

ARC OPEN STATE CAVITY BARRIER

Open state cavity barrier for ventilated cavities

- » **Reactive intumescent** element
- » Up to **120mins fire integrity** & insulation
- » **25mm or 44mm air gap** for ventilated cavity
- » Tested to **ASFP TGD19 & EN1363-1 standards**
- » **Fixing brackets included** as standard
- » Suitable for **use horizontally**
- » **Third party certificated** by IFC



Third Party
Certificated



Meets Performance
Requirements



Intumescent
Layer



Perfect for
High Rise Projects

Description

ARC OSCB cavity barriers are designed for installation within cavities where ventilation is required in service use. Manufactured from non-combustible rockfibre mineral wool with a reactive intumescent layer, the cavity barrier can provide an air gap of up to either 25mm or 44mm.

The intumescent layer will rapidly expand when exposed to heat in a fire event, closing off the air gap and preventing vertical fire spread within the external wall cavity.

Suitable for installation horizontally, ARC OSCB open state cavity barriers should be partnered with ARC Fire Stop Slab installed vertically for a complete cavity barrier solution.

Installation

ARC Open State Cavity Barrier consists of a mineral wool core with an intumescent layer pre-fixed, encapsulated in a polythene wrap. It is fixed to the inner substrate using the appropriate fixings outlined in the table below. Do not remove the polythene wrap, or the factory fitted screws inside the wrap. These are integral to the function of the product and should remain for its life span.

- » Ensure all necessary components are to hand.
- » Fold the fixing brackets in accordance with fixing specifications table A1.
- » Fix the fixing brackets to the inner leaf. Use appropriate non-combustible fixings for the substrate, taking note of the spacing information in table A1. Consider the bracket positions to avoid a clash with the screws pre-fixed inside the barrier.
- » The vertical leg of the brackets should be fixed so that they extend above the cavity barrier as shown in 'Drawing 1'.
- » Push fit the cavity barrier onto the brackets, ensuring the brackets penetrate the barrier centrally through its 82mm depth.
- » Ensure the rear face of the barrier is tightly fitted against the inner substrate without gaps. The surface of the inner substrate must be true and even.
- » Individual lengths should be butt jointed tightly together with no gaps. Ensure both the rock mineral wool and intumescent components are butted together tightly.
- » At the extreme end of a run ('Drawing 3'), or at corners ('Drawing 2'), the end of the cavity barrier must tightly abut the substrate with no gaps.

Notes:

- » Cut lengths of barrier $\geq 200\text{mm}$ length must include 2 fixing brackets.
- » Cut lengths $< 200\text{mm}$ must include 1 fixing bracket centrally. It is the installer's responsibility to ensure this short piece of barrier is mounted securely, tightly fitted against abutting pieces. A short piece should always abut a piece with multiple brackets, ie. do not fit multiple short pieces together.
- » Depending on the barrier width and bracket specification, it may be necessary to trim down the length of the fixing bracket's horizontal leg. The fixing bracket should penetrate at least 75% of the depth of the barrier, except where the full size of the bracket is already smaller than this.
- The horizontal leg should also be at least 25mm short of the intumescent layer when the barrier is fully mounted on to the brackets.
- » Where the horizontal open state barrier meets the vertical 'full fill' barrier (ARC Fire Stop Slab), the vertical barrier must be continuous with the horizontal ARC OSCB tightly butted to each side.
- » For lengths larger than 800mm, use three brackets
- » For lengths from 200mm up to and including 800mm, use at least two brackets.
- » For lengths less than 200mm, use at least one bracket.

Design Considerations & Detailing

Size & Tolerance

Air gap specified is maximum allowable. This is the space between the front of the cavity barrier and rear side of the outer substrate, and should take in to account any contours, shapes, or profiles in the external wall system.

Consider over-specifying where material or build tolerance is a concern.

Suitable Substrates

ARC Open State Cavity Barrier is suitable for use with either concrete or masonry internal and external substrates.

Where used against a different non-combustible substrate, you must ensure that the substrate is fire tested to demonstrate the required level of fire performance with the facing material selected.

You must also ensure that the wall system does not deform or deflect in such a way that could adversely affect the performance of the cavity barrier.

Cavity Insulation

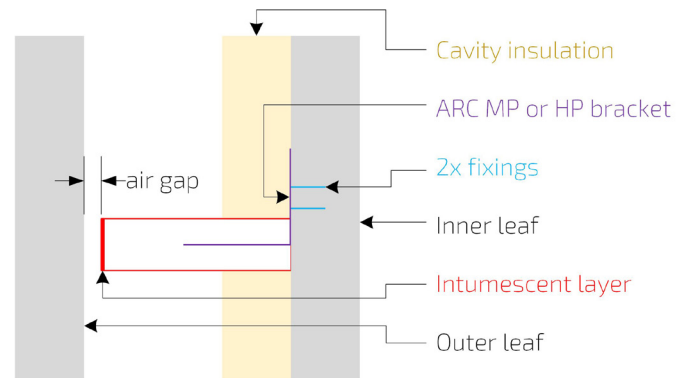
ARC Open State Cavity Barrier must be installed directly to the inner leaf with the cavity insulation interrupted ('Drawing 1').

