

# TCB & PWCB CAVITY BARRIERS

Fire Protection for timber/steel frame & masonry cavity walls



## **TCB & PWCB CAVITY BARRIERS**

Preventing fire spreading through concealed voids is essential for improving safety and property protection.

One of the best ways to achieve this is to correctly specify and install cavity barriers.



## Advantages

- Easy to install
- Fire resistance up to 60 minutes (EI)
- Reduce acoustic flanking transmission
- Improves air leakage & heat loss
- Unaffected by building movement
- Suitable for vertical and horizontal applications
- Site durable & weather protected

## Description

ROCKWOOL TCB & PWCB cavity barriers are manufactured from non-combustible stone wool, encapsulated within a resilient polythene sleeve which eliminates the need for weather protection during installation. The sleeves are also colour-coded to differentiate between the two products, TCB's being red and PWCB's white.

## Applications

ROCKWOOL TCB & PWCB Cavity barriers can be used in both vertical and horizontal applications, providing an effective fire, acoustic and thermal barrier within external wall cavities and separating party walls.

All ROCKWOOL Cavity barriers are 1200mm long and are designed to be compression fitted within the cavity (min 10mm-15mm compression). The barriers do not rely on the polythene flanges to hold them in place in the event of a fire. It is essential that the correct cavity barrier size is specified to suit the as-built cavity width. TCB & PWCB cavity barriers are available in a range of thicknesses to suit cavity widths (refer to the tables at the end of the data sheet for more information).

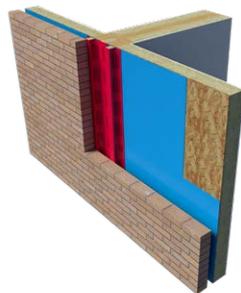


Figure 1  
TCB



Figure 2  
PWCB

## Performance

### Fire performance

The use of ROCKWOOL Cavity Barriers satisfies the requirements of:

- Approved Document B (Domestic) B3 - Section 6: Concealed spaces (Cavities)
- Approved Document B (Non-domestic) B3 - Section 9: Concealed spaces (Cavities)
- Scottish Technical Handbook Section 2 - Fire Section 2.4: Cavities
- NI Technical Booklet E - Section 3: Provision of cavity barriers.

ROCKWOOL TCB & PWCB Cavity Barriers are tested and assessed to BS 476: Part 20:1987 to provide up to 60 minutes Integrity and 60 minutes insulation (Table 1 & 2)

ROCKWOOL TCB Cavity Barriers are tested to BS EN 1366-4:2006 +A1 2010 to provide up to 180 minutes Integrity and 90 minutes insulation when installed vertically and horizontally (Table 3 & 4)

### Fire performance

**\*Tables 1 & 2 (PWCB and TCB) are based on data from BS 476: Part 20: 1987)**

**Table 1**  
PWCB

Cavity width (mm)	PWCB size (mm)	Fire resistance per construction
50-55	200x65	60min integrity / 60min insulation
75-80	200x90	60min integrity / 60min insulation
90-100	200x110	60min integrity / 60min insulation
101-110	200x120	60min integrity / 60min insulation
111-120	200x130	60min integrity / 60min insulation
121-130	200x140	60min integrity / 60min insulation
131-140	200x150	60min integrity / 60min insulation
141-150	200x160	60min integrity / 60min insulation

**Table 2**  
TCB

Cavity width (mm)	TCB size (mm)	Fire resistance per construction	
		Timber to timber	Masonry to masonry
50 - 55	65x65	30min integrity 30min insulation	60min integrity 30min insulation
56 - 65	75x75	60min integrity 30min insulation	60min integrity 30min insulation
75 - 80	90x90	60min integrity 30min insulation	60min integrity 60min insulation
90 - 100	110x110	60min integrity 60min insulation	60min integrity 60min insulation
101 - 110	120x120	60min integrity 60min insulation	60min integrity 60min insulation
111 - 120	130x130	60min integrity 60min insulation	60min integrity 60min insulation
121 - 130	140x140	60min integrity 60min insulation	60min integrity 60min insulation
131 - 140	150x150	60min integrity 60min insulation	60min integrity 60min insulation
141 - 150	160x160	60min integrity 60min insulation	60min integrity 60min insulation

## Fire performance

\*Tables 3 & 4 (Wall and Floor) are based on data from BS EN 1366-4: 2006 +A1 2010 (TCB only)

Table 3  
Wall

Cavity size (mm)	TCB range (mm)	Masonry to masonry (mins)	Masonry to steel (mins)	Masonry to timber (mins)	Masonry to ROCKWOOL (100Kg/m <sup>3</sup> ) (mins)
50-285	Min: 65x150 Max: 300x150	Integrity: 60 Insulation: 30	Integrity: 180 Insulation: 30	Integrity: 60 Insulation: 60	Integrity: 120 Insulation: 20

Table 4  
Floor

Cavity size (mm)	TCB range (mm)	Masonry to masonry (mins)	Masonry to steel (mins)	Masonry to timber (mins)
50-285	Min: 65x150 Max: 300x150	Integrity: 120 Insulation: 90	Integrity: 120 Insulation: 20	Integrity: 60 Insulation: 20

**PWCB cavity barrier** - All ROCKWOOL PWCB's are 200mm wide, and are specifically designed for use at party wall/external wall cavity junctions. PWCB's also achieve the requirements for fire safety, acoustic flanking and thermal bypass in one single product.

