



HP Partial Fill Cavity Slab

Robust, long-lasting protection

HP Partial Fill Cavity Slab insulation has a robust outer surface, designed to withstand on-site rigours and maintain a clearly defined cavity. A resilient inner surface absorbs inner leaf irregularities and eliminates 'stand off' to increase thermal performance.



The following NBS clauses include HP Partial Fill Cavity Slab: F30:12, F30:151

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Made of renewable stone wool fibres, the cavity slabs further maximise energy efficiency by knitting together when tightly butt jointed to eliminate gaps. HP Partial Fill Cavity Slab is a stable, rot-proof and durable solution that will last for the lifetime of the building.

Advantages

- Robust front-face resists damage
- Slabs knit together to eliminate gaps
- Maximises thermal performance
- Water repellent
- Can be used in high-rise buildings

Product properties

Dimensions

HP Partial Fill Cavity Slabs are produced in a standard size of 1200 x 455mm to suit a vertical wall-tie spacing of 450mm.

The slabs come in standard thicknesses of 50, 85, 95, 110 and 115mm. For other thicknesses please contact Rockwool Technical Support on 0871 222 1780.

Product performance

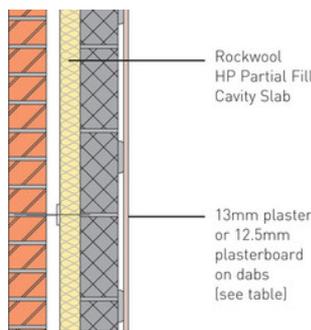
U-values

HP Partial Fill Cavity Slab has a thermal conductivity of 0.034 W/mK.

Approved Document L (2010) – U-value requirements:

- Extensions: 0.28W/m²K
- Renovation and repair: 0.30W/m²K
- New build range: 0.25 – 0.22 W/m²K

Construction example



102mm facing brick outer skin, cavity, HP Partial Fill Cavity Slab, internal concrete block 100mm.

Internal finishes: Plaster or plasterboard on dabs

| Block type | Medium dense 1400-1450kg/m ³ | Aircrete 750kg/m ³ | Aircrete 600kg/m ³ | Aircrete 470kg/m ³ |
|------------|--|----------------------------------|----------------------------------|----------------------------------|
| W/mK | 0.510 W/mK | 0.190 W/mK | 0.150 W/mK | 0.110 W/mK |

| Finishes | Pb/dab | | plaster | | Pb/dab | | plaster | | Pb/dab | | plaster | |
|----------|----------|-----|---------|-----|--------|-----|---------|-----|--------|--|---------|--|
| | U-values | | | | | | | | | | | |
| 0.30 | 85 | 90 | 75 | 85 | 75 | 80 | 65 | 75 | | | | |
| 0.28 | 100 | 100 | 85 | 95 | 80 | 85 | 75 | 80 | | | | |
| 0.27 | 100 | 100 | 90 | 95 | 85 | 90 | 80 | 85 | | | | |
| 0.25 | 110 | 110 | 100 | 105 | 95 | 100 | 90 | 95 | | | | |
| 0.24 | 115 | 115 | 105 | 110 | 100 | 105 | 95 | 100 | | | | |
| 0.22 | 125 | 130 | 115 | 125 | 115 | 115 | 105 | 110 | | | | |
| 0.20 | 140 | 150 | 130 | 140 | 130 | 135 | 120 | 125 | | | | |

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Specification clause

The partial fill cavity wall insulation is to be mm* thick HP Partial Fill Cavity Slabs manufactured by Rockwool Limited, Bridgend, installed as work proceeds in accordance with the requirements of BBA Certificate 93/2884.

- Size to suit wall tie spacing.
- Fix securely to inner leaf in accordance with Rockwool's and BBA Certificate recommendations.
- Slabs to be fixed with the robust (patterned) face outwards.

* Insert thicknesses as required

Design guidance

Designing the cavity wall

The outer leaf is the first line of defence against rain and the following will help to improve its effectiveness:

1. Before designing the width of the cavity, consider the dimensional tolerances of the components which make up the wall and the width of the residual airspace.
2. Specify weather-struck, flush or bucket handle joints. Recessed joints increase the risk of water penetration in high exposure zones. Ensure that all bed and perpend joints in the external wall are fully filled with mortar.
3. Vertical damp proof courses at wall openings should project at least 25mm into the cavity.

