



TCB SQUARE

Cavity barrier for timber frame construction

- » Up to 60 minutes fire integrity
- » Quickly and easily installed, robust solution
- » Specified in terraced, semi-detached, apartments and major projects
- » Meets cavity barrier requirements of Approved Document B
- » Standard size available suits service penetration sizes up to 150mm diameter
- » Innovative protected design
- » Third-party certificated by IFC





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Application

ARC TCB Square is designed to act as a cavity barrier around penetrations through the external wall of low rise houses. The ARC TCB Square exceeds compliance requirements for Approved Document B; Scottish Regulations, Technical Handbook: Section 2; Northern Ireland Building Regulations, Technical Booklet: Part E; Eire Building Regulations, Technical Guidance Document B. ARC TCB Square is faster and easier to install, and provides a more robust solution, compared with either boxing in using cut sections of linear cavity barrier, or wrapping linear barriers around the pipe.

ARC TCB Square is not a penetration seal or "fire stop" and does not replace the requirement for this where it exists, for example an intumescent pipe wrap. ARC TCB Square is designed to perform the function of a cavity barrier around openings in the wall.

Installation

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

ARC TCB Square is designed to be compression fitted within the wall cavity where there will be a pipe penetration. The product can first be fixed through the flanges at the point where the penetration will be in the timber frame structure. The flanges should be fixed above and below the product to direct water away from the internal leaf of the building.

Once the service penetration has been drilled and the service pipe has been installed, the product can be placed over the pipe. The outer brickwork can then be laid creating the cavity and compressing the ARC TCB Square to it's required fit.

General Tips & Advice:

- » It is the compression fit of the cavity barrier installed into an appropriately sized cavity, 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.
- » The penetrating pipe can have a smaller diameter than the hole in the TCB Square. The distance from the surface of the hole in the TCB Square to the external edges is called the "burn path" and it is the material which will prevent the spread of fire from the penetration into the wall cavity.
- » Care should be taken when handling the product to ensure that the mineral wool isn't damaged.

Key Stats

Length supplied	380mm or 500mm square
Third-party certification	TCB Square: IFC certificate number: IFCC 1841
Insulation	Non-combustible Rockfibre Mineral Wool
Thermal conductivity	0.037W/mK
Fire Resistance	Up to 60 minutes
Insulation performance	15 minutes
Test standard	EN1366-4
Construction type	Timber frame
Mass	Data available on request

Fire Properties

ARC TCB Square 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 Square - IFC certificate number: IFCC 1841



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Product & Packaging Specification: Timber to Brickwork

Product Code	Maximum Cavity Width	Sleeve Colour	Integrity	Insulation	Maximum Pipe Diameter	Compression Required	Outer Dimensions	Hole Diameter	Products per pack	Packs per pallet
TCBSQ150/50	50mm	Red	60 mins	15 mins	150mm	15mm	65 x 380 x 380mm	150mm	12	21
TCBSQ150/55	55mm	Red	60 mins	15 mins	150mm	15mm	70 x 380 x 380mm	150mm	12	21
TCBSQ150/60	60mm	Red	60 mins	15 mins	150mm	15mm	75 x 380 x 380mm	150mm	12	18
TCBSQ150/65	65mm	Red	60 mins	15 mins	150mm	15mm	80 x 380 x 380mm	150mm	12	18
TCBSQ150/70	70mm	Red	60 mins	15 mins	150mm	15mm	85 x 380 x 380mm	150mm	12	15
TCBSQ150/75	75mm	Red	60 mins	15 mins	150mm	15mm	90 x 380 x 380mm	150mm	12	15
TCBSQ150/80	80mm	Red	60 mins	15 mins	150mm	15mm	95 x 500 x 500mm	150mm	10	8
TCBSQ150/85	85mm	Red	60 mins	15 mins	150mm	15mm	100 x 500 x 500mm	150mm	10	8
TCBSQ150/90	90mm	Red	60 mins	15 mins	150mm	15mm	105 x 500 x 500mm	150mm	8	8
TCBSQ150/95	95mm	Red	60 mins	15 mins	150mm	15mm	110 x 500 x 500mm	150mm	8	8
TCBSQ150/100	100mm	Red	60 mins	15 mins	150mm	15mm	115 x 500 x 500mm	150mm	8	8
TCBSQ150/105	105mm	Red	60 mins	15 mins	150mm	15mm	120 x 500 x 500mm	150mm	8	8
TCBSQ150/110	110mm	Red	60 mins	15 mins	150mm	15mm	125 x 500 x 500mm	150mm	8	8
TCBSQ150/115	115mm	Red	60 mins	15 mins	150mm	15mm	130 x 500 x 500mm	150mm	6	8
TCBSQ150/120	120mm	Red	60 mins	15 mins	150mm	15mm	135 x 500 x 500mm	150mm	6	8
TCBSQ150/125	125mm	Red	60 mins	15 mins	150mm	15mm	140 x 500 x 500mm	150mm	6	8
TCBSQ150/130	130mm	Red	60 mins	15 mins	150mm	15mm	145 x 500 x 500mm	150mm	6	8
TCBSQ150/135	135mm	Red	60 mins	15 mins	150mm	15mm	150 x 500 x 500mm	150mm	6	8
TCBSQ150/140	140mm	Red	60 mins	15 mins	150mm	15mm	155 x 500 x 500mm	150mm	6	8
TCBSQ150/145	145mm	Red	60 mins	15 mins	150mm	15mm	160 x 500 x 500mm	150mm	6	8
TCBSQ150/150	150mm	Red	60 mins	15 mins	150mm	15mm	165 x 500 x 500mm	150mm	6	8

All performance claims can be evidenced on IFC certificate IFCC 1841.

Non-standard sizes available on request. Please contact us with your requirements to find out if we can accommodate the size you need, or for any further information.



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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.

Standards

ARC TCB Square is manufactured using rockfibre mineral wool which achieves a fire classification of Euroclass A1 as defined in EN 13501-1 and conforms to EN 13162.

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

Storage and Packaging

ARC TCB Square 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.

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.

Environment

No CFCs or HCFCs are involved in the manufacturing process of ARC's rockfibre mineral wool insulation.

ARC TCB Square 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.

Health and Safety

ARC Building Solutions has an approved Health and Safety Policy and is committed to working and supplying products safely. ARC's rockfibre mineral wool is not classed as a possible human carcinogen. We have assessed products as required by Substances Hazardous to Health Regulations (COSHH). An ARC Material Safety Datasheet (MSDS) is available upon request.

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.

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Certificate Number 19310
ISO 9001, ISO 14001
ISO 45001