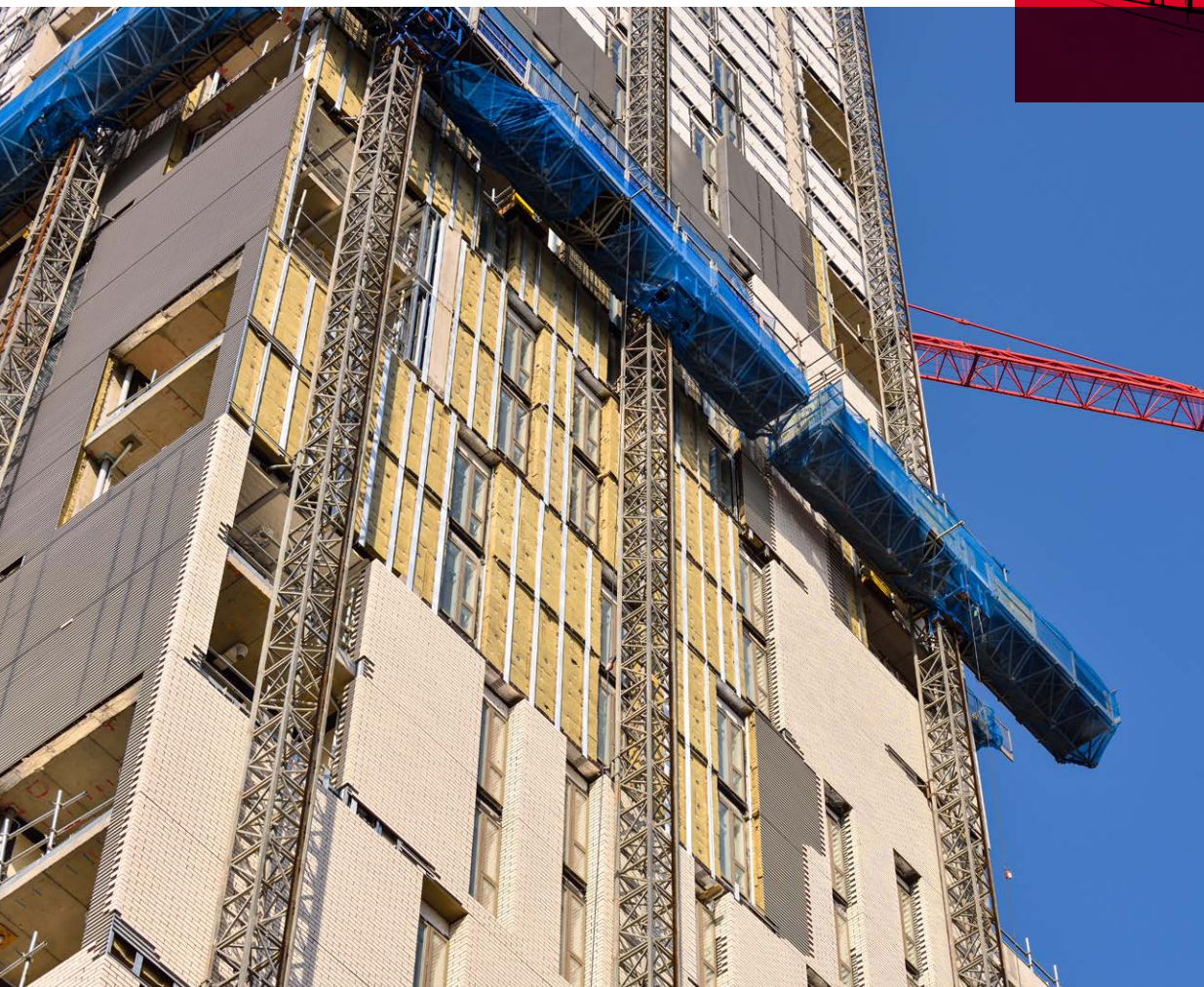


# RAINSCREEN DUO SLAB®

Non-combustible insulation for ventilated façades

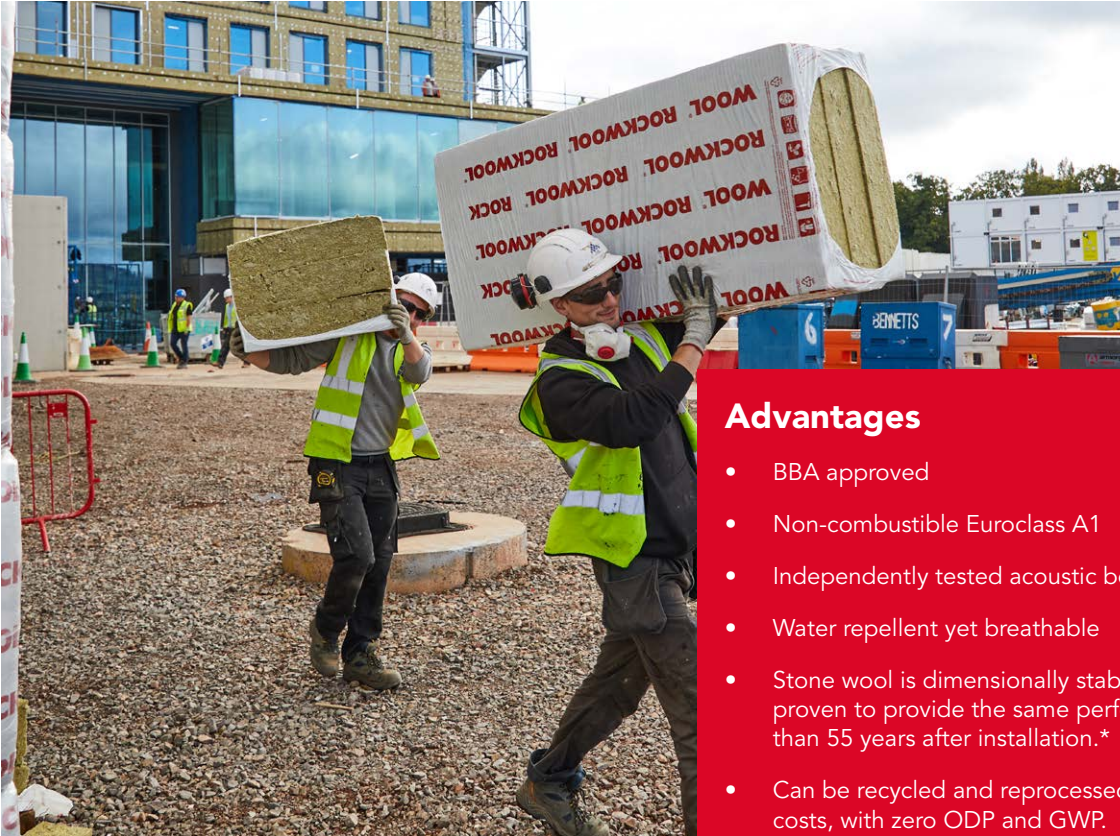


# RAINSCREEN DUO SLAB®

Non-combustible insulation for use within façade systems.

RAINSCREEN DUO SLAB is a BBA-approved insulation product, that in addition to thermal comfort, provides an independently-tested acoustic benefit.





## Advantages

- BBA approved
- Non-combustible Euroclass A1
- Independently tested acoustic benefits
- Water repellent yet breathable
- Stone wool is dimensionally stable and has been proven to provide the same performance for more than 55 years after installation.\*
- Can be recycled and reprocessed, reducing landfill costs, with zero ODP and GWP.

## Description

RAINSCREEN DUO SLAB® is a stone wool insulation product specifically developed for use within ventilated cladding systems, as well as sealed systems such as curtain walling.

Manufactured using Dual Density technology, the outer surface of each slab features a distinctly higher density than the underside. This provides a firm and robust surface for the application of fixings, while the resilient underside can accommodate unevenness in the substrate.

Once installed, the higher density outer surface works in combination with a factory-applied water repelling agent to give improved resistance to rain ingress during construction.

The product can be easily fitted around brackets and other awkward details, and when tightly butted, adjacent slabs effectively 'knit' together to provide a continuous insulating layer, reducing heat losses that would otherwise be caused by gaps.

