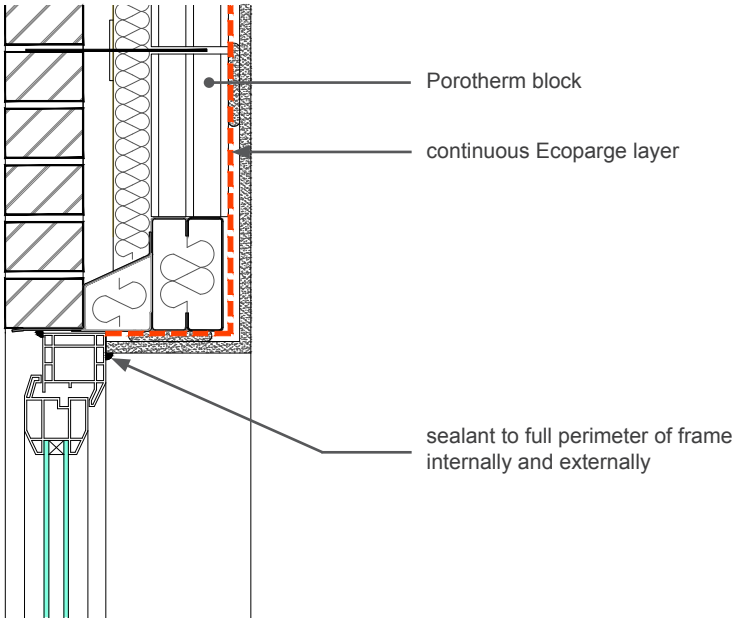
Notes

- Minimum frame overlap of 30mm
- Cavity width between 90 and 165 mm (range covered by Porocav lintels)
- Ensure continuity of the insulation throughout the junction leaving no gaps
- Ensure that the partial fill wall insulation is secured firmly against the inner leaf of the cavity wall
- Ensure cavities and wall ties are kept clean of mortar or other debris during construction
- Flexible sealant should be applied to the junction of the plasterboard and the window frame
- the use of Ecoparge will ensure air barrier continuity

External Masonry Partial Fill Cavity Wall

Keystone Poro-Cav lintel

CD0065



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Poro-Cav lintel cavity 90-165 mm	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.583	0.60
0.29	0.587	0.60

These values are valid for wall U values ≤ 0.30 $W \cdot m^{-2} \cdot K^{-1}$.

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values ≤ 0.30 can be achieved with :

- 50 mm ≤ foil facing insulation thickness ≤ 65 mm with conductivity ≤ 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values ≤ 0.25 can be achieved with:

- 65 mm ≤ foil facing insulation thickness ≤ 85 mm with conductivity ≤ 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values ≤ 0.20 can be achieved with:

- 90 mm minimum foil facing insulation thickness with conductivity ≤ 0.022 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Partial Fill Cavity Wall

Keystone Poro-Cav lintel

CD0065

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

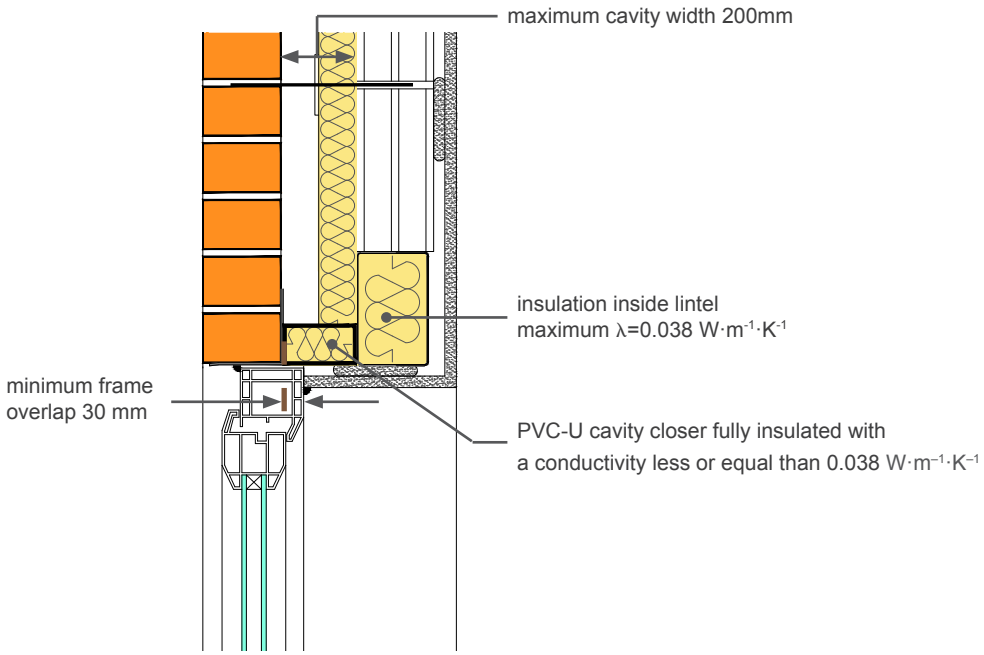
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is there a minimum frame overlap of 30mm?	☐ ☐	.....
2.	Is the Cavity width between 90 and 165 mm?	☐ ☐	.....
3.	Is the insulation continued throughout the junction ensuring there are no gaps?	☐ ☐	.....
4.	Is the partial fill wall insulation secured firmly against the inner leaf of the cavity wall?	☐ ☐	.....
5.	Are all cavities and wall ties are kept clean of mortar or other debris during construction?	☐ ☐	.....
6.	Has flexible sealant been be applied to the junction of the plasterboard and the window frame?	☐ ☐	.....
7.	Is Ecoparge used to ensure air barrier continuity?	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Partial Fill Cavity Wall

Box and angle lintel

CD0066



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

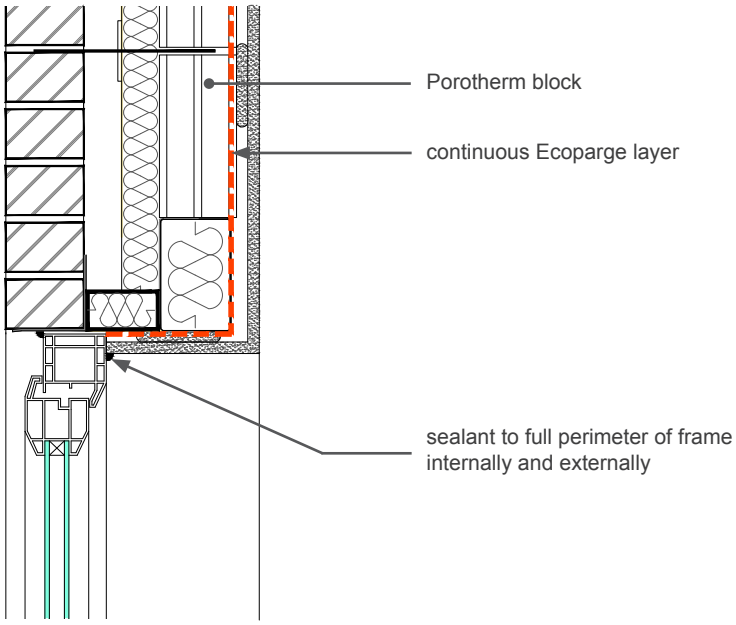
Notes

- PVC-U cavity closer fully insulated with conductivity 0.038 W/mK or less
- Maximum conductivity of insulation inside lintel box 0.038 W/mK
- Minimum frame overlap of 30mm
- Maximum cavity width 200 mm
- Ensure continuity of the insulation throughout the junction leaving no gaps
- Ensure that the partial fill wall insulation is secured firmly against the inner leaf of the cavity wall
- Ensure cavities and wall ties are kept clean of mortar or other debris during construction
- Flexible sealant should be applied to the junction of the plasterboard and the window frame
- the use of Ecoparge will ensure air barrier continuity

External Masonry Partial Fill Cavity Wall

Box and angle lintel

CD0066



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.063	0.88	0.056	0.88	0.055	0.88
0.29	0.063	0.88	0.055	0.88	0.053	0.88

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values < 0.30 can be achieved with :

- 50 mm < foil facing insulation thickness < 65 mm with conductivity < 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values < 0.25 can be achieved with:

- 65 mm < foil facing insulation thickness < 85 mm with conductivity < 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values < 0.20 can be achieved with:

- 90 mm minimum foil facing insulation thickness with conductivity < 0.022 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Partial Fill Cavity Wall

Box and angle lintel

CD0066

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

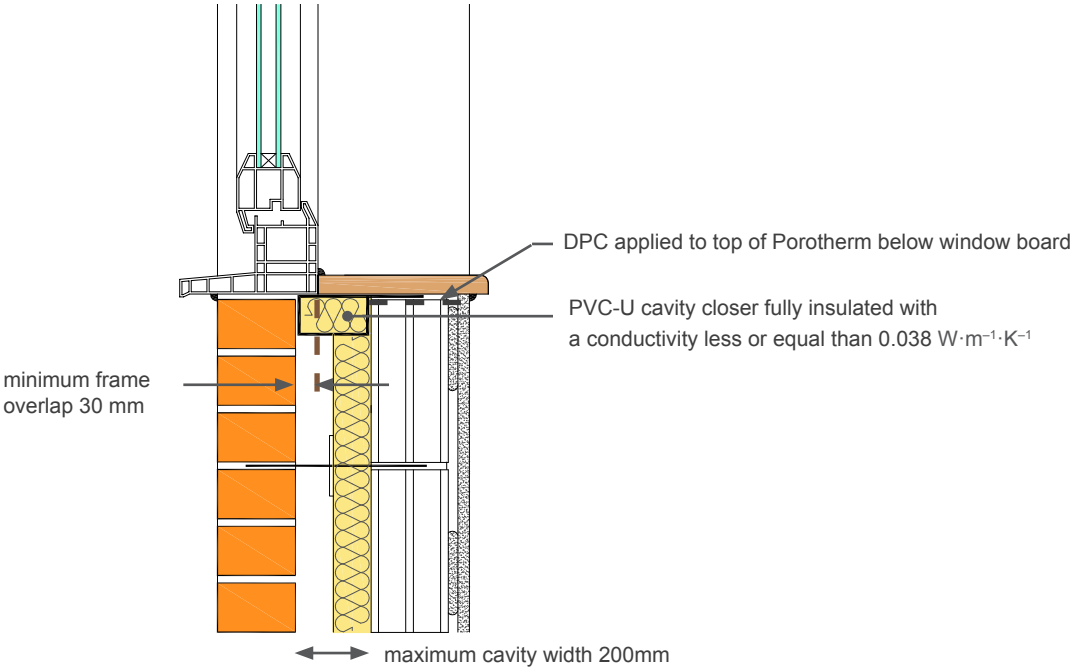
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the PVC-U cavity closer fully insulated with conductivity 0.038 W/mK or less?	☐ ☐	.....
2.	Is the maximum conductivity of the insulation inside lintel box 0.038 W/mK?	☐ ☐	.....
3.	Is the minimum frame overlap of 30mm?	☐ ☐	.....
4.	Is the maximum cavity width 200 mm?	☐ ☐	.....
5.	Is the insulation continued throughout the junction ensuring no gaps?	☐ ☐	.....
6.	Is the partial fill wall insulation secured firmly against the inner leaf of the cavity wall?	☐ ☐	.....
7.	Are all cavities and wall ties are kept clean of mortar or other debris during construction?	☐ ☐	.....
8.	Is there flexible sealant applied to the junction of the plasterboard and the window frame?	☐ ☐	.....
9.	Is Ecoparge used to ensure air barrier continuity?	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Partial Fill Cavity Wall

Sill

CD0067



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

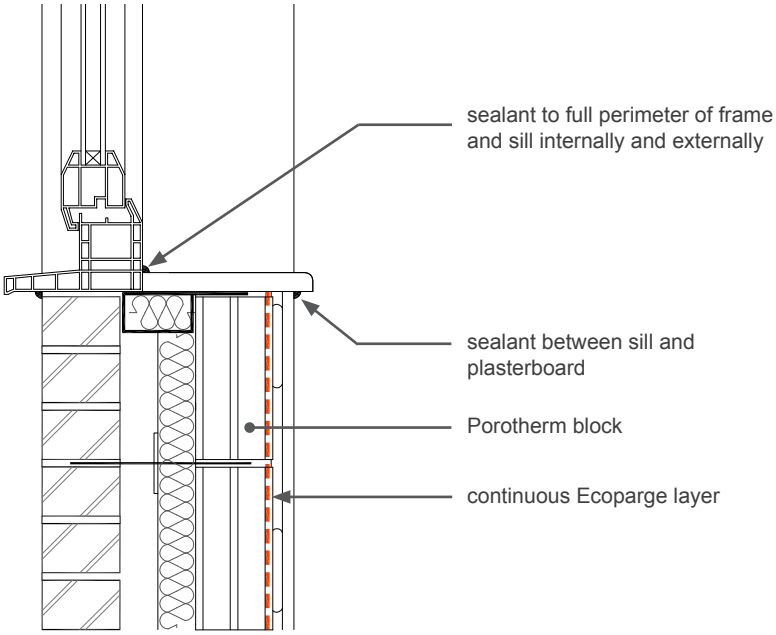
Notes

- PVC-U cavity closer fully insulated with conductivity 0.038 W/mK or less
- Minimum frame overlap of 30mm
- Maximum cavity width 200mm
- ensure continuity of the insulation throughout the junction leaving no gaps
- ensure that the partial fill wall insulation is secured firmly against the inner leaf of the cavity wall
- ensure cavities and wall ties are kept clean of mortar or other debris during construction
- flexible sealant should be applied to the junction of the plasterboard and the sill board as well as between the window frame member and sill board
- the use of Ecoparge will ensure air barrier continuity

External Masonry Partial Fill Cavity Wall

Sill

CD0067



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.050	0.82	0.045	0.82	0.042	0.82
0.29	0.049	0.82	0.045	0.82	0.041	0.82

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values < 0.30 can be achieved with :

- 50 mm < foil facing insulation thickness < 65 mm with conductivity < 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values < 0.25 can be achieved with:

- 65 mm < foil facing insulation thickness < 85 mm with conductivity < 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values < 0.20 can be achieved with:

- 90 mm minimum foil facing insulation thickness with conductivity < 0.022 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Partial Fill Cavity Wall

Sill

CD0067

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

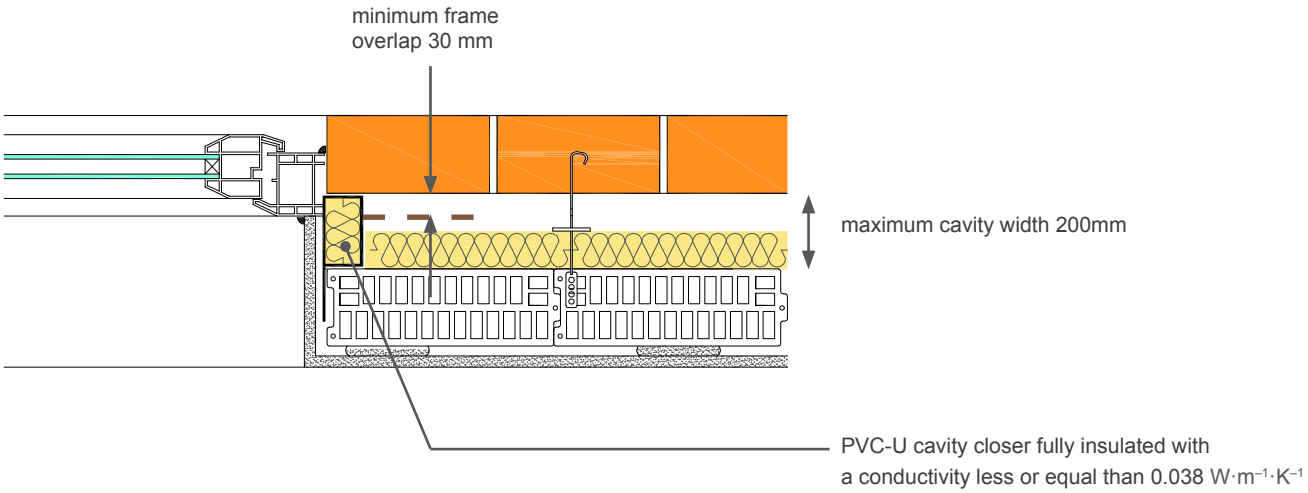
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the PVC-U cavity closer fully insulated with conductivity of 0.038 W/mK or less?	☐ ☐	.....
2.	Is there a minimum frame overlap of 30mm?	☐ ☐	.....
3.	Is there a maximum cavity width 200mm?		
4.	Is there continuity of the insulation throughout the junction leaving no gaps?	☐ ☐	.....
5.	Is the partial fill wall insulation is secured firmly against the inner leaf of the cavity wall	☐ ☐	.....
6.	Are the cavities and wall ties are kept clean of mortar or other debris?	☐ ☐	.....
7.	Is flexible sealant applied to the junction of the plasterboard and the sill board as well as between the window frame and sill board?	☐ ☐	.....
8.	Is Ecoparge applied to ensure air barrier continuity?	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Partial Fill Cavity Wall

Jamb

CD0068



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

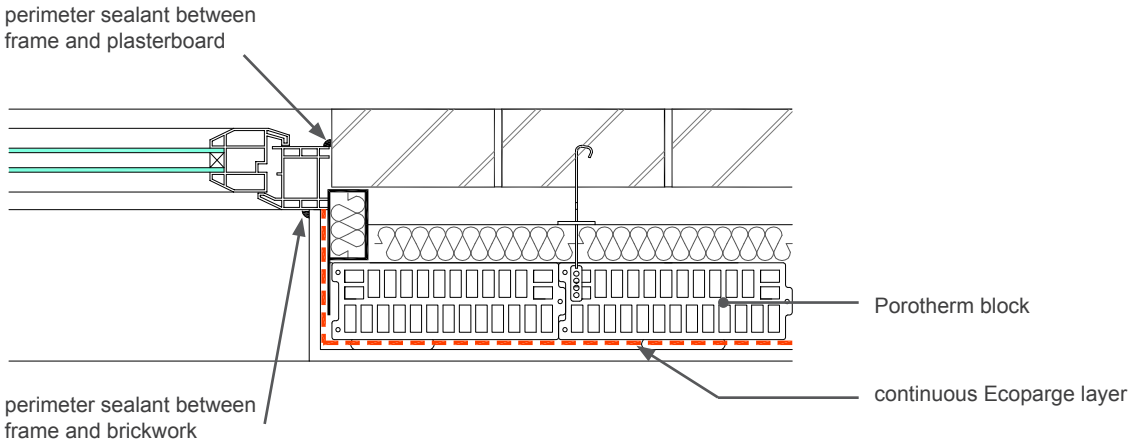
Notes

- PVC-U cavity closer fully insulated with conductivity 0.038 W/mK or less
- Minimum frame overlap of 30mm
- Maximum cavity width 200mm
- ensure continuity of the insulation throughout the junction leaving no gaps
- ensure that the partial fill wall insulation is secured firmly against the inner leaf of the cavity wall
- ensure cavities and wall ties are kept clean of mortar or other debris during construction
- flexible sealant should be applied to the junction of the plasterboard and the sill board as well as between the window frame member and sill board
- the use of Ecoparge will ensure air barrier continuity

External Masonry Partial Fill Cavity Wall

Jamb

CD0068



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.058	0.86	0.054	0.86	0.050	0.86
0.29	0.058	0.86	0.053	0.86	0.049	0.86

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values < 0.30 can be achieved with :

- 50 mm < foil facing insulation thickness < 65 mm with conductivity < 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values < 0.25 can be achieved with:

- 65 mm < foil facing insulation thickness < 85 mm with conductivity < 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values < 0.20 can be achieved with:

- 90 mm minimum foil facing insulation thickness with conductivity < 0.022 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Partial Fill Cavity Wall

Jamb

CD0068

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

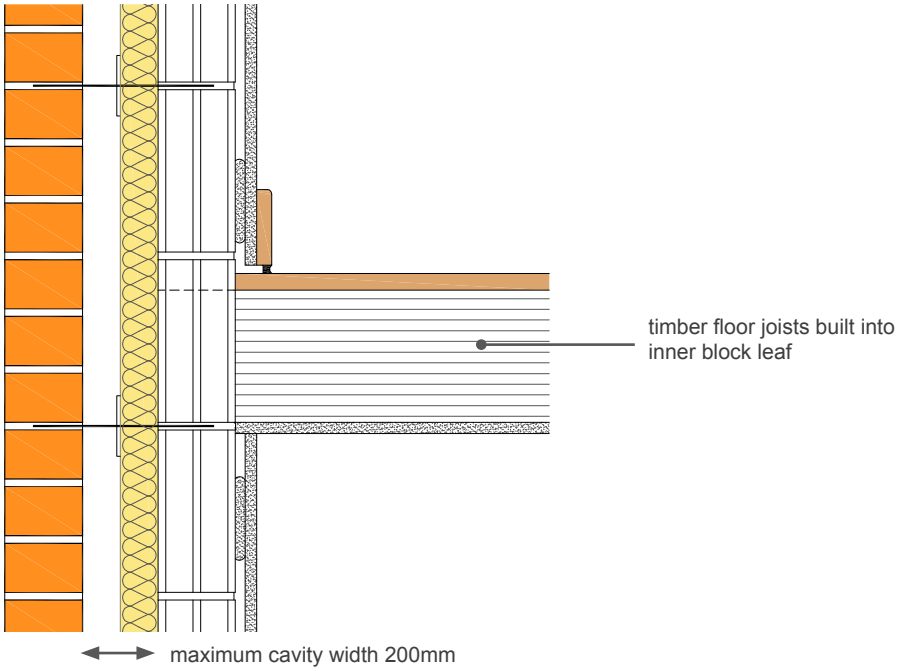
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the PVC-U cavity closer fully insulated with conductivity of 0.038 W/mK or less?	☐ ☐	.....
2.	Is there a minimum frame overlap of 30mm?	☐ ☐	.....
3.	Is there a maximum cavity width 200mm?	☐ ☐	.....
4.	Is there continuity of the insulation throughout the junction leaving no gaps?	☐ ☐	.....
5.	Is the partial fill wall insulation is secured firmly against the inner leaf of the cavity wall	☐ ☐	.....
6.	Are the cavities and wall ties are kept clean of mortar or other debris?	☐ ☐	.....
7.	Is flexible sealant applied to the junction of the plasterboard and the sill board as well as between the window frame and sill board?	☐ ☐	.....
8.	Is Ecoparge applied to ensure air barrier continuity?	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Partial Fill Cavity Wall

Intermediate timber floor within a dwelling

CD0069



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

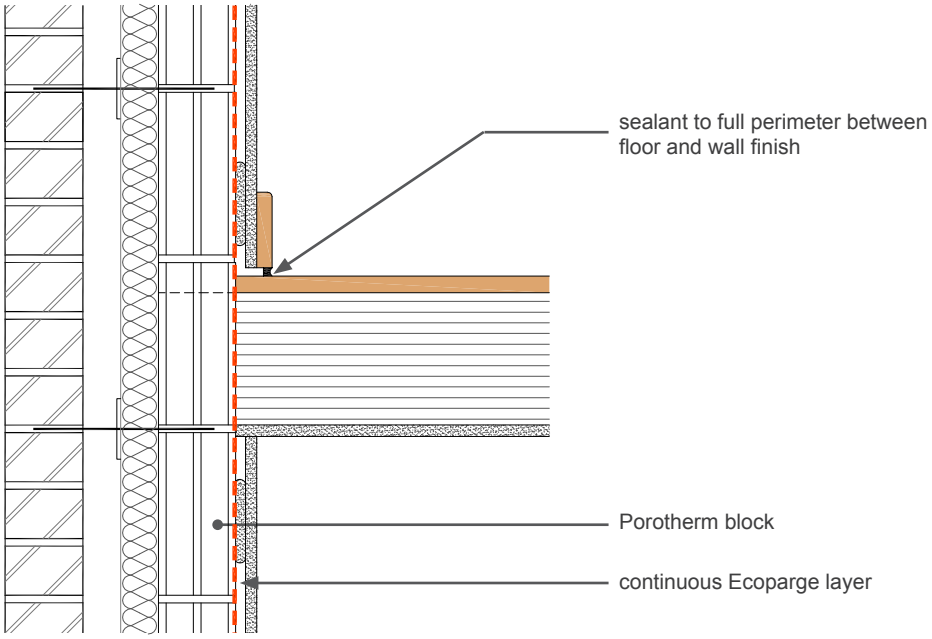
Notes

- Maximum cavity width 200mm
- continue cavity wall insulation acroos floor abutment zone
- ensure that the partial fill wall insulation is secured firmly against the inner leaf of the cavity wall
- ensure cavities and wall ties are kept clean of mortar or other debris during construction
- ensure there is a seal between the floor and wall finish
- the use of Ecoparge will ensure air barrier continuity
- this detail is also valid for joists supported using joist hangers (not shown in the drawing)

External Masonry Partial Fill Cavity Wall

Intermediate timber floor within a dwelling

CD0069



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)
0.26	0.00
0.29	0.00

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

External Masonry Partial Fill Cavity Wall

Intermediate timber floor within a dwelling

CD0069

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

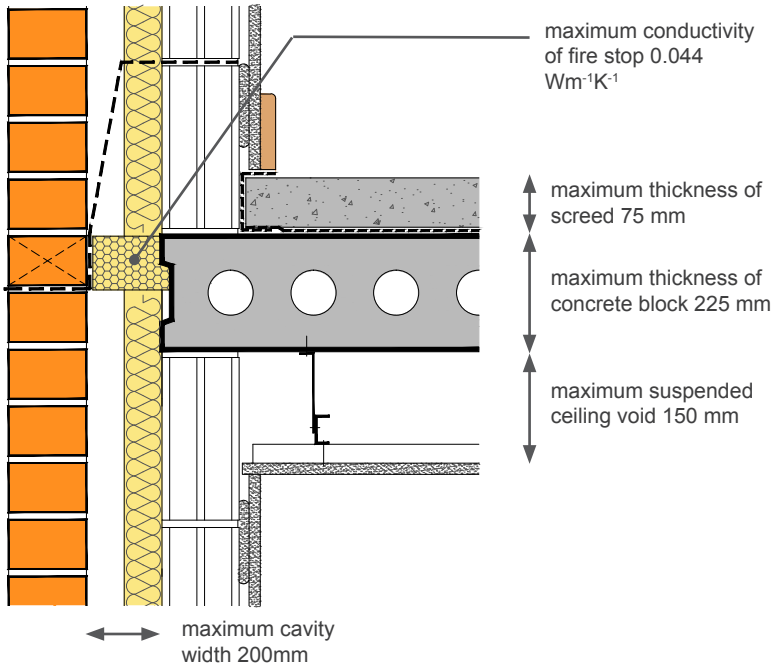
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is there a maximum cavity width 200mm	☐ ☐	.....
2.	Does the cavity wall insulation continue across floor abutment zone?	☐ ☐	.....
3.	Is the partial fill wall insulation is secured firmly against the inner leaf of the cavity wall?	☐ ☐	.....
4.	Are cavities and wall ties kept clean of mortar or other debris during construction?	☐ ☐	.....
5.	Is there is a seal between the floor and wall finish?	☐ ☐	.....
6.	Has Ecoparge been used to ensure air barrier continuity?	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Partial Fill Cavity Wall

Separating concrete floor between dwellings

CD0070



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

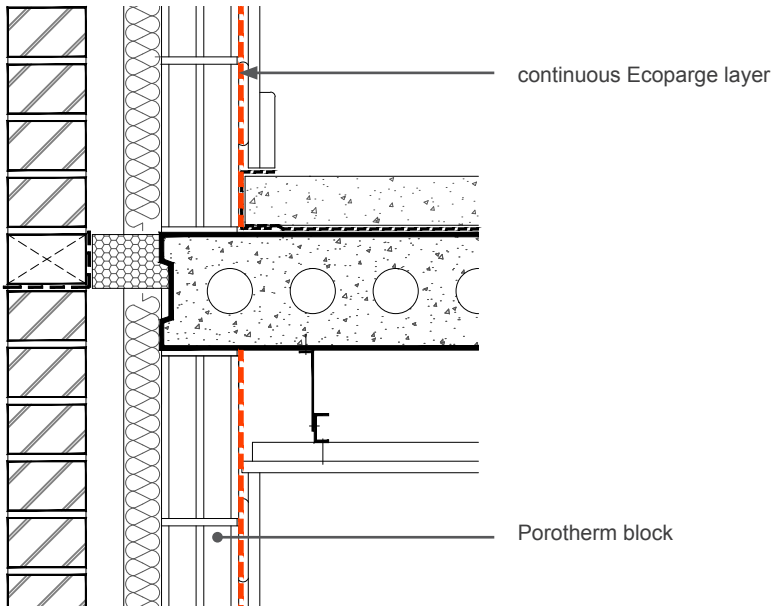
Notes

- Maximum cavity width 200mm
- ensure continuity of the insulation throughout the junction leaving no gaps
- ensure that the partial fill wall insulation is secured firmly against the inner leaf of the cavity wall
- maximum conductivity of the fire stop 0.044 $Wm^{-1}K^{-1}$
- ensure cavities and wall ties are kept clean of mortar or other debris during construction
- the use of Ecoparge will ensure air barrier continuity
- maximum thickness of screed 75 mm
- maximum thickness of concrete block 225 mm
- maximum suspended ceiling void 150 mm

External Masonry Partial Fill Cavity Wall

Separating comcrete floor between dwellings

CD0070



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.058	0.965	0.072	0.96	0.085	0.95
0.29	0.056	0.97	0.069	0.96	0.081	0.95

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values < 0.30 can be achieved with :

- 50 mm < foil facing insulation thickness < 65 mm with conductivity < 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values < 0.25 can be achieved with:

- 65 mm < foil facing insulation thickness < 85 mm with conductivity < 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values < 0.20 can be achieved with:

- 90 mm minimum foil facing insulation thickness with conductivity < 0.022 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Partial Fill Cavity Wall

Separating concrete floor between dwellings

CD0070

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

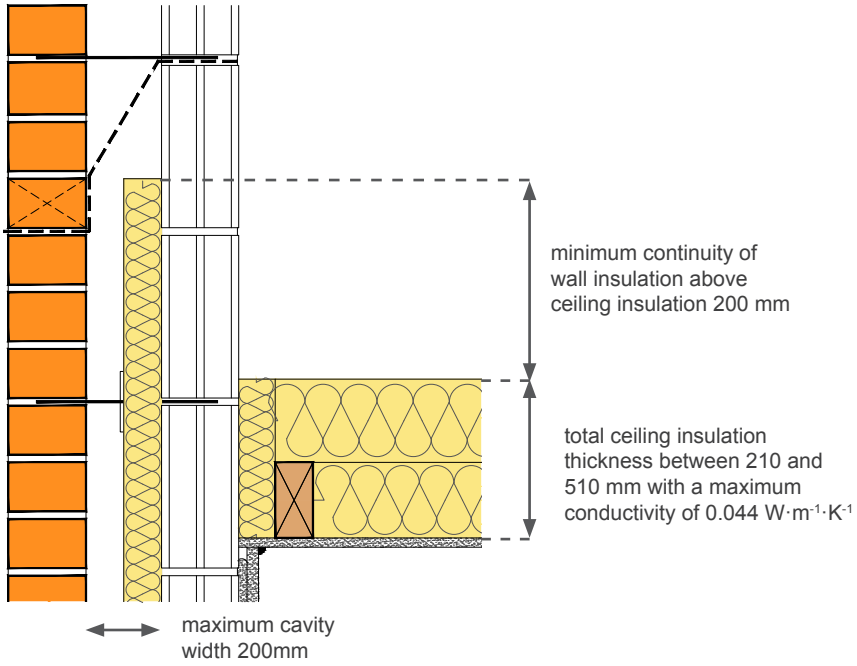
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the precast concrete floor thickness 225 mm or less?	☐ ☐	.....
2.	Is the concrete screed thickness 75 mm or less?	☐ ☐	.....
3.	Is the ceiling void thickness 150 mm or less?	☐ ☐	.....
4.	Is the fire stop conductivity 0.044 $W \cdot m^{-1} \cdot K^{-1}$ or less?	☐ ☐	.....
5.	Is the continuity of the insulation throughout the junction achieved?	☐ ☐	.....
6.	Is the partial fill wall insulation secured firmly?	☐ ☐	.....
7.	Is the continuity of the air barrier between the floor and the wall achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Partial Fill Cavity Wall