A non combustible stone wool cavity insulation is recommended for use in conjunction with ARC Open State Cavity Barrier. Alternatively a PIR or foil-faced phenolic is approved. ARC Open State Cavity Barrier is not approved for use in uninsulated cavities.

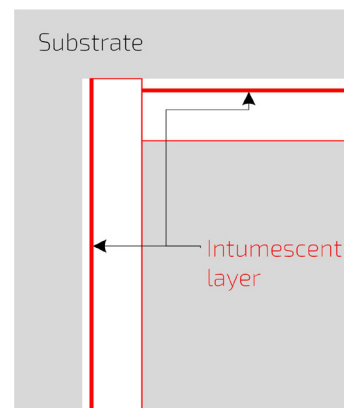
The depth of the cavity insulation must never exceed the depth of the mineral wool element of the cavity barrier. See table A2 for sizing.

Standard Details

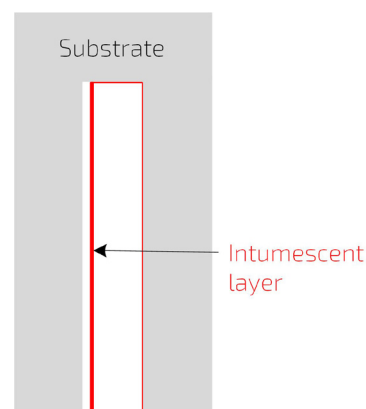
Drawing 1 - standard detail



Drawing 2 - corner detail



Drawing 3 - end of run detail



Key Stats

Cavity widths available	100 – 450mm
Third-party certification	Open State Cavity Barrier: IFC certificate number: IFCC 1935
Max. air gap	25mm
Colour	Red with green strip
Thermal conductivity	0.037W/mK
Fire Resistance (Integrity)	up to 120 minutes
Mass	Data available on request
Fire Resistance (Insulation)	up to 90 mins
Test standard	EN1366-4
Dimensions	Depth : Cavity width less 25mm - Thickness: 82mm - Length: 1200mm
Orientation	Vertical or horizontal
Fixing method	ARC OSCB Fixing Bracket

Fire Properties

ARC OSCB has been fire tested in accordance with the principles given in ASFP TGD19, achieving up to 120 minutes fire integrity within a high rise construction. ARC OSCB 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.

OSCB - IFC certificate number: IFCC 1935

Product Specifications

Product Range	Cavity Width Available	Max. Air Gap	Colour	Fire Performance		Dimensions
				Integrity	Insulation	
OSCB25	100 – 450mm	25mm	Red with green strip	60 mins	60 mins	Depth : Cavity width less 25mm Thickness: 82mm Length: 1200mm
OSCB-PLUS25	100 – 300mm	25mm	Red with green strip	120 mins	120 mins	Depth : Cavity width less 25mm Thickness: 82mm Length: 1200mm
	301 – 450mm			90 mins	90 mins	
OSCB44	100 – 300mm	44mm	Red with green strip	60 mins	60 mins	Depth : Cavity width less 44mm Thickness: 82mm Length: 1200mm
	301 – 450mm			30 mins	30 mins	

Fixing Specifications

Product Range	Barrier Width	Cavity Width	Bracket Type	Bracket Orientation	Bracket Locations
OSCB25 & OSCB-PLUS25	Up to 90mm	Up to 115mm	ARC MP Bracket	65mm leg penetrates barrier centrally in 82mm depth	1. Maximum 500mm centres 2. Maximum 150mm from each end of barrier 3. Cut barrier length under 200mm must have at least 1 bracket, fitted centrally 4. Cut barrier length over 200mm must have at least 2 brackets, complying with points 1 and 2
	91 – 274mm	116 – 299mm	ARC MP Bracket	160mm leg penetrates barrier centrally in 82mm depth	
	275mm+	300mm+	ARC HP Bracket	N/A	
OSCB44	Up to 90mm	Up to 124mm	ARC MP Bracket	65mm leg penetrates barrier centrally in 82mm depth	
	91mm – 274mm	135 – 318mm	ARC MP Bracket	160mm leg penetrates barrier centrally in 82mm depth	
	275mm+	319mm+	ARC HP Bracket	N/A	

Cavity Insulation Thickness

Product Range	Maximum Air Gap	Intumescent Width	Example Calculation (Cavity Width - Air Gap - Intumescent Width)	Maximum Cavity Insulation Thickness
OSCB25	25mm	4mm	200mm cavity: 200mm – 25mm – 4mm	171mm
OSCBPLUS25	25mm	4mm	200mm cavity: 200mm – 25mm – 4mm	171mm
OSCB44	44mm	6mm	200mm cavity: 200mm – 44mm – 6mm	150mm

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

Standards

ARC Open State Cavity Barrier is manufactured using rockfibre mineral wool which achieves a fire classification of Euroclass A1 as defined in BS EN 13501-1.

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.

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 Cavity Stop Sock 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+.

The OSCB has a 60 year working life based on the UK climate. 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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