## Applications

RAINSCREEN DUO SLAB is suitable for use on the following construction types:

- Steel frame, timber frame or masonry walls in conjunction with a cladding system;
- Steel frame or timber frame with a masonry outer leaf



\*FIW, Durability Project Mineral Wool (2016), "Conclusions and Outlook." Available via EURIMA (European Insulation Manufacturers Association) at [https://www.eurima.org/uploads/ModuleXtender/Publications/168/2017-02-21\\_EURIMA-55YearsOfUse\\_Info\\_Sheet\\_V08\\_final.pdf](https://www.eurima.org/uploads/ModuleXtender/Publications/168/2017-02-21_EURIMA-55YearsOfUse_Info_Sheet_V08_final.pdf)

## Performance

### Thermal

Thermal conductivity = 0.034 W/mK (<90mm) / 0.035 W/mK (≥90mm)

### Acoustics

As demonstrated by independent in-situ laboratory testing, RAINSCREEN DUO SLAB helps to reduce the transfer of airborne noise - with results for typical systems as high as  $R_w$  62 dB. For more information please see the Rainscreen Acoustic Reference Guide, available on our website.

### Fire

Rated Euroclass A1 when assessed to EN 13501-1 using test data from reaction-to-fire tests.

### Wind resistance

RAINSCREEN DUO SLAB fixed as indicated in Figure 1 has successfully undergone wind resistance testing by the Building Research Establishment.

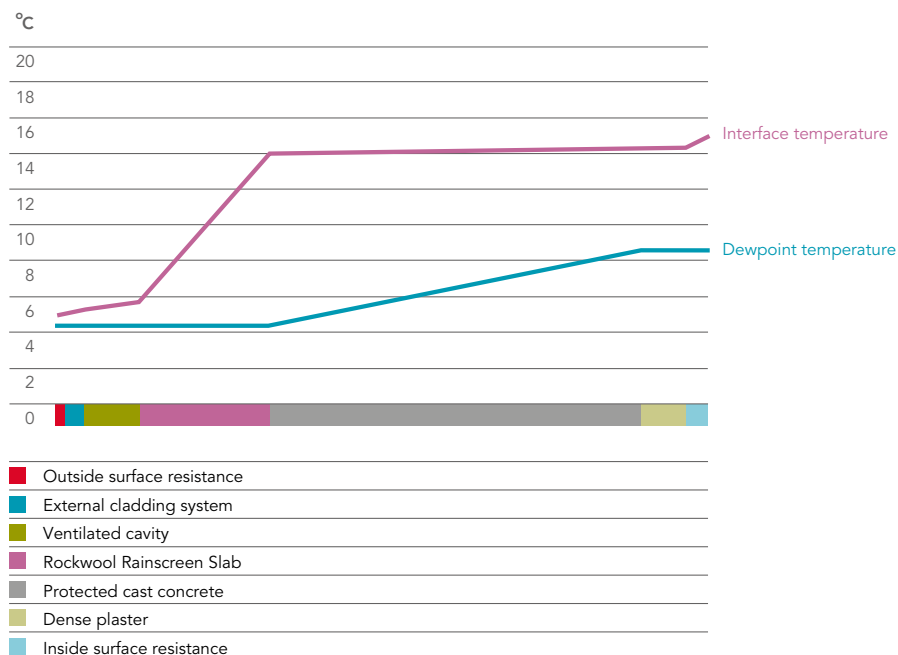
Wind loading fatigue tests were used to simulate the performance of the slabs when fully exposed and subjected to fluctuating wind loads during the construction stages of buildings. The tests simulated and exceeded the maximum UK basic wind speed of 56 m/s as defined by BS CP3: Chapter 5: Part 2: 1972. Test report reference BRE GI2801.

### Water resistance

ROCKWOOL stone wool repels liquid water due to its fibre orientation and the presence of water-repellent additives.

### Condensation control

The vapour resistivity of ROCKWOOL mineral wool is 5.9MN/gm. The slabs therefore reduce the risk of condensation, allowing natural drying-out of the structure. See typical relative humidity / temperature graph below.



## Technical information

### Standards and approvals

RAINSCREEN DUO SLAB has been examined by the BBA and granted Certificate 17/5402 for use in ventilated rainscreen cladding systems on both domestic and non-domestic buildings.

RAINSCREEN DUO SLAB satisfies the requirements of BS EN 13162 – “Thermal insulation products for buildings. Factory made mineral wool (MW) products”.