Pitched roof. Gable - Insulation at ceiling level

CD0071



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

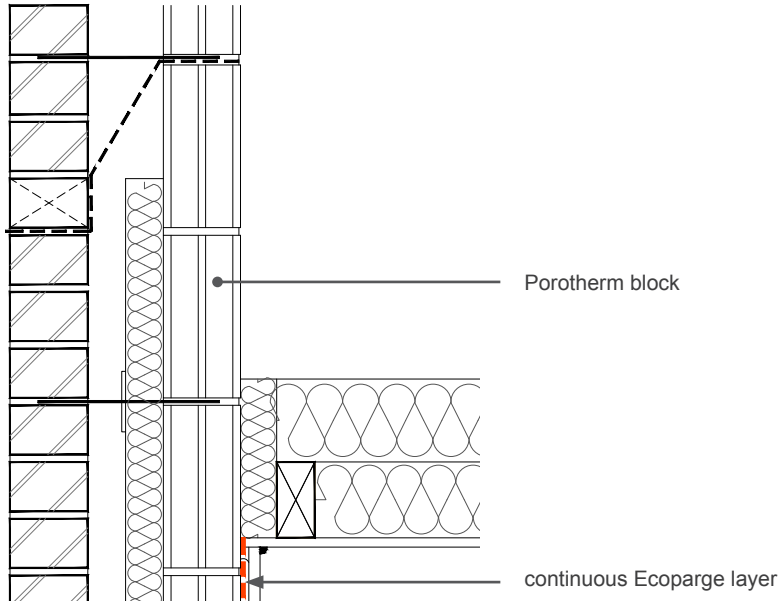
Notes

- Maximum cavity width 200mm
- ensure continuity of the insulation throughout the junction leaving no gaps
- ensure that the partial fill wall insulation is secured firmly against the inner leaf of the cavity wall
- maximum conductivity of the fire stop 0.044 $Wm^{-1}K^{-1}$
- ensure cavities and wall ties are kept clean of mortar or other debris during construction
- the use of Ecoparge will ensure air barrier continuity
- minimum conductivity of wall insulation above ceiling insulation 200 mm

External Masonry Partial Fill Cavity Wall

Pitched roof - Gable. Insulation at ceiling level

CD0071



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Ceiling insulation between 210 and 309 mm		Ceiling insulation between 310 and 409 mm		Ceiling insulation between 410 and 510 mm	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.089	0.89	0.085	0.89	0.084	0.89
0.29	0.085	0.89	0.081	0.89	0.079	0.89

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values < 0.30 can be achieved with :

- 50 mm < foil facing insulation thickness < 65 mm with conductivity < 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values < 0.25 can be achieved with:

- 65 mm < foil facing insulation thickness < 85 mm with conductivity < 0.022 $W \cdot m^{-1} \cdot K^{-1}$

W all U values < 0.20 can be achieved with:

- 90 mm minimum foil facing insulation thickness with conductivity < 0.022 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Partial Fill Cavity Wall

Pitched roof - Gable. Insulation at ceiling level

CD0071

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

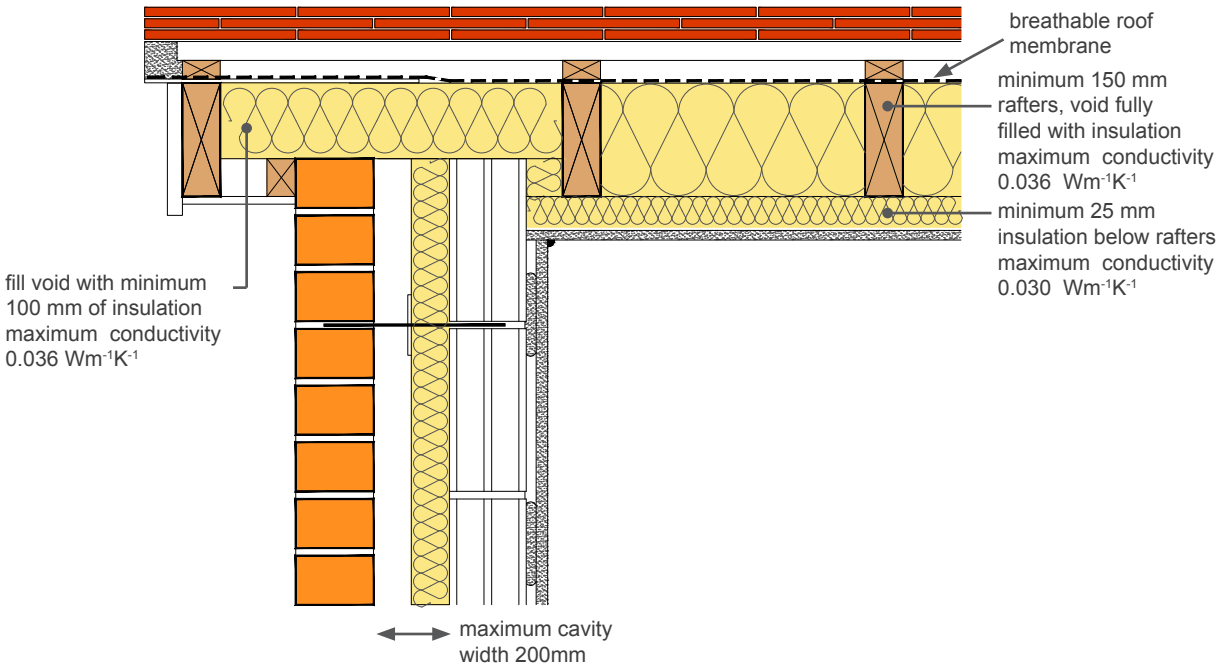
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the ceiling insulation thickness between 210 and 510 mm and has a maximum conductivity of 0.044 $W \cdot m^{-1} \cdot K^{-1}$?	☐ ☐	.....
2.	Is the gap between the first joint and the gable wall fully insulated?	☐ ☐	.....
3.	Is the partial fill insulation continued to at least 200 mm above the top of the ceiling insulation?	☐ ☐	.....
5.	If a cavity tray was used, does the full fill inulation fit tightly against the cavity tray, with no gaps?	☐ ☐	.....
6.	Is the continuity of the insulation through the junction achieved?	☐ ☐	.....
7.	Is the wall partial fill insulation secured firmly?	☐ ☐	.....
8.	Is the continuity of the air barrier achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Partial Fill Cavity Wall

Pitched roof. Gable - Insulation at rafter level

CD0072



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

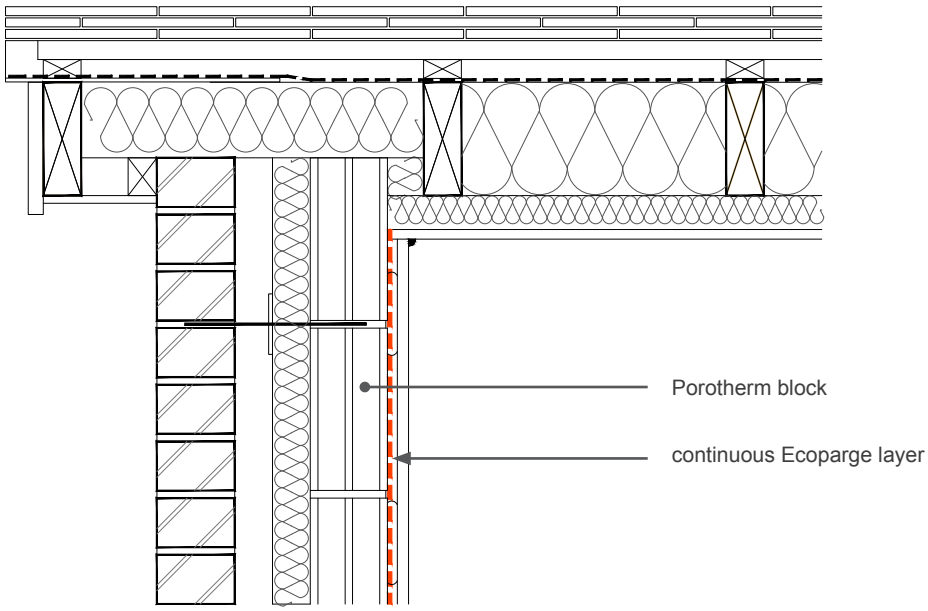
Notes

- Maximum cavity width 200mm
- ensure continuity of the insulation throughout the junction leaving no gaps
- ensure that the partial fill wall insulation is secured firmly against the inner leaf of the cavity wall
- fill the void between the top of the gable and the underside of the breathable roof membrane with a minimum of 100 mm of insulation with a maximum conductivity of 0.036 $Wm^{-1}K^{-1}$. Also fill the gap between the rafter and the wall.
- use minimum 150 mm rafters, with void between them fully filled with insulation of a maximum conductivity of 0.036 $Wm^{-1}K^{-1}$
- minimum 25 mm of insulation below rafters, with a maximum conductivity of 0.030 $Wm^{-1}K^{-1}$
- ensure cavities and wall ties are kept clean of mortar or other debris during construction
- the use of Ecoparge will ensure air barrier continuity

External Masonry Partial Fill Cavity Wall

Pitched roof - Gable. Insulation at rafter level

CD0072



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.085	0.90
0.29	0.075	0.90

These values are valid for roof U values equal or less than 0.20 $W \cdot m^{-1} \cdot K^{-1}$ and wall U values equal or less than 0.30 $W \cdot m^{-1} \cdot K^{-1}$

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values less or equal than 0.30 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 50 mm < foil facing insulation thickness < 65 mm with conductivity < 0.022 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Partial Fill Cavity Wall

Pitched roof - Gable. Insulation at rafter level

CD0072

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

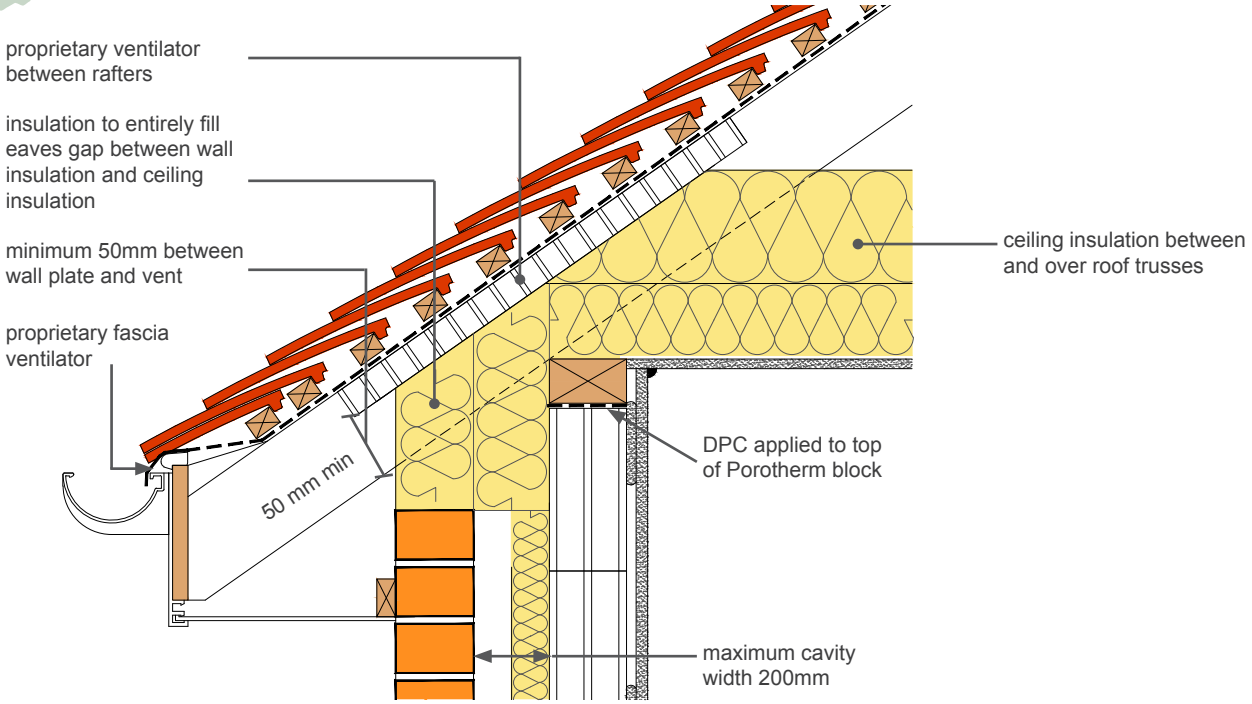
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the void between the top of the gable and the undeside of the breathable roof membrane at least 100 mm?	☐ ☐	.....
2.	Is the void between the top of the gable and the underside of the breathable roof membrane filled with insulation with a conductivity of 0.036 $W \cdot m^{-1} \cdot K^{-1}$ or less?	☐ ☐	.....
3.	Is the gap between the rafter and the wall filled with insulation with a conductivity of 0.036 $W \cdot m^{-1} \cdot K^{-1}$ or less?	☐ ☐	.....
4.	Is the conductivity of the insulation between the rafters of 0.036 $W \cdot m^{-1} \cdot K^{-1}$ or less?	☐ ☐	.....
5.	Is the insulation below rafters of a minimum of 25 mm thickness and with a conductivity of 0.030 $W \cdot m^{-1} \cdot K^{-1}$ or less?	☐ ☐	.....
6.	Is the wall partial fill insulation secured firmly?	☐ ☐	.....
7.	Is the continuity of the air barrier achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Partial Fill Cavity Wall

Pitched roof - eaves. Insulation at ceiling level

CD0073



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

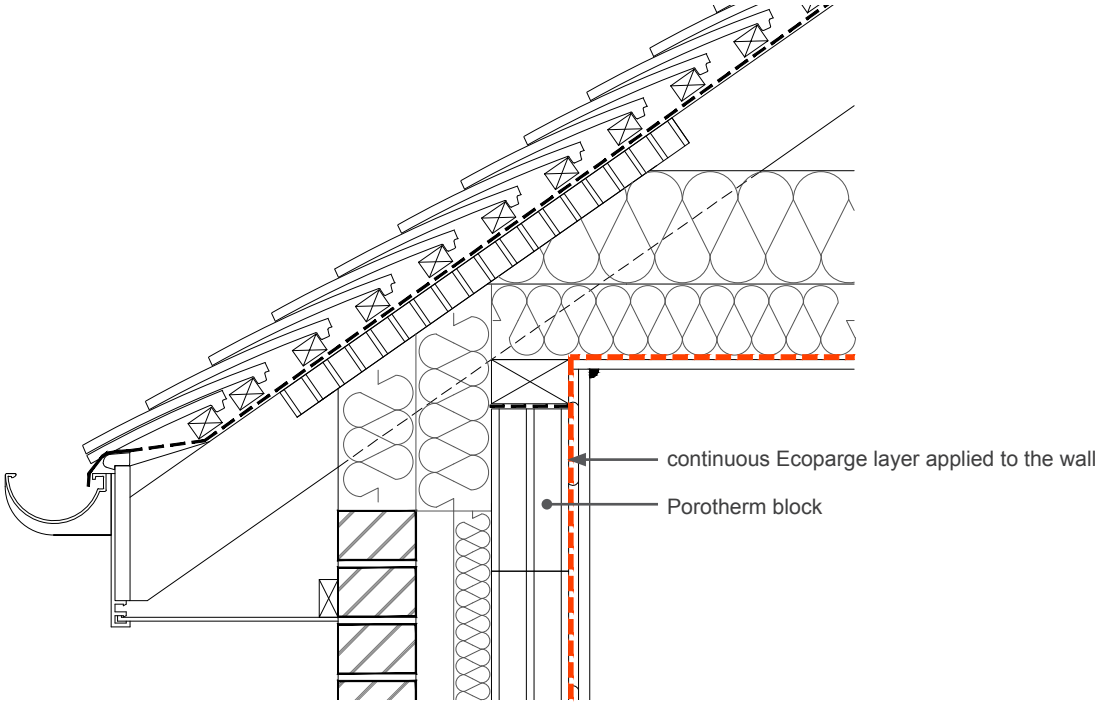
Notes

- maximum cavity width 200mm
- minimum 50mm wall clear air cavity
- ceiling insulation thickness between 200mm and 510mm
- maximum ceiling insulation conductivity 0.044 $W \cdot m^{-1} \cdot K^{-1}$
- insulation to entirely fill eaves gap between wall insulation and ceiling insulation
- ensure that the partial fill wall insulation is secured firmly against the inner leaf of the cavity wall
- ensure cavities and wall ties are kept clean of mortar or other debris during construction
- seal between the ceiling and wall with either plaster, adhesive or flexible sealant
- the use of Ecoparge will ensure air barrier continuity

External Masonry Partial Fill Cavity Wall

Pitched roof - eaves. Insulation at ceiling level

CD0073



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Ceiling insulation thickness between 200mm and 310mm

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.108	0.92	0.099	0.92	0.094	0.92
0.29	0.119	0.92	0.103	0.91	0.104	0.91

Ceiling insulation thickness between 311mm and 410mm

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.125	0.92	0.117	0.91	0.110	0.91
0.29	0.136	0.92	0.119	0.92	0.116	0.92

External Masonry Partial Fill Cavity Wall

Pitched roof - eaves. Insulation at ceiling level

CD0073

Ceiling insulation thickness between 411mm and 510mm

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.139	0.92	0.129	0.91	0.125	0.91
0.29	0.151	0.92	0.131	0.92	0.127	0.92

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values < 0.30 can be achieved with :

- 50 mm < foil facing insulation thickness < 65 mm with conductivity < 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values < 0.25 can be achieved with:

- 65 mm < foil facing insulation thickness < 85 mm with conductivity < 0.022 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values < 0.20 can be achieved with:

- 90 mm minimum foil facing insulation thickness with conductivity < 0.022 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Partial Fill Cavity Wall

Pitched roof - eaves. Insulation at ceiling level

CD0073

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

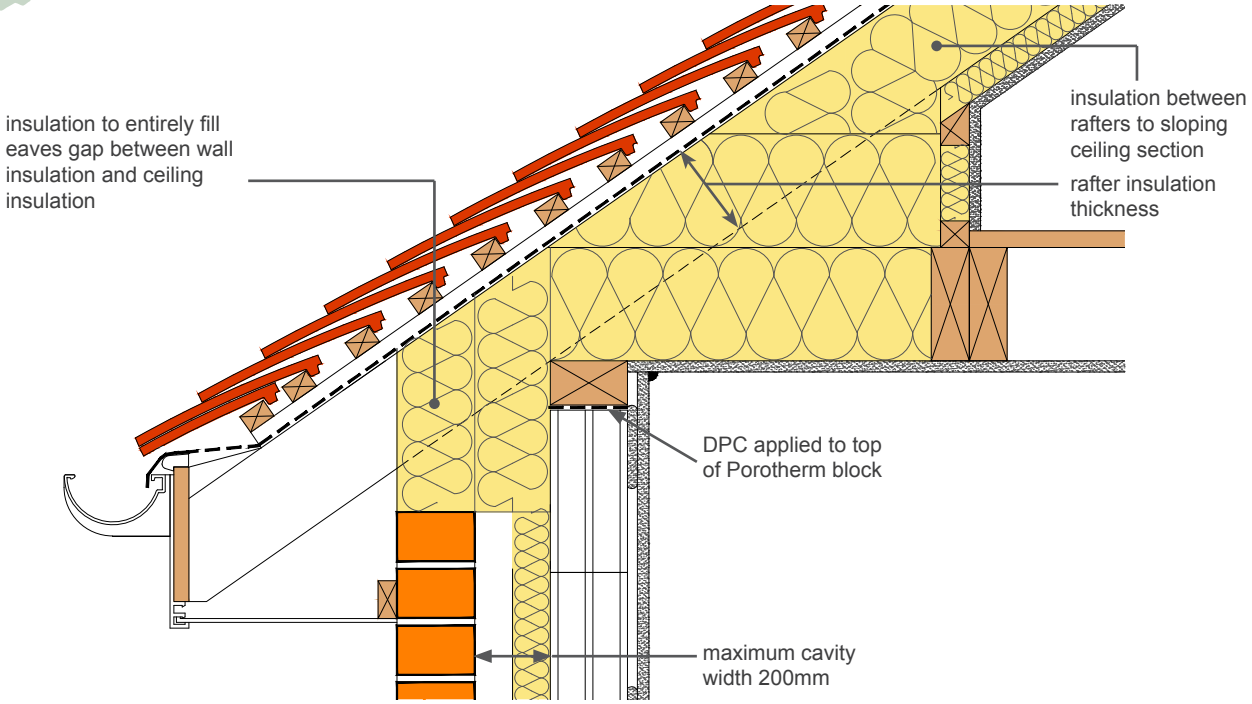
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the ceiling insulation thickness between 200 and 510 mm?	☐ ☐	.....
2.	Is the ceiling insulation conductivity 0.036 $W \cdot m^{-1} \cdot K^{-1}$ or less?	☐ ☐	.....
3.	Is there a minimum 50mm gap between the ventilator and the wall plate filled with insulation?	☐ ☐	.....
4.	Does the insulation entirely fill the eaves gap between the wall insulation and the ceiling insulation?	☐ ☐	.....
5.	Is the wall partial fill insulation secured firmly?	☐ ☐	.....
6.	Is the continuity of the air barrier between the floor and the wall achieved? If not, please provide details.	☐ ☐	.....
		☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Partial Fill Cavity Wall

Pitched roof - eaves. Insulation at rafter level

CD0074



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

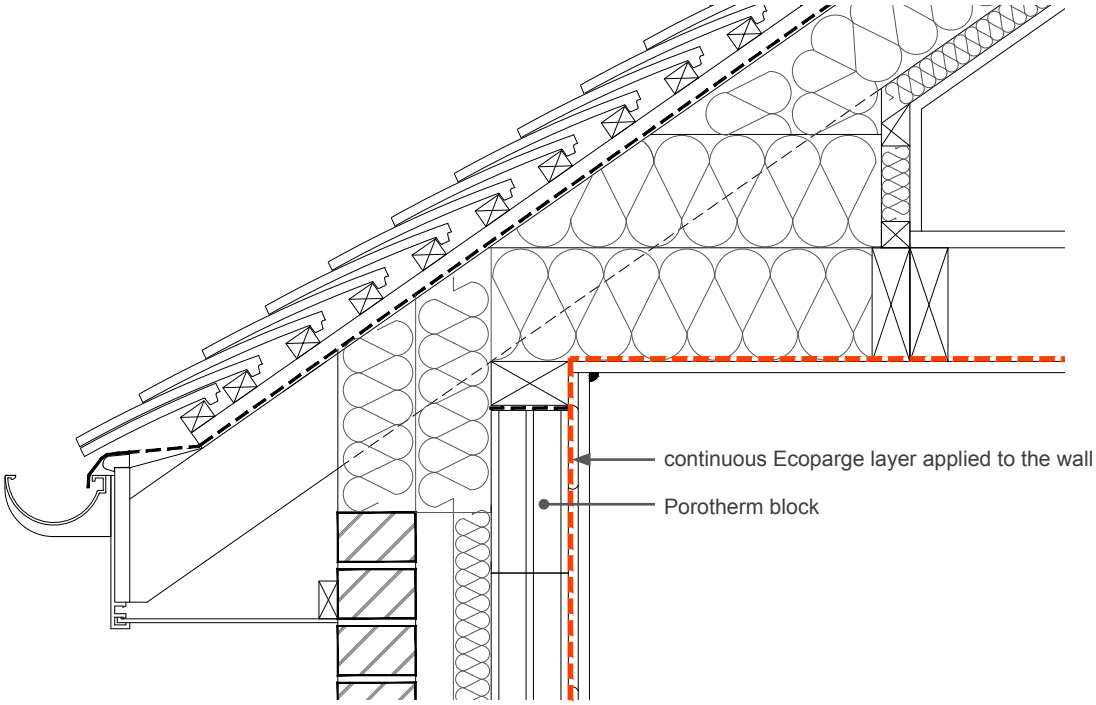
Notes

- maximum cavity width 200mm
- minimum 50mm wall clear air cavity
- ceiling insulation thickness between 100mm and 410mm
- maximum ceiling insulation conductivity 0.036 $W \cdot m^{-1} \cdot K^{-1}$
- insulation to entirely fill eaves gap between wall insulation and ceiling insulation
- ensure that the partial fill wall insulation is secured firmly against the inner leaf of the cavity wall
- ensure cavities and wall ties are kept clean of mortar or other debris during construction
- seal between the ceiling and wall with either plaster, adhesive or flexible sealant
- the use of Ecoparge will ensure air barrier continuity

External Masonry Partial Fill Cavity Wall

Pitched roof - eaves. Insulation at rafter level

CD0074



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Rafter insulation thickness between 100mm and 210mm

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.054	0.98	0.039	0.98	0.032	0.98
0.29	0.040	0.98	0.029	0.98	0.019	0.97

Rafter insulation thickness between 211mm and 310mm

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.042	0.98	0.031	0.98	0.024	0.98
0.29	0.034	0.98	0.024	0.98	0.016	0.98

External Masonry Partial Fill Cavity Wall

Pitched roof - eaves. Insulation at rafter level

CD0074

Rafter insulation thickness between 311mm and 410mm

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.038	0.98	0.028	0.98	0.022	0.98
0.29	0.032	0.98	0.024	0.98	0.016	0.98

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 W·m–1·K–1) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 W·m–1·K–1) have been used.

Wall U values < 0.30 can be achieved with :

- 50 mm < foil facing insulation thickness < 65 mm with conductivity < 0.022 W·m–1·K–1

Wall U values < 0.25 can be achieved with:

- 65 mm < foil facing insulation thickness < 85 mm with conductivity < 0.022 W·m–1·K–1

Wall U values < 0.20 can be achieved with:

- 90 mm minimum foil facing insulation thickness with conductivity < 0.022 W·m–1·K–1

External Masonry Partial Fill Cavity Wall

Pitched roof - eaves. Insulation at rafter level

CD0074

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

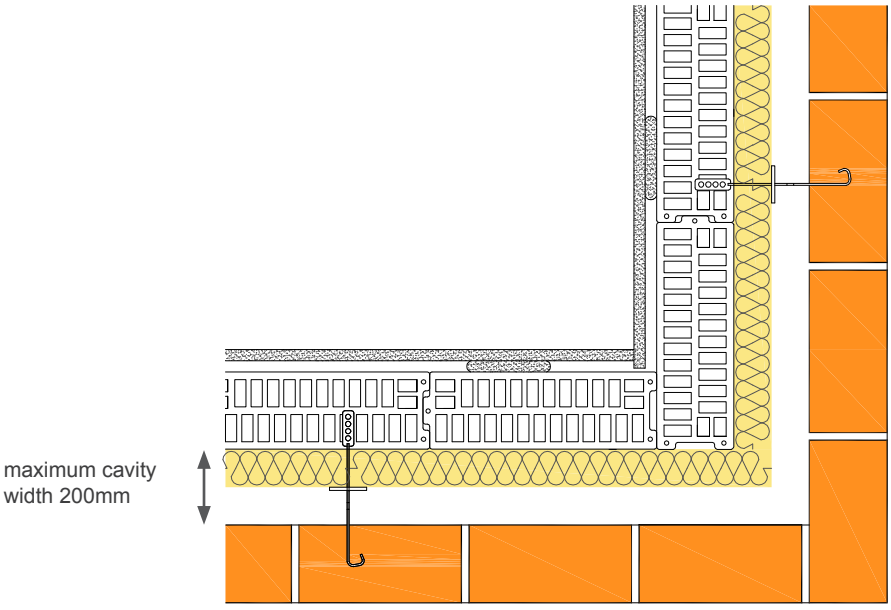
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the ceiling insulation thickness between 100 and 410 mm?	☐ ☐	.....
2.	Is the ceiling insulation conductivity 0.036 $W \cdot m^{-1} \cdot K^{-1}$ or less?	☐ ☐	.....
3.	Is there a minimum 50mm gap between the ventilator and the wall plate filled with insulation?	☐ ☐	.....
4.	Does the insulation entirely fill the eaves gap between the wall insulation and the ceiling insulation?	☐ ☐	.....
5.	Is the wall partial fill insulation secured firmly?	☐ ☐	.....
6.	Is the continuity of the air barrier between the floor and the wall achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Partial Fill Cavity Wall

Normal Corner

CD0075



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

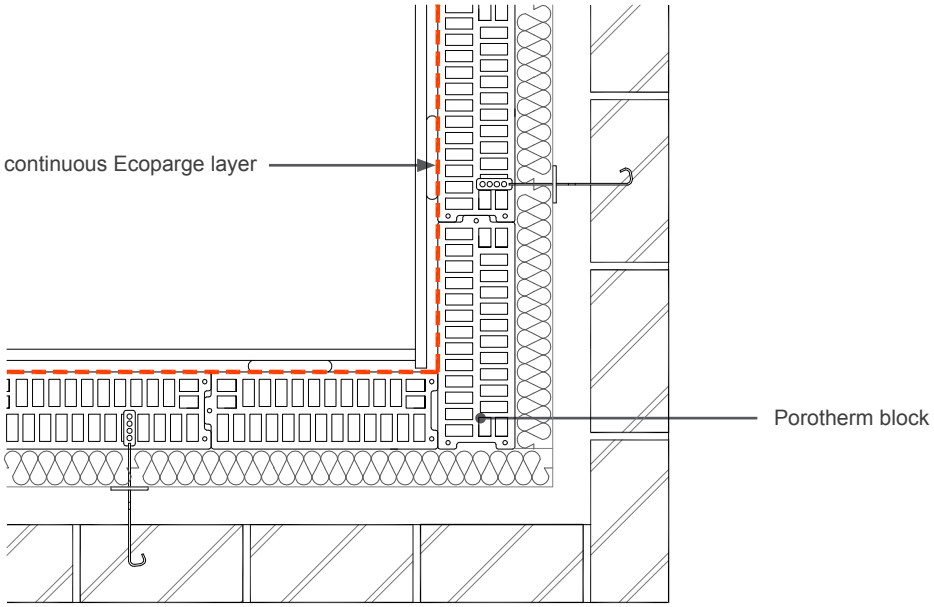
Notes

- Maximum cavity width 200mm
- ensure continuity of the insulation throughout the junction leaving no gaps
- ensure that the partial fill wall insulation is secured firmly against the inner leaf of the cavity wall
- ensure cavities and wall ties are kept clean of mortar or other debris during construction
- the use of Ecoparge will ensure air barrier continuity

External Masonry Partial Fill Cavity Wall

Normal Corner

CD0075



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.047	0.93	0.061	0.91	0.065	0.90
0.29	0.036	0.93	0.052	0.92	0.055	0.91

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values < 0.30 can be achieved with :

- 50 mm < foil facing insulation thickness < 65 mm with conductivity < 0.022 W·m–1·K–1

Wall U values < 0.25 can be achieved with:

- 65 mm < foil facing insulation thickness < 85 mm with conductivity < 0.022 W·m–1·K–1

Wall U values < 0.20 can be achieved with:

- 90 mm minimum foil facing insulation thickness with conductivity < 0.022 W·m–1·K–1

External Masonry Partial Fill Cavity Wall

Normal Corner

CD0075

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

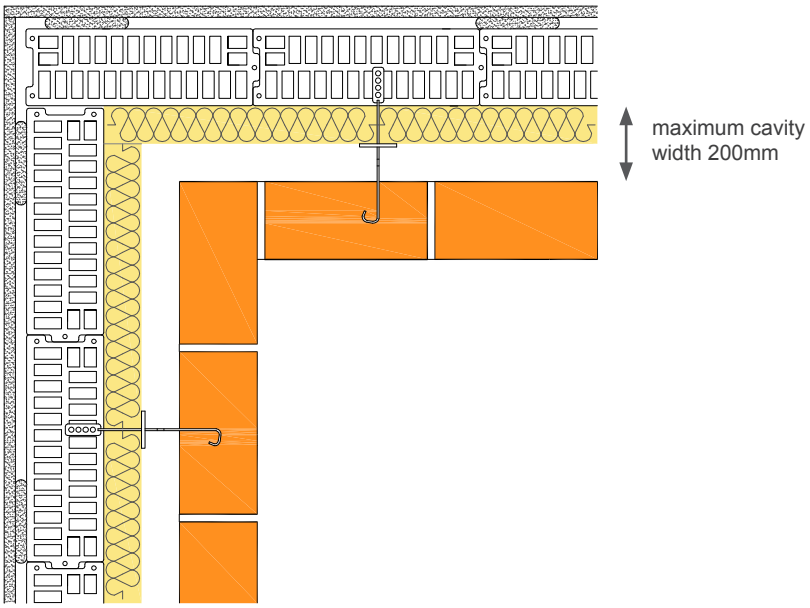
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is there a maximum cavity width 200mm?	☐ ☐	.....
2.	Does the insulation continue throughout the junction leaving no gaps?	☐ ☐	.....
3.	Is the partial fill wall insulation secured firmly against the inner leaf of the cavity wall?	☐ ☐	.....
4.	Are cavities and wall ties are kept clean of mortar or other debris during construction?	☐ ☐	.....
5.	Is Ecoparge applied to ensure air barrier continuity?	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Partial Fill Cavity Wall

