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ARC TCB

Fire-Rated Cavity Barrier For Timber Frame Construction

- Up to **60 minutes** fire integrity
- **Horizontal and vertical** options
- Can be used around **window and door openings**
- Specified in **terraced, semi-detached, apartments** and major projects
- Meets requirements of **Approved Document B**
- Maximum cavity width available: **150mm**
- **Easily installed**
- **Third-party certificated** by IFC

Third Party Certificated

Exceeds Performance Requirements

Excellent Thermal Properties

Fire Product

NBS Source PARTNER

IFC Certification

Application

ARC TCB restricts the spread of flames within the cavity of timber frame walls. It is ideally suited for providing a cavity barrier within the external wall cavity, in line with a separating wall or floor, and around window and door openings, as specified in Approved Document B.

Key Stats

Length supplied	1.2m
Third-party certification	TCB: IFC certificate number: IFCC 1727 - Party Wall TCB: IFC certificate number: IFCC 1728
Insulation	Non-combustible rockfibre mineral wool
Thermal conductivity	0.037W/mK
Fire Resistance (Integrity)	Up to 60 minutes
Fire performance (Insulation)	15 minutes
Mass	Data available on request
Test standard	EN 1366-4:2006 + A1 2010 and EN1366-4:2021
Construction type	Timber frame
Orientation	Vertical or horizontal
Sleeve Colour	Red

Installation

The person installing the TCB should first familiar themselves with this datasheet, ensuring the correct product is being fitted into the cavity.

ARC TCB is designed to be compression fitted within the wall cavity. Typically the product is first be fixed through the flanges to the timber frame structure, with the brick work then laid creating the cavity and compressing the ARC TCB to its required fit. Alternatively it can be built in as brickwork progresses. Where ARC TCB is used within the party wall cavity itself, it will be necessary to fit the product as the timber kit is erected. Care should be taken when handling the product to ensure that the mineral wool isn't damaged.

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Option 1 – use the flanges to fix the cavity barrier to the timber kit prior to brickwork (vertical or horizontal installs):

Using the polythene flanges, fix the ARC TCB to the timber frame inner leaf. Clout nails or staples should be used at approx. 150mm centres. Vertical application: use both flanges. Horizontal application: it is only necessary to use the flange running along the top of the barrier

At the end of a run, or at a corner, lengths of barrier should be cut to the required length, and then tightly butt jointed ensuring no gaps remain.

Brick work can now be completed, closing in the barrier within the cavity. Care must be taken that the brick work is accurate and that the cavity created is of a suitable width for the barrier installed.

Option 2 – Build in as brickwork progresses (suited best to horizontal installs):

Build the brickwork up to the level the barrier will be installed, ensuring the width of the cavity is correct. Allow the brickwork to set, before push fitting the barrier in to place and under the correct compression.

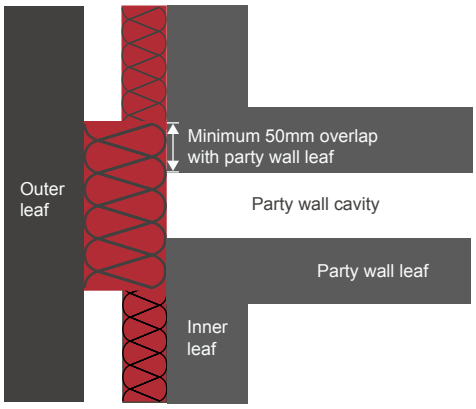
At the end of a run, or at a corner, lengths of barrier should be cut to the required length, and then tightly butt jointed ensuring no gaps remain.

General Tips & Advice:

- The coloured polythene encapsulation and flanges do not contribute to the performance of the cavity barrier, but can help hold the barrier in place until the brick work is completed, while offering weather protection and product identification. The polythene must be left in place for these purposes, however if the polythene becomes torn or damaged, or the flanges are not fixed, there is no cause for concern.
- It is the compression fit of the cavity barrier installed in to an appropriately sized cavity, as per the guidance on this datasheet, that creates a correct and robust install. The cavity width must be accurate and match the design width for the cavity barrier that has been installed.
- You should not attempt to squash the barrier before installation. Although this can make the barrier easier to fit, it is likely to cause gaps and may damage the barrier, resulting in reduced performance.

Party Wall Junction

ARC's Party Wall TCB is designed for use at the party wall junction, and should be fitted in the external wall cavity, with a minimum 50mm overlap either side of the party wall cavity. At 250mm wide, ARC's PWTCB range is suitable for use with party wall cavities up to 150mm wide.



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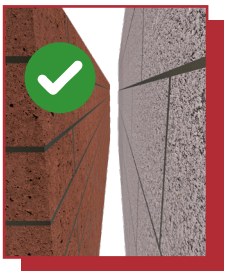
What Does Good Look Like?

The cavity width is accurate and the cavity insulation has been cut back where the barrier will be located.

All corners and joints are tightly butt jointed. Barriers are not bent around corners.

Excess polythene is removed from joints.



The cavity is clear from debris.

Red horizontal barrier shown; the above points can be applied to all installations regardless of size or orientation.