### Dimensions

Length (mm)	Width (mm)	Standard thicknesses (mm)
1200 (Plain)	600	Available in a range of sizes between 50mm and 230mm. Please see current price list for availability.
1000 (Faced)	600	

### U-values

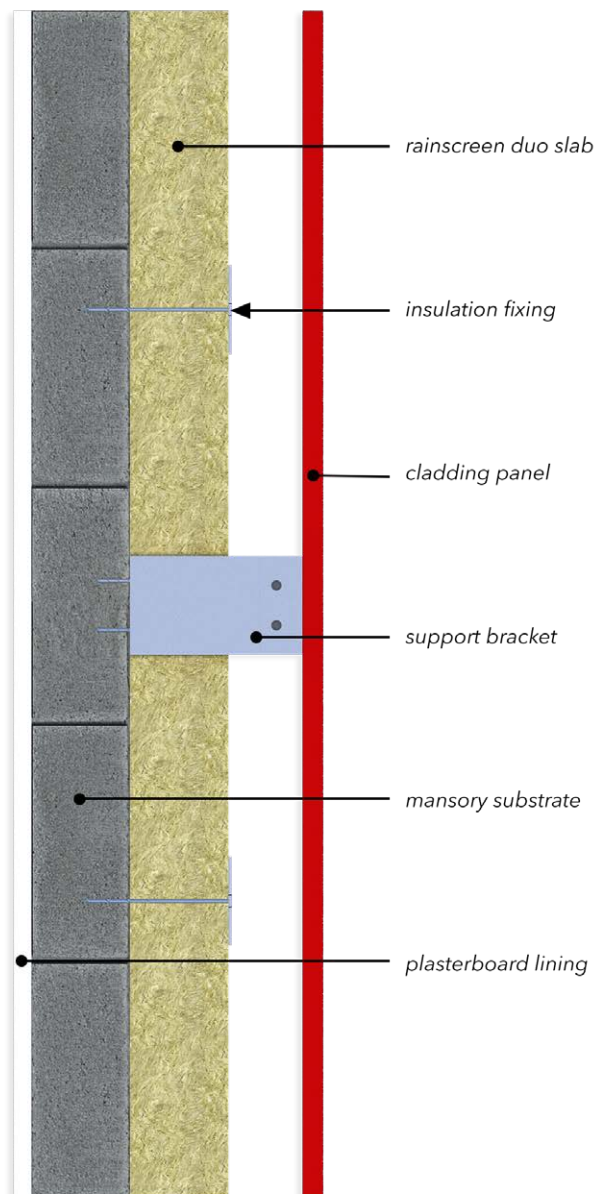
#### 1. Cladding system in conjunction with concrete/masonry

RAINSCREEN DUO SLAB® between metal bracket system on 200mm reinforced concrete.

RAINSCREEN DUO SLAB (mm)	U-Value (W/m <sup>2</sup> K)
125	0.28
150	0.24
175	0.21
210	0.18
250	0.16
325	0.20

### Notes

- Tables based on pointless scenarios where only the rainscreen brackets bridge the thermal insulation layer.
- U-values shown have been calculated with a thermal bridging allowance which has been determined using a 3-dimensional analysis in accordance with BR443. The system modelled included 8mm Rockpanel Rockclad and Plastestrip Theraframe stainless steel brackets.



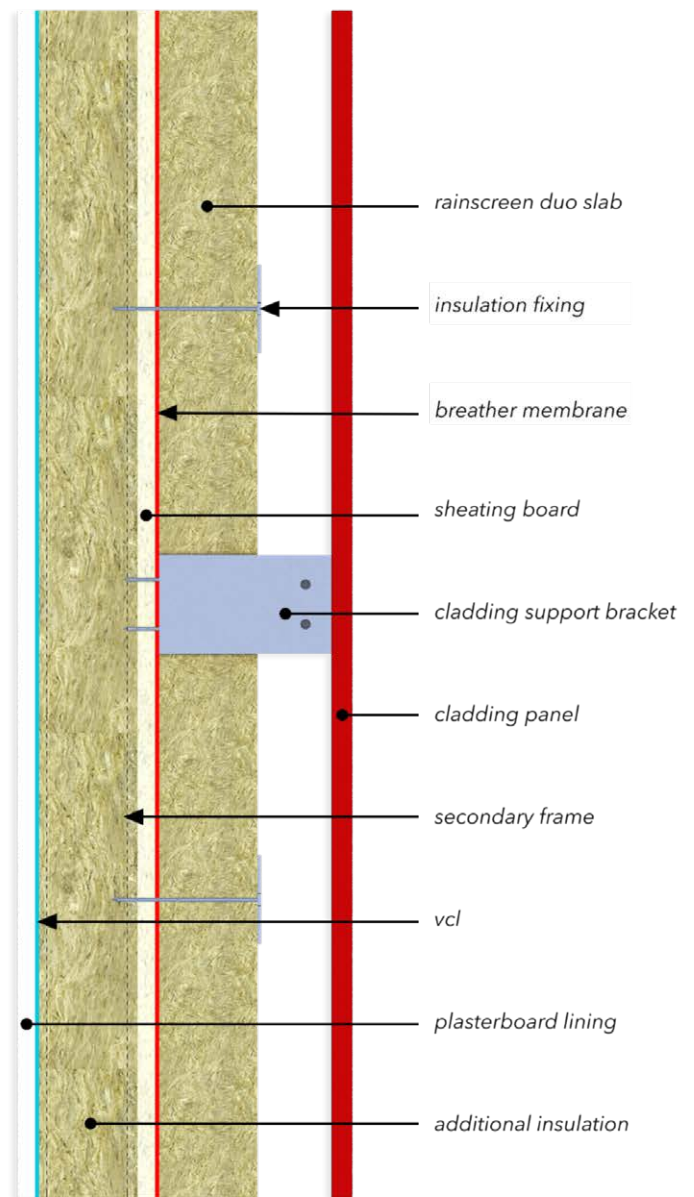
2. Cladding system in conjunction with steel frame filled with ROCKWOOL Steel Frame Slab

