

RH | CAVITY BARRIERS FOR VENTILATED CLADDING / RAINSCREEN – HORIZONTAL

Technical Data Sheet

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integrity in all we do

Acoustic, fire and thermal insulation specialists

Application

Siderise RH ‘Open State’ horizontal cavity barriers have been specifically developed to meet the requirements for cavity barriers used in drained and ventilated façades. Their use ensures that the system will drain any moisture within the façade construction whilst maintaining airflow and, in the event of fire, provide an effective hot smoke and fire seal.

Siderise has developed two ‘Open State’ (open void) horizontal solutions: RH25(G/S) for air gaps up to 25mm and RH50(G/S) for air gaps up to 50mm.

The product range is compliant with current market requirements and has been tested to ASFP Guidance: ‘Open State’ Cavity Barrier used in External Envelope or Fabric of Buildings, utilising principles of EN 1363-1. ASFP Technical Guidance Document –TGD 19 (July 2014 revised Nov 2017) refers.

Product Description

Siderise RH ‘Open State’ horizontal cavity barriers consist of a non-combustible stonewool lamella core, with reinforced aluminium foil faces. This primary seal has a reaction to fire performance to Class 'A1'. The exposed leading edge is also sealed with aluminium foil. Whilst the base material is water repellent and non-hygroscopic, this predominantly enclosed arrangement affords an added degree of weather protection to the core material.

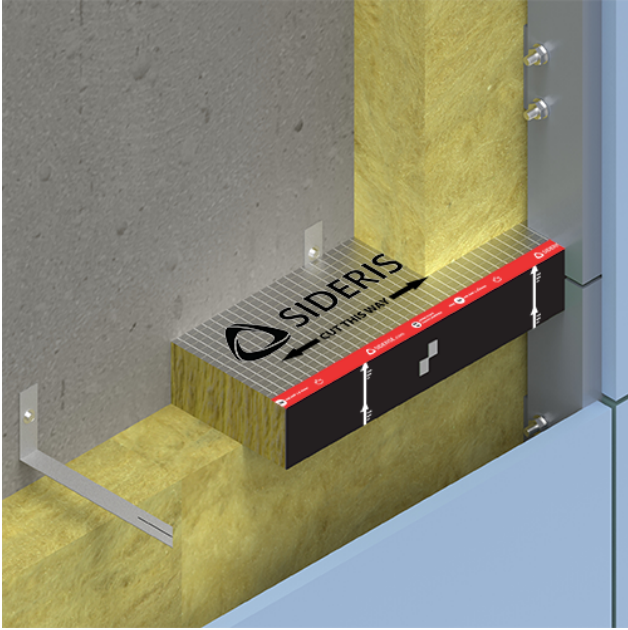
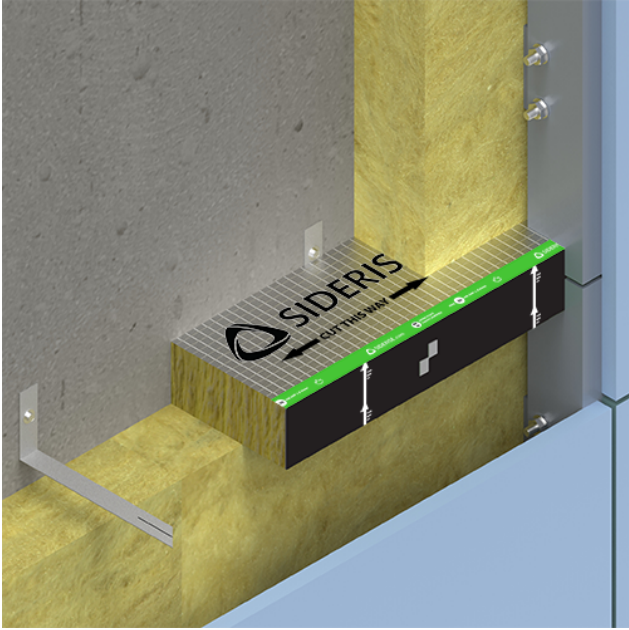
Siderise RH ‘Open State’ horizontal cavity barriers incorporate a continuous high performance reactive intumescent strip which is bonded to the leading edge. The intumescent material has a reaction to fire performance to Class 'E'. In the event of exposure to fire, the intumescent rapidly expands and fully seals the purposely designed ventilation gap formed at the time of installation, between the barrier and the rear of the cladding.

As standard, the range includes a choice of products to suit either 25mm air gaps - referred to as RH25 - or 50mm air gaps - referred to as RH50. Both options are available with either galvanised mild steel (G) or stainless steel (S) fixing brackets as part of the system.