Scan the QR code to watch the ARC TCB installation video.

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Product & Packaging Specification: Timber to Brickwork

Product Code	Maximum External Cavity Width	Timber to Brickwork Fire Performance		Compression Required	Dimensions	Lengths per pack	Packs per pallet
		Integrity	Insulation				
TCB50	Up to 50mm	60 mins	15 mins	15mm	65 x 65 x 1200mm	40	12
TCB55	Up to 55mm	60 mins	15 mins	15mm	70 x 75 x 1200mm	35	10
TCB60	Up to 60mm	60 mins	15 mins	15mm	75 x 75 x 1200mm	35	10
TCB65	Up to 65mm	60 mins	15 mins	15mm	80 x 75 x 1200mm	35	10
TCB70	Up to 70mm	60 mins	15 mins	15mm	85 x 75 x 1200mm	35	10
TCB75	Up to 75mm	60 mins	15 mins	15mm	90 x 75 x 1200mm	35	10
TCB80	Up to 80mm	60 mins	15 mins	15mm	95 x 150 x 1200mm	16	10
TCB85	Up to 85mm	60 mins	15 mins	15mm	100 x 150 x 1200mm	16	10
TCB90	Up to 90mm	60 mins	15 mins	15mm	105 x 150 x 1200mm	16	10
TCB95	Up to 95mm	60 mins	15 mins	15mm	110 x 150 x 1200mm	16	10
TCB100	Up to 100mm	60 mins	15 mins	15mm	115 x 150 x 1200mm	15	10
TCB105	Up to 105mm	60 mins	15 mins	15mm	120 x 150 x 1200mm	15	10
TCB110	Up to 110mm	60 mins	15 mins	15mm	125 x 150 x 1200mm	12	10
TCB115	Up to 115mm	60 mins	15 mins	15mm	130 x 150 x 1200mm	12	10
TCB120	Up to 120mm	60 mins	15 mins	15mm	135 x 150 x 1200mm	12	10
TCB125	Up to 125mm	60 mins	15 mins	15mm	140 x 150 x 1200mm	12	10
TCB130	Up to 130mm	60 mins	15 mins	15mm	145 x 150 x 1200mm	12	10
TCB135	Up to 135mm	60 mins	15 mins	15mm	150 x 150 x 1200mm	12	8
TCB140	Up to 140mm	60 mins	15 mins	15mm	155 x 150 x 1200mm	12	8
TCB145	Up to 145mm	60 mins	15 mins	15mm	160 x 150 x 1200mm	12	8
TCB150	Up to 150mm	60 mins	15 mins	15mm	165 x 150 x 1200mm	12	8
ARC Party Wall TCB: vertical cavity fire barrier at the party wall junction							
PWTCB50	Up to 50mm	60 mins	60 mins	5mm	55 x 250 x 1200mm	12	10
PWTCB55	Up to 55mm	60 mins	60 mins	5mm	60 x 250 x 1200mm	12	10
PWTCB60	Up to 60mm	60 mins	60 mins	5mm	65 x 250 x 1200mm	12	10
PWTCB65	Up to 65mm	60 mins	60 mins	5mm	70 x 250 x 1200mm	10	10
PWTCB70	Up to 70mm	60 mins	60 mins	5mm	75 x 250 x 1200mm	10	10
PWTCB75	Up to 75mm	60 mins	60 mins	5mm	80 x 250 x 1200mm	10	10
PWTCB80	Up to 80mm	60 mins	60 mins	5mm	85 x 250 x 1200mm	8	10
PWTCB85	Up to 85mm	60 mins	60 mins	5mm	90 x 250 x 1200mm	8	10
PWTCB90	Up to 90mm	60 mins	60 mins	5mm	95 x 250 x 1200mm	8	10
PWTCB95	Up to 95mm	60 mins	60 mins	5mm	100 x 250 x 1200mm	8	10
PWTCB100	Up to 100mm	60 mins	60 mins	5mm	105 x 250 x 1200mm	8	10
PWTCB105	Up to 105mm	60 mins	60 mins	5mm	110 x 250 x 1200mm	8	10
PWTCB110	Up to 110mm	60 mins	60 mins	5mm	115 x 250 x 1200mm	8	10
PWTCB115	Up to 115mm	60 mins	60 mins	5mm	120 x 250 x 1200mm	6	10
PWTCB120	Up to 120mm	60 mins	60 mins	5mm	125 x 250 x 1200mm	6	10
PWTCB125	Up to 125mm	60 mins	60 mins	5mm	130 x 250 x 1200mm	6	10
PWTCB130	Up to 130mm	60 mins	60 mins	5mm	135 x 250 x 1200mm	6	10
PWTCB135	Up to 135mm	60 mins	60 mins	5mm	140 x 250 x 1200mm	6	8
PWTCB140	Up to 140mm	60 mins	60 mins	5mm	145 x 250 x 1200mm	6	8
PWTCB145	Up to 145mm	60 mins	60 mins	5mm	150 x 250 x 1200mm	6	8
PWTCB150	Up to 150mm	60 mins	60 mins	5mm	155 x 250 x 1200mm	6	8