Inverted Corner

CD0076



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

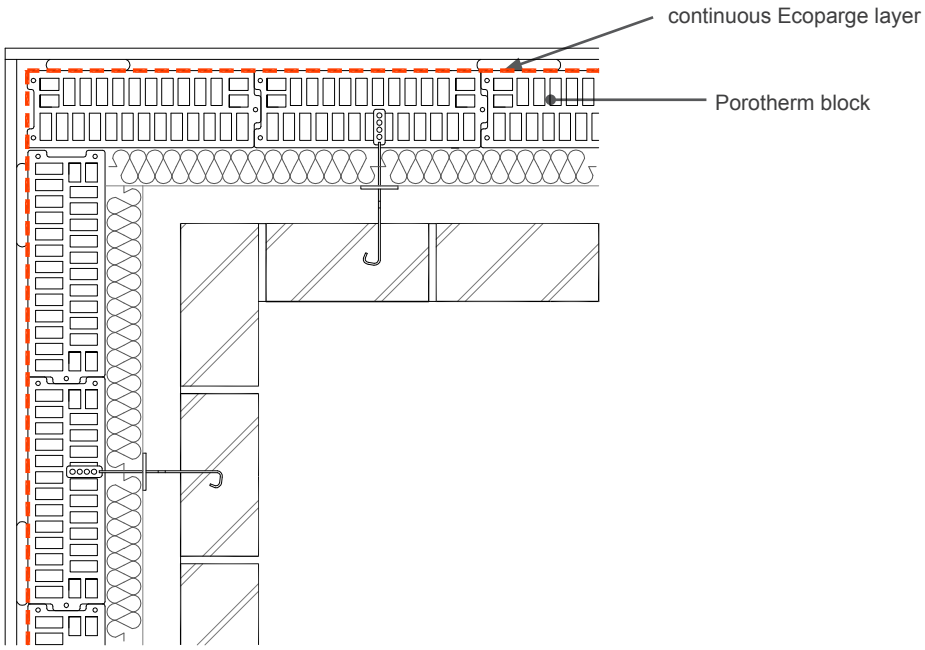
Notes

- Maximum cavity width 200mm
- ensure the continuity of the insulation throughout the junction leaving no gaps
- ensure that the partial fill wall insulation is secured firmly against the inner leaf of the cavity wall
- ensure cavities and wall ties are kept clean of mortar or other debris during construction
- the use of Ecoparge will ensure air barrier continuity

External Masonry Partial Fill Cavity Wall

Inverted Corner

CD0076



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	-0.057	0.99	-0.083	0.97	-0.099	0.96
0.29	-0.050	0.99	-0.072	0.99	-0.082	1.00

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values < 0.30 can be achieved with :

- 50 mm < foil facing insulation thickness < 65 mm with conductivity < 0.022 W·m–1·K–1

Wall U values < 0.25 can be achieved with:

- 65 mm < foil facing insulation thickness < 85 mm with conductivity < 0.022 W·m–1·K–1

Wall U values < 0.20 can be achieved with:

- 90 mm minimum foil facing insulation thickness with conductivity < 0.022 W·m–1·K–1

External Masonry Partial Fill Cavity Wall

Inverted Corner

CD0076

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

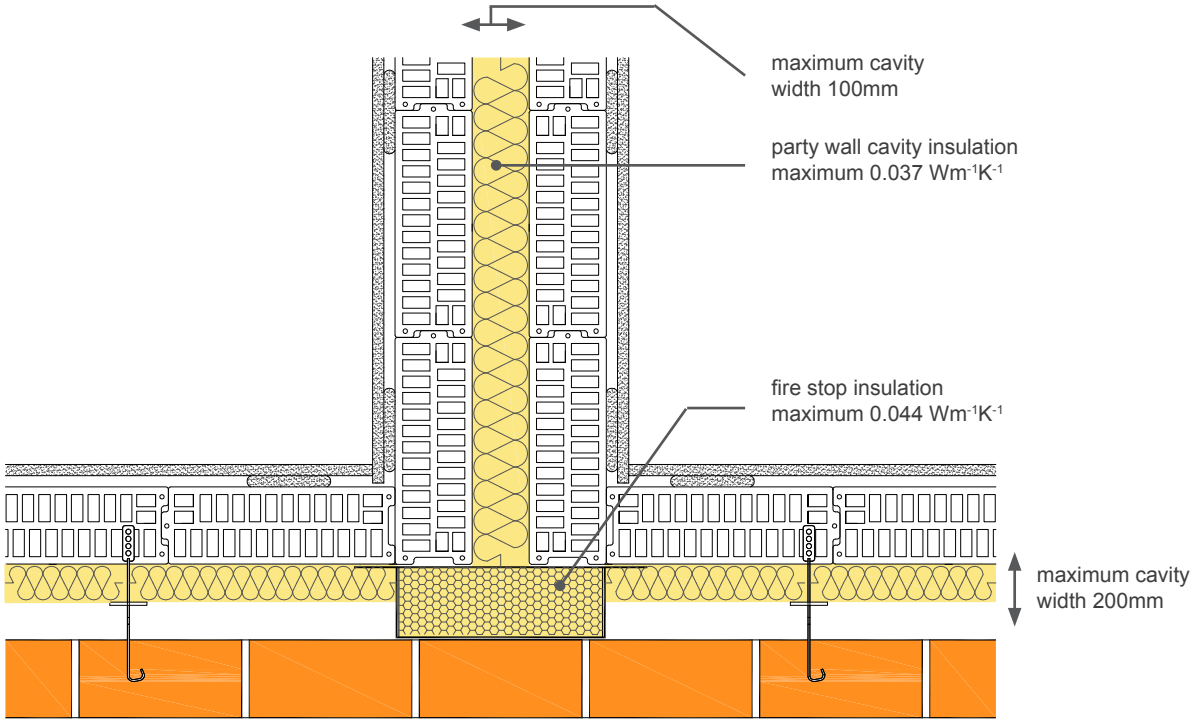
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the continuity of insulation throughout the junction achieved?	☐ ☐	.....
2.	Is the partial fill insulation secured firmly?	☐ ☐	.....
3.	Is the continuity of the air barrier achieved? If not, please provide details.	☐ ☐	.....
		☐ ☐	.....
		☐ ☐	.....
		☐ ☐	.....
		☐ ☐	.....
		☐ ☐	.....
		☐ ☐	.....
		☐ ☐	.....
		☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Partial Fill Cavity Wall

Party wall

CD0077



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

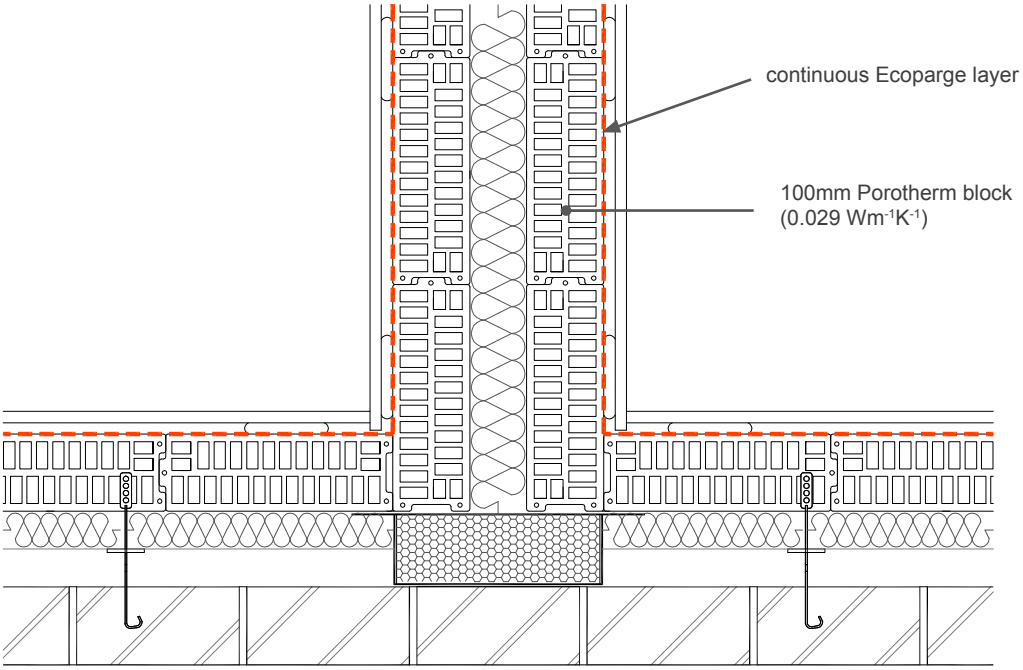
Notes

- Maximum external wall cavity width 200mm
- Maximum party wall cavity width of 100mm
- Party wall fully filled with insulation (λ = 0.037 $Wm^{-1}K^{-1}$ maximum)
- Party wall blocks are 100mm Porotherm (λ = 0.029 $Wm^{-1}K^{-1}$)
- Ensure that the insulated fire stop (λ = 0.044 $Wm^{-1}K^{-1}$ maximum) covers the full width of the abutting wall
- ensure continuity of the insulation throughout the junction leaving no gaps
- ensure that the partial fill wall insulation is secured firmly against the inner leaf of the cavity wall
- ensure cavities and wall ties are kept clean of mortar or other debris during construction
- the use of Ecoparge will ensure air barrier continuity

External Masonry Partial Fill Cavity Wall

Party wall

CD0077



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.042	0.95	0.043	0.94	0.049	0.93
0.29	0.041	0.95	0.048	0.94	0.051	0.93

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values < 0.30 can be achieved with :

- 50 mm < foil facing insulation thickness < 65 mm with conductivity < 0.022 W·m–1·K–1

Wall U values < 0.25 can be achieved with:

- 65 mm < foil facing insulation thickness < 85 mm with conductivity < 0.022 W·m–1·K–1

Wall U values < 0.20 can be achieved with:

- 90 mm minimum foil facing insulation thickness with conductivity < 0.022 W·m–1·K–1

External Masonry Partial Fill Cavity Wall

Party Wall

CD0077

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

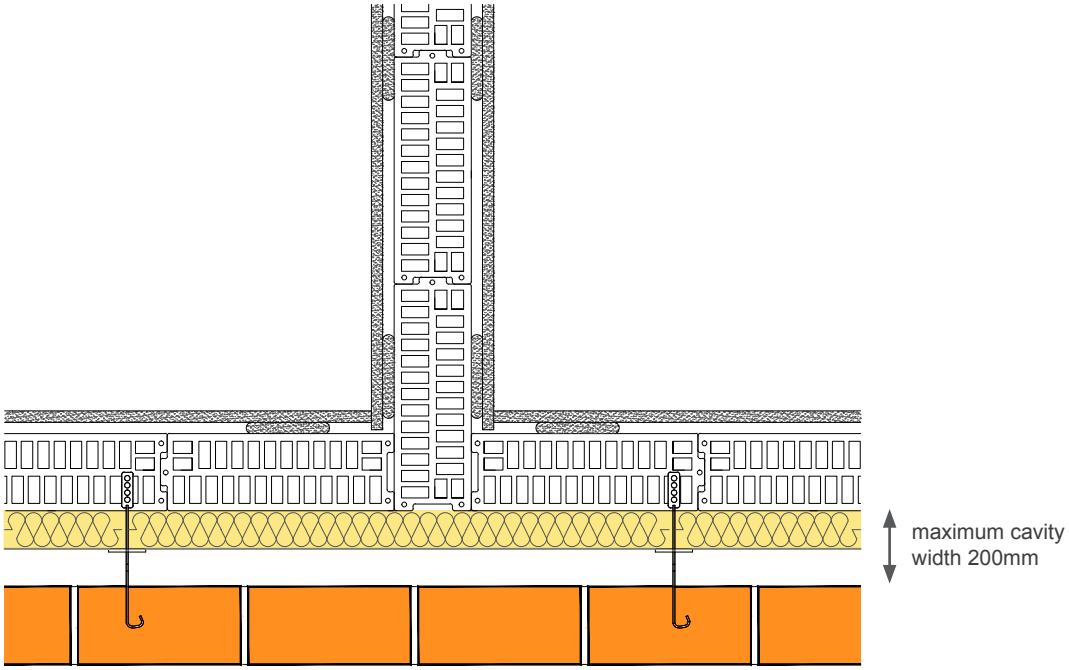
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the maximum external wall cavity width 200mm?	☐ ☐	.....
2.	Is the maximum party wall cavity width of 100mm?	☐ ☐	.....
3.	Is the party wall fully filled with insulation (λ = 0.037 $Wm^{-1}K^{-1}$ maximum)?	☐ ☐	.....
4.	Are the party wall blocks 100mm Porotherm (λ = 0.029 $Wm^{-1}K^{-1}$)?	☐ ☐	.....
5.	Is the insulated fire stop (λ = 0.044 $Wm^{-1}K^{-1}$ maximum) and does it cover the full width of the abutting wall?	☐ ☐	.....
6.	Is the insulation continued throughout the junction ensuring no gaps	☐ ☐	.....
7.	Is the partial fill wall insulation secured firmly against the inner leaf of the cavity wall?	☐ ☐	.....
8.	Are cavities and wall ties are kept clean of mortar or other debris during construction?	☐ ☐	.....
9.	Is Ecoparge used to provide air barrier continuity?	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Partial Fill Cavity Wall

Partition wall

CD0078



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

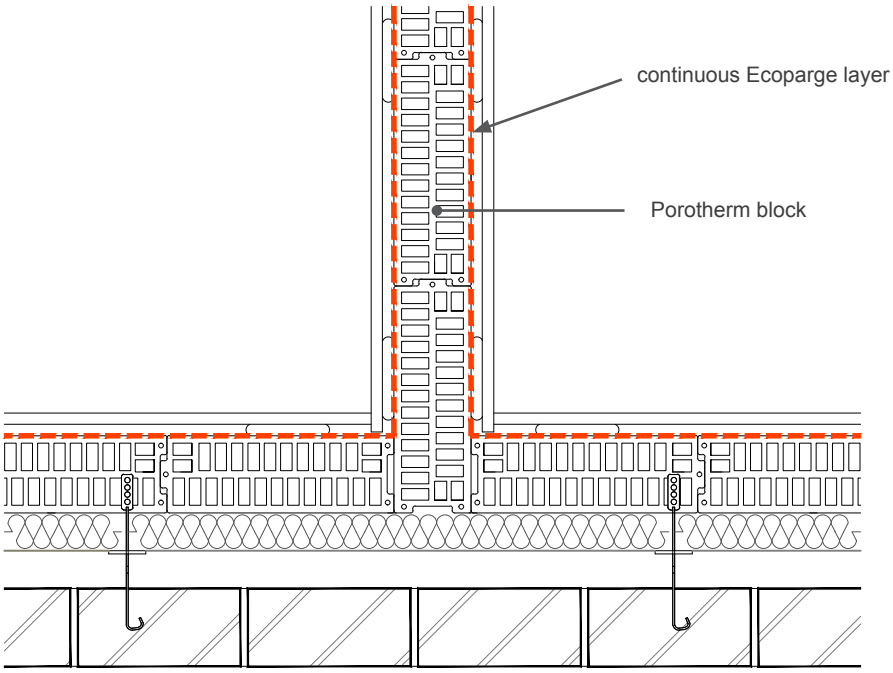
Notes

- Maximum external wall cavity width 200mm
- Partition wall blocks are 100mm Porotherm (λ = 0.029 $Wm^{-1}K^{-1}$) or 140mm /190mm Porotherm (λ = 0.026 $Wm^{-1}K^{-1}$)
- ensure continuity of the insulation throughout the junction leaving no gaps
- ensure that the partial fill wall insulation is secured firmly against the inner leaf of the cavity wall
- ensure cavities and wall ties are kept clean of mortar or other debris during construction
- the use of Ecoparge will ensure air barrier continuity

External Masonry Partial Fill Cavity Wall

Partition wall

CD0078



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Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)
0.26	0.00
0.29	0.00

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

External Masonry Partial Fill Cavity Wall

Partition wall

CD0078

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

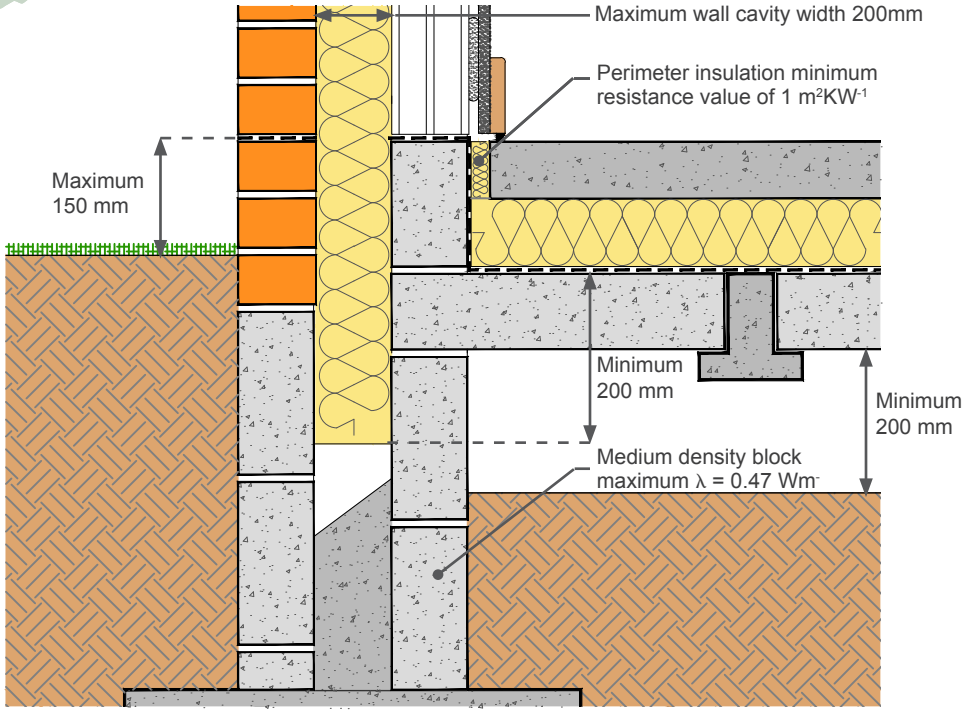
Site name: ..... Plot No: .....

Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the partition wall formed of Porotherm blocks?	☐ ☐	.....
2.	Is the continuity if insulation throughout the junction achieved?	☐ ☐	.....
3.	Is the partial fill insulation secured firmly?	☐ ☐	.....
4.	Is the continuity of the air barrier achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Full Fill Cavity Wall Suspended beam and block floor. Insulation above slab

CD0079



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

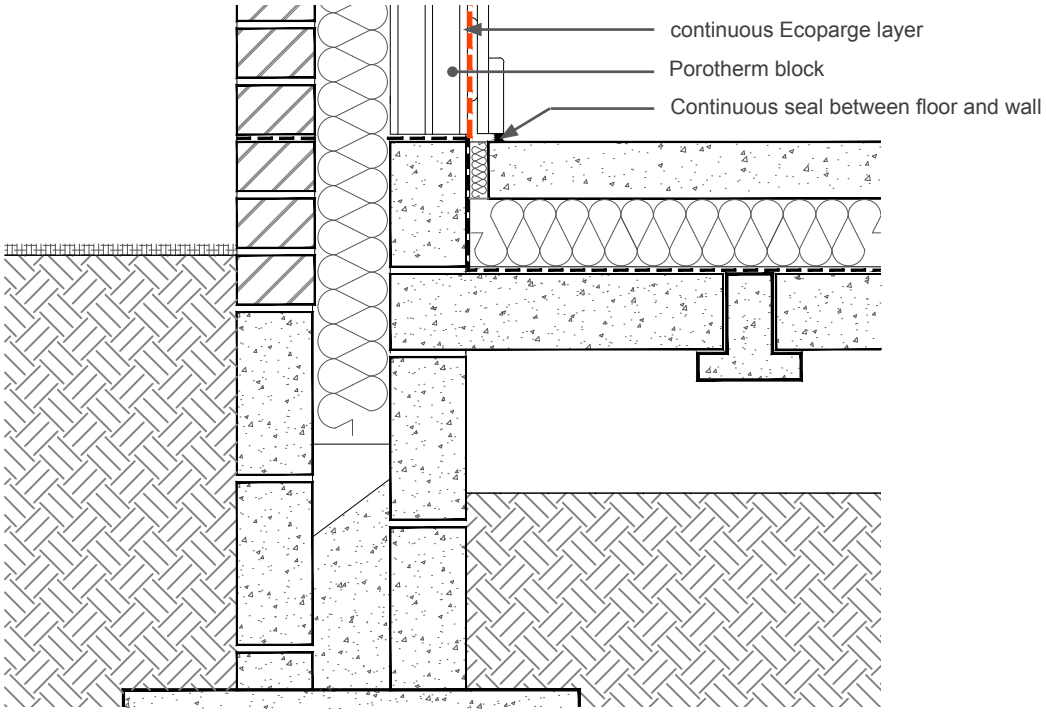
Notes

- Perimeter insulation strip with a minimum resistance value of 1 $m^2 \cdot K \cdot W^{-1}$ (eg 25 mm of insulation with λ= 0.025 $W \cdot m^{-1} \cdot K^{-1}$) and installed up to floor finish
- Medium density blocks below floor level with a maximum λ= 0.47 $W \cdot m^{-1} \cdot K^{-1}$
- Maximum distance between interior and exterior floor level of 150 mm
- Minimum underfloor cavity height of 200 mm
- Minimum 200 mm overlap of cavity wall insulation from top of the floor beam
- Maximum cavity width 200mm
- Ensure that the full fill insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps
- Ensure that the full fill wall insulation is suitable for the wall exposure, and is resistant to water penetration
- Ensure that the floor insulation tightly abuts blockwork wall
- Ensure that there is a seal between the wall and floor air barrier with no gaps between the skirting board and the floor. The use of Ecoparge will ensure air barrier continuity of the wall.

External Masonry Full Fill Cavity Wall

Suspended beam and block floor. Insulation above slab

CD0079



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

These values are valid for any wall U value less than 0.30 $W \cdot m^{-2} \cdot K^{-1}$

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Floor U value between 0.08 and 0.11 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value between 0.12 and 0.19 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value greater or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.108	0.91	0.108	0.91	0.096	0.92
0.29	0.095	0.93	0.093	0.92	0.087	0.92

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Case 1: Floor U value between 0.08 and 0.11 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimeter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 135 mm and 205 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.11	0.12	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13

Case 2: Floor U value between 0.12 and 0.19 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimeter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 60 mm and 120 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.18	0.19	0.19	0.20	0.21	0.21	0.22	0.22	0.23	0.23	0.23	0.23	0.23	0.23	0.24	0.24	0.24

Case 3: Floor U value ≥ 0.20 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimeter / area of 0.25)

For example, floor U values for the range shown above can be achieved with 50 mm insulation with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is greater than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.19	0.20	0.22	0.22	0.23	0.24	0.24	0.25	0.25	0.25	0.26	0.26	0.26	0.26	0.27	0.27	0.27

Note: U values 0.26 and above are above the limit for the floor U value according to The Building Regulations 2013 (England and Wales) (As amended).

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values less or equal than 0.30 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 100 mm ≤ insulation thickness ≤ 120 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.25 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 125 mm ≤ insulation thickness ≤ 150 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 160 mm minimum insulation thickness with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Full Fill Cavity Wall

Suspended beam and block floor. Insulation above slab

CD0079

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

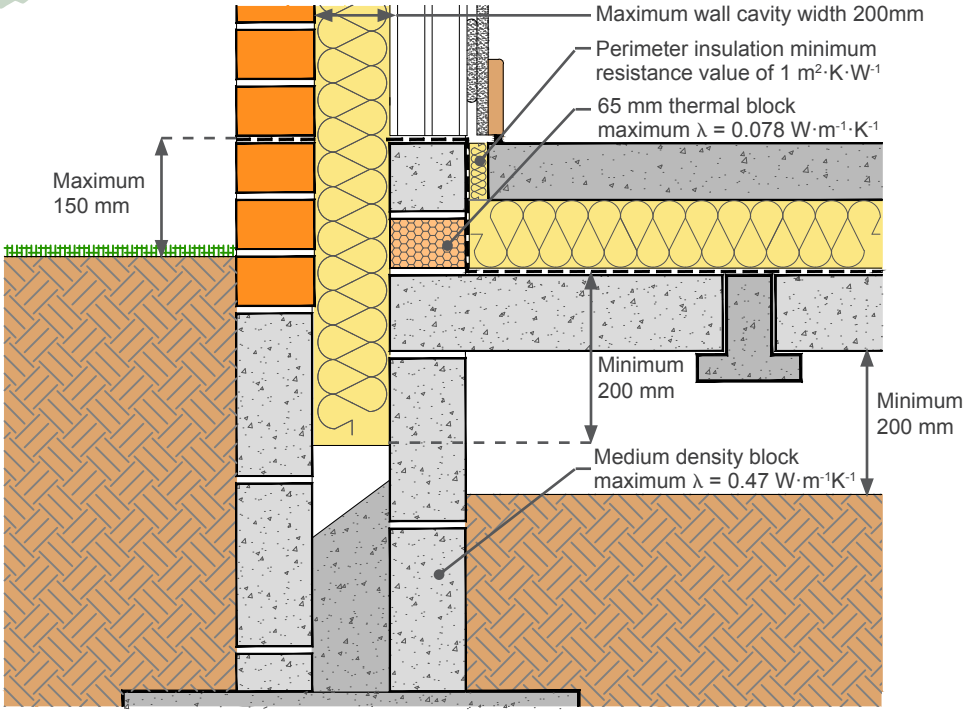
Site name: ..... Plot No: .....

Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the perimeter insulation as specified?		
	— Minimum resistance value of 1 $m^2 \cdot K \cdot W^{-1}$	☐ ☐	.....
	— Installed up to floor finish	☐ ☐	.....
2.	Is the full fill insulation continued at least 200 mm below the underside of the floor insulation?	☐ ☐	.....
3.	Is the underfloor cavity height of 200 mm or more?	☐ ☐	.....
4.	Is the maximum distance between interior and exterior floor level of 150 mm?	☐ ☐	.....
5.	Is the wall full fill insulation installed correctly with no gaps?	☐ ☐	.....
6.	Is the wall full fill insulation appropriate for moisture and wall exposure?	☐ ☐	.....
7.	Is the floor insulation abutting the blockwork wall, leaving no gaps?	☐ ☐	.....
8.	Is the continuity of the air barrier between the floor and the wall achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Full Fill Cavity Wall Suspended beam and block floor. Insulation above slab. Thermal block

CD0080



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

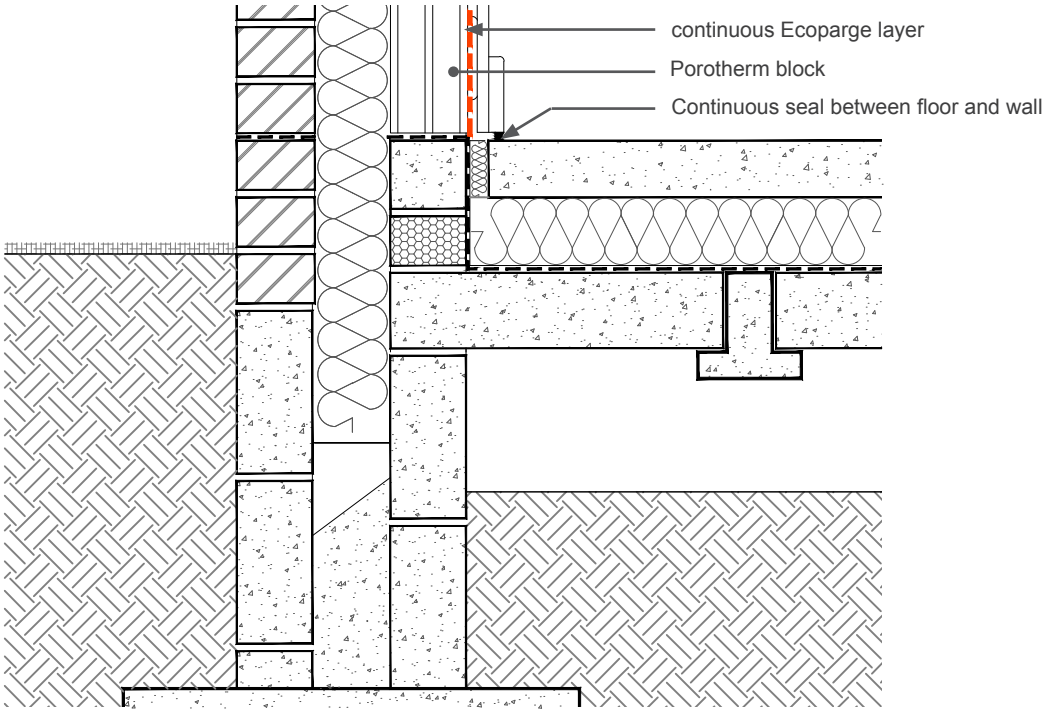
Notes

- Perimeter insulation strip with a minimum resistance value of 1 $m^2 \cdot K \cdot W^{-1}$ (eg 25 mm of insulation with $\lambda = 0.025\ W \cdot m^{-1} \cdot K^{-1}$) and installed up to floor finish
- Medium density blocks below floor level with a maximum $\lambda = 0.47\ W \cdot m^{-1} \cdot K^{-1}$
- Thermal block of a minimum height of 65 mm and a maximum $\lambda = 0.078\ W \cdot m^{-1} \cdot K^{-1}$
- Maximum distance between interior and exterior floor level of 150 mm
- Minimum underfloor cavity height of 200 mm
- Minimum 200 mm overlap of cavity wall insulation from top of the floor beam
- Maximum cavity width 200mm
- Ensure that the full fill insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps
- Ensure that the full fill wall insulation is suitable for the wall exposure, and is resistant to water penetration. Ensure that the floor insulation tightly abuts blockwork wall
- Ensure that there is a seal between the wall and floor air barrier with no gaps between the skirting board and the floor. The use of Ecoparge will ensure air barrier continuity of the wall.

External Masonry Full Fill Cavity Wall

Suspended beam and block floor. Insulation above slab. Thermal block

CD0080



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

These values are valid for any wall U value less than 0.30 $W \cdot m^{-2} \cdot K^{-1}$

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Floor U value between 0.08 and 0.11 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value between 0.12 and 0.19 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value greater or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.084	0.93	0.077	0.93	0.064	0.94
0.29	0.075	0.94	0.066	0.94	0.057	0.94

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Case 1: Floor U value between 0.08 and 0.11 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimeter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 135 mm and 205 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.11	0.12	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13

Case 2: Floor U value between 0.12 and 0.19 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimeter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 60 mm and 120 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.18	0.19	0.19	0.20	0.21	0.21	0.22	0.22	0.23	0.23	0.23	0.23	0.23	0.23	0.24	0.24	0.24

Case 3: Floor U value ≥ 0.20 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimeter / area of 0.25)

For example, floor U values for the range shown above can be achieved with 50 mm insulation with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is greater than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.19	0.20	0.22	0.22	0.23	0.24	0.24	0.25	0.25	0.25	0.26	0.26	0.26	0.26	0.27	0.27	0.27

Note: U values 0.26 and above are above the limit for the floor U value according to The Building Regulations 2013 (England and Wales) (As amended).