RAINSCREEN DUO SLAB® on 150mm deep metal studs at 600mm centres with 140mm ROCKWOOL Steel Frame Slab installed within the frame.

RAINSCREEN DUO SLAB (mm)	Steel Frame Slab (mm)	U-Value (W/m <sup>2</sup> K)
75	140	0.25
100	140	0.22
125	140	0.20
150	140	0.18
180	140	0.17
225	100	0.15

Notes

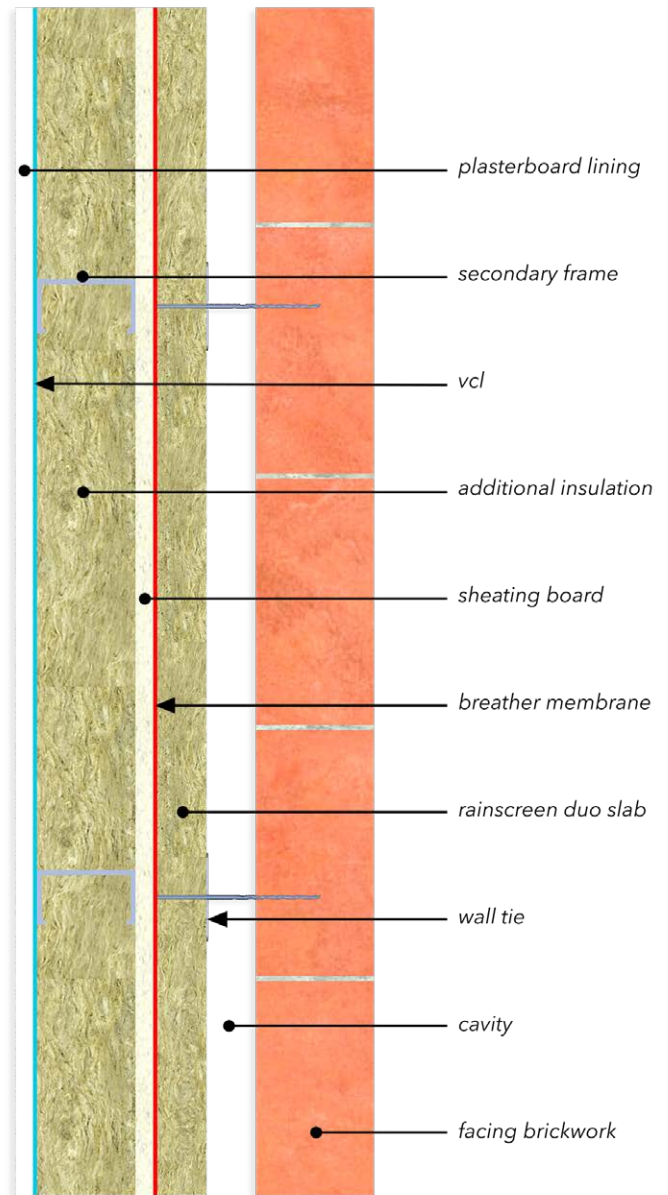
- U-values shown have been calculated with a thermal bridging allowance which has been determined using a 3-dimensional analysis in accordance with BR443. The systems modelled included 8mm Rockpanel Rockclad and FastFrame rainscreen brackets



3. Masonry outer in conjunction with steel frame filled with ROCKWOOL Steel Frame Slab

RAINSCREEN DUO SLAB on 100mm steel frame filled with ROCKWOOL Steel Frame Slab.