The specific horizontal cavity barrier system is then referred to as either RH25G, RH25S, RH50G or RH50S accordingly. The choice of brackets is usually determined by the rainscreen system designer according to project exposure and/or location.

The leading edge of the horizontal cavity barriers is encapsulated in a weather-resistant polymer film. As standard, the film is black so as to register as a ‘shadow-line’ behind open joints in the cladding.

For product identification purposes, the top edges of the film used on the RH25 and RH50 cavity barriers are colour-coded and labelled to show the product fire classification rating.



Fire Performance

Siderise 'Open State' horizontal cavity barriers have been tested in accordance with ASFP TGD19 (prEN 1364-6): 'Open State' Cavity Barrier used in External Envelope or Fabric of Buildings. This test method specifies a procedure for determining the fire resistance of 'open state' cavity barriers when subjected to the standard fire exposure conditions and performance criteria stipulated in EN 1363 Part 1: 2012.

The tests have been undertaken to assess the ability of the horizontal 'open state' cavity barrier products to reinstate the fire resistance of a pre-cast, aerated concrete supporting construction. This is the standard assembly for testing such cavity barrier products as it allows the performance of the individual barrier to be classified.

Product Fire Performance

Siderise RH25 'Open State' horizontal cavity barrier for maximum 25mm air gaps

Siderise have tested horizontal cavity barriers with a 25mm air gap to the ASFP TGD19 method. During the fire tests, the seals achieved full effective closure in under 2.5 minutes. Seal temperatures remained below 180°C during this activation period and maintained the EI requirements as detailed in Table 1 for up to EI120 and I90.

Siderise RH50 (EI30) 'Open State' horizontal cavity barrier for maximum 50mm air gaps, 30 minutes Integrity and 30 minutes Insulation

Siderise have tested horizontal cavity barriers with a 50mm air gap to the ASFP TGD19 method. During the fire tests, the seals achieved full effective closure in under 2.5 minutes. Seal temperatures remained below 180°C during this activation period and maintained the EI requirements as detailed in Table 1 for up to EI30.

Siderise RH50 (EI60) 'Open State' horizontal cavity barrier for maximum 50mm air gaps, 60 minutes Integrity and 60 minutes Insulation

Siderise have tested horizontal cavity barriers with a 50mm air gap to the ASFP TGD19 method. During the fire tests, the seals achieved full effective closure in under 2.5 minutes. Seal temperatures remained below 180°C during this activation period and maintained the EI requirements as detailed in Table 1 for up to EI60.

System Fire Performance

Siderise cavity barrier products have been used in a number of large-scale system tests such as BS 8414 (1&2) and NFPA 285. These may be used to evaluate the performance of the Siderise cavity barriers within a complete cladding system. The rules for the evaluation of results from BS 8414 are subsequently defined in BS 9414.

For information regarding performance and assembly details in system tests please contact the Technical team.

Table 1: Fire classification performance to TGD 19 (prEN 1364-6)

Product Ref.	Colour	Integrity	Insulation	Classification	Void Range(mm)	Air gap
RH25-120/90*	Grey	E 120	I 90	EI 90	0 - 26	25±3.0
RH25-90/30	Green	E 90	I 30	EI 30	27 - 425	25±3.0
RH25-60/60	Orange	E 60	I 60	EI 60	27 - 425	25±3.0
RH25-90/60	Purple	E 90	I 60	EI 60	27 - 300	25±3.0
RH25-120/60	Yellow	E 120	I 60	EI 60	27 - 425	25±3.0
RH25-120/90	Grey	E 120	I 90	EI 90	27 - 425	25±3.0
RH50-30/30	Red	E 30	I 30	EI 30	60- 300	50±5.0
RH50-60/60	Blue	E 60	I 60	EI 60	60 - 300	50±5.0

*Intumescent strip only.

Table 2: Bracket fixing requirements and barrier dimensions for voids 76-425mm (RH25) and 76-300mm (RH50)

Product Ref.	Void Range (mm)	Air Gap (mm)	Dimensions T x W (mm)	Length (mm)	Bracket Requirement
RH25-90/30	76 - 250	25	75 x Void -25	1200	3no RS 350 G/S
	251-350				3no RS 450 G/S
	351-425				3no RS 550 G/S
RH25-60/60	76 - 250	25	90 x Void -25	1200	3no RS 350 G/S
	251-350				3no RS 450 G/S
	351-425				3no RS 550 G/S
RH25-90/60	76 - 250	25	90 x Void -25	1200	3no RS 350 G/S
	251-300				3no RS 450 G/S
RH25-120/60	76 - 250	25	120 x Void -25	1200	3no RS 350 G/S
	251-350				3no RS 450 G/S
	351-425				3no RS 550 G/S
RH25-120/90	76 - 250	25	120 x Void -25	1200	3no RS 350 G/S
	251-350				3no RS 450 G/S
	351-425				3no RS 550 G/S
RH50-30/30	76 - 250	50	75 x Void -50	1200	3no RS 350 G/S
	251-300				3no RS 450 G/S
RH50-60/60	76 - 250	50	90 x Void -50	1200	3no RS 350 G/S
	251-300				3no RS 450 G/S

