

## Cavity barriers for rainscreen cladding

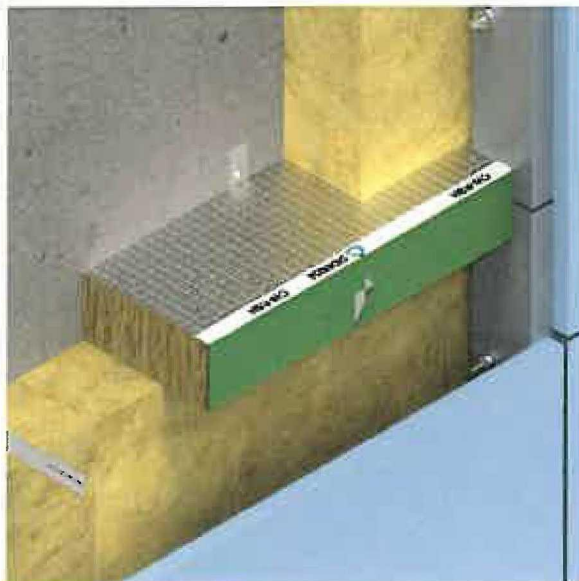
A versatile stonewool cavity barrier for use in drained and ventilated facades that ensures the system will drain freely, whilst maintaining airflow and providing an effective hot smoke and fire seal.

### Application

**SIDERISE cavity barriers for rainscreen cladding** incorporate a maximum 25mm (dimension may alter with specific design criteria) continuous ventilated air space. This cavity barrier ensures that any moisture from precipitation and interstitial condensation can drain freely within the façade construction.

To accommodate this design feature, and to meet the essential requirement of installing cavity fire barriers, SIDERISE have developed this purpose-made solution.

#### **SIDERISE cavity barriers for rainscreen cladding: Horizontal application**



### Benefits

- Allow continuous ventilation and drainage behind cladding
- Up to 120 minutes fire integrity
- Close gaps under fire conditions
- Can be cut to suit void dimensions
- Suitable for horizontal with open void and vertical full seal applications
- Fully qualified acoustic performance - vertical. For horizontal contact: [acoustic@siderise.com](mailto:acoustic@siderise.com)
- Cost-effective
- Ease of installation
- Tested utilising BS EN 1363-1 and Principles of BS EN 1366-4

#### **SIDERISE cavity barriers for rainscreen cladding: Vertical application**



**Acoustic, fire and thermal  
insulation specialists**

## SIDERISE cavity barriers for rainscreen cladding: Horizontal and vertical

### Product description

**SIDERISE cavity barriers for rainscreen cladding** consist of a non-combustible stonewool mineral fibre lamella core, reinforced on two faces with a Class 'O' rated aluminium foil. The construction offers an excellent resistance to the passage of both smoke and fire.

The exposed leading edge is also sealed with aluminium foil. Whilst the base material is water repellent and non-hydroscopic, this predominantly enclosed arrangement affords an added degree of weather protection to the core material.

**SIDERISE cavity barriers for rainscreen cladding** includes products for both horizontal and vertical applications referred to as: CW-RSH and CW-RSV.

**SIDERISE cavity barriers for rainscreen cladding - horizontal** incorporates a continuous bonded intumescent strip to the leading edge and encapsulated in a weather resistant polymer film. In the event of exposure to fire, this expands and fully seals the designed ventilation gap formed at the time of installation between barrier and the rear of the cladding

**SIDERISE cavity barriers for rainscreen cladding - vertical** are specifically intended to full fill the void. As a full fill barrier system, the integral intumescent strip is not required. The front edge is finished as standard in a plain aluminium foil. This product is available with a factory applied DPC pre-bonded to the surface.

### Standards and approvals

**SIDERISE cavity barriers for rainscreen cladding** satisfy the requirements of the Building Regulations 2000, Approved Document B (2006 edition), Appendix A, Table A1, item 10 (Volume 1) & item 15 (Volume 2) and diagram 33 of Approved Document B. They also meet the higher minimum fire resistance standard (30/30) for cavity barriers outlined in the LPC Design Guide for the Fire Protection of Buildings.

**SIDERISE cavity barriers for rainscreen cladding** may be used as fire stops to maintain the fire resistance of compartment floors and walls, however this is uncommon.

Rainscreen claddings are generally external to the structural building envelope. The need to maintain the fire resistance of compartment elements would not normally extend beyond the inner structural wall interface.

Rainscreen cladding systems do form large concealed spaces (cavities) and consequently normally require the inclusion of cavity barriers.

## SIDERISE cavity barriers for rainscreen cladding: Horizontal range

### Fire performance

**SIDERISE cavity barriers for rainscreen cladding - horizontal** have been successfully tested up to 120 minutes (E) Integrity and 60 minutes (I) Insulation, when tested to the temperature and pressure conditions of BS EN 1363 Part 1: 2012.

SIDERISE have tested a range of horizontal cavity barriers to the above mentioned standards with seal reaction times of 1 minute and seal temperatures remained below 180°C and maintaining the EI requirements as detailed in Table 1 for up to 120 E and 60 I. Test report WF 328279/A shows evidence of this.