Eurocode 6 – Design of Masonry Structures (BS EN 1996-1-1:2005)

In 2010, Eurocode 6 became the main code for the design of reinforced and unreinforced masonry. Eurocode 6 refers to EN 845-1 for wall ties and sets the density of ties per square metre based on the declared value of the tie, the material factor and the design wind load.

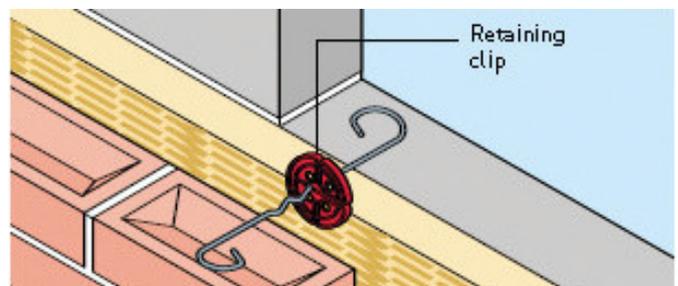
The following guidance regarding wall ties is given in good faith and is not intended to override any good practice recommendations (refer also to BBA Certificate

93/2884, copies of which can be downloaded from www.rockwool.co.uk).

Wall ties

Wall ties should be built into each leaf with a minimum embedment of 50mm. However, some manufacturers recommend an embedment of 62.5mm to allow for site tolerances. Drip features on a wall tie should be placed at the centre of an open cavity.

Figure 1. Wall tie between slabs with retaining clip



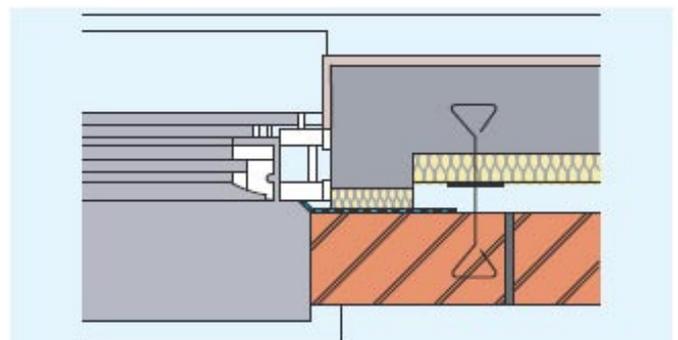
Insulation retaining clips

The specifier must ensure that the retaining clips used are suitable for the selected wall tie.

Minimising thermal bridging at door and window openings

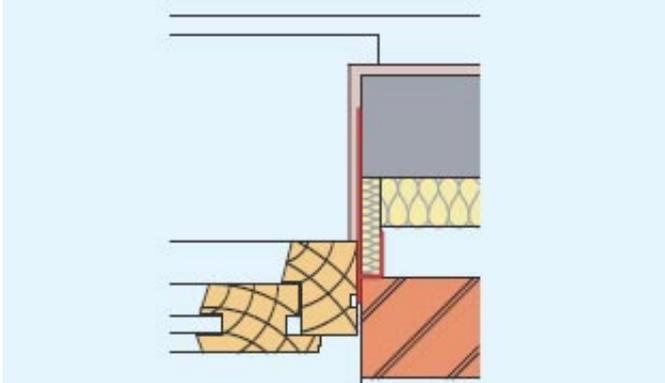
See Rockclose and RockReveal fire rated cavity closer data sheet.

Figure 2. Plan view at jamb, showing Rockwool Rockclose with Aluminium frame in rebated 'check' reveal.



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Figure 3. Plan view at jamb, showing RockReveal Cavity Closer door reveals (masonry wall)



Installation guidance

General

The walls should be constructed with the inner leaf leading, with HP Partial Fill Cavity Slab fastened to the cavity face of the inner leaf. For optimum performance, the cavity slabs should be placed with the patterned face outwards.