RAINSCREEN DUO SLAB (mm)	Steel Frame Slab (mm)	U-Value (W/m <sup>2</sup> K)
50	100	0.27
75	100	0.22
100	100	0.19
125	100	0.17
150	100	0.15
210	100	0.12



**Typical specification**

The rainscreen insulation is to be RAINSCREEN DUO SLAB® ..... mm thickness, as manufactured by ROCKWOOL Limited, Pencoed, Bridgend CF35 6NY, secured to the substrate with metal and polypropylene fixings in accordance with RAINSCREEN DUO SLAB® data sheet.

Horizontal joints should be staggered and all joints tight butted.

The Slabs should be fixed with the robust (patterned) surface facing outwards.

## Installation

### General note

#### Work on site:

RAINSCREEN DUO SLAB is supplied in shrink-wrapped polythene packs. Pallets are fitted with a waterproof hood that is suitable for outside storage.

The product can be easily cut and shaped using a sharp knife.

#### Fixings:

A suggested fixing pattern is provided based on the results of wind resistance testing carried out at the BRE.

The adequacy of this or any other fixing pattern should be verified on a per-project basis through assessment by a suitably qualified individual.

The following non-exhaustive list of companies can supply fixings suitable for use with RAINSCREEN DUO SLAB: Ejot, Fixfast, Fischer, ITW Construction Products, Hilti.

#### Exposure:

It is recommended that the sequence of construction is programmed in such way that insulation is left exposed for as little time as possible.

While ROCKWOOL insulation is impregnated with a water repelling agent, and is resistant to wind and rain, it is not designed to offer indefinite protection to a substructure. Depending on the nature of the substrate, a protective membrane may be required. Such design issues will require assessment by a suitably qualified individual.

Subjecting RAINSCREEN DUO SLAB to any level of exposure is contingent on a visual inspection of the insulation prior to the installation of the cladding. In the unlikely event that any slabs have become physically damaged or otherwise contaminated, they should be replaced.

Once the weatherproof layer is installed, the resulting ventilated cavity will ensure that any wetted slabs will naturally dry out, regaining all of their original performance and properties.





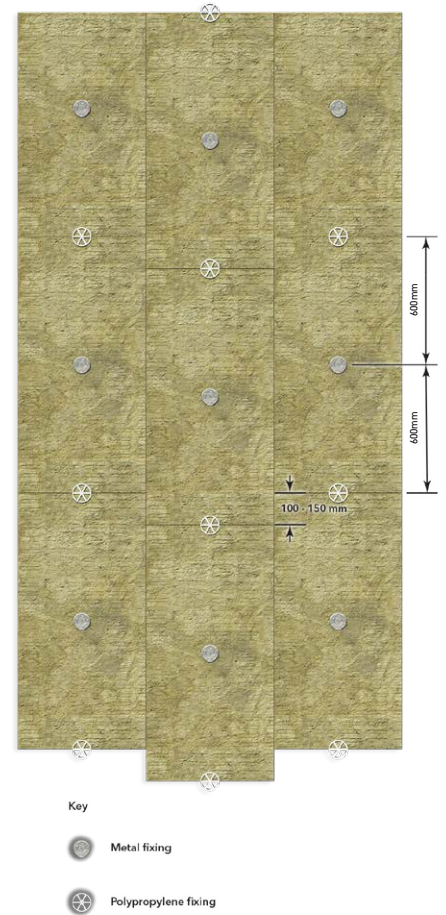
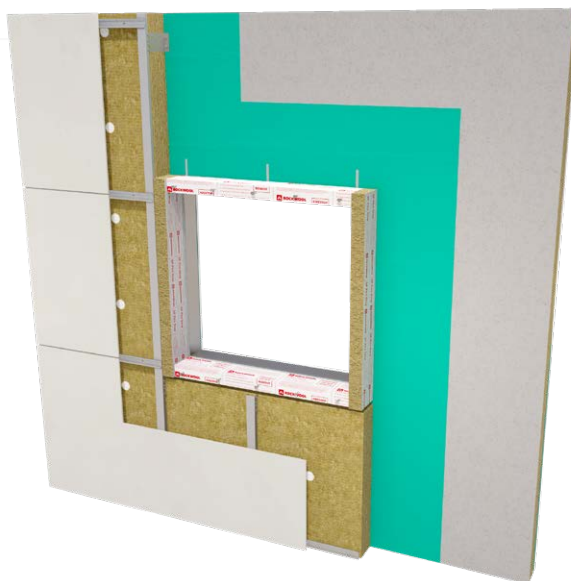
For use on steel frame, timber frame, or masonry walls in conjunction with cladding