Table 1 - Fire performance for SIDERISE rainscreen cladding - horizontal range

Product Type	Fire Rating		Thickness (mm)	Void Range (mm)
	E (Int)	I (Ins)		
RSH-120/90	120	90	15 x 75	0-25
RSH-90/30	90	30	75 x void-25	26-300*
RSH-90/60	90	60	90 x void-25	26-300*
RSH-120/60	120	60	120 x void-25	26-300*

\* For voids <30mm the air gap is reduced by 5mm for each 5mm reduction in void.



## Installation recommendations

**SIDERISE cavity barriers for rainscreen cladding - horizontal** are installed within the cavity formed between the rainscreen facade and the inner structural wall, using the appropriate **SIDERISE support brackets** (see Table 2). To prevent fire flanking to the rear of the fire stop, any thermal insulation fitted to the outer face of the structural wall must be completely cut away to accommodate the thickness of this product.

The horizontal cavity barrier is fitted with the plain mineral fibre edge against the structural wall. A 25mm (dimension may alter with specific design criteria) clear cavity void should be left between the front edge of the cavity barrier and the rear surface of the rainscreen facade.

### Support brackets

A range of **SIDERISE support brackets** for horizontal cavity barriers are available for cavity widths of up to 300mm (see Table 2). Lengths of the barrier are secured with these dedicated 'split' fixing brackets, which are impaled through the product at mid thickness.

The brackets are drilled on site and secured to the inner structural wall using non-combustible steel anchors or screws (see RSH-01-A).

The National House Building Council (NHBC) requires 50mm for open joint, however the Centre for Window and Cladding Technology (CWCT) 'Standard for systemised building envelopes' clause 3.4.4.4. states that at fire barrier location, the void must not be reduced by more than 50%, therefore 50mm ventilation void can be locally reduced to the optimum of 25mm. Also refer to CWCT TN73 that deals with this topic.

Adjacent lengths of the horizontal cavity barrier should be tightly abutted to prevent gaps. The top surface of the joint should be sealed with **SIDERISE foil tape RFT 120 / 45**.

To facilitate bracket penetration, a small horizontal cut should be made in the face intumescent strip coinciding with the bracket's exit point. The protruding split ends should be trimmed to 10-20mm and counter-folded to retain the product (see RSH-02-A). **SIDERISE galvanised brackets** and **SIDERISE stainless steel brackets** are available.

**Please note:** For cut lengths a minimum of 2 brackets per length must be used. When using **SIDERISE support brackets**, pre-fitting the brackets to the product is recommended prior to fixing to the wall.

Table 2 - Fixing requirements for horizontal installation

Product Type	Voids (mm)							
	0 - 25		26 - 75		76 - 250		251 - 300	
RSH-120/90	3 No Screws	400 Ctrs	N/A	N/A	N/A	N/A	N/A	N/A
RSH-90/30	N/A	N/A	3 No Screws	400 Ctrs	2 No RSH 350	600 Ctrs	3 No RSH 450	400 Ctrs
RSH-90/60	N/A	N/A	3 No Screws	400 Ctrs	3 No RSH 350	400 Ctrs	3 No RSH 450	400 Ctrs
RSH-120/60	N/A	N/A	3 No Screws	400 Ctrs	3 No RSH 350	400 Ctrs	3 No RSH 450	400 Ctrs

NB: Screws; refers to fixing and washer of max. 15mm head diameter, fixing not supplied by Siderise, should be non-combustible and suitable for substrate.

## SIDERISE cavity barriers for rainscreen cladding: Vertical range

### Fire performance

**SIDERISE cavity barriers for rainscreen cladding - vertical** is based on proven fire performance to BS 476; Part 20:1987 based on multiple tests with integrity ratings of 120 minutes and insulation rating of up to 120 minutes,

details on the extended performance available upon request, as standard 90 or 120 minutes integrity to equal that of the horizontal performance criterion.

Table 3 - Fire performance for SIDERISE rainscreen cladding - vertical range

Product Type	Fire Rating		Thickness (mm)	Void Range (mm)
	E (Int)	I (Ins)		
RSV-90/30	90	30	75	26-300
RSV-90/60	90	60	90	26-300
RSV-120/120	120	120	120	26-300

## Installation recommendations

**SIDERISE cavity barriers for rainscreen cladding - vertical** is installed within the cavity formed between the rainscreen façade and the inner structural wall, using the appropriate **SIDERISE support brackets** (see Table 4).

This cavity barrier is fitted vertically under compression, completely filling the void. The product is installed with the plain mineral fibre edge positioned against the structural wall.

To prevent fire flanking to the rear of the fire stop, any thermal insulation fitted to the outer face of the structural wall, must be completely cut away to accommodate the

thickness of vertical cavity barrier.

Adjoining lengths of this product should be tightly abutted to prevent gaps. Joints should be sealed with **SIDERISE foil tape** RFT 120 / 45.

Courtesy of the unique internal 'lamella' construction, facade deflection can be accommodated, even at the mid-position of the panel system.