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values less or equal than 0.30 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 100 mm ≤ insulation thickness ≤ 120 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.25 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 125 mm ≤ insulation thickness ≤ 150 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 160 mm minimum insulation thickness with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Full Fill Cavity Wall

Suspended beam and block floor. Insulation above slab. Thermal block

CD0080

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

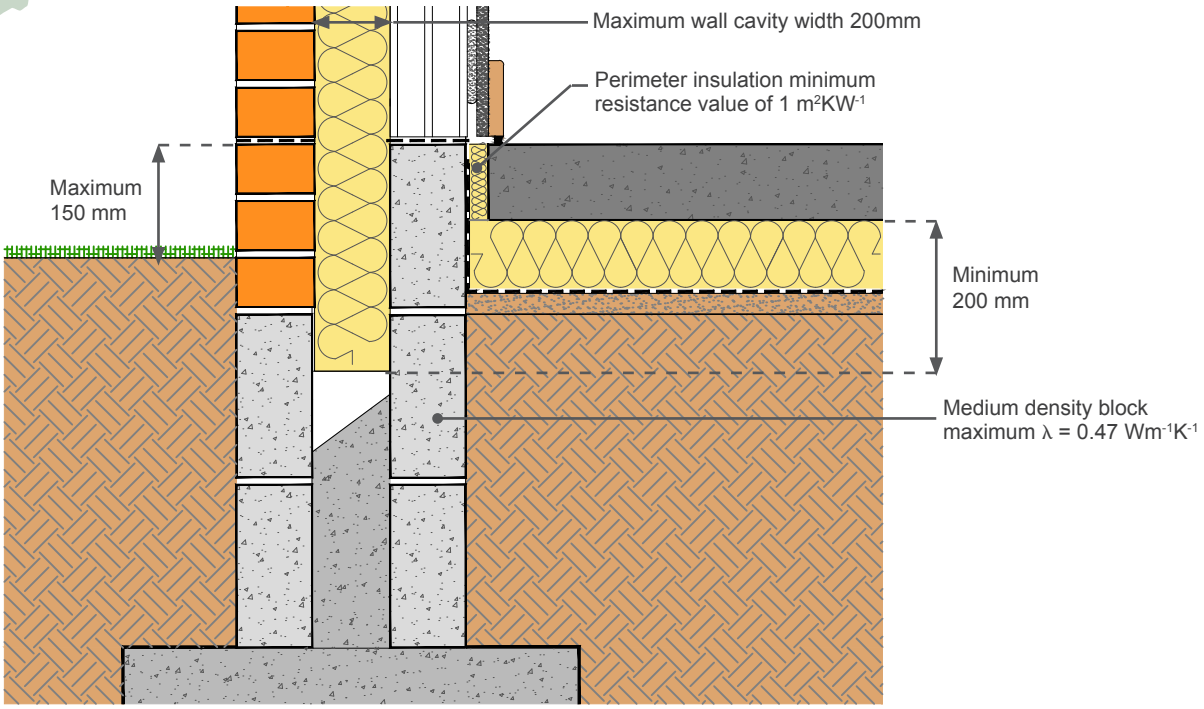
Site name: ..... Plot No: .....

Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the perimeter insulation as specified?		
	— Minimum resistance value of 1 $m^2 \cdot K \cdot W^{-1}$	☐ ☐	.....
	— Installed up to floor finish	☐ ☐	.....
2.	Is the thermal block of a minimum height of 65 mm and with a maximum conductivity value of 0.078 $W \cdot m^{-1} \cdot K^{-1}$?	☐ ☐	.....
3.	Is the full fill insulation continued at least 200 mm below the underside of the floor insulation?	☐ ☐	.....
4.	Is the underfloor cavity height of 200 mm or more?	☐ ☐	.....
5.	Is the maximum distance between interior and exterior floor level of 150 mm?	☐ ☐	.....
6.	Is the wall full fill insulation installed correctly with no gaps?	☐ ☐	.....
7.	Is the wall full fill insulation appropriate for moisture and wall exposure?	☐ ☐	.....
8.	Is the floor insulation abutting the blockwork wall, leaving no gaps?	☐ ☐	.....
9.	Is the continuity of the air barrier between the floor and the wall achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Full Fill Cavity Wall
Concrete ground bearing floor.
Insulation below slab

CD0081



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

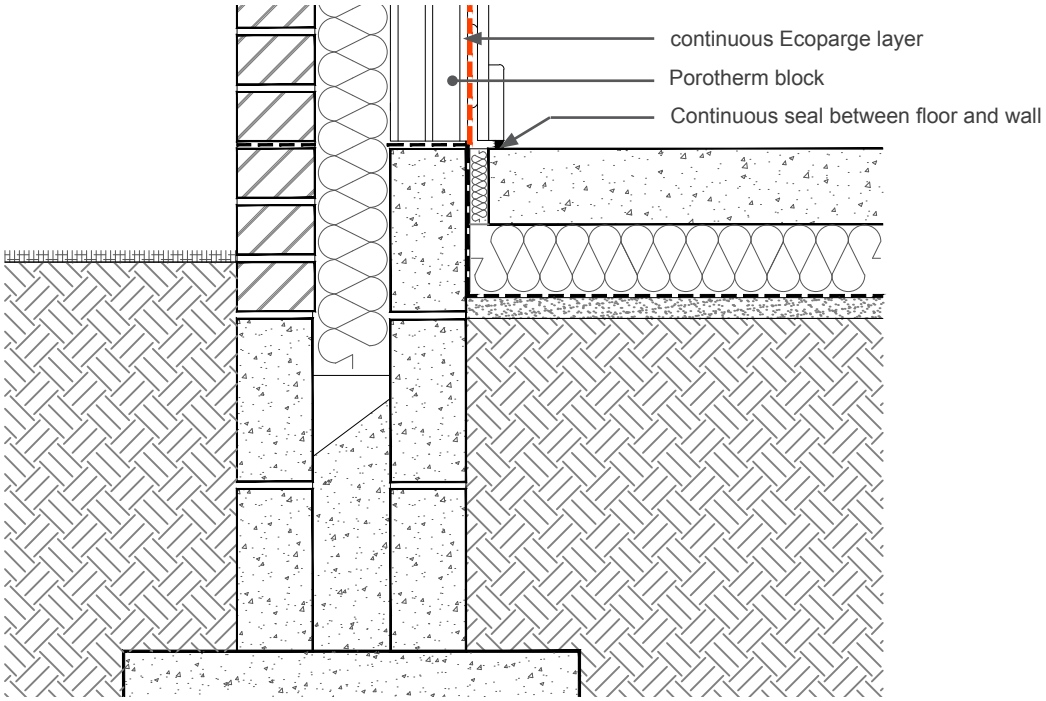
Notes

- Perimeter insulation strip with a minimum resistance value of 1 $m^2 \cdot K \cdot W^{-1}$ (eg 25 mm of insulation with λ = 0.025 $W \cdot m^{-1} \cdot K^{-1}$) and installed up to floor finish
- Medium density blocks below floor level with a maximum λ = 0.47 $W \cdot m^{-1} \cdot K^{-1}$
- Maximum distance between interior and exterior floor level of 150 mm
- Minimum 200 mm overlap of cavity wall insulation from the top of the floor insulation
- Maximum cavity width 200mm
- Ensure that the full fill insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps
- Ensure that the full fill wall insulation is suitable for the wall exposure, and is resistant to water penetration
- Ensure that the floor insulation tightly abuts blockwork wall
- Ensure that there is a seal between the wall and floor air barrier with no gaps between the skirting board and the floor
- The use of Ecoparge will ensure air barrier continuity of the wall

External Masonry Full Fill Cavity Wall

Concrete ground bearing floor. Insulation below slab

CD0081



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

These values are valid for any wall U value less than 0.30 $W \cdot m^{-2} \cdot K^{-1}$

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Floor U value between 0.08 and 0.11 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value between 0.12 and 0.19 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value greater or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.122	0.93	0.113	0.925	0.067	0.915
0.29	0.113	0.93	0.102	0.93	0.069	0.915

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Case 1: Floor U value between 0.08 and 0.11 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimeter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 135 mm and 205 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.11	0.12	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13

Case 2: Floor U value between 0.12 and 0.19 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimeter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 60 mm and 120 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.18	0.19	0.19	0.20	0.21	0.21	0.22	0.22	0.23	0.23	0.23	0.23	0.23	0.23	0.24	0.24	0.24

Case 3: Floor U value ≥ 0.20 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimeter / area of 0.25)

For example, floor U values for the range shown above can be achieved with 50 mm insulation with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is greater than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.19	0.20	0.22	0.22	0.23	0.24	0.24	0.25	0.25	0.25	0.26	0.26	0.26	0.26	0.27	0.27	0.27

Note: U values 0.26 and above are above the limit for the floor U value according to The Building Regulations 2013 (England and Wales) (As amended).

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values less or equal than 0.30 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 100 mm ≤ insulation thickness ≤ 120 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.25 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 125 mm ≤ insulation thickness ≤ 150 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 160 mm minimum insulation thickness with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Full Fill Cavity Wall

Concrete ground bearing floor. Insulation below slab

CD0081

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

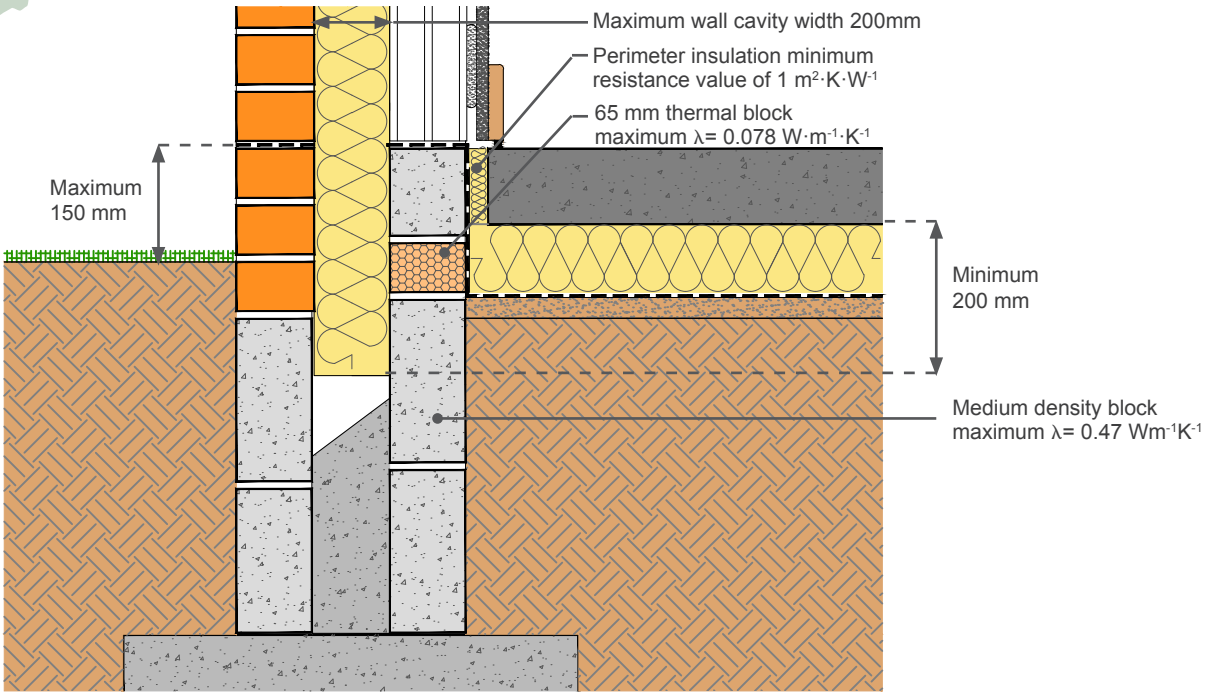
Site name: ..... Plot No: .....

Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the perimeter insulation as specified?		
	— Minimum resistance value of 1 $m^2 \cdot K \cdot W^{-1}$	☐ ☐	.....
	— Installed up to floor finish	☐ ☐	.....
2.	Is the full fill insulation continued at least 200 mm below the top of the floor insulation?	☐ ☐	.....
3.	Is the maximum distance between interior and exterior floor level of 150 mm?	☐ ☐	.....
4.	Is the wall full fill insulation installed correctly with no gaps?	☐ ☐	.....
5.	Is the wall full fill insulation appropriate for moisture and wall exposure?	☐ ☐	.....
6.	Is the floor insulation abutting the blockwork wall, leaving no gaps?	☐ ☐	.....
7.	Is the continuity of the air barrier between the floor and the wall achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Full Fill Cavity Wall
Concrete ground bearing floor.
Insulation below slab. Thermal block

CD0082



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

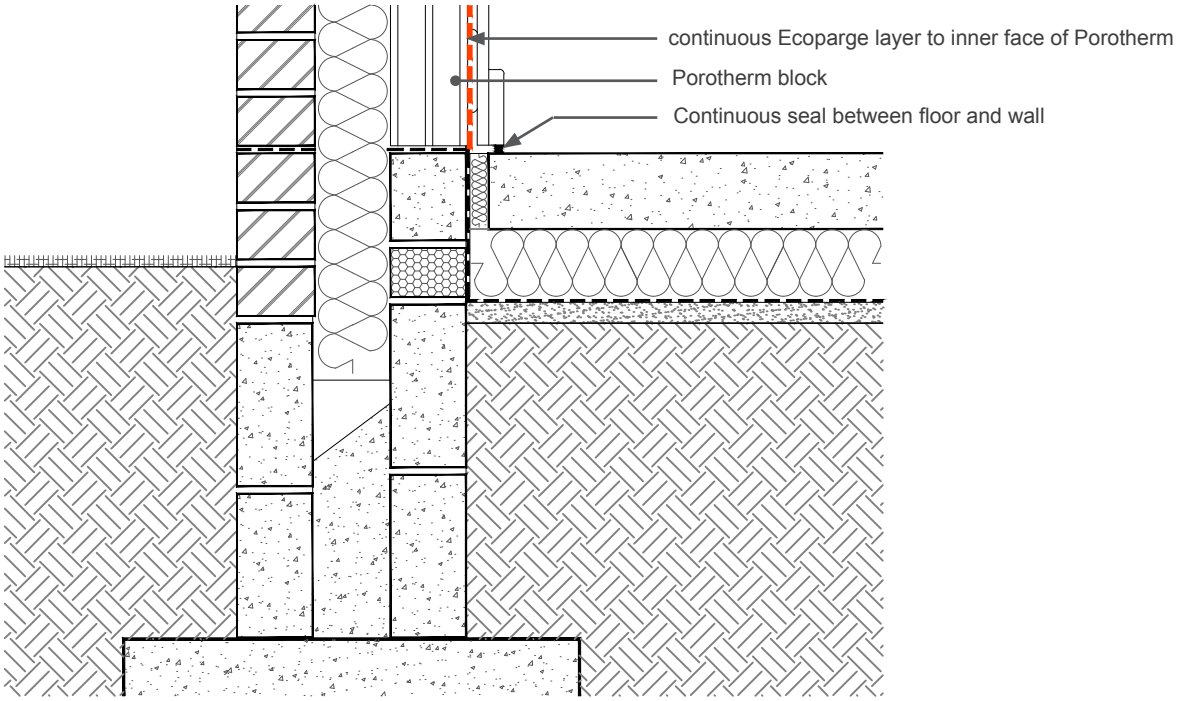
Notes

- Perimeter insulation strip with a minimum resistance value of 1 $m^2 \cdot K \cdot W^{-1}$ (eg 25 mm of insulation with λ = 0.025 $W \cdot m^{-1} \cdot K^{-1}$) and installed up to floor finish
- Medium density blocks below floor level with a maximum λ = 0.47 $W \cdot m^{-1} \cdot K^{-1}$
- Thermal block of a minimum height of 65 mm and a maximum λ = 0.078 $W \cdot m^{-1} \cdot K^{-1}$
- Maximum distance between interior and exterior floor level of 150 mm
- Minimum 200 mm overlap of cavity wall insulation from the top of the floor insulation
- Maximum cavity width 200mm
- Ensure that the full fill insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps
- Ensure that the full fill wall insulation is suitable for the wall exposure, and is resistant to water penetration
- Ensure that the floor insulation tightly abuts blockwork wall
- Ensure that there is a seal between the wall and floor air barrier with no gaps between the skirting board and the floor. The use of Ecoparge will ensure air barrier continuity of the wall.

External Masonry Full Fill Cavity Wall

Concrete ground bearing floor. Insulation below slab. Thermal block

CD0082



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

These values are valid for any wall U value less than 0.30 $W \cdot m^{-2} \cdot K^{-1}$

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Floor U value between 0.08 and 0.11 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value between 0.12 and 0.19 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value greater or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.29	0.091	0.94	0.082	0.94	0.048	0.925

Wall U value less than 0.20 $W \cdot m^{-2} \cdot K^{-1}$

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Floor U value between 0.08 and 0.11 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value between 0.12 and 0.19 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value greater or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.094	0.95	0.083	0.94	0.040	0.94

Wall U value between 0.21 $W \cdot m^{-2} \cdot K^{-1}$ and 0.25 $W \cdot m^{-2} \cdot K^{-1}$

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Floor U value between 0.08 and 0.11 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value between 0.12 and 0.19 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value greater or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.095	0.94	0.086	0.94	0.042	0.93

Wall U value between 0.26 $W \cdot m^{-2} \cdot K^{-1}$ and 0.30 $W \cdot m^{-2} \cdot K^{-1}$

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Floor U value between 0.08 and 0.11 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value between 0.12 and 0.19 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value greater or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.100	0.94	0.089	0.94	0.046	0.93

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Case 1: Floor U value between 0.08 and 0.11 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimeter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 135 mm and 205 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.11	0.12	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13

Case 2: Floor U value between 0.12 and 0.19 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimeter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 60 mm and 120 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A m m^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.18	0.19	0.19	0.20	0.21	0.21	0.22	0.22	0.23	0.23	0.23	0.23	0.23	0.23	0.24	0.24	0.24

Case 3: Floor U value ≥ 0.20 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimeter / area of 0.25)

For example, floor U values for the range shown above can be achieved with 50 mm insulation with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is greater than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.19	0.20	0.22	0.22	0.23	0.24	0.24	0.25	0.25	0.25	0.26	0.26	0.26	0.26	0.27	0.27	0.27

Note: U values 0.26 and above are above the limit for the floor U value according to The Building Regulations 2013 (England and Wales) (As amended).

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values less or equal than 0.30 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 100 mm $\leq$ insulation thickness $\leq$ 120 mm with conductivity $\leq$ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.25 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 125 mm $\leq$ insulation thickness $\leq$ 150 mm with conductivity $\leq$ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 160 mm minimum insulation thickness with conductivity $\leq$ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Full Fill Cavity Wall

Concrete ground bearing floor. Insulation below slab. Thermal block

CD0082

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

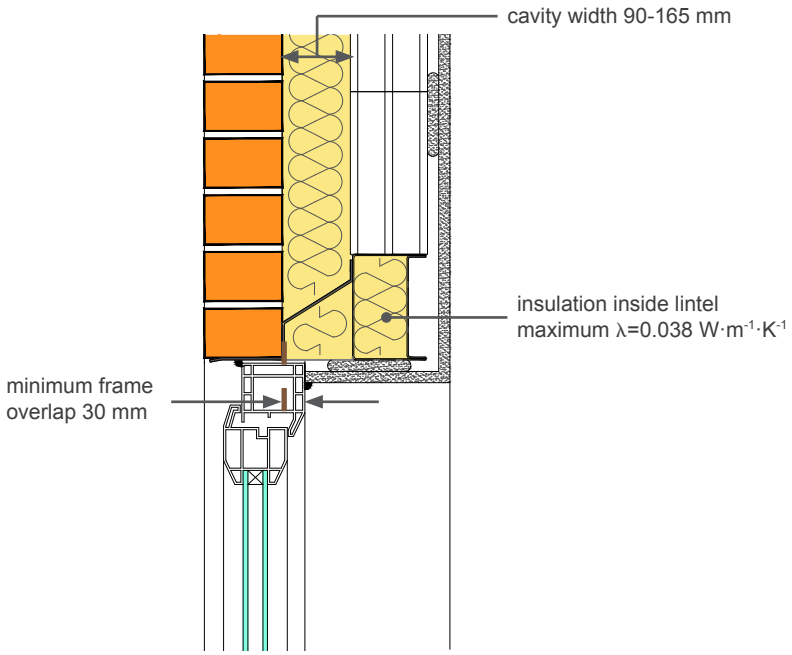
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the perimeter insulation as specified?		
	— Minimum resistance value of 1 $m^2 \cdot K \cdot W^{-1}$	☐ ☐	.....
	— Installed up to floor finish	☐ ☐	.....
2.	Is the thermal block of a minimum height of 65 mm and with a maximum conductivity value of 0.078 $W \cdot m^{-1} \cdot K^{-1}$?	☐ ☐	.....
3.	Is the full fill insulation continued at least 200 mm below the top of the floor insulation?	☐ ☐	.....
4.	Is the maximum distance between interior and exterior floor level of 150 mm?	☐ ☐	.....
5.	Is the wall full fill insulation installed correctly with no gaps?	☐ ☐	.....
6.	Is the wall full fill insulation appropriate for moisture and wall exposure?	☐ ☐	.....
7.	Is the floor insulation abutting the blockwork wall, leaving no gaps?	☐ ☐	.....
8.	Is the continuity of the air barrier between the floor and the wall achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Full Fill Cavity Wall

Birtley Two Part Porotherm lintel

CD0083



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

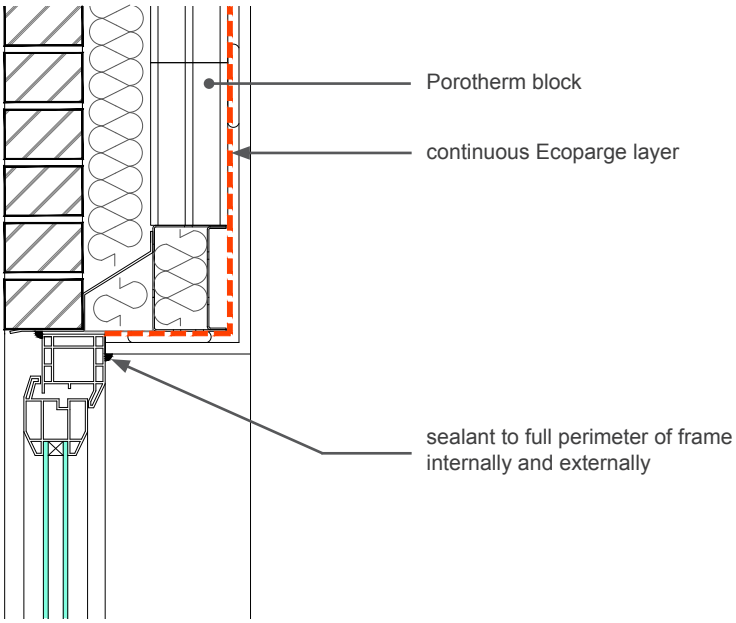
Notes

- minimum frame overlap of 30mm
- cavity width between 90 and 165 mm (range covered by Birtley lintels)
- ensure that the full fill insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps
- ensure that the full fill wall insulation is suitable for the wall exposure, and is resistant to water penetration
- flexible sealant should be applied to the junction of the plasterboard and the window frame
- the use of Ecoparge will ensure air barrier continuity

External Masonry Full Fill Cavity Wall

Birtley Two Part Porotherm lintel

CD0083



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	SGTJ90 lintel cavity 90-105 mm		SGTJ110 lintel cavity 110-125 mm		SGTJ130 lintel cavity 130-145 mm		SGTJ150 lintel cavity 150-165 mm	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temp. factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temp. factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temp. factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temp. factor
0.26	0.426	0.85	0.416	0.87	0.407	0.87	0.381	0.88
0.29	0.435	0.83	0.421	0.84	0.405	0.84	0.402	0.86

These values are valid for wall U values ≤ 0.30 $W \cdot m^{-1} \cdot K^{-1}$

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values less or equal than 0.30 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 100 mm ≤ insulation thickness ≤ 120 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.25 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 125 mm ≤ insulation thickness ≤ 150 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 160 mm minimum insulation thickness with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Full Fill Cavity Wall

Birtley Two Part Porotherm lintel

CD0083

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

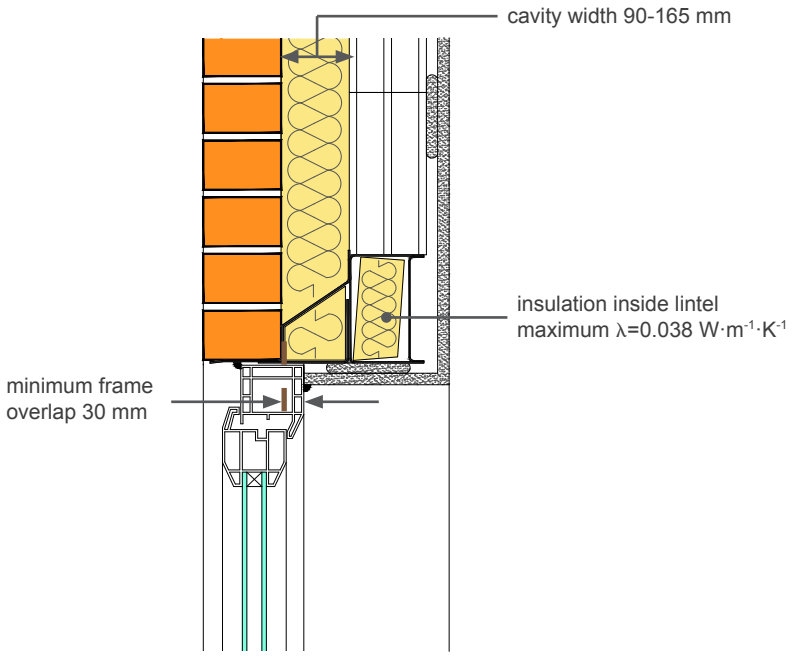
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is there a minimum frame overlap of 30mm?	☐ ☐	.....
2.	Is the Cavity width between 90 and 165 mm?	☐ ☐	.....
3.	Is the the full fill insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps?	☐ ☐	.....
4.	Is the full fill wall insulation suitable for the wall exposure, and is it resistant to water penetration ?	☐ ☐	.....
5.	Has flexible sealant been be applied to the junction of the plasterboard and the window frame?	☐ ☐	.....
6.	Is Ecoparge used to ensure air barrier continuity?	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Full Fill Cavity Wall

Catnic CTJ lintel

CD0084



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

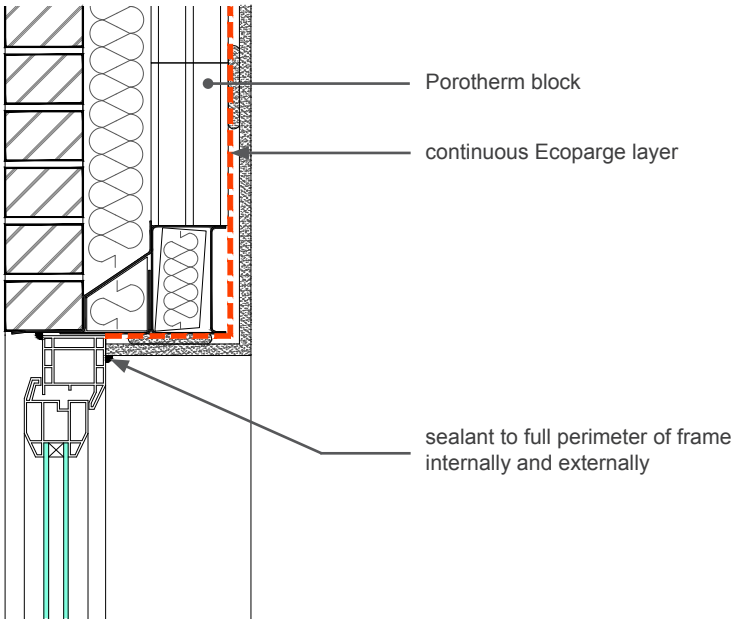
Notes

- minimum frame overlap of 30mm
- cavity width between 90 and 165 mm (range covered by Catnic lintels)
- ensure that the full fill insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps
- ensure that the full fill wall insulation is suitable for the wall exposure, and is resistant to water penetration
- flexible sealant should be applied to the junction of the plasterboard and the window frame
- the use of Ecoparge will ensure air barrier continuity

External Masonry Full Fill Cavity Wall

Catnic CTJ lintel

CD0084



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	CTJ90 lintel cavity 90-105 mm		CTJ110 lintel cavity 110-125 mm		CTJ125 lintel cavity 125-145 mm		CTJ150 lintel cavity 150-165 mm	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temp. factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temp. factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temp. factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temp. factor
0.26	0.544	0.58	0.556	0.57	0.567	0.58	0.592	0.52
0.29	0.550	0.59	0.558	0.59	0.572	0.59	0.589	0.59

These values are valid for wall U values < 0.30 $W \cdot m^{-1} \cdot K^{-1}$

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values less or equal than 0.30 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 100 mm ≤ insulation thickness ≤ 120 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.25 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 125 mm ≤ insulation thickness ≤ 150 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 160 mm minimum insulation thickness with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Full Fill Cavity Wall

Catnic CTJ lintel

CD0084

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

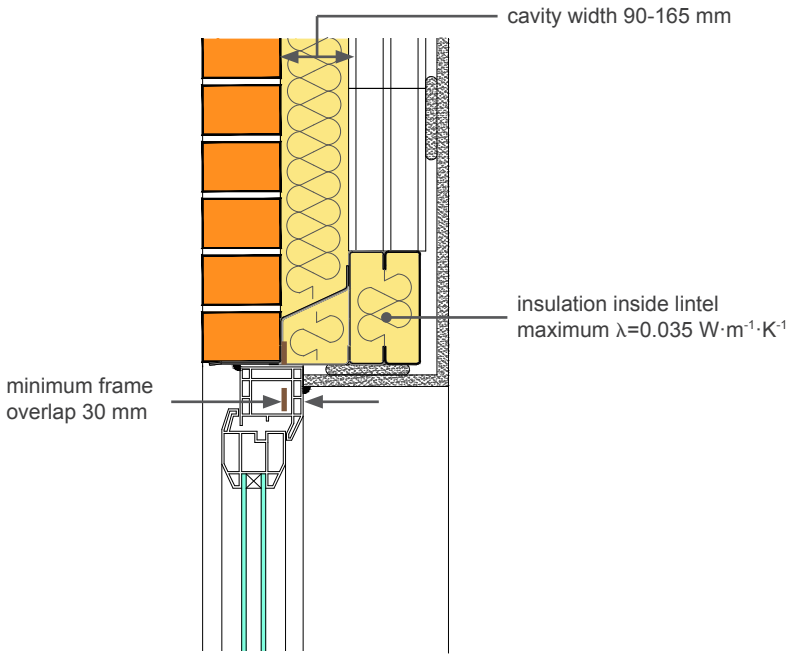
Ref.	Item	Yes / No	Inspected (initials & date)
1.	1. Is there a minimum frame overlap of 30mm?	☐ ☐	.....
2.	Is the Cavity width between 90 and 165 mm?	☐ ☐	.....
3.	Is the the full fill insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps?	☐ ☐	.....
4.	Is the full fill wall insulation suitable for the wall exposure, and is it resistant to water penetration ?	☐ ☐	.....
5.	Has flexible sealant been be applied to the junction of the plasterboard and the window frame?	☐ ☐	.....
6.	Is Ecoparge used to ensure air barrier continuity?	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Full Fill Cavity Wall

Keystone Poro-Cav lintel

CD0085



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

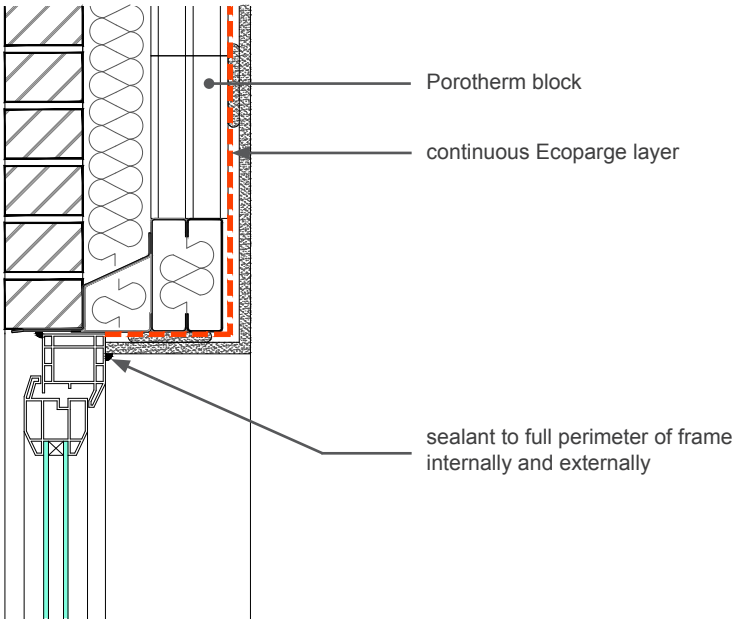
Notes

- minimum frame overlap of 30mm
- cavity width between 90 and 165 mm (range covered by Porocav lintels)
- ensure that the full fill insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps
- ensure that the full fill wall insulation is suitable for the wall exposure, and is resistant to water penetration
- flexible sealant should be applied to the junction of the plasterboard and the window frame
- the use of Ecoparge will ensure air barrier continuity

External Masonry Full Fill Cavity Wall

Keystone Poro-Cav lintel

CD0085



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Poro-Cav lintel cavity 90-165 mm	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.579	0.60
0.29	0.582	0.60