**Thermal: party wall thermal bypass** - PWCB meets the requirements for an effective party wall perimeter edge seal, by restricting air flow around the exposed edges of party wall cavities.

**Fire: acts as an effective cavity barrier** - PWCB is non-combustible and exceeds minimum fire resistance requirements for cavity barriers as set out within the Building Regulations.

**Acoustic** - ROCKWOOL PWCB provides an excellent acoustic absorber by reducing flanking transmission between adjoining properties, (as required by Approved Document E and Robust details).

If installed correctly, ROCKWOOL PWCB will help minimise the thermal party wall bypass effect, by restricting air leakage and heat loss between the party wall cavity and the external cavity.

**Thermal bypass effect** - Approved Documents L1A & L2 A of England and Wales's Building Regulations and Section 6 of Scotland's Building standards (domestic), have recognised that considerable heat loss can occur where party wall cavities interface with external cavity walls. A key feature of a SAP calculation is that Building Regulations now assign a U-value of 0.5 W/m<sup>2</sup>K to be taken for a separating party wall cavity unless specific action is taken to improve its performance.

**Ways to limit heat Loss** - Perimeter edge sealing only: Thermal regulations allow a U-value of 0.20W/m<sup>2</sup>K to be claimed when effective perimeter edge sealing is used around all exposed edges of the party wall.

**Perimeter edge sealing plus fully filling the party wall cavity** - A U-value of zero can be claimed if the party wall cavity is fully filled with appropriate mineral wool insulation, and effective perimeter edge sealing is provided around all exposed edges.

### Acoustic performance

ROCKWOOL TCB & PWCB Cavity Barriers comply with the generic description for cavity closers to prevent flanking noise transmission, along concealed cavities in both external and separating walls.

Table 5

Cavity type in party wall	U-value claim for SAP
Unfilled cavity with no effective edge sealing	0.5 W/m <sup>2</sup> K
Unfilled cavity with effective edge sealing only	0.20 W/m <sup>2</sup> K
Fully filled cavity and effective edge sealing	0.00 W/m <sup>2</sup> K

## Technical information

### Standards and approvals

TCB & PWCB Cavity Barriers have been tested and assessed BS476: Part 20: 1987 and can achieve a fire resistance rating of up to 60 minutes (EI).

TCB Cavity Barriers have been tested to BS EN 1366-4: 2006 +A1 2010 using the general principles of BS EN 1363-1:2012 achieving a fire resistance rating of up to 60 minutes (EI).

TCB & PWCB Cavity Barriers are manufactured using non-combustible stone wool which is classified A1 in accordance with BS EN 13501-1: 2007 +A1 2009.

TCB Cavity Barriers are third party approved for performance and quality by the Loss Prevention Council Certification Board (LPCB) and are listed in their Fire and Security 'Red Book' – certificate no: 022b (3).

### Product information

Property	Description
Length	1200mm
Width	TCB – Up to 150mm PWCB – 200mm
Thickness	TCB – Up to 300mm PWCB – Up to 160mm
Cavity Sizes	TCB – Up to 285mm PWCB – Up to 150mm
Reaction to Fire	Euroclass A1 (ROCKWOOL Core)
Fire Resistance	Up to EI 60 when tested to BS 476: Part20: 1987 Up to EI 180/90 when tested to BS EN 1366-4: 2006 +A1 2010

## Installation

All joints between adjacent cavity barriers and intersections should be closely butted to ensure that a continuous fire seal is maintained.

In vertical applications, both flanges of the Cavity Barrier can be fixed to the inner leaf at 150mm centres, using staples or clout nails prior to compression fitting by outer cavity wall.

In horizontal applications, only the top flange of the polythene sleeve should be fixed.

### Fully filled cavities in external walls

Where the external wall cavity is fully filled external cavity barriers are generally not required in the outer wall.

### Partially filled cavities in external walls

Where partial fill insulation is used in the external wall, the insulation should be cut back to permit the cavity barrier to be compression fitted between the inner and outer leaves. The head of the cavity wall should be closed at eaves level with the ROCKWOOL TCB Cavity Barrier.