### Support brackets

A range of **SIDERISE support brackets** for the vertical cavity barriers are available for cavity widths of up to 300mm (see Table 4). Lengths of the barrier are supported with these dedicated brackets, which partially impale the product at mid thickness.

The brackets are supplied as standard in 1mm galvanised mild steel in a flat form for site folding. They incorporate pre-notched indents to aid this process.

The brackets are drilled on site and secured to the inner

structural wall using non-combustible steel anchors or screws (see RSV-03-A).

Brackets are installed at 600mm fixing centres (300mm from each end) and should be trimmed, if necessary, to approximately 75% of the cavity width.

**Please note:** For voids less than 100mm: measured cavity + 5mm compression required; for voids greater than 100mm: measured cavity +10mm compression is required.

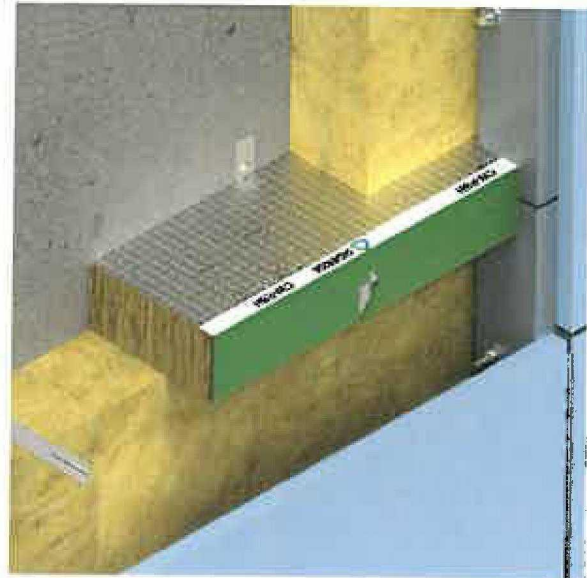
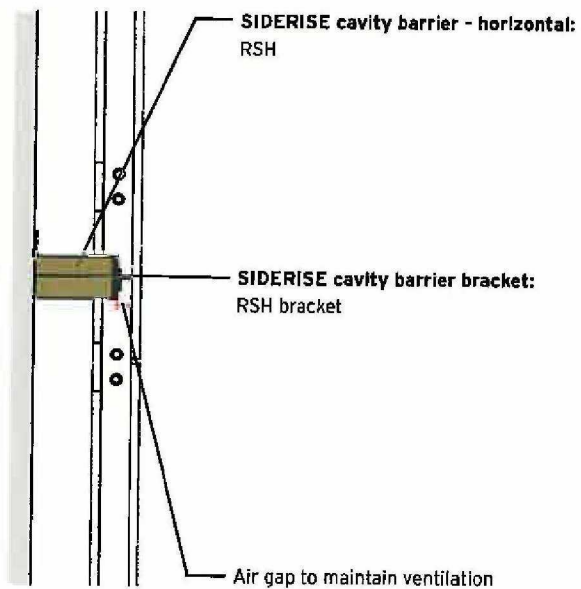
Table 4 - Brackets and fixing centres for Vertical installation

Product Type	Widths (mm)							
	0-50		51-150		151-240		241-300	
RSV-90/30	N/A	N/A	B65/110	600 Ctrs	B195	600 Ctrs	B355	600 Ctrs
RSV-90/60	N/A	N/A	B65/110	600 Ctrs	B195	600 Ctrs	B355	600 Ctrs
RSV-120/60	N/A	N/A	B65/110	600 Ctrs	B195	600 Ctrs	B355	600 Ctrs