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Product & Packaging Specification: Timber to Timber

Product Code	Maximum Cavity Width	Timber to Timber Fire Performance		Compression Required	Dimensions	Lengths per pack	Packs per pallet
		Integrity	Insulation				
TCBTT50	Up to 50mm	60 mins	30 mins	25mm	75 x 150 x 1200mm	24	10
TCBTT55	Up to 55mm	60 mins	30 mins	25mm	80 x 150 x 1200mm	20	10
TCBTT60	Up to 60mm	60 mins	30 mins	25mm	85 x 150 x 1200mm	20	10
TCBTT65	Up to 65mm	60 mins	30 mins	25mm	90 x 150 x 1200mm	16	10
TCBTT70	Up to 70mm	60 mins	30 mins	25mm	95 x 150 x 1200mm	16	10
TCBTT75	Up to 75mm	60 mins	30 mins	25mm	100 x 150 x 1200mm	16	10
TCBTT80	Up to 80mm	60 mins	30 mins	25mm	105 x 150 x 1200mm	16	10
TCBTT85	Up to 85mm	60 mins	30 mins	25mm	110 x 150 x 1200mm	16	10
TCBTT90	Up to 90mm	60 mins	30 mins	25mm	115 x 150 x 1200mm	15	10
TCBTT95	Up to 95mm	60 mins	30 mins	25mm	120 x 150 x 1200mm	15	10
TCBTT100	Up to 100mm	60 mins	30 mins	25mm	125 x 150 x 1200mm	12	10

All performance claims can be evidenced on IFC certificate IFCC 1727.

Can't find your size? ARC TCB Timber to Timber can be manufactured to suit any cavity width up to 100mm, including any intermediary sizes not listed above.

Call our technical experts on 0113 252 9428 to discuss your requirements.

Fire Properties

ARC TCB has been fire tested in accordance with the principles given in EN 1366-4:2006 + A1 2010 and EN1366-4:2021, achieving up to 60 minutes fire integrity within a timber frame construction.

TCB is certificated by IFC Certification, a third-party accreditation scheme. IFC's product certifications are designed to give confidence to architects, specifiers, contractors, users, occupiers and owners that products have been thoroughly and independently evaluated and will continue to be manufactured to the same specification as originally tested.

TCB - IFC certificate number: IFCC 1727
Party Wall TCB - IFC certificate number: IFCC 1728

Standards

ARC TCB is manufactured using rockfibre mineral wool which achieves a fire classification of Euroclass A1 as defined in BS EN 13501-1, and conforms to BS EN12667:2001.

ARC's rockfibre mineral wool insulation has a thermal conductivity of 0.037W/mK.

As required by building regulations, the mineral wool is encapsulated in polythene. This element is not noncombustible.

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Non-Standard Applications

Where usage falls outside of the certificated scope, for example when used with external cladding, or with an internal metal frame system, performance of the fire barrier will depend heavily upon the structural integrity and fire performance of the surrounding construction.

Specifiers must ensure all construction elements that make up part of the internal or external leaf of the wall, including support systems, are suitable for use with a cavity fire barrier for the length of fire integrity and insulation required. Particular attention must be paid to any possible deflection or distortion which could cause gaps to form between the construction and any fire barrier installed.

In the event of a fire, ARC Building Solutions Ltd cannot accept liability for failure where usage is outside of the standard application, including but not limited to, where deflection or distortion has allowed gaps to form around the barrier, or where the barrier is not fitted in accordance with the manufacturer's guidelines.

Storage & Packaging

ARC TCB is supplied in polythene packs which are designed for transporting and protecting the products. It is not recommended that the packs are stored in direct sunlight. When storing the barriers for longer periods of time it is recommended that the product should be stored indoors, or under cover especially during inclement weather or overnight.

Health & Safety

At ARC Building Solutions, safety is a top priority, both in how we work and the products we supply.

We've carefully assessed the materials we use, and we're pleased to say our rockfibre mineral wool isn't classed as a possible carcinogen. This means that, in line with UK regulations, our products don't require a safety data sheet.

Our products have no hazardous classifications under UK REACH and GB CLP regulations when it comes to physical, health, or environmental risks.

As always, we recommend following the product instructions when handling and installing ARC products. If you'd like more information on our approach to health and safety as a whole, just ask us for a Safety Data Sheet (SDS).

Environment

No CFCs or HCFCs are involved in the manufacturing process of ARC's rockfibre mineral wool insulation. Additionally, the mineral wool has a Green Guide rating of A+.

This product can be disposed of via landfill; preferably, the product should be returned to ARC Building Solutions so that the waste can be separated and recycled accordingly.

Any information provided within this document is intended for guidance only. Expert technical advice should be sought before specification or installation of any product. It is of particular importance to ensure that any fire barrier or fire stopping product is tested for use with the exact application intended. ARC Building Solutions Ltd cannot accept liability for failure where usage is outside of the standard application, including but not limited to, where deflection or distortion has allowed gaps to form around the barrier, or where the barrier is not fitted in accordance with the manufacturer's guidelines. Due to the protective polythene, the product as a whole cannot be classified as A1 non-combustible.

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