**Installation:**

- The product should be applied with the printed patterned side (where appropriate) facing outwards.
- Slabs should be close-butted at all vertical and horizontal joints. The horizontal joints of the insulation should be staggered in accordance with good practice.
- Fixings should have a minimum head diameter of 70 mm. A typical fixing pattern has three fixings per square metre with one metal fixing at the centre of every slab (see Figure 1).
- The product should be cut and tightly fitted around cladding support elements.
- For a typical installation, a breathable membrane is placed between the sheathing board and the product (see Figures 1 and 2). A VCL is placed between the plasterboard and the frame (see Figures 1 to 3).

**Cavity barriers:**

ROCKWOOL recommends the use of SP Firestop vertically and SP Firestop OSCB horizontally.



**Figure 1**  
Typical fixing pattern with 3 fixings per square metre

**For use on steel frame, timber frame, or masonry walls in conjunction with cladding**

**Installation:**

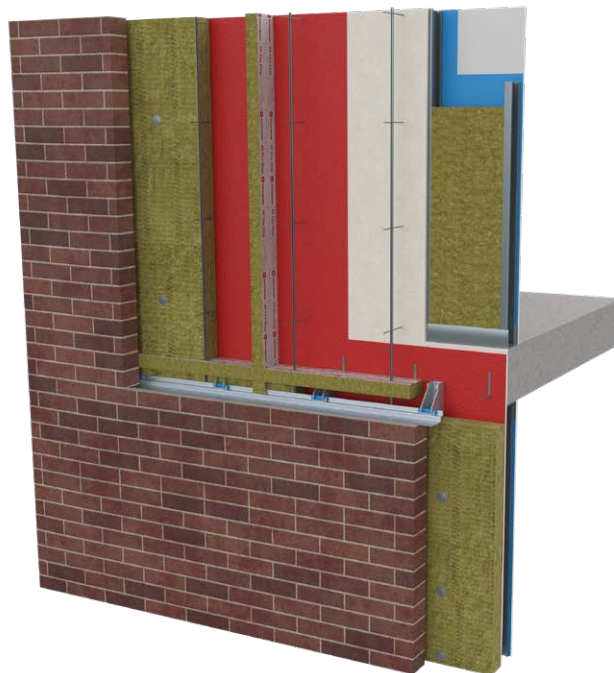
- The product should be applied with the printed patterned side (where appropriate) facing outwards.
- The slabs should be close-butted at all vertical and horizontal joints, and at corners. The horizontal joints of the slabs should be staggered, in accordance with good practice.
- Slabs should be carefully cut to fit around any protrusions into the cavity.
- A VCL is placed between the plasterboard and the frame. A breathable membrane is placed between the sheathing board and the product—see Figure 1.
- The insulation should be installed to coincide with the frame, with retaining discs used in conjunction with the wall ties at no more than 600 mm horizontally and 450 mm vertically.
- After each section of the leading leaf is built, excess mortar should be removed from the cavity face and mortar droppings cleaned from exposed edges of the installed board, before installation of the next run of boards. Use of a cavity board or a cavity batten will protect the installed board edges and

**Cavity barriers:**

- ROCKWOOL recommends the use of SP Firestop vertically and SP Firestop OSCB horizontally.

**Masonry restraint systems:**

- RAINSCREEN DUO SLAB is compatible with masonry restraint systems. With such systems we recommend that insulation fixings are installed as per Figure 1. For information on available systems, please contact providers such as ACS Stainless or Ancon.



## Specification clauses

The following NBS Plus clauses are relevant to RAINSCREEN DUO SLAB: H11-110, H11-780, H92-776, P10-217.



## Legal disclaimer

### 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: [marketcom@rockwool.com](mailto:marketcom@rockwool.com).

### Trademarks

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