Procedure

1. A section of the inner leaf should be built with the first row of wall ties at approximately 600mm horizontal spacing where the insulation is to begin. It is recommended that the wall ties are not placed directly on the damp-proof course.
2. The first run of slabs should commence below the damp-proof course level to provide overlap edge insulation at the floor interface.
3. The inner leaf should be built up to the required height, with wall ties placed at a vertical height of 450mm. Excess mortar should be cleaned from the cavity face of the leading leaf and the slabs compressed slightly between the upper and lower wall ties behind the retaining clips. This is to form a closely butt-joined run.
4. The second row of wall ties should be fitted to retain the tops of the slabs. It is essential that all wall ties

slope downwards towards the outer leaf and at centres not exceeding 600mm to ensure that each slab is secured at a minimum of four points (see fig. 4).

5. Additional ties may be required to satisfy the structural requirements and/or to ensure adequate retention of slabs or cut pieces. Alternatively, the slabs should be retained against the leading leaf by the Lexsure type clips which are pressed lightly through the insulation and located in the 'green mortar' bed.

6. Complete successive sections of wall up to the roof line.

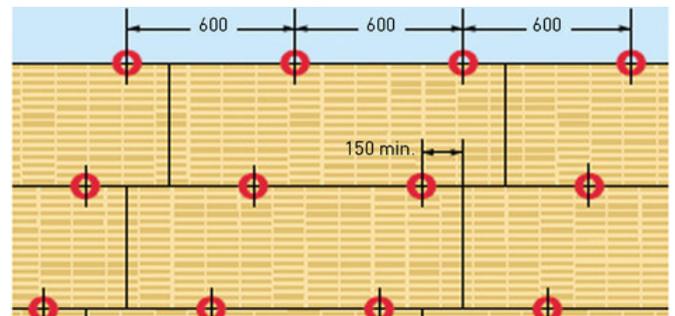


Figure 4. Wall tie and retaining clip pattern

Please note: This wall tie stagger pattern ensures that no more than 450mm of slab overhangs a fixing. For optimum performance, the slabs should be placed with the patterned side outwards as shown above.

Advisory notes

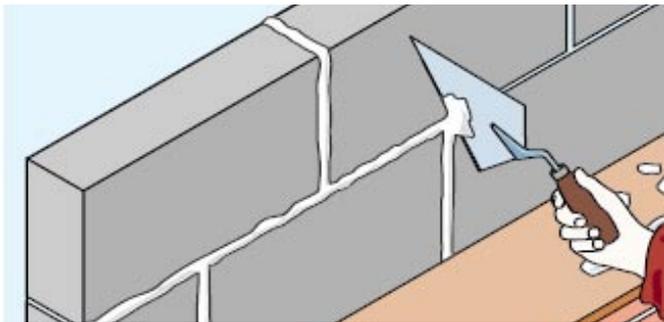
1. All areas of the wall must be insulated – do not leave gaps. Ensure that the patterned side faces outwards.
2. Close butt the slabs at all horizontal and vertical joints. Cut them carefully to fit around any protrusions into the cavity, eg. soil pipes.
3. Close butt joints at corners, being careful not to bend the slabs.
4. Clean off excess mortar from the cavity face of the wall before installing the slab.
5. Do not allow mortar to drop on top of the slabs that are positioned in the cavity. Protect the top of the slabs with a batten during installation.

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6. Do not allow mortar to drop into the cavity. After each section of the inner leaf is built, excess mortar should be removed from the cavity face and mortar droppings cleaned from any exposed edges of the installed board. This should take place before the installation of the next run of boards. Use of a cavity batten is recommended to protect board edges and make cleaning easier. Also, a cavity batten will protect the installed boards and help to keep the cavity clean as the outer leaf is built up (see fig. 5).

7. Where cut slabs of less than full length are installed, a minimum of 2 clips should be provided to support the lower edge of the slab.

Figure 5. Use of cavity board



Standards and approvals

High Performance Partial Fill Cavity Slabs comply with the requirements of BS EN 13162 'Thermal insulation products for buildings – Factory made mineral wool products.

Fire classification

HP Partial Fill Cavity Slab is deemed non-combustible and achieves a reaction to fire classification of A1 (BS EN 13501-1).

BBA Certificate

HP Partial Fill Cavity Slabs have been laboratory and site tested by BBA and awarded Certificate 93/2884.

Use in tall buildings

The BBA Certificate permits the product to be used in buildings up to and including 25 metres in height.