Please note:

- 'T' refers to barrier thickness. 'W' refers to barrier width.
- Brackets are available in two forms: (G) denotes galvanised steel brackets and (S) denotes stainless steel brackets.
- Brackets must be installed at 400mm centres based on a 1200mm strip. For lengths ≤800mm 2no brackets must be used, with spacing reduced pro-rata.
- All brackets are to be suitably fixed to the substrate with non-combustible fixings.

- All brackets to penetrate product at mid-thickness.
- Please refer to separate installation instructions.

Table 3: Screw fixing requirements and barrier dimensions for voids less than 75mm

Product Ref.	Void Range (mm)	Air Gap (mm)	Dimensions T x W (mm)	Length (mm)	Fixings Requirement
RH25-90/30	27-31	15	75 x 15	1200	3no Screws
	32-36	20	75 x 15		
	37-41	25	75 x 15		
	42-49	25	75 x 20		
	50-75	25	75 x Void -25		
RH25-60/60	27-31	15	90 x 15	1200	3no Screws
	32-36	20	90 x 15		
	37-41	25	90 x 15		
	42-49	25	90 x 20		
	50-75	25	90 x Void -25		
RH25-90/60	27-31	15	90 x 15	1200	3no Screws
	32-36	20	90 x 15		
	37-41	25	90 x 15		
	42-49	25	90 x 20		
	50-75	25	90 x Void -25		
RH25-120/60	27-31	15	120 x 15	1200	3no Screws
	32-36	20	120 x 15		
	37-41	25	120 x 15		
	42-49	25	120 x 20		
	50-75	25	120 x Void -25		
RH25-120/90	0-26	25	75 x 1.5	1200	3no Screws
	27-31	15	120 x 15		
	32-36	20	120 x 15		
	37-41	25	120 x 15		
	42-49	25	120 x 20		
	50-75	25	120 x Void -25		
RH50-30/30	60-65	50	75 x 15	1200	3no Screws
	66-75	50	75 x 20		
RH50-60/60	60-65	50	90 x 15	1200	3no Screws
	66-75	50	90 x 20		

- Screw fixings must be installed at 400mm centres based on a 1200mm strip. For lengths ≤800mm 2no screw fixings must be used, with spacing reduced pro-rata.
- All barriers to be suitably fixed to substrate with non-combustible fixings and washers with a 15mm (max.) head diameter.
- All screw fixings to penetrate product at mid-thickness.
- Please refer to separate installation instructions.

Thermal Performance

Thermal conductivity: λ_{10} = 0.038 W/m.K (tested foil to foil)

Technical Specification

Siderise RH 'Open State' horizontal cavity barriers

Table 4: Technical Specification

Form supplied	1200mm long. Supplied pre-cut in width to suit advised void size reduced by the ventilation gap required.
Appearance	Black leading edge with coloured tapes to indicate performance
Finish	Aluminium foil tape to top and bottom surfaces
Density	75 kg/m ³
Thermal conductivity	λ_{10} = 0.038 W/m.K (tested foil to foil)
Reaction to Fire	The primary stonewool seal is Classified 'A1' to EN 13501-1
Resistance to Fire	For product fire performance see Tables 1, 2 and 3
	The reactive intumescent along the leading edge is Class 'E' to EN 13501-1. This is permitted by Regulation 7(3)(f) - Approved Document B for England & Wales

Environmental

Siderise RH 'Open State' horizontal cavity barriers 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

Additional Information

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

- NBS Specification Clause
- Standard Details
- Installation Instructions
- Safety Data Sheet

Technical Support

Technical Services Team: technical.services@siderise.com

SITE SERVICES SUPPORT

Siderise offers a range of services to contractors and installers. These include toolbox product installation and site installation inspection and reporting (subject to availability and by agreement).

Site Services Team: site.services@siderise.com

Context

The information in this datasheet is believed to be accurate at the date of publication. Siderise has a policy of continuous product improvement and reserves the right to alter or amend the specifications of products without prior notice. Siderise does not accept responsibility for the consequences of using the products described outside of the recommendations within this datasheet. Expert advice should be sought where there is any doubt about the correct specification or installation of Siderise products.

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