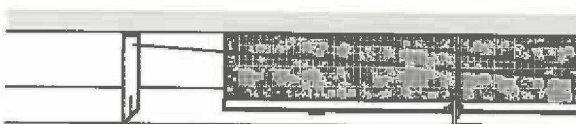


## Horizontal cavity barrier installation: RSH-01-A

Side view



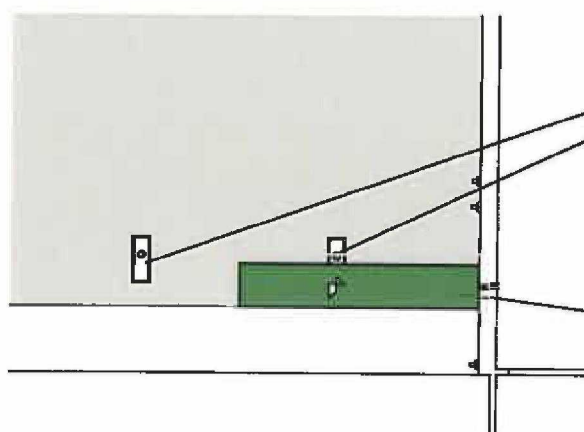
Plan view



**SIDERISE cavity barrier - horizontal: RSH**

**SIDERISE cavity barrier bracket: RSH bracket**

Front view

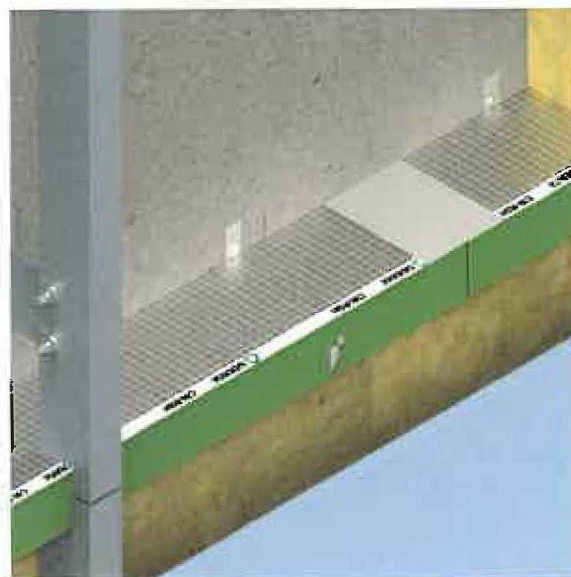
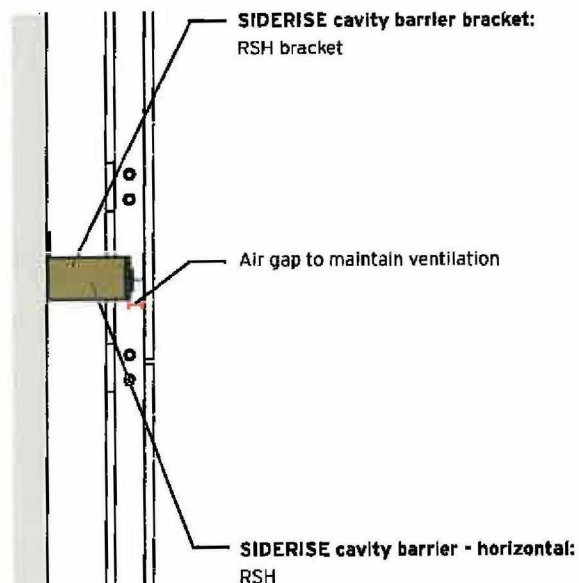


**SIDERISE cavity barrier bracket: RSH bracket**

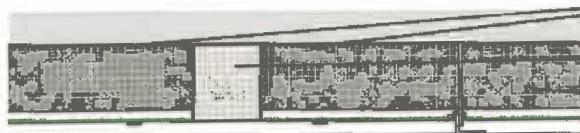
**SIDERISE cavity barrier - horizontal: RSH**

## Horizontal cavity barrier installation: RSH-02-A

## Side view



## Plan view

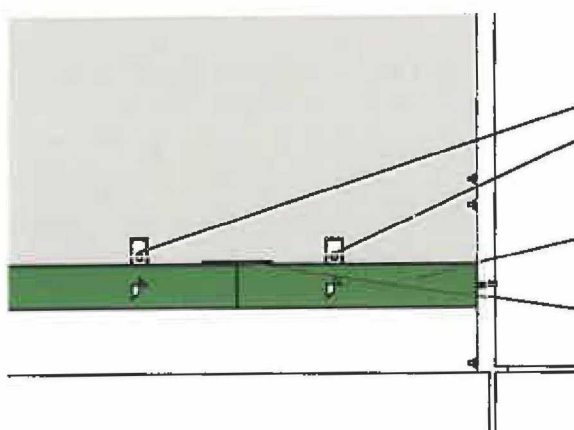


**SIDERISE cavity barrier bracket:**  
RSH matching brackets

**SIDERISE foil tape:**  
Type RFT 120 / 45

**SIDERISE cavity barrier - horizontal:**  
RSH

## Front view



**SIDERISE cavity barrier bracket:**  
RSH matching brackets

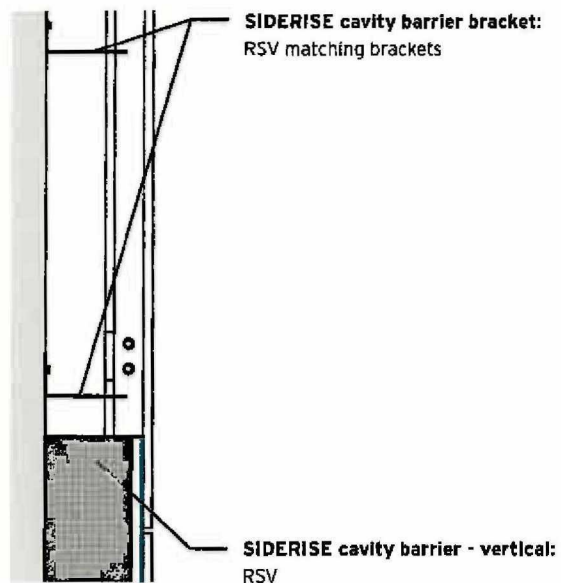
**SIDERISE cavity barrier - horizontal:**  
RSH