1. Buildings up to and including 12 metres:

a) The product can be used in any exposure zone where a residual cavity width of 50mm or greater is maintained. However, the use of the product does not preclude the need to apply any external render coat or other suitable finish in severe exposure zones where such application would be normal practice.

b) The minimum residual cavity width to be maintained during construction must be 25mm. To achieve this requirement, a greater nominal residual cavity width may need to be specified at the design stage to allow for inaccuracies inherent in the building process (a residual cavity nominally 50mm wide will be required by the NHBC where normal standards of tolerance and workmanship are adopted).

2. Buildings over 12 metres and up to and including 25 metres:

The width of the residual clear cavity to be achieved should be a minimum of 50mm, and the following requirements apply:

a) From ground level, the maximum height of continuous cavity walls must not exceed 12 metres.

b) Above 12 metres, the maximum height of continuous cavity walls must not exceed 7 metres.

c) In both cases breaks should be in the form of continuous horizontal cavity trays discharging to the outside.

d) Where the cavity width is reduced for structural reasons, e.g. by the intrusion of ring beams, a minimum residual cavity width of 25mm must be maintained and extra care must be taken with fixings and weatherproofing, e.g. the inclusion of a cavity tray.

e) The exposure index should not exceed 120.

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Please note: For buildings over 25 metres in height it is necessary for the designer to submit detail drawings to the BBA for assessment and approval prior to construction.

Handling and storage

HP Partial Fill Cavity Slabs are very light and easy to handle. They are supplied compression wrapped in polyethylene which provides short term protection. For long-term protection, they should be stored indoors or under waterproof covering.

Durability

The product is stable, rot-proof and durable, and will remain effective as an insulation system for the life expectancy of the building, provided it is installed in accordance with BBA Certificate 93/2884.

Once installed, the slabs need no maintenance.

Resistance to weather and ground moisture

HP Partial Fill Cavity Slab does not absorb water by capillary action and may therefore be used in situations where they bridge the damp proof course.

Condensation control

The product can be used in a 'breathing wall' where other elements have appropriate relative resistance to water vapour transmission.

The cavity slabs have minimal resistance to the diffusion of moisture vapour (typically resistivity 5 MNsg-1m-1)

Sustainability

As an environmentally conscious company, Rockwool promotes the sustainable production and use of insulation and is committed to a continuous process of environmental improvement



All Rockwool products provide outstanding thermal protection as well as four added benefits:

- Fire resistance
- Acoustic comfort
- Durability
- Sustainable materials

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Environment

Relying on entrapped air for its thermal properties, we are proud to say that Rockwool insulation does not contain (and has never contained) gases that have ozone depleting potential (ODP) or global warming potential (GWP). Rockwool therefore complies with the relatively modest threshold of GWP<5 included in documents such as the Code for Sustainable Homes.

Rockwool is increasingly involved in recycling waste Rockwool material that may be generated during installation or at end of life.

We are happy to discuss the individual requirements of contractors and users considering returning Rockwool materials to our factory for recycling.

More information

For further details visit our website at www.rockwool.co.uk or phone Rockwool Technical Support on 0871 222 1780.

Health and safety

The safety of Rockwool stone wool is confirmed by current UK and Republic of Ireland health & safety regulations and EU directive 97/69/EC: Rockwool fibres are not classified as a possible human carcinogen.

A Material Safety Data Sheet can be downloaded from www.rockwool.co.uk or requested from Rockwool Technical Support (0871 222 1780) to assist in the preparation of risk assessments, as required by the Control of Substances Hazardous to Health Regulations (COSHH).

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Rockwool Limited reserves the right to alter or amend the specification of products without notice as our policy is one of constant improvement. The information contained in this data sheet is believed to be correct at the date of publication. Whilst Rockwool will endeavour to keep its publications up to date, readers will appreciate that between publications there may be pertinent changes in the law, or other developments affecting the accuracy of the information contained in this data sheet.

The above applications do not necessarily represent an exhaustive list of applications for HP Partial Fill Cavity Slab. Rockwool Limited does not accept responsibility for the consequences of using HP Partial Fill Cavity Slab in applications different from those described above. Expert advice should be sought where such different applications are contemplated, or where the extent of any listed application is in doubt.

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