## Specification clauses

ROCKWOOL TCB & PWCB Cavity Barriers are associated with the following NBS clauses:

F30 Accessories/sundry items for brick/block/stone walling

- 180 Cavity Closers

K10 Gypsum board dry linings/partitions/ceilings

- 530 Cavity barriers within partitions/wall linings

P10 Sundry insulation/proofing work

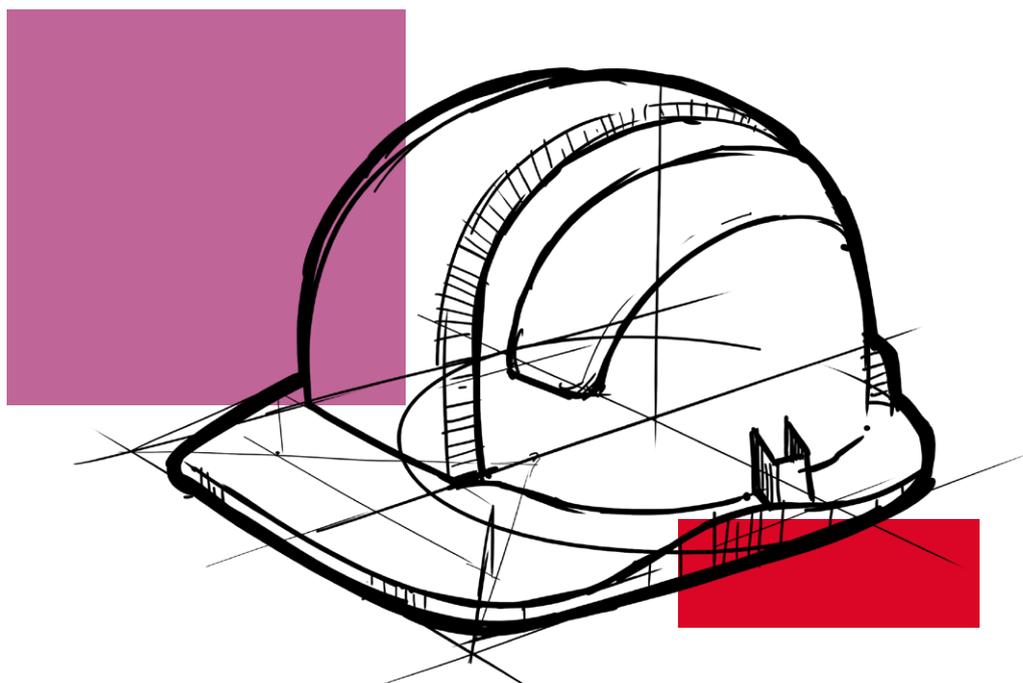
- 420 Sleeved mineral wool small cavity barriers

## Disclaimers

This product should only be utilised for applications as outlined in the relevant ROCKWOOL product datasheet and in accordance with the relevant ROCKWOOL Fire Resistance Testing. Additionally, the product must be installed in accordance with the current ROCKWOOL guidelines. For further information please visit [www.rockwool.co.uk](http://www.rockwool.co.uk) or contact our Technical Solutions Team on 01656 868490.

## Supporting information

For further information relating to any aspect of the FIREPRO range, please refer to the applicable ROCKWOOL standard details at [www.rockwool.co.uk](http://www.rockwool.co.uk) or contact the ROCKWOOL technical solution team on 01656 868490 or [technical.solutions@rockwool.co.uk](mailto:technical.solutions@rockwool.co.uk).



## 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**

## 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.

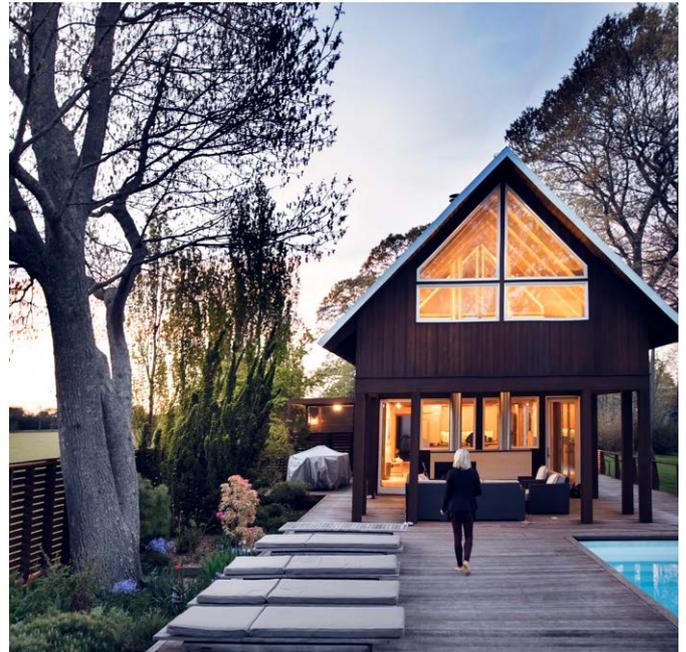
A Material Safety Data Sheet is available and can be downloaded from [www.rockwool.co.uk](http://www.rockwool.co.uk) to assist in the preparation of risk assessments, as required by the Control of Substances Hazardous to Health Regulations (COSHH).

## 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 01656 868490 or email [technical.solutions@rockwool.co.uk](mailto:technical.solutions@rockwool.co.uk)  
Visit [www.rockwool.co.uk](http://www.rockwool.co.uk) to view our complete range of products and services.

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ROCKWOOL® - our trademark

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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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**Notes**

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