These values are valid for wall U values ≤ 0.30 $W \cdot m^{-1} \cdot K^{-1}$

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values less or equal than 0.30 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 100 mm ≤ insulation thickness ≤ 120 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.25 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 125 mm ≤ insulation thickness ≤ 150 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 160 mm minimum insulation thickness with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Full Fill Cavity Wall

Keystone Poro-Cav lintel

CD0085

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

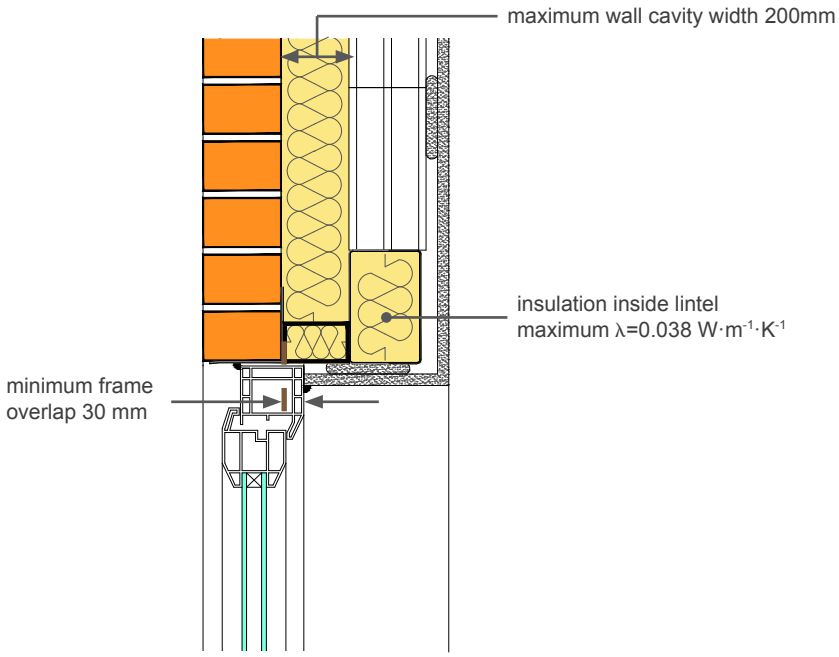
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is there a minimum frame overlap of 30mm?	☐ ☐	.....
2.	Is the Cavity width between 90 and 165 mm?	☐ ☐	.....
3.	Is the the full fill insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps?	☐ ☐	.....
4.	Is the full fill wall insulation suitable for the wall exposure, and is it resistant to water penetration ?	☐ ☐	.....
5.	Has flexible sealant been be applied to the junction of the plasterboard and the window frame?	☐ ☐	.....
6.	Is Ecoparge used to ensure air barrier continuity?	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Full Fill Cavity Wall

Box and angle lintel

CD0086



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

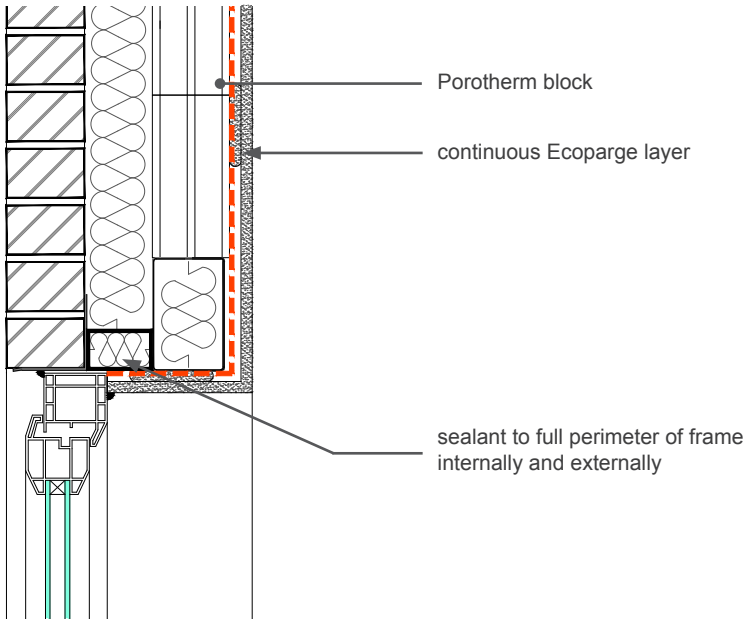
Notes

- minimum frame overlap of 30mm
- maximum cavity width 200 mm
- ensure that the full fill insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps
- ensure that the full fill wall insulation is suitable for the wall exposure, and is resistant to water penetration
- flexible sealant should be applied to the junction of the plasterboard and the window frame
- the use of Ecoparge will ensure air barrier continuity

External Masonry Full Fill Cavity Wall

Box and angle lintel

CD0086



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.050	0.88	0.048	0.89	0.051	0.90
0.29	0.052	0.88	0.050	0.89	0.054	0.90

These values are valid for wall U values ≤ 0.30 $W \cdot m^{-1} \cdot K^{-1}$

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values less or equal than 0.30 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 100 mm ≤ insulation thickness ≤ 120 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.25 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 125 mm ≤ insulation thickness ≤ 150 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 160 mm minimum insulation thickness with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Full Fill Cavity Wall

Box and angle lintel

CD0086

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

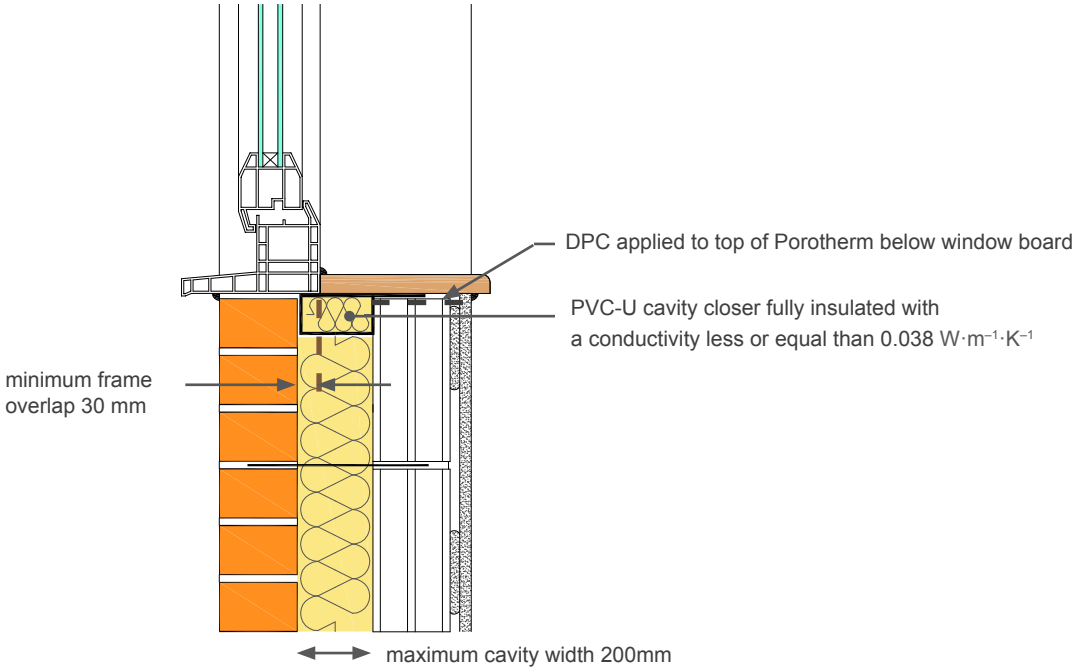
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is there a minimum frame overlap of 30mm?	☐ ☐	.....
2.	Is there a maximum cavity width 200 mm?	☐ ☐	.....
3.	Is the full fill insulation installed correctly between the inner and outer leaf of the cavity wall with no gaps?	☐ ☐	.....
4.	Is the full fill wall insulation is suitable for the wall exposure, and is it resistant to water penetration?	☐ ☐	.....
5.	Is flexible sealant applied to the junction of the plasterboard and the window frame?	☐ ☐	.....
6.	Is Ecoparge used to ensure air barrier continuity?	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Full Fill Cavity Wall

Sill

CD0087



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

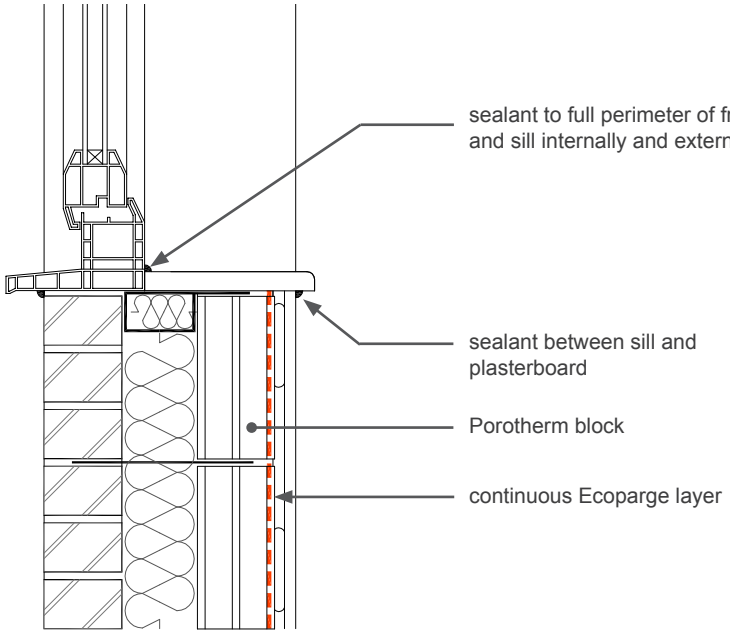
Notes

- PVC-U cavity closer fully insulated with conductivity 0.038 W/mK or less
- Minimum frame overlap of 30mm
- Maximum cavity width 200mm
- Ensure that the full fill wall insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps
- ensure that the full fill wall insulation is suitable for the wall exposure, and is resistant to water penetration
- flexible sealant should be applied to the junction of the plasterboard and the sill board as well as between the window frame member and sill board
- the use of Ecoparge will ensure air barrier continuity

External Masonry Full Fill Cavity Wall

Sill

CD0087



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.040	0.83	0.036	0.83	0.031	0.83
0.29	0.040	0.83	0.035	0.83	0.030	0.83

These values are valid for wall U values ≤ 0.30 $W \cdot m^{-1} \cdot K^{-1}$

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values less or equal than 0.30 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 100 mm ≤ insulation thickness ≤ 120 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.25 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 125 mm ≤ insulation thickness ≤ 150 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 160 mm minimum insulation thickness with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Full Fill Cavity Wall

Sill

CD0087

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

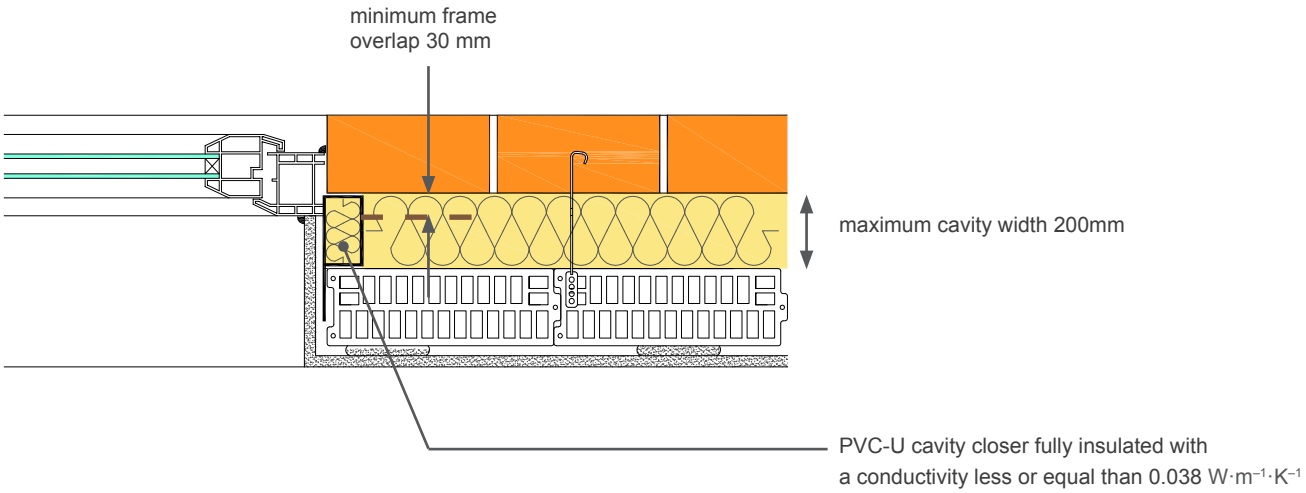
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the PVC-U cavity closer fully insulated with conductivity of 0.038 W/mK or less?	☐ ☐	.....
2.	Is there a minimum frame overlap of 30mm?	☐ ☐	.....
3.	Is there a maximum cavity width 200mm?	☐ ☐	.....
4.	Is there continuity of the insulation throughout the junction leaving no gaps?	☐ ☐	.....
5.	Is the full fill wall insulation suitable for the wall exposure, and is it resistant to water penetration?	☐ ☐	.....
6.	Is flexible sealant applied to the junction of the plasterboard and the sill board?	☐ ☐	.....
7.	Is flexible sealant applied to the junction between the window frame member and sill board	☐ ☐	.....
8.	Is Ecoparge applied to ensure air barrier continuity?	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Full Fill Cavity Wall

Jamb

CD0088



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

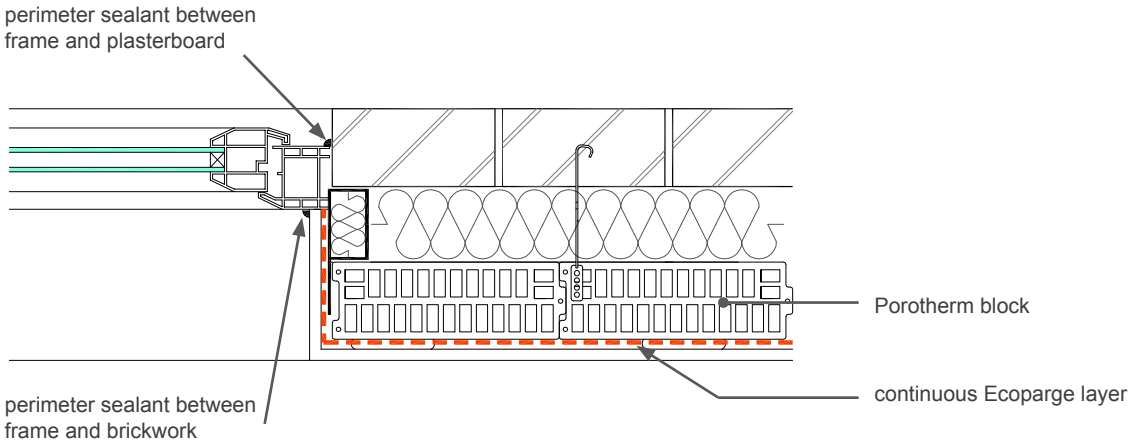
Notes

- PVC-U cavity closer fully insulated with conductivity 0.038 W/mK or less
- Minimum frame overlap of 30mm
- Maximum cavity width 200mm
- ensure that the full fill wall insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps
- ensure that the full fill wall insulation is suitable for the wall exposure, and is resistant to water penetration
- flexible sealant should be applied to the junction of the plasterboard and the sill board as well as between the window frame member and sill board
- the use of Ecoparge will ensure air barrier continuity

External Masonry Full Fill Cavity Wall

Jamb

CD0088



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.048	0.87	0.043	0.87	0.038	0.87
0.29	0.047	0.87	0.042	0.87	0.037	0.87

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values less or equal than 0.30 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 100 mm ≤ insulation thickness ≤ 120 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.25 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 125 mm ≤ insulation thickness ≤ 150 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 160 mm minimum insulation thickness with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Full Fill Cavity Wall

Jamb

CD0088

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

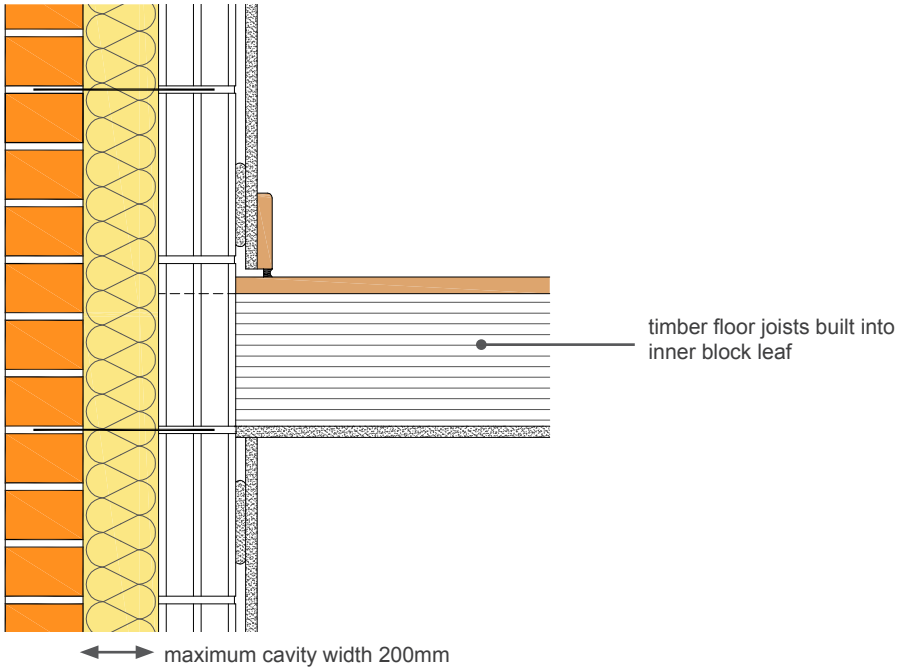
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the PVC-U cavity closer fully insulated with a conductivity of 0.038 W/mK or less?	☐ ☐	.....
2.	Is there a minimum frame overlap of 30mm?	☐ ☐	.....
3.	Is there a maximum cavity width 200mm?	☐ ☐	.....
4.	Is the full fill wall insulation installed correctly between the inner and outer leaf of the cavity wall with no gaps?	☐ ☐	.....
5.	Is the full fill wall insulation suitable for the wall exposure, and is it resistant to water penetration?	☐ ☐	.....
6.	Is flexible sealant applied to the junction of the plasterboard and the sill board?	☐ ☐	.....
7.	Is flexible sealant applied to the junction between the window frame member and sill board	☐ ☐	.....
8.	Is Ecoparge applied to ensure air barrier continuity?	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Full Fill Cavity Wall

Intermediate timber floor within a dwelling

CD0089



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

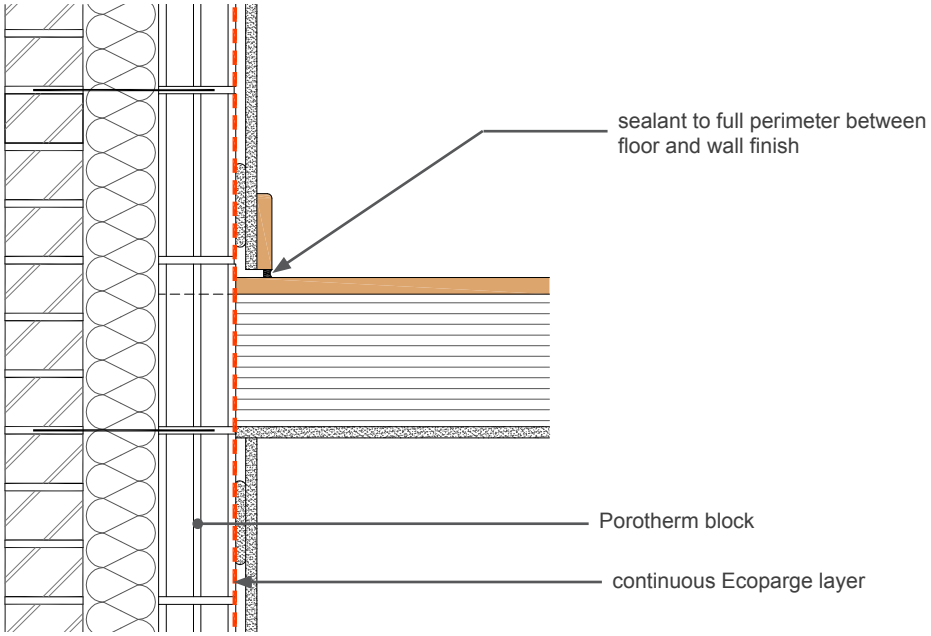
Notes

- Maximum cavity width 200mm
- continue cavity wall insulation acroos floor abutment zone
- ensure that the full fill wall insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps
- ensure that the full fill wall insulation is suitable for the wall exposure, and is restraint to water penetration
- ensure there is a seal between the floor and wall finish
- the use of Ecoparge will ensure air barrier continuity
- this detail is also valid for joists supported using joist hangers (not shown in the drawing)

External Masonry Full Fill Cavity Wall

Intermediate timber floor within a dwelling

CD0089



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)
0.26	0.00
0.29	0.00

These values are valid for wall U values ≤ 0.30 $W \cdot m^{-1} \cdot K^{-1}$

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values less or equal than 0.30 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 100 mm ≤ insulation thickness ≤ 120 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.25 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 125 mm ≤ insulation thickness ≤ 150 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 160 mm minimum insulation thickness with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Full Fill Cavity Wall

Intermediate timber floor within a dwelling

CD0089

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

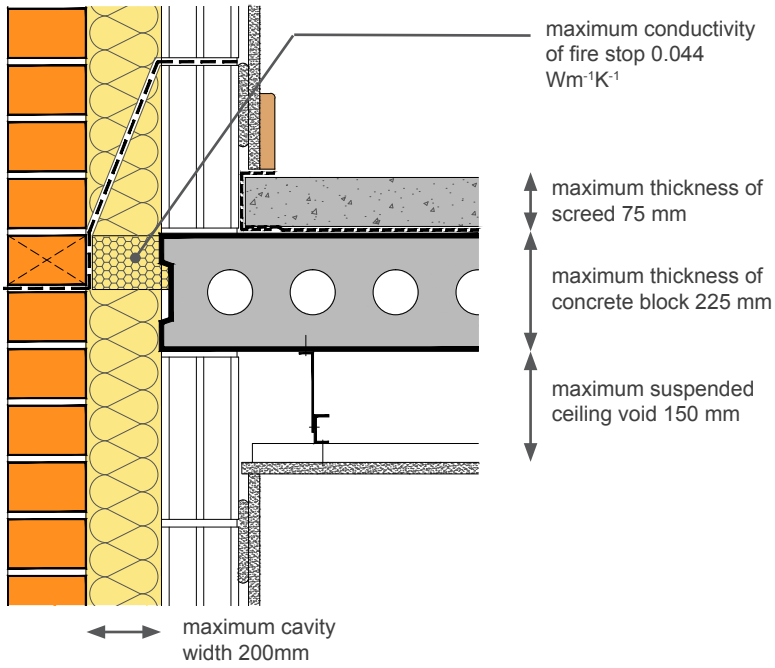
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the maximum cavity width 200mm?	☐ ☐	.....
2.	Does the cavity wall insulation continue across the floor abutment zone?	☐ ☐	.....
3.	Is the full fill wall insulation installed correctly between the inner and outer leaf of the cavity wall with no gaps?	☐ ☐	.....
4.	Is the full fill wall insulation suitable for the wall exposure, and is it restraint to water penetration?	☐ ☐	.....
5.	Is there a seal between the floor and wall finish?	☐ ☐	.....
6.	Is Ecoparge used to ensure air barrier continuity?	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Full Fill Cavity Wall

Separating concrete floor between dwellings

CD0090



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

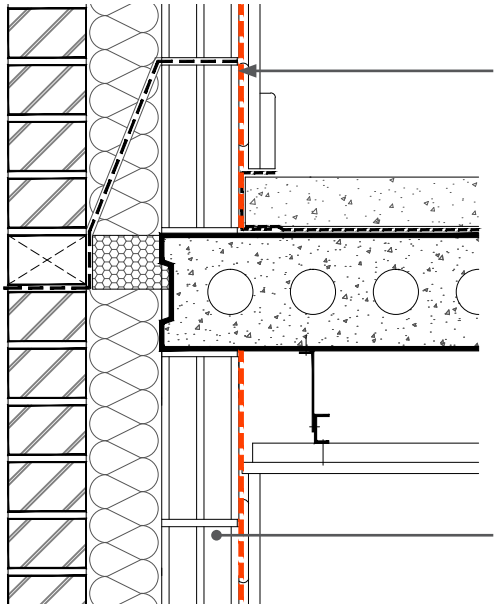
Notes

- maximum cavity width 200mm
- ensure that the full fill wall insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps
- ensure that the full fill wall insulation is suitable for the wall exposure, and is resistant to water penetration
- maximum conductivity of the fire stop 0.044 $Wm^{-1}K^{-1}$
- ensure cavities and wall ties are kept clean of mortar or other debris during construction
- the use of Ecoparge will ensure air barrier continuity
- maximum thickness of screed 75 mm
- maximum thickness of concrete block 225 mm
- maximum suspended ceiling void 150 mm

External Masonry Full Fill Cavity Wall

Separating concrete floor between dwellings

CD0090



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.063	0.965	0.080	0.96	0.097	0.95
0.29	0.061	0.965	0.077	0.96	0.092	0.95

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values less or equal than 0.30 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 100 mm ≤ insulation thickness ≤ 120 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.25 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 125 mm ≤ insulation thickness ≤ 150 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 160 mm minimum insulation thickness with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Full Fill Cavity Wall

Separating concrete floor between dwellings

CD0090

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

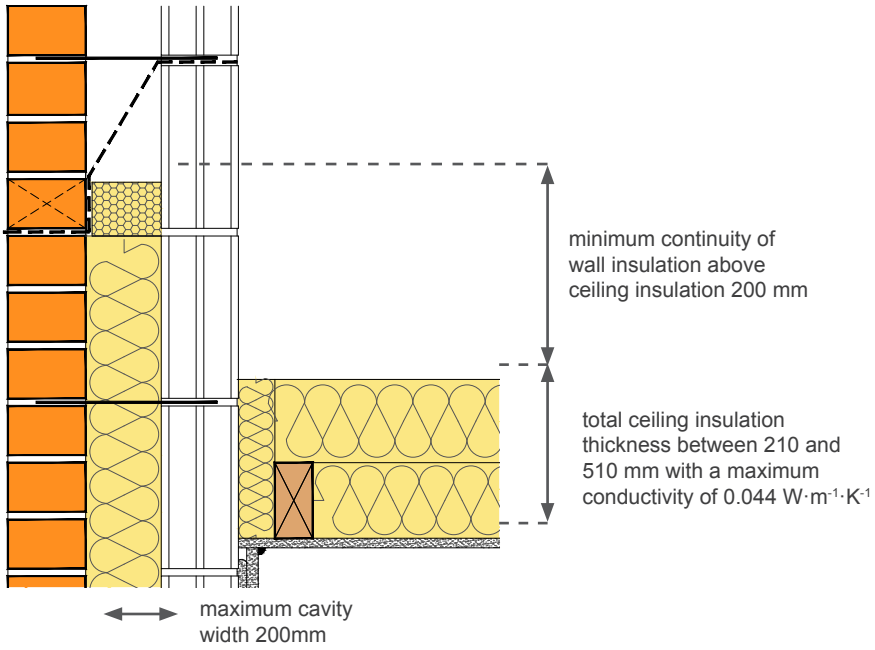
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the precast concrete block thickness 225 mm or less?	☐ ☐	.....
2.	Is the concrete screed thickness 75 mm or less?	☐ ☐	.....
3.	Is the ceiling void thickness 150 mm or less?	☐ ☐	.....
4.	Is the fire stop conductivity 0.044 $W \cdot m^{-1} \cdot K^{-1}$ or less?	☐ ☐	.....
5.	Is the continuity of the insulation throughout the junction achieved?	☐ ☐	.....
6.	Is the wall full fill insulation installed correctly with no gaps?	☐ ☐	.....
7.	Is the wall full fill insulation appropriate for moisture and wall exposure?	☐ ☐	.....
8.	Is the continuity of the air barrier between the floor and the wall achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Full Fill Cavity Wall

Pitched roof. Gable - Insulation at ceiling level

CD0091



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

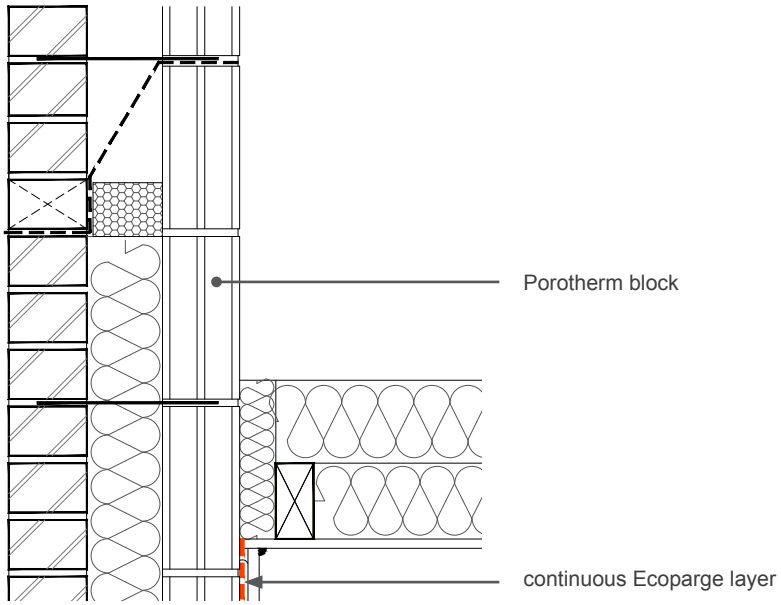
Notes

- maximum cavity width 200mm
- ensure that the full fill wall insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps
- ensure that the full fill wall insulation is suitable for the wall exposure, and is resistant to water penetration
- maximum conductivity of the fire stop 0.044 $Wm^{-1}K^{-1}$
- the use of Ecoparge will ensure air barrier continuity
- minimum conductivity of wall insulation above ceiling insulation 200 mm

External Masonry Full Fill Cavity Wall

Pitched roof - Gable. Insulation at ceiling level

CD0091



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Ceiling insulation between 210 and 309 mm		Ceiling insulation between 310 and 409 mm		Ceiling insulation between 410 and 510 mm	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.089	0.88	0.085	0.89	0.084	0.88
0.29	0.084	0.88	0.081	0.89	0.080	0.90

These values are valid for wall U values ≤ 0.30 $W \cdot m^{-1} \cdot K^{-1}$

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values less or equal than 0.30 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 100 mm ≤ insulation thickness ≤ 120 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.25 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 125 mm ≤ insulation thickness ≤ 150 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 160 mm minimum insulation thickness with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Full Fill Cavity Wall

Pitched roof - Gable. Insulation at ceiling level

CD0091

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

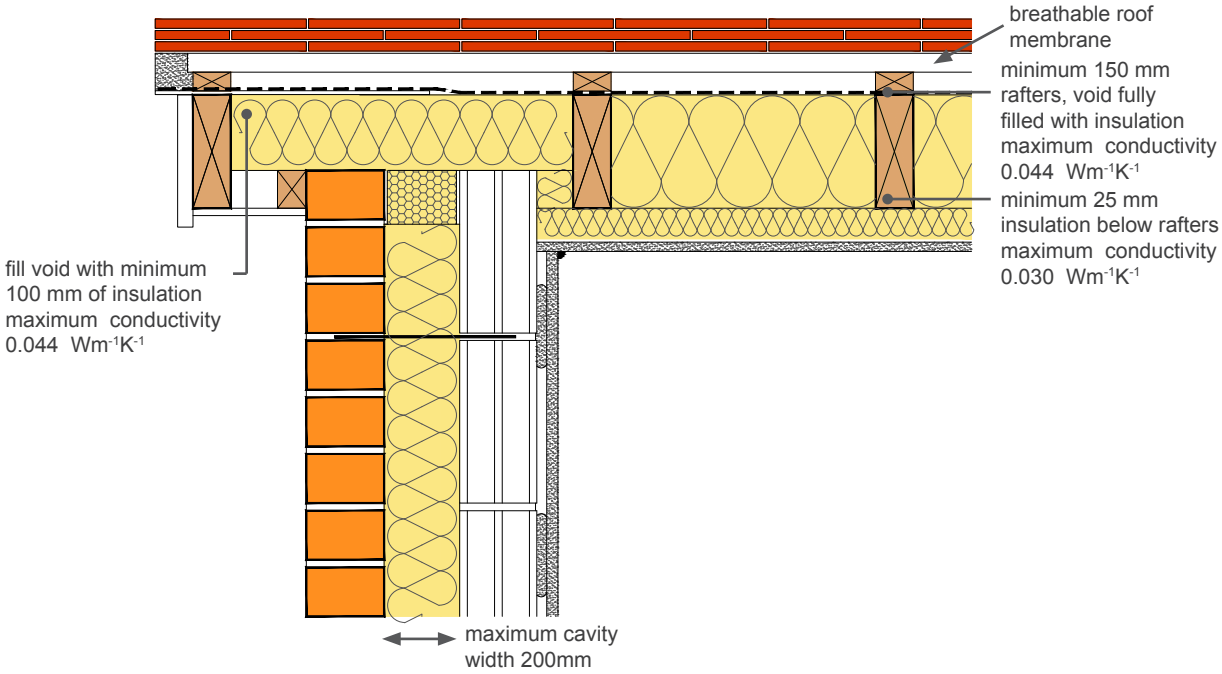
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the ceiling insulation thickness between 210 and 510 mm and has a maximum conductivity of 0.044 $W \cdot m^{-1} \cdot K^{-1}$?	☐ ☐	.....
2.	Is the gap between the first joint and the gable wall fully insulated?	☐ ☐	.....
3.	Is the full fill insulation continued to at least 200 mm above the top of the ceiling insulation?	☐ ☐	.....
5.	If a cavity tray was used, does the full fill inulation fit tightly against the cavity tray, with no gaps?	☐ ☐	.....
6.	Is the wall full fill insulation installed correctly with no gaps?	☐ ☐	.....
7.	Is the wall full fill insulation appropriate for moisture and wall exposure?	☐ ☐	.....
8.	Is the continuity of the air barrier achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Full Fill Cavity Wall