**SIDERISE foil tape:**  
Type RFT 120 / 45



## Vertical cavity barrier installation: RSV-03-A

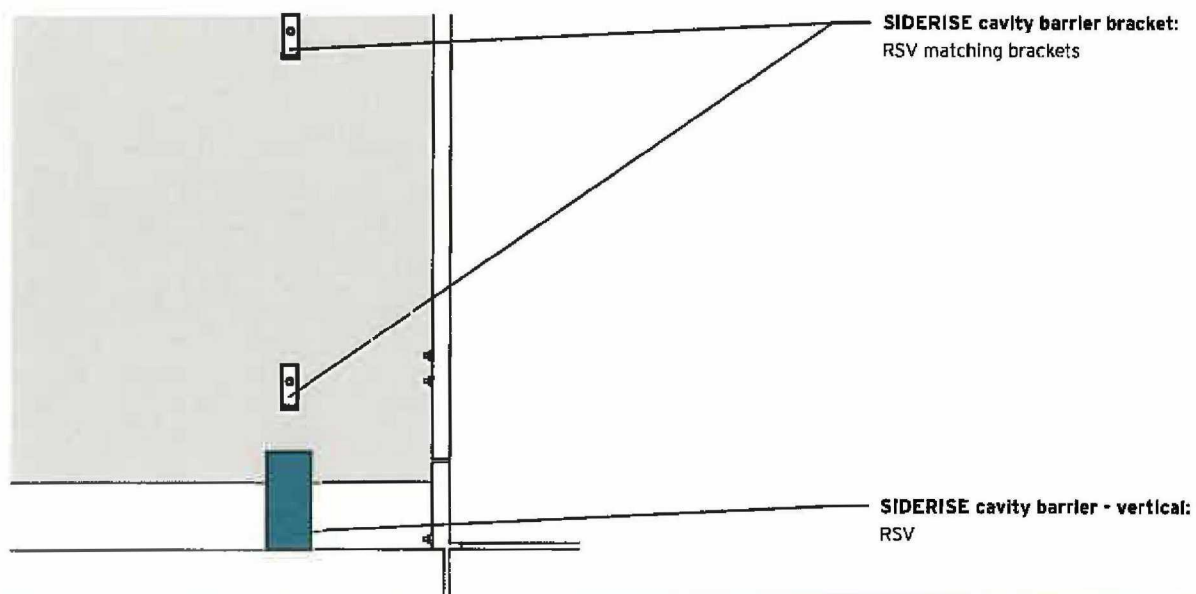
Side view



Plan view

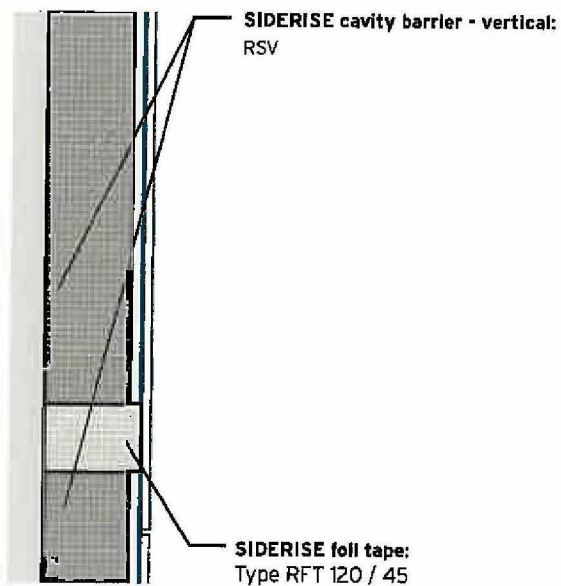


Front view



## Vertical cavity barrier installation: RSV-04-A

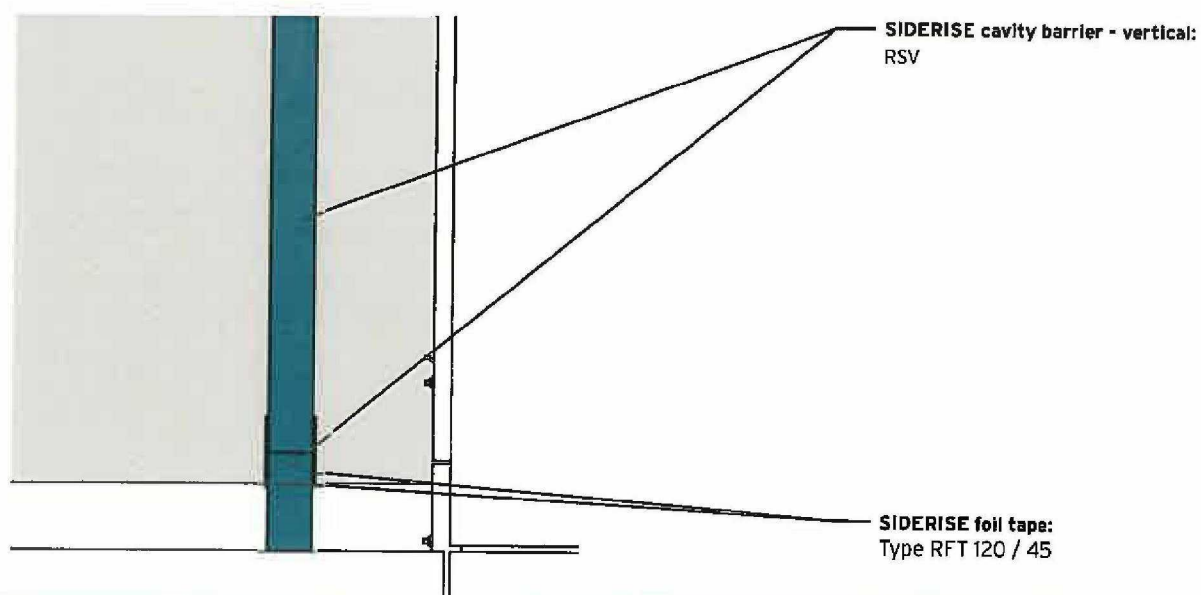
Side view



Plan view

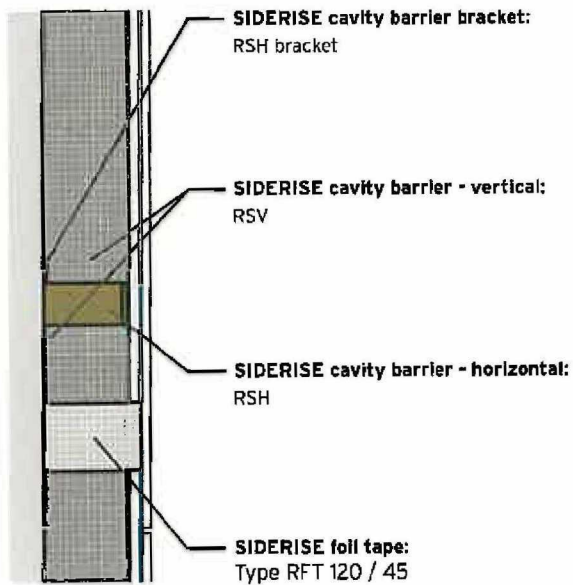


Front view

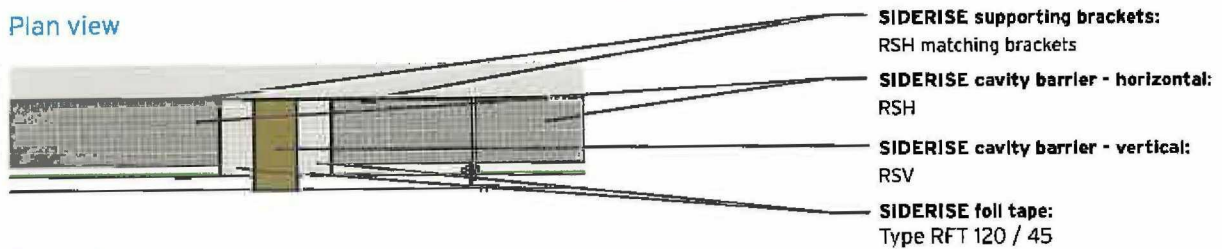


## Horizontal and vertical cavity barrier installation: RSH / RSV-05-A

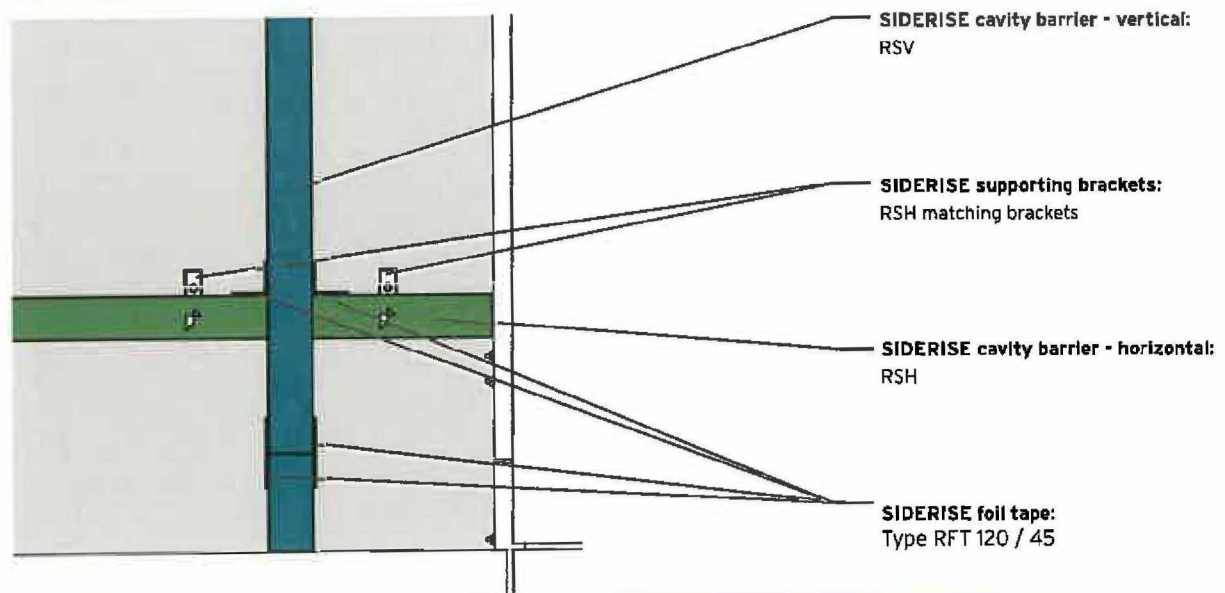
Side view



Plan view

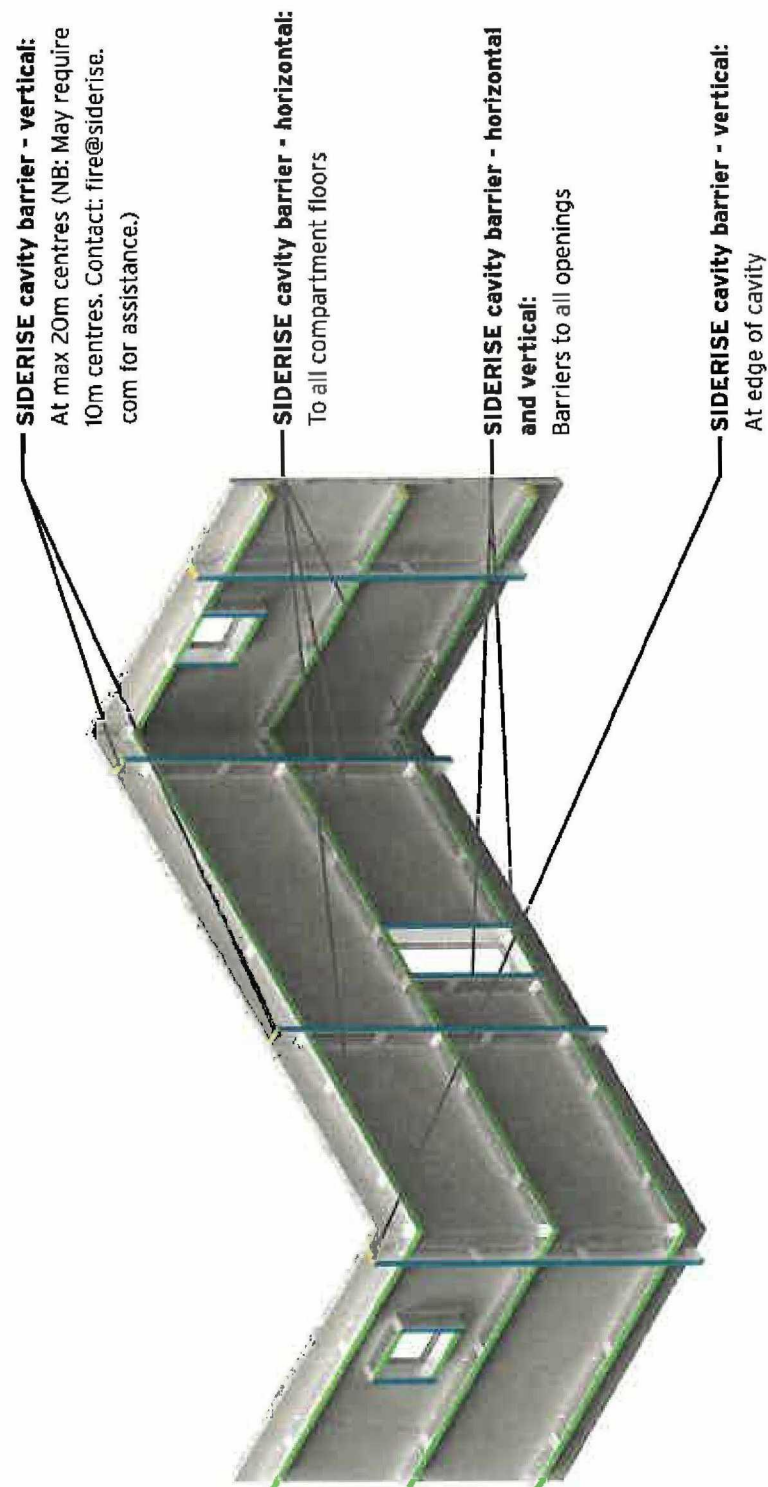


Front view

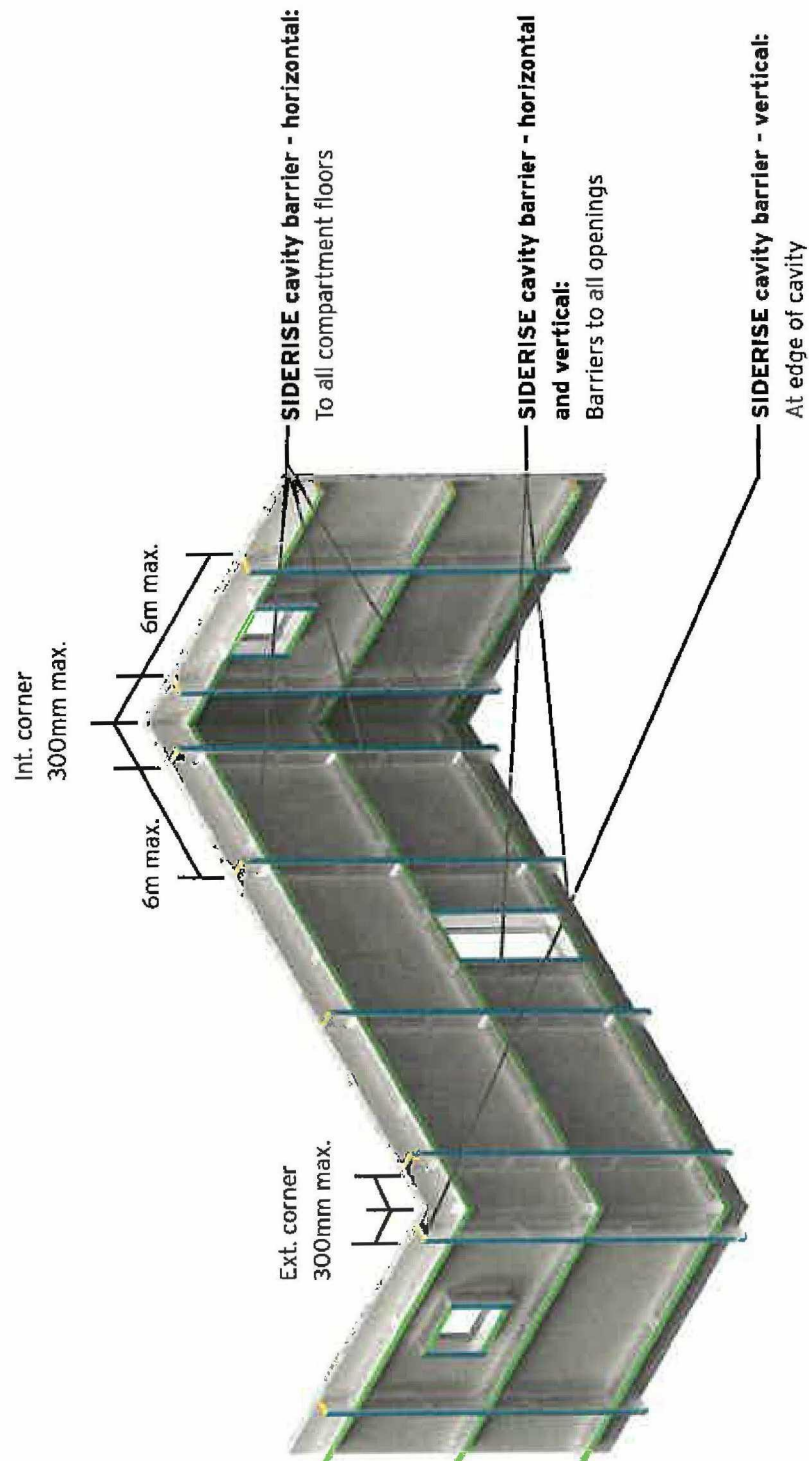




## Compartmentation: Approved Document B



## Compartmentation: NHBC guidelines



## Technical specification

Form supplied	1200mm long. Supplied pre-cut in width to suit advised void size
