



ROCKWOOL®

FIREPRO®

TCB & PWCB Cavity Barriers



Fire Protection for timber frame & masonry cavity walls

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.



The following NBS Plus clauses include
TCB Cavity Barrier: F30-18, F30-180, K10-530, P10-70, P10-75, P10-420

TCB & PWCB Cavity Barriers

ROCKWOOL Cavity Barriers have been specifically developed to exceed minimum building regulation requirements for fire resistance in concealed wall cavities. They have been tested and assessed for up to 60 minutes fire resistance (Integrity and Insulation).

Advantages

- Easy to install
- Durable products withstand on-site handling
- Once installed, performance is not affected by movement in the building, shrinkage or thermal change
- Can be used vertically or horizontally

Standards and approvals

ROCKWOOL TCB Cavity Barriers are also approved by the Loss Prevention Certification Board (LPCB) for performance and quality. 1991 (2000 edition.)

Fire Performance

ROCKWOOL Cavity Barriers are manufactured from non-combustible stone wool, which has a Euroclass A1 fire rating when classified in accordance with BS EN 13501-1 and BSI Quality Assurance Standard BS EN ISO 9001: 2000.

The Cavity Barriers have been tested and assessed for up to 60 minutes fire resistance (integrity and insulation) in accordance with BS 476: Part 20.

Description

PWCB Cavity Barrier also provides effective perimeter edge sealing that helps to minimise air leakage and heat loss between the external cavity and separating party wall.



Figure 1 TCB Cavity Barrier installed at separating wall position



Figure 2 PWCB Cavity Barriers installed at separating wall position

TCB & PWCB Cavity Barriers

Performance

ROCKWOOL PWCB cavity barrier also achieves the requirements for fire safety, acoustic flanking and thermal bypass in one single product.

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.

Fire

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 Cavity Barriers are approved by the Loss Prevention Certification Board (LPCB) for performance & and quality and are listed in the **Red Book** Certificate No 022b.

Acoustics

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

Thermal

ROCKWOOL PWCB Cavity Barrier will assist in providing an effective perimeter edge seal between the external cavity wall and separating party wall (party wall thermal bypass).

Fixing and jointing

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).

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

Applications

ROCKWOOL Cavity barriers can be used in both vertical and horizontal applications.

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.

External walls masonry constructions: (Full Fill & Partial Fill cavity insulation)

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 also be closed at eaves level with the ROCKWOOL TCB cavity barrier.

TCB & PWCB Cavity Barriers

PWCB Cavity Barrier

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

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/m²K 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/m²K 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 an appropriate mineral wool insulation, and effective perimeter edge sealing is provided around all exposed edges.

Cavity type in party wall	U-value claim for SAP
Unfilled cavity with no effective edge sealing	0.50 W/m ² K
Unfilled cavity with effective edge sealing only	0.20 W/m ² K
Fully filled cavity and effective edge sealing	0.00 W/m ² K

Advantages of ROCKWOOL PWCB

- Provides perimeter edge sealing minimising air leakage and heat loss between the external cavity wall and the party cavity wall.
- **Non Combustible:** Meets building regulation requirements for a cavity barrier
- Tested and assessed to BS 476: Part 20 for use in all concealed cavities within masonry & timber framed constructions
- Satisfies three regulation requirements with one single product
- PWCB can be used in both horizontal and vertical applications
- **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).

TCB & PWCB Cavity Barriers

Sizes, fire performance and quantities

Table 1 - PWCB sizes and fire performance

Cavity width (mm)	PWCB size (mm)	Fire resistance per construction	
		Masonry to Timber	Masonry to Masonry
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 - PWCB sizes and quantities

PWCB size (mm)	Pieces per bag	L/metres per bag	Bags per box	L/metres per box
200x65	18	21.6	5	108
200x90	12	14.4	5	72
200x110	10	12.0	5	60
200x120	9	10.8	5	54
200x130	8	9.6	5	48
200x140	7	8.4	5	42
200x150	6	7.2	5	36
200x160	6	7.2	5	36

Table 3 - TCB sizes and fire performance

Cavity width (mm)	TCB size (mm)	Fire resistance per construction	
		Timber to Timber	Masonry to masonry Masonry to timber
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 30min 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

Table 4 - TCB sizes and quantities

PWCB size (mm)	Pieces per bag	L/metres per bag	Bags per box	L/metres per box
65x65	45	54	5	270
75x75	35	42	5	210
90x90	25	30	5	150
110x110	18	21.6	5	108
120x120	15	18	5	90
130x130	12	14.4	5	72
140x140	9	10.8	5	54
150x150	8	9.6	5	48
160x160	7	8.4	5	42

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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 TCB & PWCB Cavity Barriers. ROCKWOOL Limited does not accept

responsibility for the consequences of using TCB & PWCB Cavity Barriers. ROCKWOOL Limited in applications different from those described within this data sheet. 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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