Pitched roof. Gable - Insulation at rafter level

CD0092



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

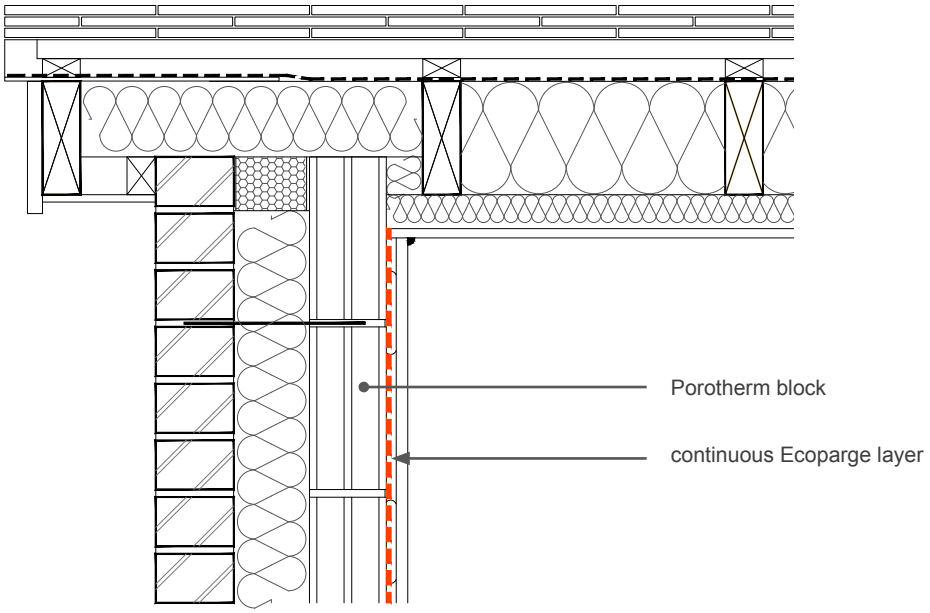
Notes

- Maximum cavity width 200mm
- ensure continuity of the insulation throughout the junction leaving no gaps
- ensure that the full fill wall insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps
- ensure that the full fill wall insulation is suiable for the wall exposure, and is resistant to water penetration
- fill the void between the top of the gable and the underside of the breathable roof membrane with a minimum of 100 mm of insulation with a maximum conductivity of 0.044 $Wm^{-1}K^{-1}$. Also fill the gap between the rafter and the wall.
- use minimum 150 mm rafters, with void between them fully filled with insulation of a maximum conductivity of 0.044 $Wm^{-1}K^{-1}$
- minimum 25 mm of insulation below rafters, with a maximum conductivity of 0.030 $Wm^{-1}K^{-1}$
- the use of Ecoparge will ensure air barrier continuity

External Masonry Full Fill Cavity Wall

Pitched roof - Gable. Insulation at rafter level

CD0092



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.082	0.90
0.29	0.058	0.92

These values are valid for roof U values equal or less than 0.20 $W \cdot m^{-1} \cdot K^{-1}$ and wall U values equal or less than 0.30 $W \cdot m^{-1} \cdot K^{-1}$

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values less or equal than 0.30 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 100 mm $\leq$ insulation thickness $\leq$ 120 mm with conductivity $\leq$ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.25 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 125 mm $\leq$ insulation thickness $\leq$ 150 mm with conductivity $\leq$ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 160 mm minimum insulation thickness with conductivity $\leq$ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Full Fill Cavity Wall

Pitched roof - Gable. Insulation at rafter level

CD0092

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

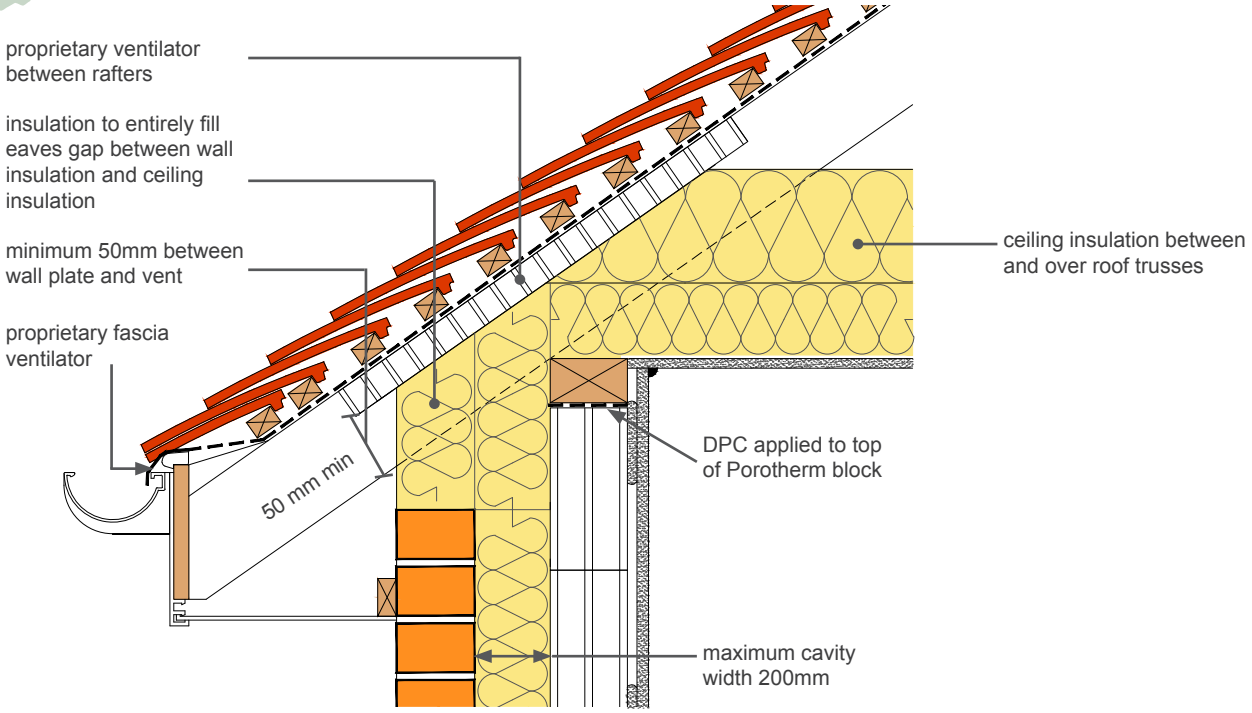
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the void between the top of the gable and the undeside of the breathable roof membrane at least 100 mm?	☐ ☐	.....
2.	Is the void between the top of the gable and the underside of the breathable roof membrane filled with insulation with a conductivity of 0.044 $W \cdot m^{-1} \cdot K^{-1}$ or less?	☐ ☐	.....
3.	Is the gap between the rafter and the wall filled with insulation with a conductivity of 0.044 $W \cdot m^{-1} \cdot K^{-1}$ or less?	☐ ☐	.....
4.	Is the conductivity of the insulation between the rafters of 0.044 $W \cdot m^{-1} \cdot K^{-1}$ or less?	☐ ☐	.....
5.	Is the insulation below rafters of a minimum of 25 mm thickness	☐ ☐	.....
	and with a conductivity of 0.030 $W \cdot m^{-1} \cdot K^{-1}$ or less?	☐ ☐	.....
6.	Is the wall full fill insulation installed correctly with no gaps?	☐ ☐	.....
7.	Is the wall full fill insulation appropriate for moisture and wall exposure?	☐ ☐	.....
8.	Is the continuity of the air barrier between the floor and the wall achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Full Fill Cavity Wall

Pitched roof - eaves. Insulation at ceiling level

CD0093



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

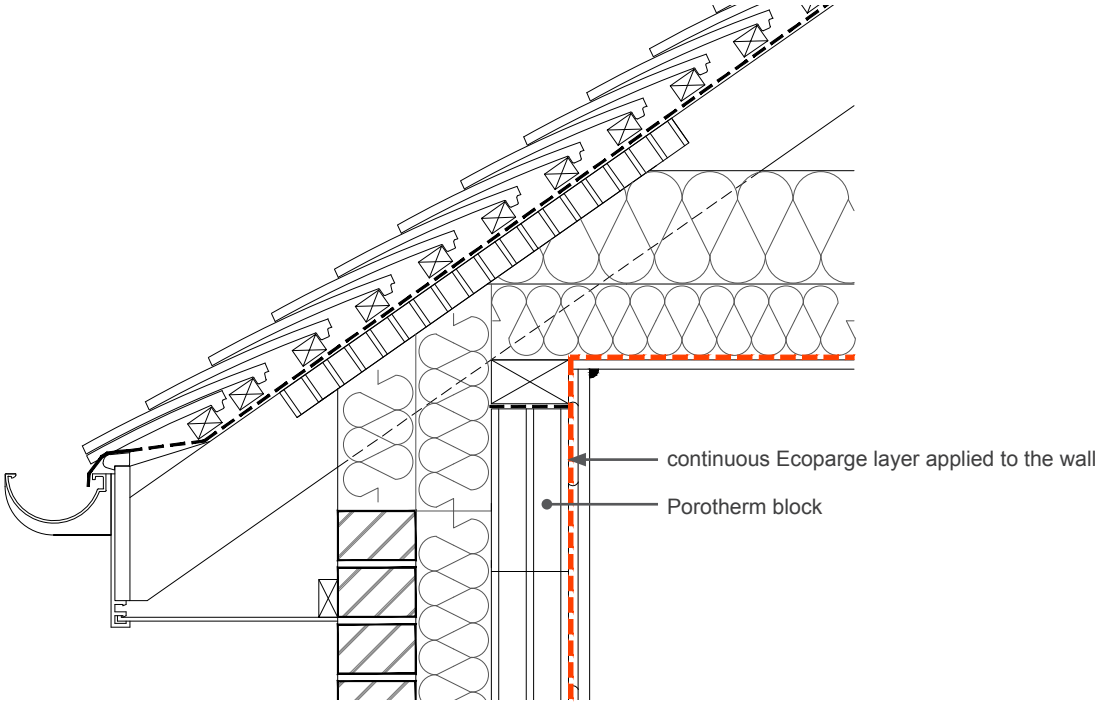
Notes

- maximum cavity width 200mm
- ceiling insulation thickness between 200mm and 510mm
- maximum ceiling insulation conductivity 0.044 $W \cdot m^{-1} \cdot K^{-1}$
- insulation to entirely fill eaves gap between wall insulation and ceiling insulation
- ensure that the full fill insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps
- ensure that the full fill wall insulation is suitable for the wall exposure, and is resistant to water penetration
- seal between the ceiling and wall with either plaster, adhesive or flexible sealant
- the use of Ecoparge will ensure air barrier continuity

External Masonry Full Fill Cavity Wall

Pitched roof - eaves. Insulation at ceiling level

CD0093



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Ceiling insulation thickness between 200mm and 310mm

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.117	0.93	0.105	0.92	0.100	0.92
0.29	0.123	0.92	0.113	0.91	0.110	0.91

Ceiling insulation thickness between 311mm and 410mm

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.134	0.93	0.122	0.92	0.117	0.93
0.29	0.138	0.92	0.130	0.92	0.127	0.92

External Masonry Full Fill Cavity Wall

Pitched roof - eaves. Insulation at ceiling level

CD0093

Ceiling insulation thickness between 411mm and 510mm

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.149	0.93	0.136	0.93	0.132	0.93
0.29	0.156	0.92	0.145	0.92	0.142	0.92

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values less or equal than 0.30 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 100 mm $\leq$ insulation thickness $\leq$ 120 mm with conductivity $\leq$ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.25 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 125 mm $\leq$ insulation thickness $\leq$ 150 mm with conductivity $\leq$ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 160 mm minimum insulation thickness with conductivity $\leq$ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Full Fill Cavity Wall

Pitched roof - eaves. Insulation at ceiling level

CD0093

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

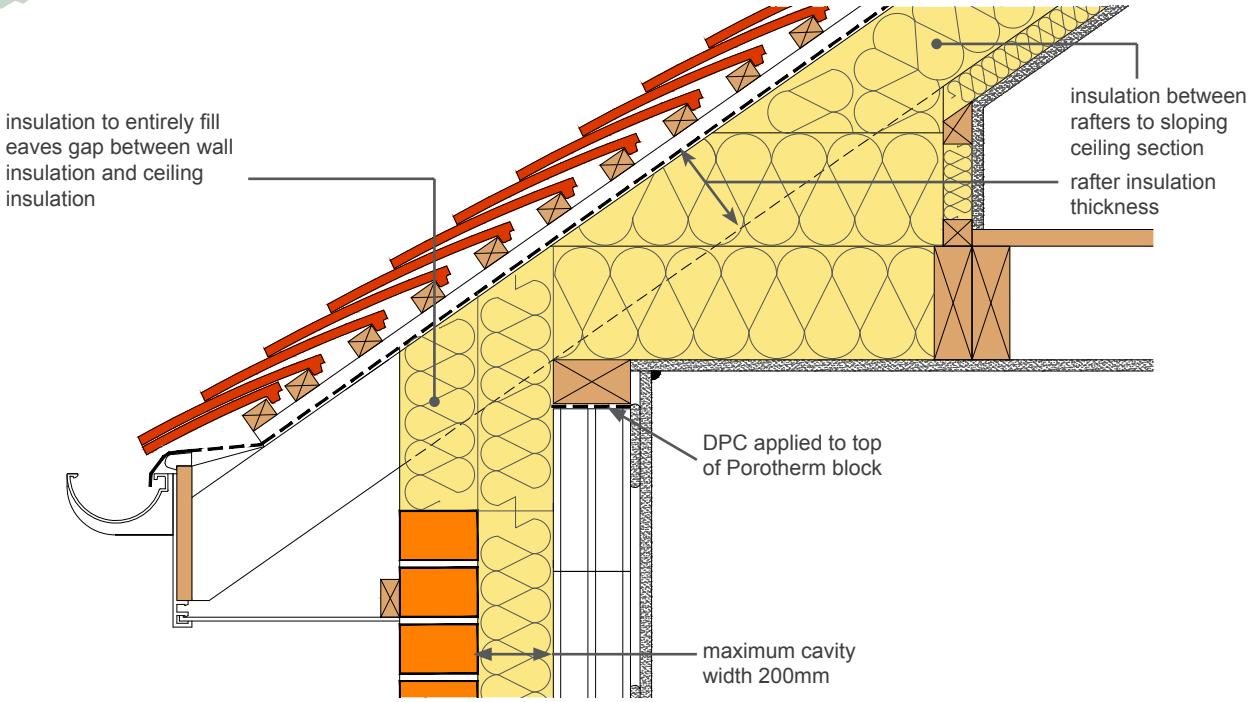
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the ceiling insulation thickness between 200 and 510 mm?	☐ ☐	.....
2.	Is the ceiling insulation conductivity 0.044 $W \cdot m^{-1} \cdot K^{-1}$ or less?	☐ ☐	.....
3.	Is there a minimum 50mm gap between the ventilator and the wall plate filled with insulation?	☐ ☐	.....
4.	Does the insulation entirely fill the eaves gap between the wall insulation and the ceiling insulation?	☐ ☐	.....
5.	Is the wall full fill insulation installed correctly with no gaps?	☐ ☐	.....
6.	Is the wall full fill insulation appropriate for moisture and wall exposure?	☐ ☐	.....
7.	Is the continuity of the air barrier between the floor and the wall achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Full Fill Cavity Wall

Pitched roof - eaves. Insulation at rafter level

CD0094



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

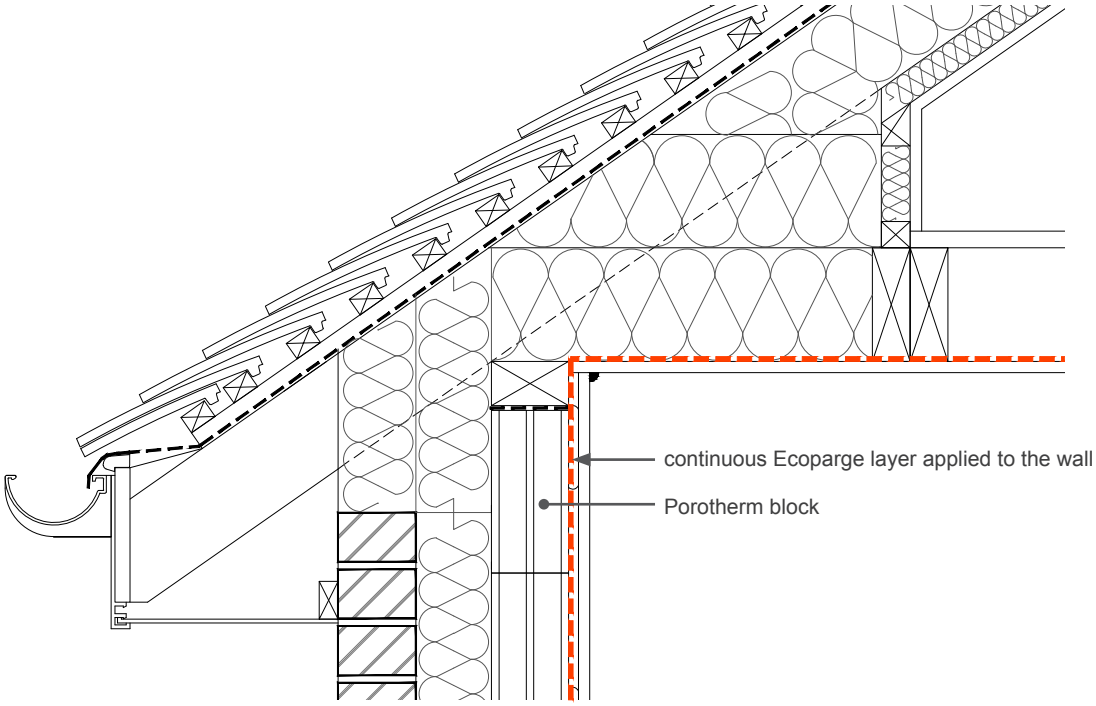
Notes

- maximum cavity width 200mm
- minimum 50mm wall clear air cavity
- ceiling insulation thickness between 100mm and 410mm
- maximum ceiling insulation conductivity 0.044 $W \cdot m^{-1} \cdot K^{-1}$
- insulation to entirely fill eaves gap between wall insulation and ceiling insulation
- ensure that the full fill insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps
- ensure that the full fill wall insulation is suitable for the wall exposure, and is resistant to water penetration
- seal between the ceiling and wall with either plaster, adhesive or flexible sealant
- the use of Ecoparge will ensure air barrier continuity

External Masonry Full Fill Cavity Wall

Pitched roof - eaves. Insulation at rafter level

CD0094



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Rafter insulation thickness between 100mm and 210mm

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.055	0.97	0.044	0.97	0.038	0.97
0.29	0.042	0.97	0.032	0.97	0.026	0.97

Rafter insulation thickness between 211mm and 310mm

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.045	0.98	0.037	0.98	0.032	0.98
0.29	0.037	0.98	0.030	0.98	0.025	0.98

External Masonry Full Fill Cavity Wall

Pitched roof - eaves. Insulation at rafter level

CD0094

Rafter insulation thickness between 311mm and 410mm

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.041	0.98	0.035	0.98	0.031	0.98
0.29	0.036	0.98	0.032	0.98	0.027	0.98

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values less or equal than 0.30 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 100 mm $\leq$ insulation thickness $\leq$ 120 mm with conductivity $\leq$ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.25 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 125 mm $\leq$ insulation thickness $\leq$ 150 mm with conductivity $\leq$ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 160 mm minimum insulation thickness with conductivity $\leq$ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Full Fill Cavity Wall

Pitched roof - eaves. Insulation at rafter level

CD0094

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

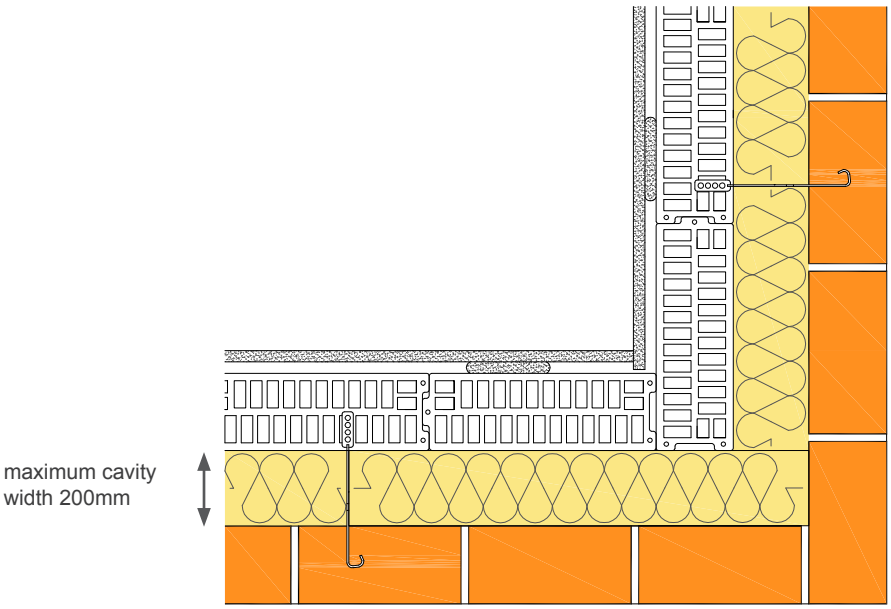
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the ceiling insulation thickness between 100 and 410 mm?	☐ ☐	.....
2.	Is the ceiling insulation conductivity 0.044 $W \cdot m^{-1} \cdot K^{-1}$ or less?	☐ ☐	.....
3.	Is there a minimum 50mm gap between the ventilator and the wall plate filled with insulation?	☐ ☐	.....
4.	Does the insulation entirely fill the eaves gap between the wall insulation and the ceiling insulation?	☐ ☐	.....
5.	Is the wall full fill insulation installed correctly with no gaps?	☐ ☐	.....
6.	Is the wall full fill insulation appropriate for moisture and wall exposure?	☐ ☐	.....
7.	Is the continuity of the air barrier between the floor and the wall achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Full Fill Cavity Wall

Normal Corner

CD0095



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

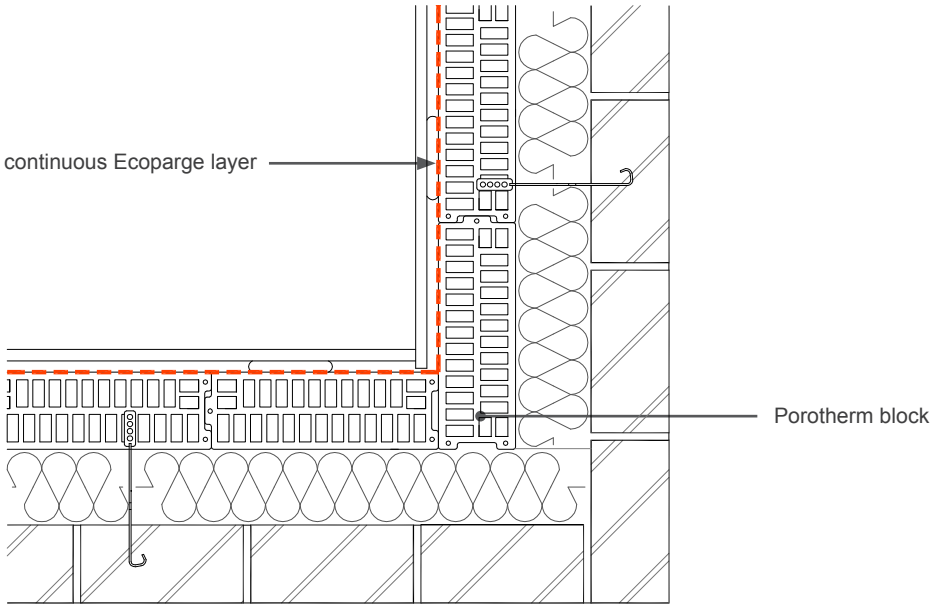
Notes

- Maximum cavity width 200mm
- ensure that the full fill insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps
- ensure that the full fill wall insulation is suitable for the wall exposure, and is resistant to water penetration
- the use of Ecoparge will ensure air barrier continuity

External Masonry Full Fill Cavity Wall

Normal Corner

CD0095



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Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.062	0.93	0.070	0.92	0.076	0.90
0.29	0.055	0.93	0.061	0.92	0.066	0.91

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values less or equal than 0.30 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 100 mm $\leq$ insulation thickness $\leq$ 120 mm with conductivity $\leq$ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.25 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 125 mm $\leq$ insulation thickness $\leq$ 150 mm with conductivity $\leq$ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 160 mm minimum insulation thickness with conductivity $\leq$ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Full Fill Cavity Wall

Normal Corner

CD0095

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

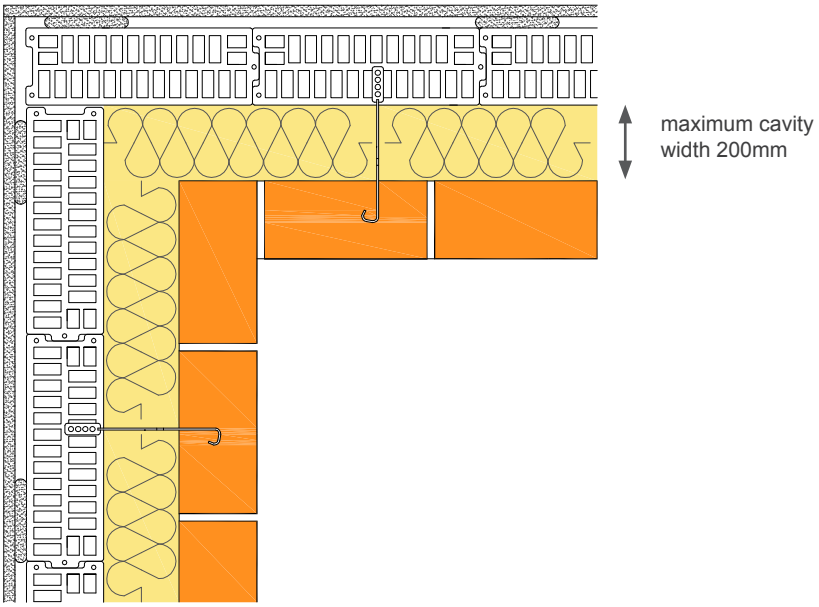
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the maximum cavity width 200mm?	☐ ☐	.....
2.	Is the full fill wall insulation installed correctly between the inner and outer leaf of the cavity wall with no gaps?	☐ ☐	.....
3.	Is the full fill wall insulation suitable for the wall exposure, and is it resistant to water penetration?	☐ ☐	.....
8.	Is Ecoparge used to ensure air barrier continuity?	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Full Fill Cavity Wall

Inverted Corner

CD0096



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

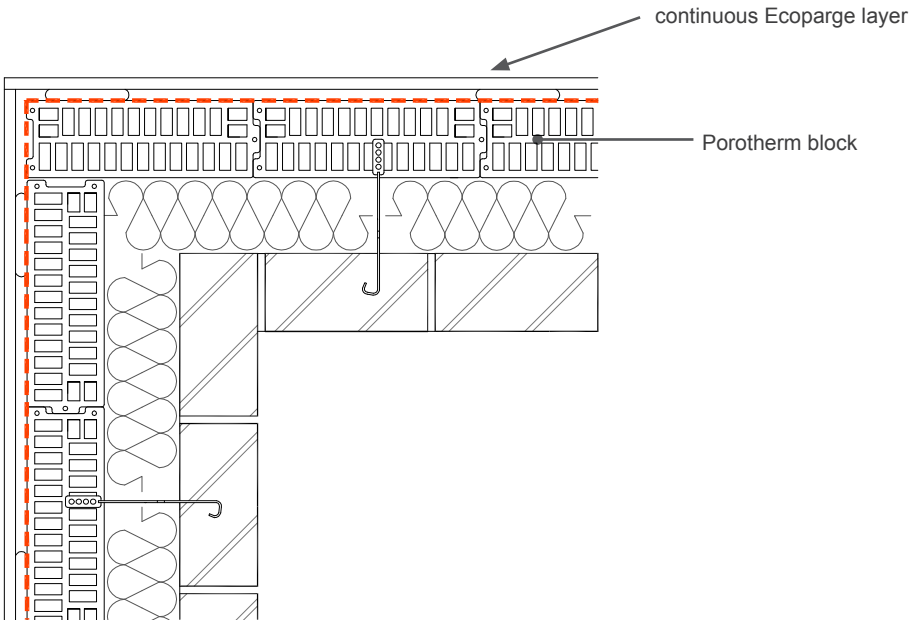
Notes

- Maximum cavity width 200mm
- ensure that the full fill insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps
- ensure that the full fill wall insulation is suitable for the wall exposure, and is resistant to water penetration
- the use of Ecoparge will ensure air barrier continuity

External Masonry Full Fill Cavity Wall

Inverted Corner

CD0096



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	-0.053	1.00	-0.079	1.00	-0.093	1.00
0.29	-0.047	0.99	-0.067	0.97	-0.079	0.96

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values less or equal than 0.30 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 100 mm ≤ insulation thickness ≤ 120 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.25 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 125 mm ≤ insulation thickness ≤ 150 mm with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$ can be achieved with:

- 160 mm minimum insulation thickness with conductivity ≤ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Full Fill Cavity Wall

Inverted Corner

CD0096

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

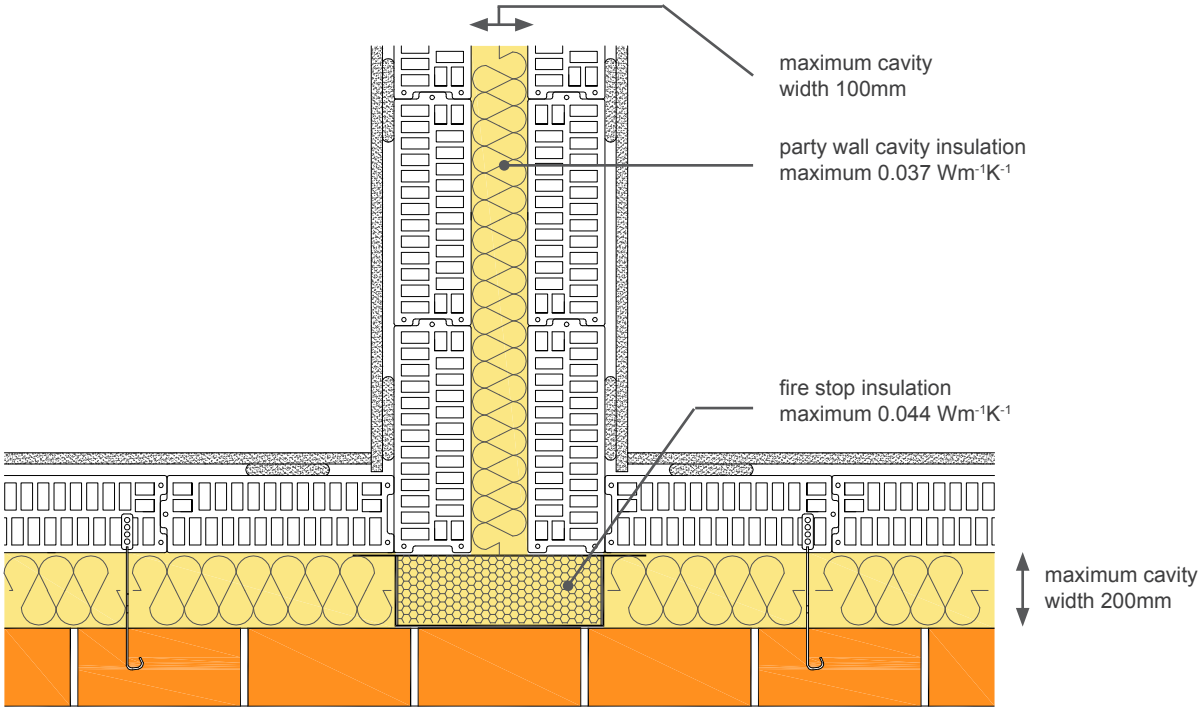
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the maximum cavity width 200mm?	☐ ☐	.....
2.	Is the full fill wall insulation installed correctly between the inner and outer leaf of the cavity wall with no gaps?	☐ ☐	.....
3.	Is the full fill wall insulation suitable for the wall exposure, and is it resistant to water penetration?	☐ ☐	.....
8.	Is Ecoparge used to ensure air barrier continuity?	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Full Fill Cavity Wall