Colour	Horizontal green / Vertical blue coded
Finish	Aluminium foil
Density	Nominal 75Kg/m <sup>2</sup>
Thermal conductivity	$\lambda_{20} = 0.039\text{W/mK}$
Cavities	0-300 mm - Extensive range available
Fire resistance	See Table 1 and Table 3
Reaction to fire	Euro Class 'A1'

## Products required

The following SIDERISE products are available.

- **SIDERISE cavity barriers for rainscreen cladding** - horizontal or vertical options
- **SIDERISE foil tape**: Type RFT 120 / 45
- **SIDERISE supporting brackets** - for horizontal or vertical installation - galvanised or stainless steel options

## Additional information

The following information is available upon request or via download from the website:

- NBS Specification Clause
- Material Safety Data Sheet
- Cutting and Installation instructions

## Environmental

**SIDERISE cavity barriers for rainscreen cladding** are environmentally friendly.

- They contain no Volatile Organic Compounds (VOCs) and no very Volatile Organic Compounds (vVOCs).
- Zero Ozone Depleting Potential
- Zero Global Warming Potential
- Recyclable

## Specification

Siderise offer specifiers support from initial enquiry and technical consultation to project realisation. NBS draft specifications are provided for standard products and applications and can be tailored to suit specific project performance requirements.

## Technical support

Siderise provides a comprehensive range of technical support services including:

- Project specific or application specific technical support at initial tender or full detailed design stage.
- Training and formal accreditation your staff or sub-contractors as competent installers.
- Introduction of formally accredited, third party approved fire protection installers.
- Attendance at site meetings in a consultative capacity for either firestopping or acoustic design support.
- Consultation with Building Control Officers, Architects, Main Contractors or Noise Consultants to provide support at any stage of the project.
- Co-ordination of site visits with BCO or other stakeholders to inspect and sign off installations, putting the Client or Main Contractor at ease.
- Production of formal letters, confirming the details of site inspections and findings.

A white paper is available on cavity barriers in rainscreen facades. Contact Siderise for further information.

**Developing insulation solutions  
for over 40 years**

