

HP PARTIAL FILL CAVITY SLAB

Robust, long-lasting protection for masonry cavity walls



HP PARTIAL FILL CAVITY SLAB

HP Partial Fill Cavity Slab offers a stable and durable solution for the thermal insulation of external walls that will last for the lifetime of the building.

Made of renewable stone wool fibres, HP Partial Fill slabs further maximise energy efficiency by knitting together when tightly jointed to eliminate gaps. Euroclass A1 non-combustible and water repellent.





Advantages

- Can be used in high-rise buildings
- Non-combustible – Euroclass A1
- Robust front-face resists damage
- Slabs knit together to eliminate gaps
- Maximises thermal performance
- Water repellent

Description

HP Partial Fill Cavity Slab is a semi-rigid partial fill insulation solution for masonry and framed cavity wall construction. It is designed to withstand typical conditions on-site and absorb any irregularities on the inner leaf. Consists of a robust outer surface engineered to a resilient inner face. The slabs knit together when tightly butt jointed, eliminating heat loss caused by gaps.

Applications

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).

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.

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.

Performance

Thermal

Tested to BS EN 13162, HP Partial Fill Cavity Slab has a thermal conductivity of 0.034 W/mK up to 90mm thickness. Thicknesses over 90mm have a thermal conductivity of 0.035 W/mK.

Fire classification

HP Partial Fill Cavity Slab achieves a reaction to fire classification of A1, as defined in EN13501-1.

BBA Certificate

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

U-Values

Approved Document L (2013 edition England and 2014 Wales) – U-value requirements for walls:

- New build dwellings:
England 0.25-0.18W/m²K / Wales 0.21-0.18W/m²K
- New build non-domestic:
England 0.26-0.22W/m²K / Wales 0.26-0.22W/m²K
- Extensions to dwelling:
England 0.28W/m²K / Wales 0.21W/m²K
- Extensions to non-domestic:
England 0.28W/m²K / Wales 0.26W/m²K

Inner block W/mK Internal finish HP Partial Fill (mm)	Medium dense 1400-1450kg/m ³ 0.470 W/mK		Aircrete Hi Strength 750kg/m ³ 0.190 W/mK		Aircrete Std 600kg/m ³ 0.150 W/mK	
	Light plaster	P/board on dab	Light plaster	P/board on dab	Light plaster	P/board on dab
	U-value	U-value	U-value	U-value	U-value	U-value
80	0.31	0.31	0.30	0.29	0.29	0.28
100	0.28	0.27	0.26	0.25	0.25	0.24
120	0.24	0.23	0.23	0.22	0.22	0.21
135	0.22	0.21	0.21	0.20	0.20	0.18
150	0.20	0.19	0.19	0.18	0.19	0.18



Design guidance

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).

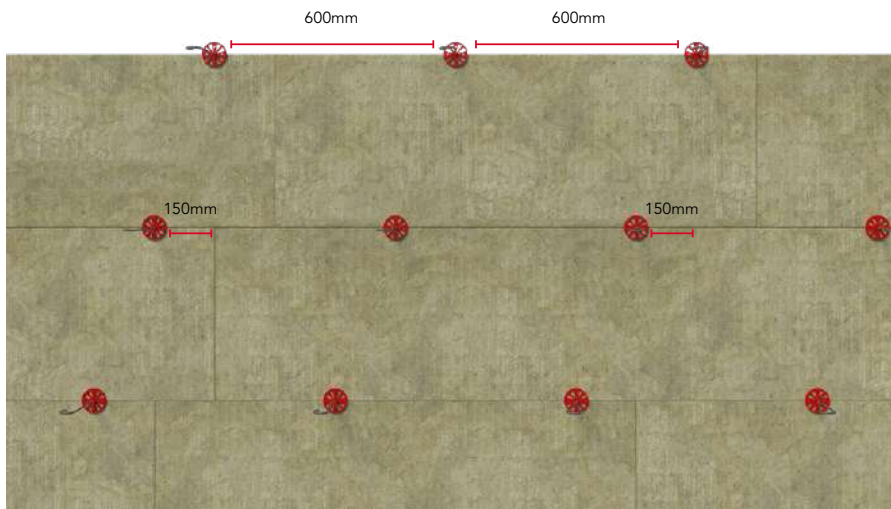
Designing the cavity wall

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

- 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
- 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
- Vertical damp proof courses at wall openings should project at least 25mm into the cavity

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. The specifier must ensure that the retaining clips used are suitable for the selected wall tie. See diagram below for the wall tie and retaining clip placement pattern. This wall tie stagger pattern ensures that no more than 450mm of slab overhangs a fixing.



Installation

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.
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 can be retained against the leading leaf using mechanical fixings with 70mm diameter washers.
6. Complete successive sections of wall up to the roof line.

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.
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.
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. A cavity batten will protect the installed boards and helps keep the cavity clean as the outer leaf is built up.
7. Where cut slabs of less than full length are installed, a minimum of 2 retaining washers should be provided to support the lower edge of the slab.

Technical information

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

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



Sustainable materials



Durability

Environment

Made from a renewable and plentiful naturally occurring resource, ROCKWOOL insulation saves fuel costs and energy in use and relies on trapped air for its thermal properties.

ROCKWOOL insulation does not contain (and has never contained) gases that have ozone depletion potential (ODP) or global warming potential (GWP).

ROCKWOOL is approximately 97% recyclable. For 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 these materials to our factory for recycling.

Health & 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 is available and can be downloaded from www.rockwool.co.uk to assist in the preparation of risk assessments, as required by the Control of Substances Hazardous to Health Regulations (COSHH).



Interested?

For further information, contact the Technical Solutions Team on 01656 868490 or email technical.solutions@rockwool.co.uk

Visit www.rockwool.co.uk to view our complete range of products and services.

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The ROCKWOOL Trademark

ROCKWOOL® - our trademark

The ROCKWOOL trademark was initially registered in Denmark as a logo mark back in 1936. In 1937, it was accompanied with a word mark registration; a registration which is now extended to more than 60 countries around the world.

The ROCKWOOL trademark is one of the largest assets in the ROCKWOOL Group, and thus well protected and defended by us throughout the world.

If you require permission to use the ROCKWOOL logo for your business, advertising or promotion. You must apply for a Trade Mark Usage Agreement. To apply, write to:
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