Party wall

CD0097



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

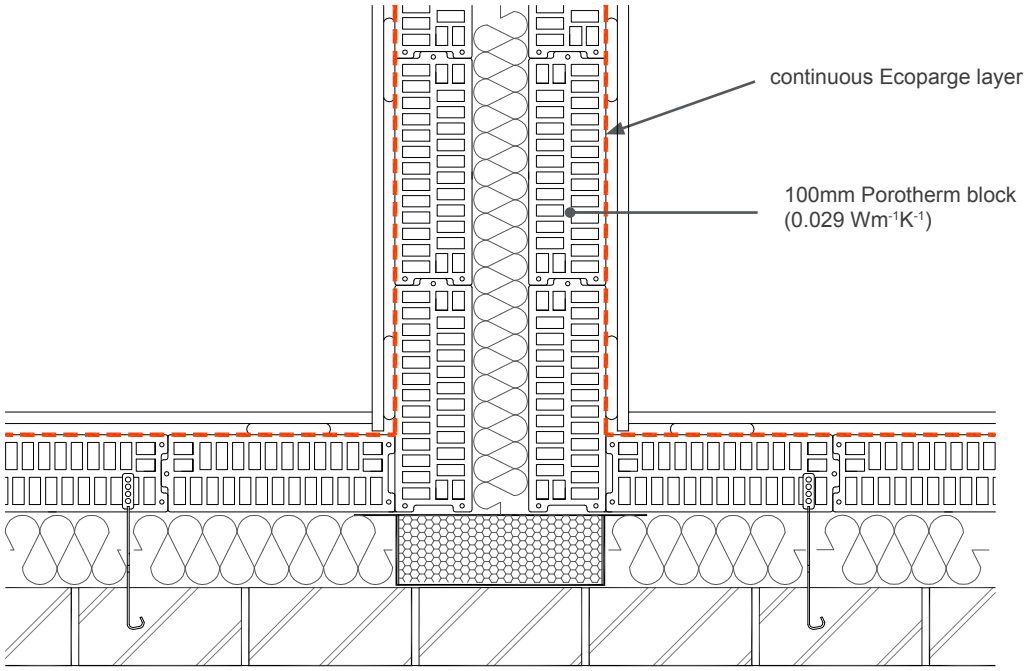
Notes

- Maximum external wall cavity width 200mm
- Maximum party wall cavity width of 100mm
- Party wall fully filled with insulation (λ = 0.037 $Wm^{-1}K^{-1}$ maximum)
- Party wall blocks are 100mm Porotherm (λ = 0.029 $Wm^{-1}K^{-1}$)
- Ensure that the insulated fire stop (λ = 0.044 $Wm^{-1}K^{-1}$ maximum) covers the full width of the abutting wall
- ensure that the full fill wall insulation is installed correctly between the inner and outer leaf of the cavity wall with no gaps
- ensure that the full fill wall insulation is suitable for the wall exposure, and is resistant to water penetration
- the use of Ecoparge will ensure air barrier continuity

External Masonry Full Fill Cavity Wall

Party wall

CD0097



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Wall U value less or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.21 and 0.25 $W \cdot m^{-2} \cdot K^{-1}$		Wall U value between 0.26 and 0.30 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.26	0.054	0.94	0.063	0.93	0.067	0.92
0.29	0.055	0.94	0.064	0.92	0.072	0.91

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Wall U values less or equal than 0.30 $W \cdot m^{-1} \cdot K^{-1}$ can be achieved with:

- 100 mm < insulation thickness < 120 mm with conductivity < 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.25 $W \cdot m^{-1} \cdot K^{-1}$ can be achieved with:

- 125 mm < insulation thickness < 150 mm with conductivity < 0.036 $W \cdot m^{-1} \cdot K^{-1}$

Wall U values less or equal than 0.20 $W \cdot m^{-1} \cdot K^{-1}$ can be achieved with:

- 160 mm minimum insulation thickness with conductivity $\leq$ 0.036 $W \cdot m^{-1} \cdot K^{-1}$

External Masonry Full Fill Cavity Wall

Party wall

CD0097

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

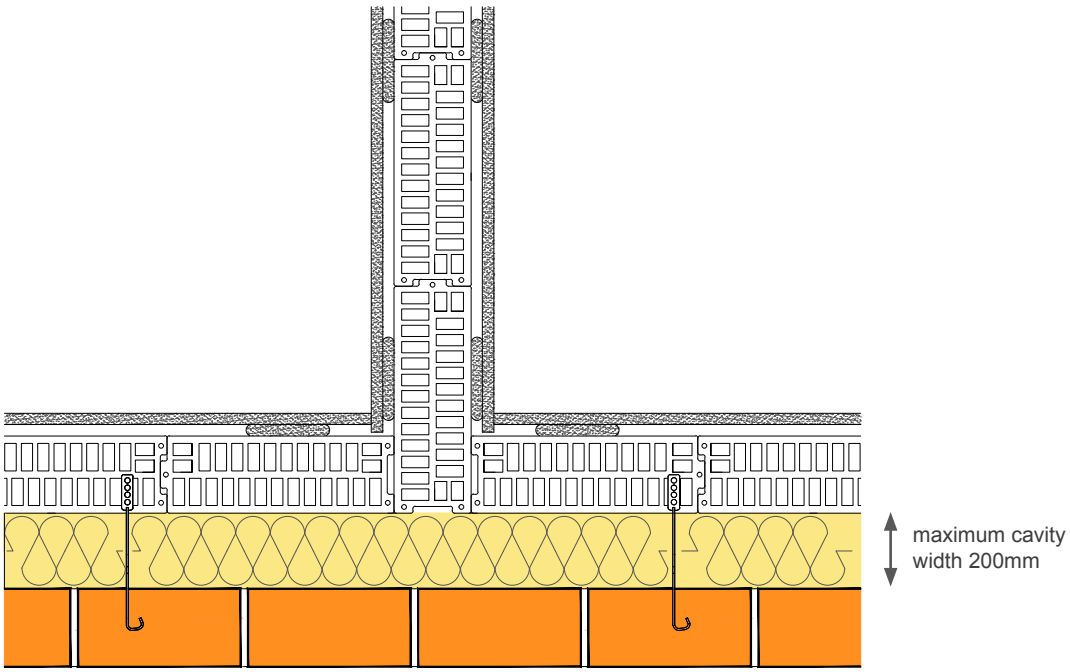
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the maximum external wall cavity width 200mm?	☐ ☐	.....
2.	Is the maximum party wall cavity width 100mm?	☐ ☐	.....
3.	Is the party wall fully filled with insulation (λ = 0.037 $Wm^{-1}K^{-1}$ maximum)?	☐ ☐	.....
4.	Are the party wall blocks 100mm Porotherm (λ = 0.029 $Wm^{-1}K^{-1}$)?	☐ ☐	.....
5.	Has the insulated fire stop (λ = 0.044 $Wm^{-1}K^{-1}$ maximum) covered the full width of the abutting wall?	☐ ☐	.....
6.	Is the full fill wall insulation installed correctly between the inner and outer leaf of the cavity wall with no gaps?	☐ ☐	.....
7.	Is the full fill wall insulation suitable for the wall exposure, and is it resistant to water penetration?	☐ ☐	.....
8.	Is Ecoparge used to ensure air barrier continuity?	☐ ☐	.....

Notes (include details of any corrective action)

External Masonry Full Fill Cavity Wall

Partition wall

CD0098



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

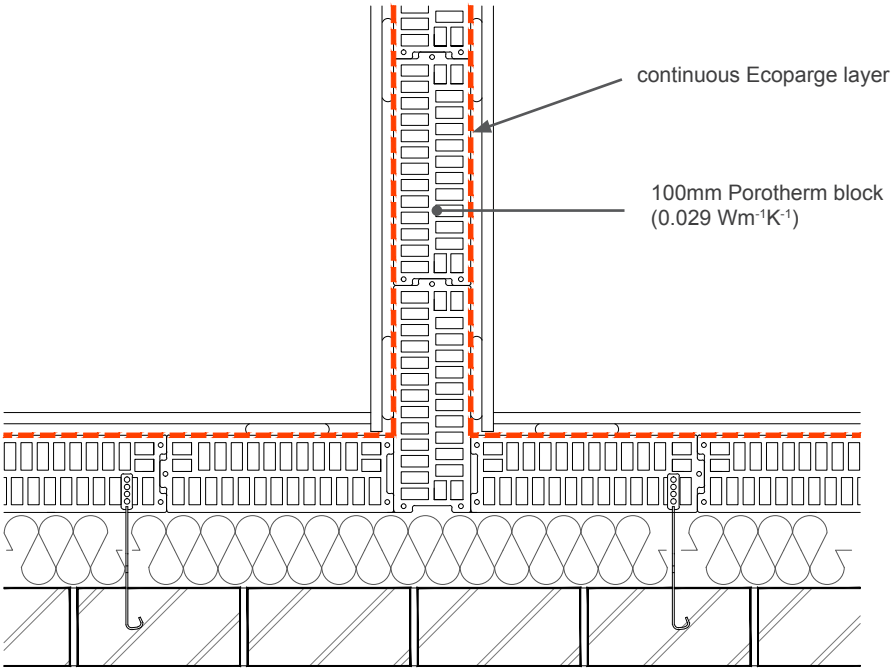
Notes

- Maximum external wall cavity width 200mm
- Partition wall blocks are 100mm Porotherm (λ = 0.029 $Wm^{-1}K^{-1}$) or 140mm Porotherm (λ = 0.026 $Wm^{-1}K^{-1}$)
- ensure continuity of the insulation throughout the junction leaving no gaps
- ensure that the full fill wall insulation is installed correctly between the inner and the outer leaf of the cavity wall leaving no gaps
- ensure that the full fill wall insulation is suitable for the wall exposure, and is resistant to water penetration
- the use of Ecoparge will ensure air barrier continuity

External Masonry Full Fill Cavity Wall

Partition wall

CD0098



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)
0.26	0.00
0.29	0.00

In all the example calculations, wall ties are stainless steel and 140 mm width Porotherm blocks (with a conductivity value of 0.26 $W \cdot m^{-1} \cdot K^{-1}$) or 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

External Masonry Full Fill Cavity Wall

Partition wall

CD0098

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

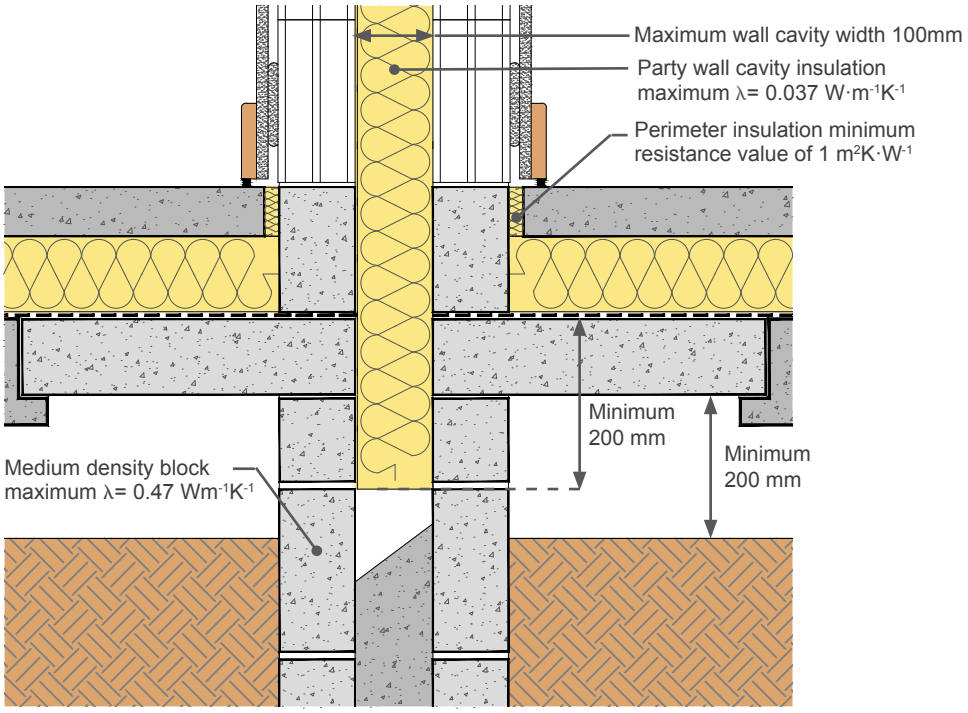
Site name: ..... Plot No: .....

Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the partition wall formed of 100 mm Porotherm blocks?	☐ ☐	.....
2.	Is the wall full fill insulation installed correctly with no gaps?	☐ ☐	.....
3.	Is the wall full fill insulation appropriate for moisture and wall exposure?	☐ ☐	.....
5.	Is the continuity of the air barrier between the floor and the wall achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

Party wall between dwellings
Suspended beam and block floor.
Insulation above slab

CD0099



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

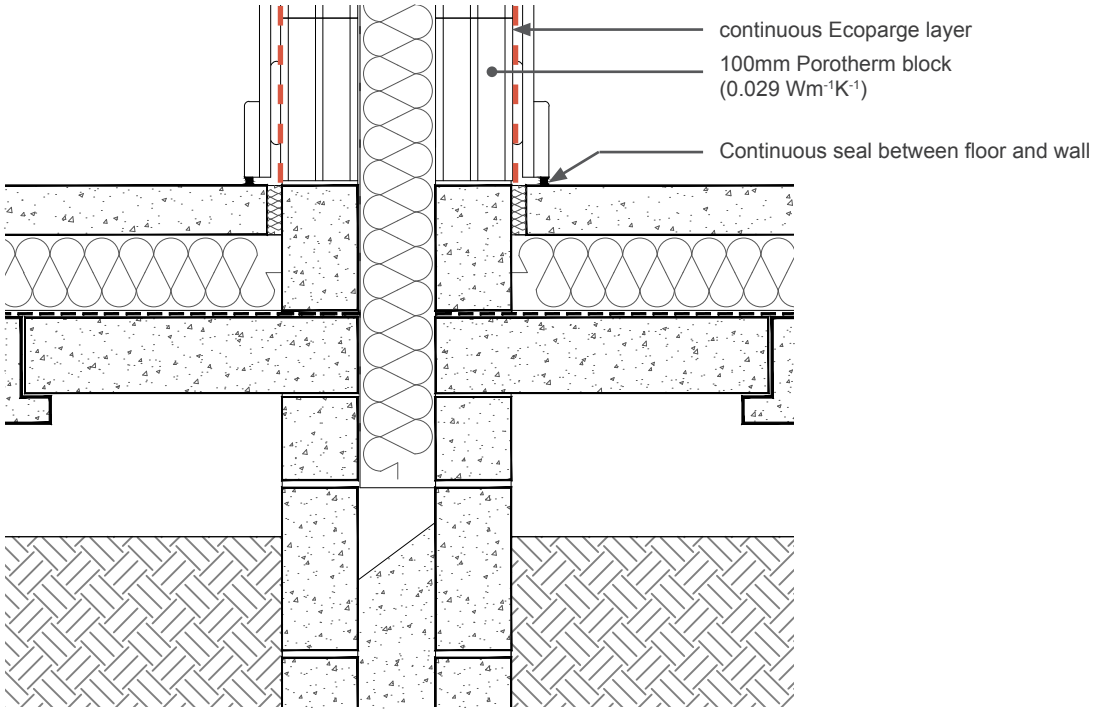
Notes

- Perimeter insulation strip with a minimum resistance value of 1 $m^2 \cdot K \cdot W^{-1}$ (eg 25 mm of insulation with $\lambda = 0.025\ W \cdot m^{-1} \cdot K^{-1}$) and installed up to floor finish
- Medium density blocks below floor level with a maximum $\lambda = 0.47\ W \cdot m^{-1} \cdot K^{-1}$
- Minimum underfloor cavity height of 200 mm
- Minimum 200 mm overlap of cavity wall insulation from top of the floor beam
- Maximum cavity width 200mm
- Ensure that the floor insulation tightly abuts blockwork wall
- Ensure thatre is a seal between the wall and floor air barrier with no gaps between the skirting board and the floor. The use of Ecoparge will ensure air barrier continuity of the wall.

Party wall between dwellings

Suspended beam and block floor. Insulation above slab

CD0099



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

These values are valid for any wall U value less than 0.30 $W \cdot m^{-2} \cdot K^{-1}$

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Floor U value between 0.08 and 0.11 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value between 0.12 and 0.19 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value greater or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.29	0.093	0.901	0.093	0.901	0.088	0.896

In all the example calculations, wall ties are stainless steel and 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Case 1: Floor U value between 0.08 and 0.11 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimteter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 135 mm and 205 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.11	0.12	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13

Case 2: Floor U value between 0.12 and 0.19 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimteter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 60 mm and 120 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.18	0.19	0.19	0.20	0.21	0.21	0.22	0.22	0.23	0.23	0.23	0.23	0.23	0.23	0.24	0.24	0.24

Case 3: Floor U value ≥ 0.20 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimteter / area of 0.25)

For example, floor U values for the range shown above can be achieved with 50 mm insulation with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is greater than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.19	0.20	0.22	0.22	0.23	0.24	0.24	0.25	0.25	0.25	0.26	0.26	0.26	0.26	0.27	0.27	0.27

Party wall between dwellings

Suspended beam and block floor. Insulation above slab

CD0099

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

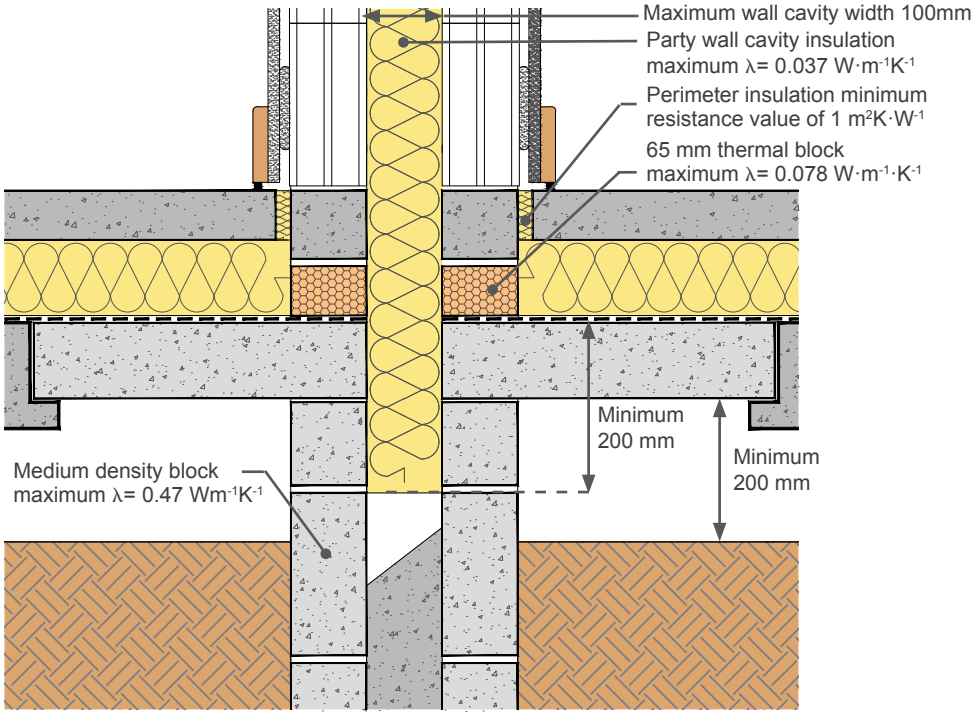
Site name: ..... Plot No: .....

Ref.	Item	Yes / No	Inspected (initials & date)
1.	Are the party wall leafs formed of 100mm Porotherm blocks?	☐ ☐	.....
2.	Is the party wall insulation width at least 100mm with a conductivity of 0.037 $W \cdot m^{-1} \cdot K^{-1}$ or less?	☐ ☐	.....
3.	Is the perimeter insulation as specified?		
	— Minimum resistance of 1 $m^2 \cdot K \cdot W^{-1}$	☐ ☐	.....
	— Installed up to floor finish	☐ ☐	.....
4.	Is the party wall insulation continued at least 200 mm below the underside of the floor insulation?	☐ ☐	.....
5.	Is the underfloor cavity height of 200 mm or more?	☐ ☐	.....
6.	Is the party wall insulation installed correctly between both leaves leaving no gaps?	☐ ☐	.....
7.	Is the floor insulation abutting the blockwork wall, leaving no gaps?	☐ ☐	.....
8.	Is the continuity of the air barrier between the floor and the wall achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

Party wall between dwellings
Suspended beam and block floor.
Insulation above slab. Thermal block

CD0100



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

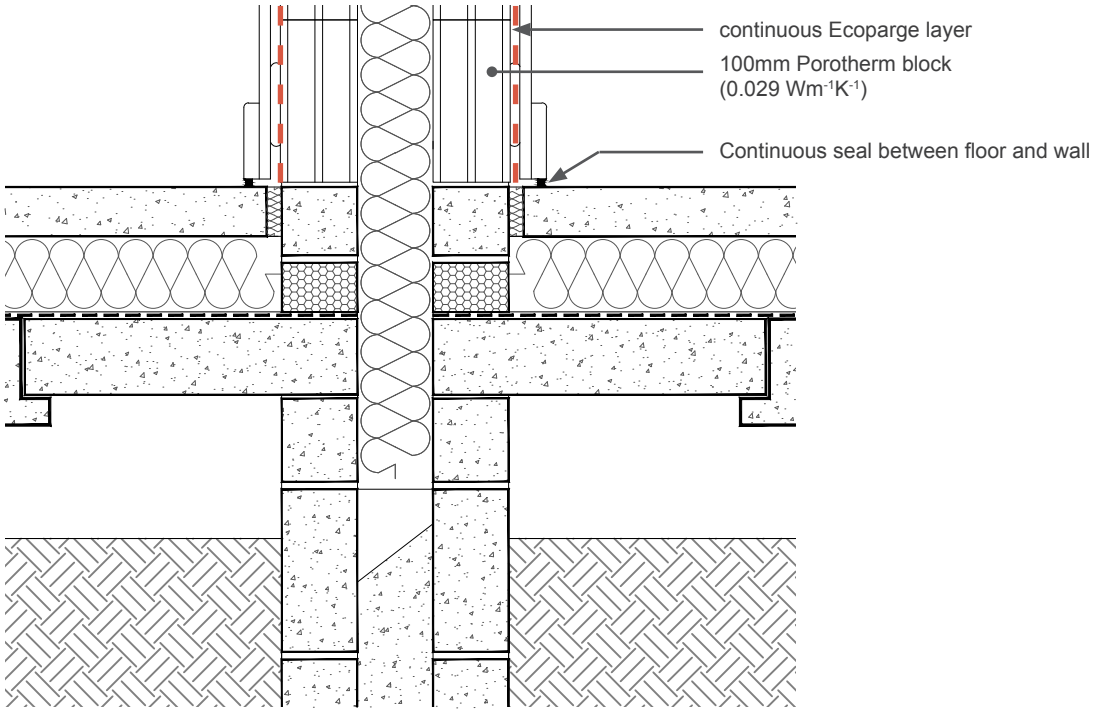
Notes

- Perimeter insulation strip with a minimum resistance value of 1 $m^2 \cdot K \cdot W^{-1}$ (eg 25 mm of insulation with λ = 0.025 $W \cdot m^{-1} \cdot K^{-1}$) and installed up to floor finish
- Thermal block of a minimum height of 65 mm and a maximum λ = 0.078 $W \cdot m^{-1} \cdot K^{-1}$
- Medium density blocks below floor level with a maximum λ = 0.47 $W \cdot m^{-1} \cdot K^{-1}$
- Minimum underfloor cavity height of 200 mm
- Minimum 200 mm overlap of cavity wall insulation from top of the floor beam
- Maximum cavity width 200mm
- Ensure that the floor insulation tightly abuts blockwork wall
- Ensure thatre is a seal between the wall and floor air barrier with no gaps between the skirting board and the floor. The use of Ecoparge will ensure air barrier continuity of the wall.

Party wall between dwellings

Suspended beam and block floor. Insulation above slab. Thermal block.

CD0100



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

These values are valid for any wall U value less than 0.30 $W \cdot m^{-2} \cdot K^{-1}$

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Floor U value between 0.08 and 0.11 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value between 0.12 and 0.19 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value greater or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.29	0.056	0.936	0.056	0.936	0.052	0.933

In all the example calculations, wall ties are stainless steel and 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Case 1: Floor U value between 0.08 and 0.11 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimteter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 135 mm and 205 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.11	0.12	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13

Case 2: Floor U value between 0.12 and 0.19 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimteter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 60 mm and 120 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.18	0.19	0.19	0.20	0.21	0.21	0.22	0.22	0.23	0.23	0.23	0.23	0.23	0.23	0.24	0.24	0.24

Case 3: Floor U value ≥ 0.20 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimteter / area of 0.25)

For example, floor U values for the range shown above can be achieved with 50 mm insulation with a $\lambda \leq$ 0.023 $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is greater than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.19	0.20	0.22	0.22	0.23	0.24	0.24	0.25	0.25	0.25	0.26	0.26	0.26	0.26	0.27	0.27	0.27

Party wall between dwellings

Suspended beam and block floor. Insulation above slab. Thermal block.

CD0100

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

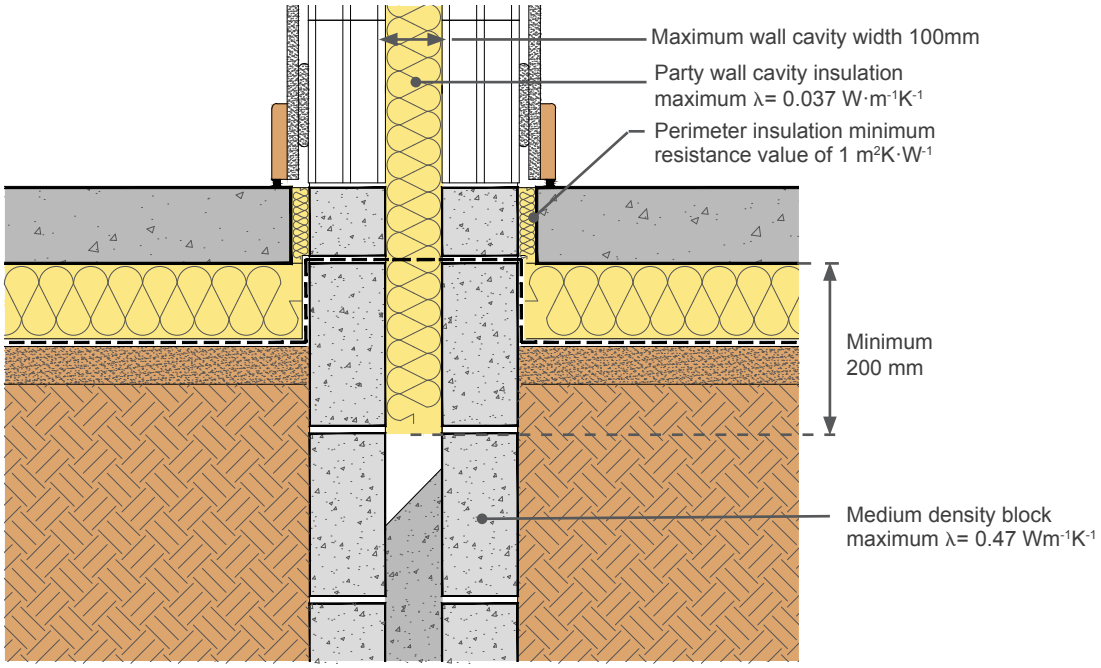
Site name: ..... Plot No: .....

Ref.	Item	Yes / No	Inspected (initials & date)
1.	Are the party wall leafs formed of 100mm Porotherm blocks?	☐ ☐	.....
2.	Is the party wall insulation width at least 100mm with a conductivity of 0.037 $W \cdot m^{-1} \cdot K^{-1}$ or less?	☐ ☐	.....
3.	Is the perimeter insulation as specified?	☐ ☐	.....
	— Minimum resistance of 1 $m^2 \cdot K \cdot W^{-1}$	☐ ☐	.....
	— Installed up to floor finish	☐ ☐	.....
4.	Is the thermal block of a minimum height of 65 mm and with a maximum conductivity value of 0.078 $W \cdot m^{-1} \cdot K^{-1}$?	☐ ☐	.....
5.	Is the party wall insulation continued at least 200 mm below the underside of the floor insulation?	☐ ☐	.....
6.	Is the underfloor cavity height of 200 mm or more?	☐ ☐	.....
7.	Is the party wall insulation installed correctly between both leaves leaving no gaps?	☐ ☐	.....
8.	Is the floor insulation abutting the blockwork wall, leaving no gaps?	☐ ☐	.....
9.	Is the continuity of the air barrier between the floor and the wall	☐ ☐	.....

Notes (include details of any corrective action)

Party wall between dwellings
Concrete ground bearing floor
Insulation below slab

CD0101



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

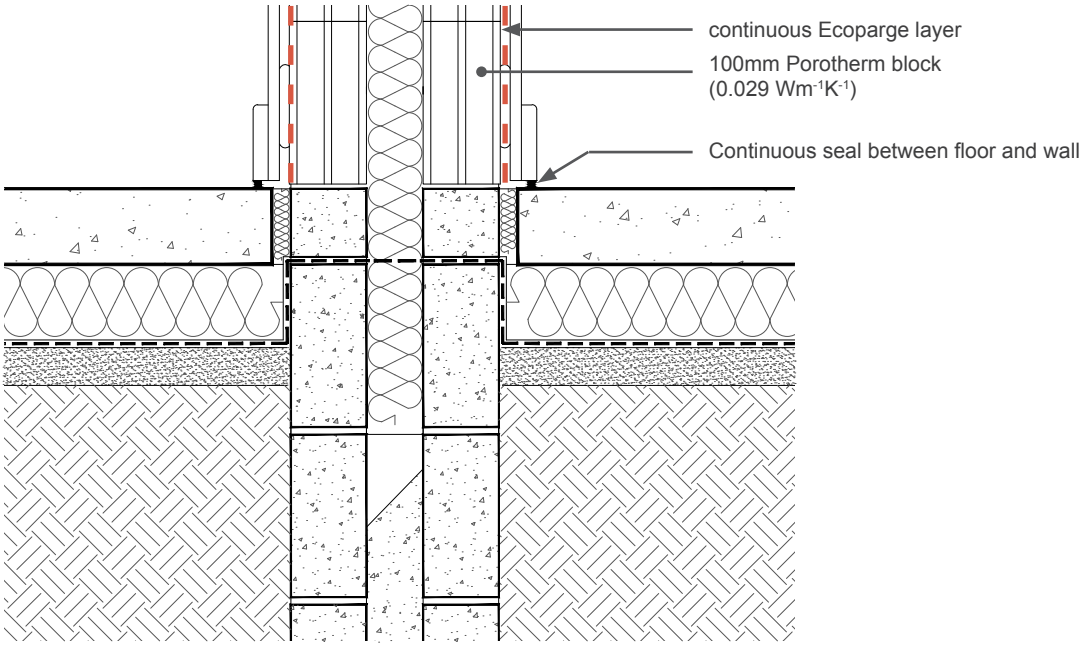
Notes

- Perimeter insulation strip with a minimum resistance value of 1 $m^2 \cdot K \cdot W^{-1}$ (eg 25 mm of insulation with λ = 0.025 $W \cdot m^{-1} \cdot K^{-1}$) and installed up to floor finish
- Medium density blocks below floor level with a maximum λ = 0.47 $W \cdot m^{-1} \cdot K^{-1}$
- Minimum 200 mm overlap of cavity wall insulation from bottom of the slab
- Maximum cavity width 100mm
- Ensure that the floor insulation tightly abuts blockwork wall
- Ensure that there is a seal between the wall and floor air barrier with no gaps between the skirting board and the floor. The use of Ecoparge will ensure air barrier continuity of the wall.

