Robust, long-lasting protection

HP Partial Fill slabs have a robust outer surface, designed to withstand on-site rigours and maintain a clearly defined cavity. The resilient rear surface absorbs irregularities in the inner leaf eliminating ‘stand off’ and maximising thermal performance.
HP Partial Fill Cavity Slab

Made of renewable stone wool fibres, HP Partial Fill slabs further maximise energy efficiency by knitting together when tightly butt jointed to eliminate gaps. HP Partial Fill Cavity Slab offers a stable 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

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.

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.

Packaging
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.

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

The slabs are available in standard thicknesses of 50, 80, 100, 120 and 135mm.
HP Partial Fill Cavity Slab

U-values

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


- 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

Table 1 - U-value examples

<table>
<thead>
<tr>
<th>Inner block W/mK</th>
<th>Medium dense 1400-1450kg/m³</th>
<th>Aircrete Hi Strength 750kg/m³</th>
<th>Aircrete Std 600kg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Light plaster U-value</td>
<td>P/board on dab U-value</td>
<td>Light plaster U-value</td>
</tr>
<tr>
<td>80</td>
<td>0.31</td>
<td>0.30</td>
<td>0.29</td>
</tr>
<tr>
<td>100</td>
<td>0.28</td>
<td>0.27</td>
<td>0.26</td>
</tr>
<tr>
<td>120</td>
<td>0.24</td>
<td>0.23</td>
<td>0.23</td>
</tr>
<tr>
<td>135</td>
<td>0.22</td>
<td>0.21</td>
<td>0.21</td>
</tr>
<tr>
<td>150</td>
<td>0.20</td>
<td>0.19</td>
<td>0.19</td>
</tr>
</tbody>
</table>

Specification clause

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

* insert thicknesses required

- Fix securely to inner leaf in accordance with ROCKWOOL’s and BBA Certificate recommendations
- Slabs to be fixed with the robust (patterned) face outward

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

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.
CONSTRUCTION TYPE: CAVITY WALLS

HP Partial Fill Cavity Slab

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® fire resistant cavity closer data sheet.

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 (see figure 3).
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.
HP Partial Fill Cavity Slab

Figure 3. Wall tie and retaining clip pattern

Figure 5. Use of cavity board

Please note: This wall tie stagger pattern ensures that no more than 450mm of slab overhangs a fixing.

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 [see figure 4].
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.
HP Partial Fill Cavity Slab

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.

4 in 1

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.

Interested?
For further information, contact the Technical Solutions Team on 0871 222 1780 or email info@rockwool.co.uk
Visit www.rockwool.co.uk to view our complete range of products and services.

Copyright ROCKWOOL April 2014