Party wall between dwellings

Concrete ground bearing floor. Insulation below slab.

CD0101



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

These values are valid for any wall U value less than 0.30 $W \cdot m^{-2} \cdot K^{-1}$

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Floor U value between 0.08 and 0.11 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value between 0.12 and 0.19 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value greater or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.29	0.073	0.95	0.071	0.93	0.062	0.91

In all the example calculations, wall ties are stainless steel and 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Case 1: Floor U value between 0.08 and 0.11 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimteter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 135 mm and 205 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.11	0.12	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13

Case 2: Floor U value between 0.12 and 0.19 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimteter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 60 mm and 120 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.18	0.19	0.19	0.20	0.21	0.21	0.22	0.22	0.23	0.23	0.23	0.23	0.23	0.23	0.24	0.24	0.24

Case 3: Floor U value ≥ 0.20 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimteter / area of 0.25)

For example, floor U values for the range shown above can be achieved with 50 mm insulation with a $\lambda \leq$ 0.023 $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is greater than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.19	0.20	0.22	0.22	0.23	0.24	0.24	0.25	0.25	0.25	0.26	0.26	0.26	0.26	0.27	0.27	0.27

Party wall between dwellings

Concrete ground bearing floor. Insulation below slab.

CD0101

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

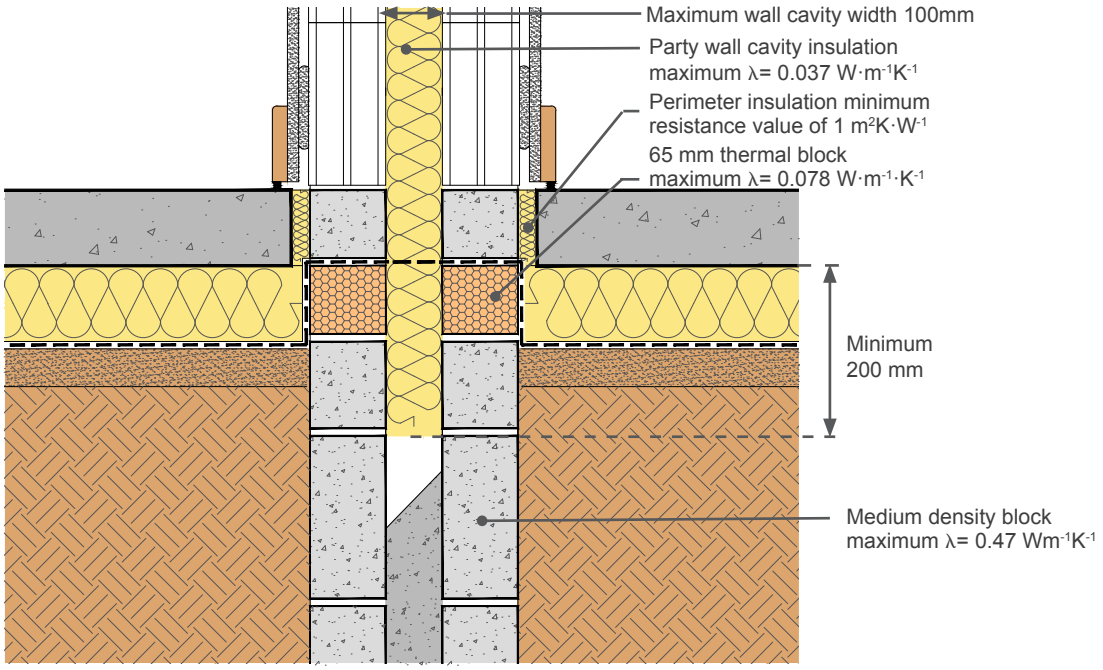
Site name: ..... Plot No: .....

Ref.	Item	Yes / No	Inspected (initials & date)
1.	Are the party wall leafs formed of 100mm Porotherm blocks?	☐ ☐	.....
2.	Is the party wall insulation width at least 100mm with a conductivity of 0.037 $W \cdot m^{-1} \cdot K^{-1}$ or less?	☐ ☐	.....
3.	Is the perimeter insulation as specified?	☐ ☐	.....
	— Minimum resistance of 1 $m^2 \cdot K \cdot W^{-1}$	☐ ☐	.....
	— Installed up to floor finish	☐ ☐	.....
4.	Is the party wall insulation continued at least 200 mm below the top of the floor insulation?	☐ ☐	.....
5.	Is the party wall insulation installed correctly between both leaves leaving no gaps?	☐ ☐	.....
6.	Is the floor insulation abutting the blockwork wall, leaving no gaps?	☐ ☐	.....
7.	Is the continuity of the air barrier between the floor and the wall achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

Party wall between dwellings
Concrete ground bearing floor
Insulation below slab. Thermal block

CD0102



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

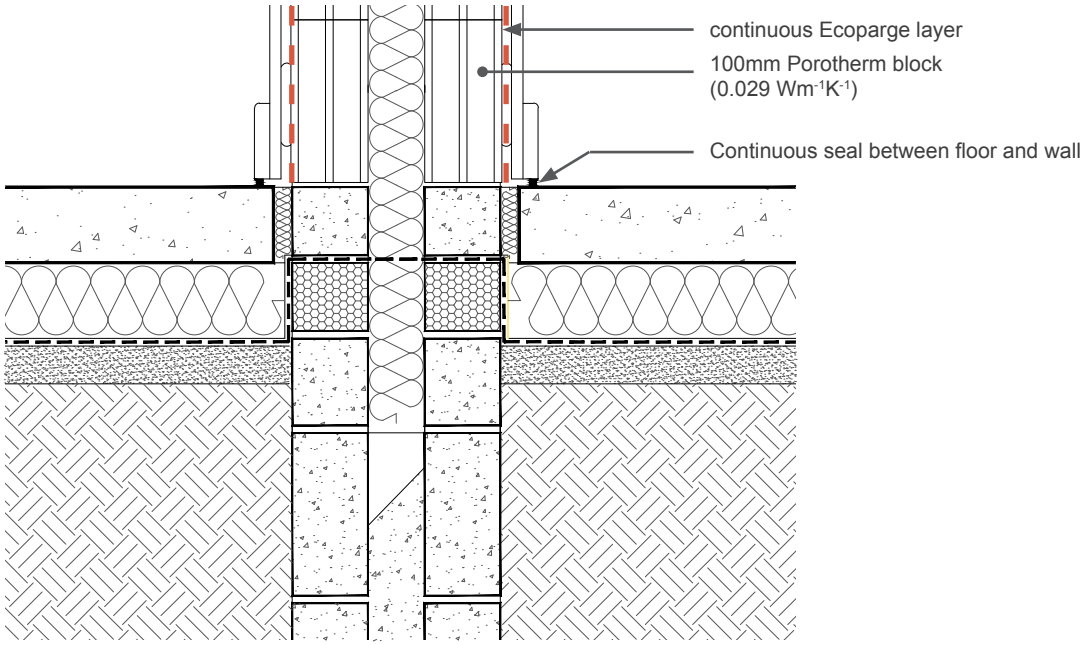
Notes

- Perimeter insulation strip with a minimum resistance value of 1 $m^2 \cdot K \cdot W^{-1}$ (eg 25 mm of insulation with λ = 0.025 $W \cdot m^{-1} \cdot K^{-1}$) and installed up to floor finish
- Thermal block of a minimum height of 65 mm and a maximum λ = 0.078 $W \cdot m^{-1} \cdot K^{-1}$
- Medium density blocks below floor level with a maximum λ = 0.47 $W \cdot m^{-1} \cdot K^{-1}$
- Minimum 200 mm overlap of cavity wall insulation from bottom of the slab
- Maximum cavity width 100mm
- Ensure that the floor insulation tightly abuts blockwork wall
- Ensure thatre is a seal between the wall and floor air barrier with no gaps between the skirting board and the floor. The use of Ecoparge will ensure air barrier continuity of the wall.

Party wall between dwellings

Concrete ground bearing floor. Insulation below slab. Thermal block.

CD0102



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Calculated ψ values for this detail

These values are valid for any wall U value less than 0.30 $W \cdot m^{-2} \cdot K^{-1}$

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Floor U value between 0.08 and 0.11 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value between 0.12 and 0.19 $W \cdot m^{-2} \cdot K^{-1}$		Floor U value greater or equal than 0.20 $W \cdot m^{-2} \cdot K^{-1}$	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.29	0.047	0.96	0.045	0.93	0.04	0.95

In all the example calculations, wall ties are stainless steel and 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Case 1: Floor U value between 0.08 and 0.11 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimteter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 135 mm and 205 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.11	0.12	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13

Case 2: Floor U value between 0.12 and 0.19 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimteter / area of 0.25)

For example, floor U values for the range shown above can be achieved with insulation between 60 mm and 120 mm and with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is less than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.18	0.19	0.19	0.20	0.21	0.21	0.22	0.22	0.23	0.23	0.23	0.23	0.23	0.23	0.24	0.24	0.24

Case 3: Floor U value ≥ 0.20 $W \cdot m^{-1} \cdot K^{-1}$ (for a perimteter / area of 0.25)

For example, floor U values for the range shown above can be achieved with 50 mm insulation with a $\lambda \leq 0.023$ $W \cdot m^{-1} \cdot K^{-1}$.

The table below provides U values for the same floor construction or P/A ratio other than 0.25. The ψ values can only be used when the actual floor U value is greater than that given for the P/A ratio relevant to the dwelling in question.

P/A mm^{-2}	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
U ($W \cdot m^{-1} \cdot K^{-1}$)	0.19	0.20	0.22	0.22	0.23	0.24	0.24	0.25	0.25	0.25	0.26	0.26	0.26	0.26	0.27	0.27	0.27

Party wall between dwellings

Concrete ground bearing floor. Insulation below slab. Thermal block.

CD0102

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

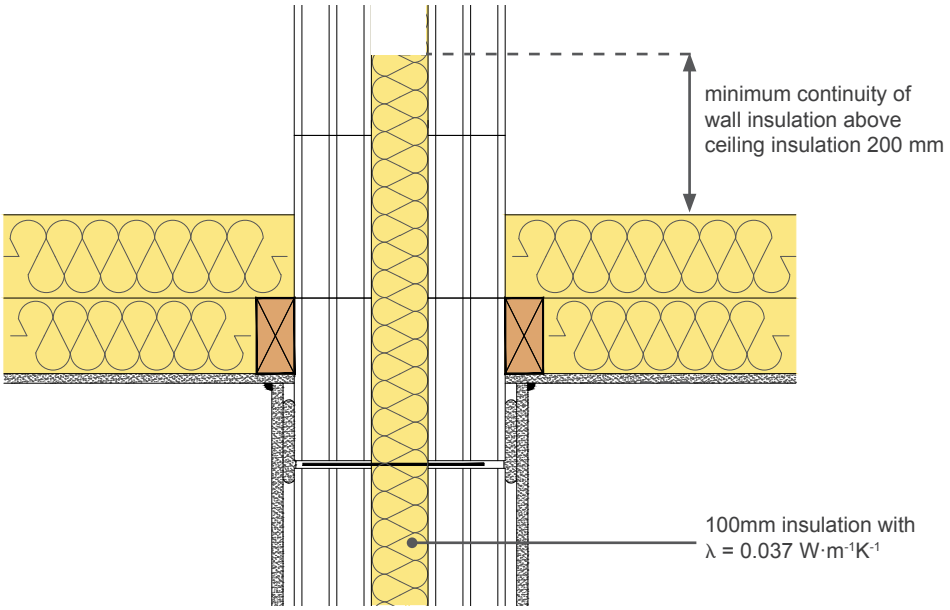
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Are the party wall leafs formed of 100mm Porotherm blocks?	☐ ☐	.....
2.	Is the party wall insulation width at least 100mm with a conductivity of 0.037 $W \cdot m^{-1} \cdot K^{-1}$ or less?	☐ ☐	.....
3.	Is the perimeter insulation as specified?		
	— Minimum resistance of 1 $m^2 \cdot K \cdot W^{-1}$	☐ ☐	.....
	— Installed up to floor finish	☐ ☐	.....
4.	Is the thermal block of a minimum height of 65 mm and with a maximum conductivity value of 0.078 $W \cdot m^{-1} \cdot K^{-1}$?	☐ ☐	.....
5.	Is the party wall insulation continued at least 200 mm below the top of the floor insulation?	☐ ☐	.....
5.	Is the party wall insulation installed correctly between both leaves leaving no gaps?	☐ ☐	.....
6.	Is the floor insulation abutting the blockwork wall, leaving no gaps?	☐ ☐	.....
7.	Is the continuity of the air barrier between the floor and the wall achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

Party Wall between dwellings

Pitched roof. Insulation at ceiling level

CD0103



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

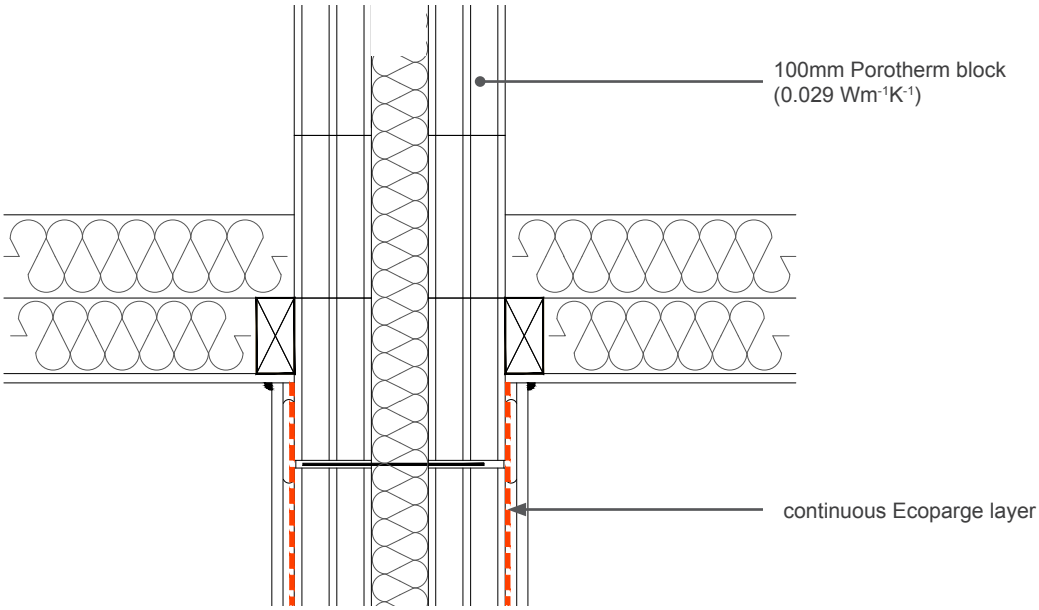
Notes

- party wall insulation 100mm with λ = 0.037 $W \cdot m^{-1} \cdot K^{-1}$
- minimum continuity of wall insulation above ceiling insulation level 200 mm
- ceiling insulation thickness between 210 and 510 mm
- ensure that the party wall insulation is installed correctly between both leafs of the cavity wall with no gaps
- the use of Ecoparge will ensure air barrier continuity

Party Wall between dwellings

Pitched roof. Insulation at ceiling level

CD0103



This indicative guidance illustrates good practice for design and construction with respect to achieving thermal performance and air barrier continuity only. It must be implemented taking due regard of site conditions and all other requirements imposed by Buiding Regulations.

Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Ceiling insulation between 210 and 309 mm		Ceiling insulation between 310 and 409 mm		Ceiling insulation between 410 and 510 mm	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.29	0.087	0.91	0.069	0.93	0.057	0.94

In all the example calculations, wall ties are stainless steel and 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Party Wall between dwellings

Pitched roof. Insulation at ceiling level

CD0103

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

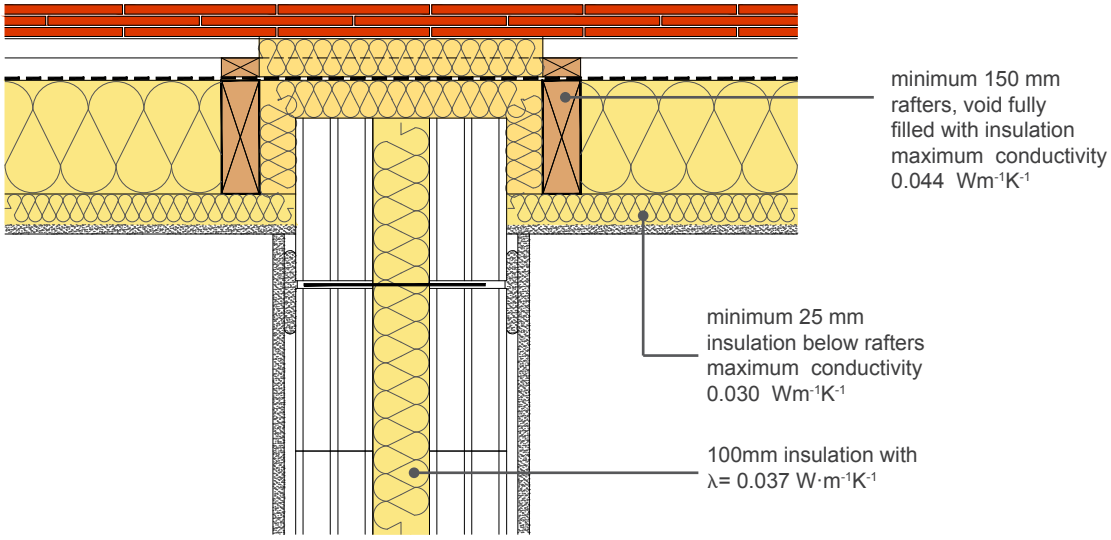
Ref.	Item	Yes / No	Inspected (initials & date)
1.	Are the party wall leafs formed of 100mm Porotherm blocks?	☐ ☐	.....
2.	Is the party wall insulation width at least 100mm with a conductivity of 0.037 $W \cdot m^{-1} \cdot K^{-1}$ or less?	☐ ☐	.....
3.	Is the ceiling insulation thickness between 210 and 510mm thickness?	☐ ☐	.....
4.	Is the party wall insulation continued above the ceiling insulation level at least 200 mm?	☐ ☐	.....
5.	Is the party wall insulation installed correctly between both leaves leaving no gaps?	☐ ☐	.....
6.	Is the continuity of the air barrier achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

Party Wall between dwellings

Pitched roof. Insulation at rafter level

CD0104



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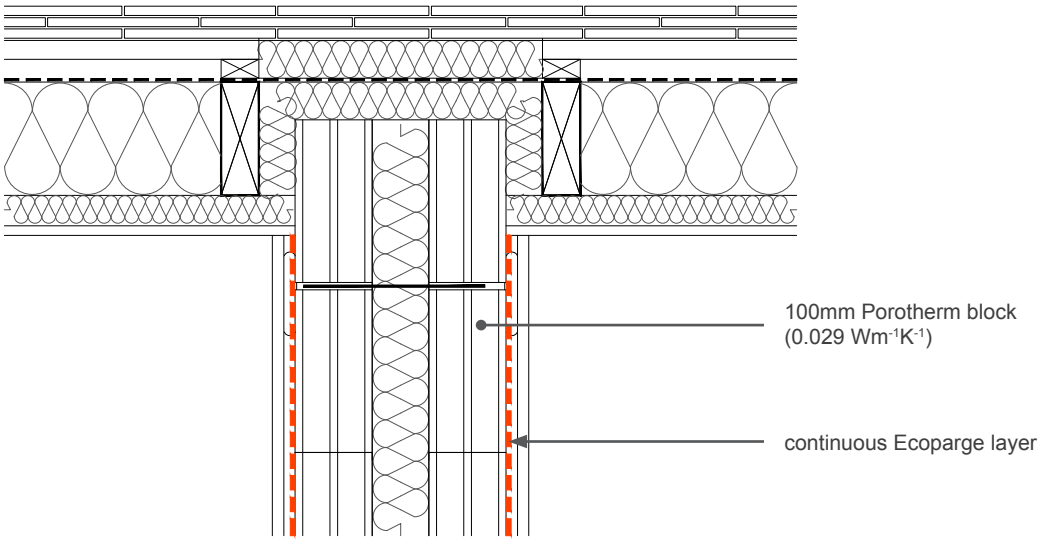
Notes

- party wall insulation 100mm with λ = 0.037 $W \cdot m^{-1} \cdot K^{-1}$
- minimum 25 mm of insulation below rafters, with a maximum conductivity of 0.030 $Wm^{-1}K^{-1}$
- ensure that the party wall insulation is installed correctly between both leafs of the cavity wall with no gaps
- the use of Ecoparge will ensure air barrier continuity

Party Wall between dwellings

Pitched roof. Insulation at rafter level

CD0104



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Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Roof U value ≤ 0.10		0.11≤ Roof U value ≤ 0.15		0.16≤ Roof U value ≤ 0.20	
	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)	Temperature factor
0.29	0.061	0.945	0.077	0.915	0.085	0.905

In all the example calculations, wall ties are stainless steel and 100 mm width Porotherm blocks (with a conductivity value of 0.29 $W \cdot m^{-1} \cdot K^{-1}$) have been used.

Party Wall between dwellings

Pitched roof. Insulation at rafter level

CD0104

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

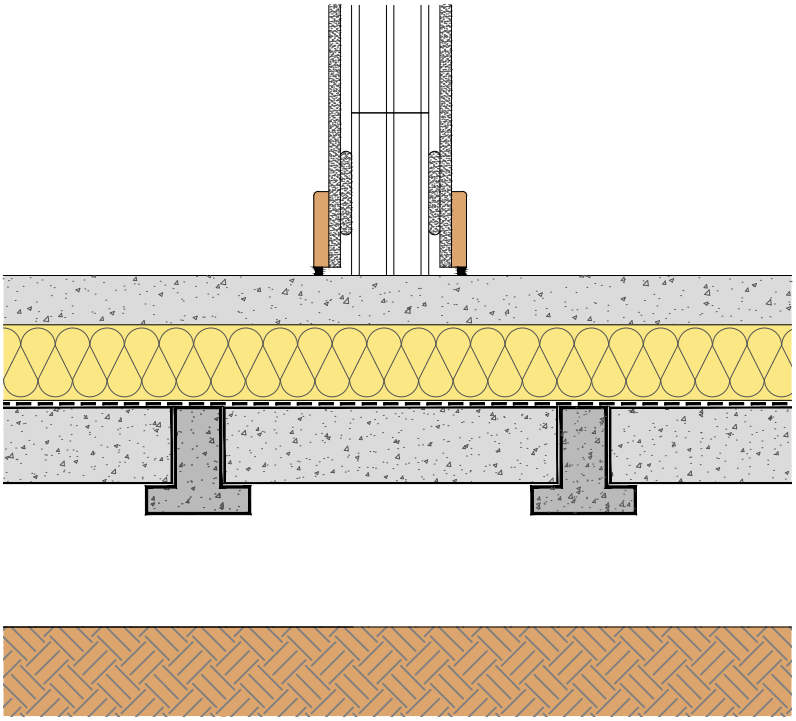
Site name: ..... Plot No: .....

Ref.	Item	Yes / No	Inspected (initials & date)
1.	Are the party wall leafs formed of 100mm Porotherm blocks?	☐ ☐	.....
2.	Is the party wall insulation width at least 100mm with a conductivity of 0.037 $W \cdot m^{-1} \cdot K^{-1}$ or less?	☐ ☐	.....
3.	Is the ceiling insulation thickness at least 150mm with a conductivity of 0.044 $W \cdot m^{-1} \cdot K^{-1}$ or less?	☐ ☐	.....
4.	Is there a minimum of 25 mm of insulation below rafters, with a maximum conductivity of 0.030 $Wm^{-1}K^{-1}$?	☐ ☐	.....
5.	Is the party wall insulation installed correctly between both leaves leaving no gaps?	☐ ☐	.....
6.	Is the continuity of the air barrier achieved? If not, please provide details.	☐ ☐	.....

Notes (include details of any corrective action)

Partition wall within a dwelling
Suspended beam and block floor
Insulation above slab

CD0105



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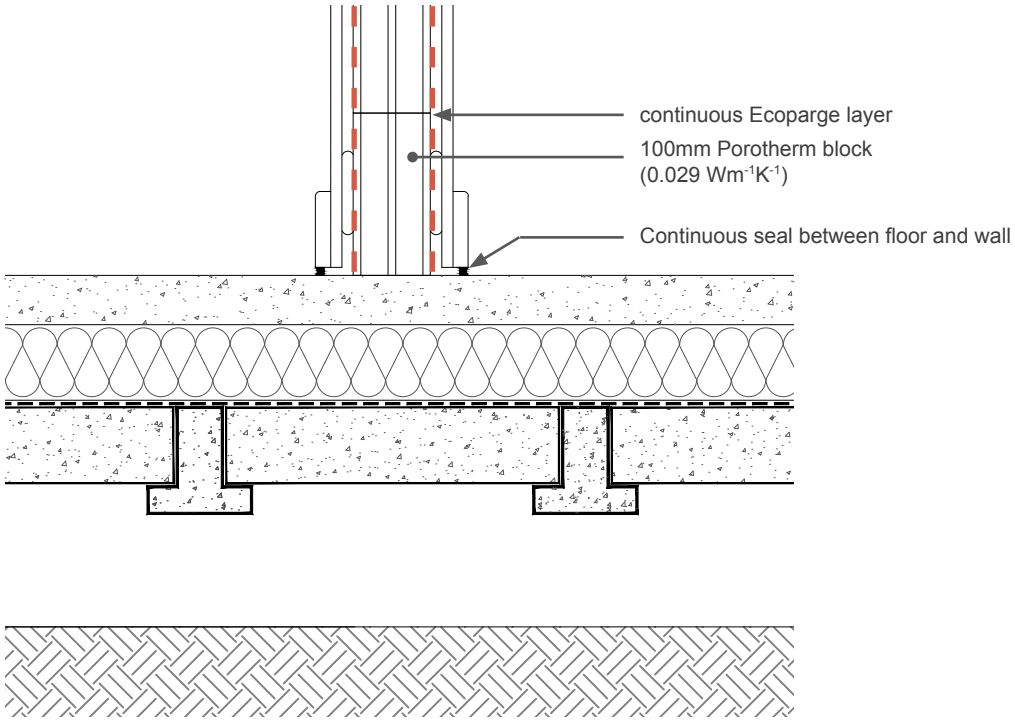
Notes

- Ensure that there is a seal between the wall and floor air barrier with no gaps between the skirting board and the floor. The use of Ecoparge will ensure air barrier continuity of the wall.

Partition wall within a dwelling

Suspended beam and block floor. Insulation above slab

CD0105



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Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)
0.29	0.00

Partition wall within a dwelling

Suspended beam and block floor. Insulation above slab

CD0105

Guidance Checklist

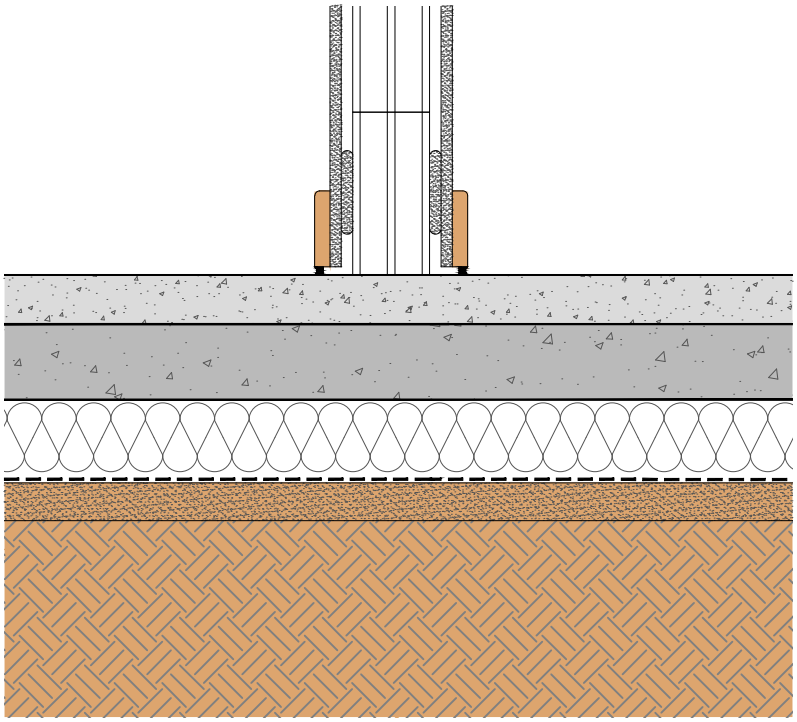
Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the partition wall formed of 100mm Porotherm blocks?	☐ ☐	.....
2.	Is the continuity of the air barrier achieved? If not, please provide details.	☐ ☐	.....

Partition wall within a dwelling
Concrete ground bearing floor
Insulation below slab

CD0106



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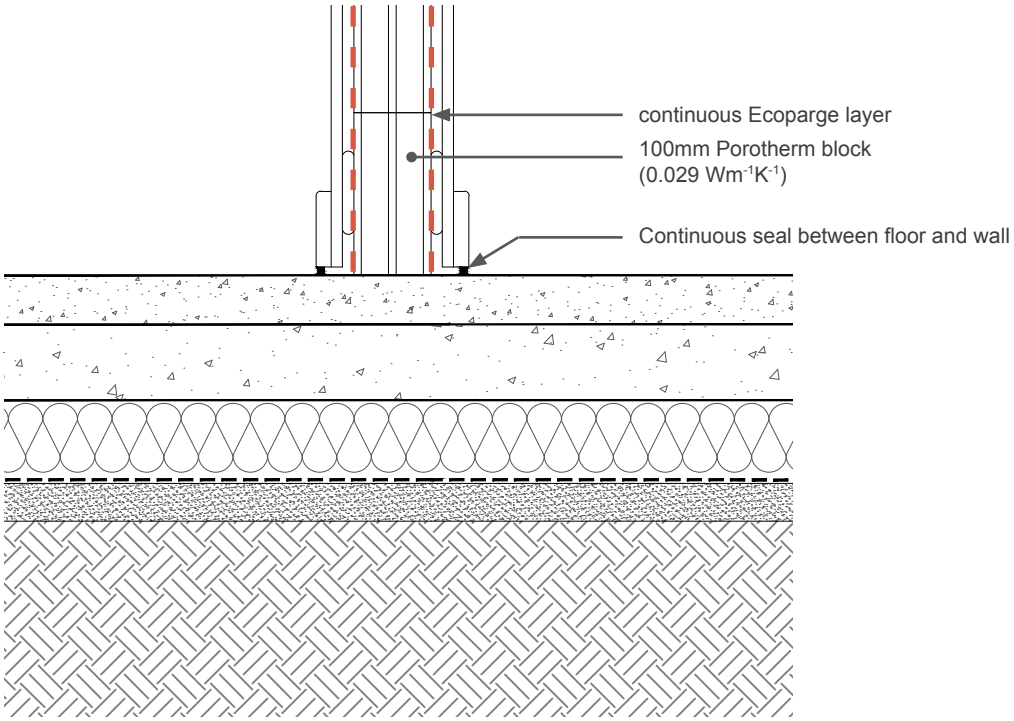
Notes

- Ensure that there is a seal between the wall and floor air barrier with no gaps between the skirting board and the floor. The use of Ecoparge will ensure air barrier continuity of the wall.

Partition wall within a dwelling

Concrete ground bearing floor. Insulation below slab

CD0106



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Calculated ψ values for this detail

Porotherm block conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	ψ value ($W \cdot m^{-1} \cdot K^{-1}$)
0.29	0.00

Partition wall within a dwelling

Concrete ground bearing floor. Insulation below slab

CD0106

Guidance Checklist

Date: ..... Site Manager/Supervisor: .....

Site name: ..... Plot No: .....

Ref.	Item	Yes / No	Inspected (initials & date)
1.	Is the partition wall formed of 100mm Porotherm blocks?	☐ ☐	.....
2.	Is the continuity of the air barrier achieved? If not, please provide details.	☐ ☐	.....