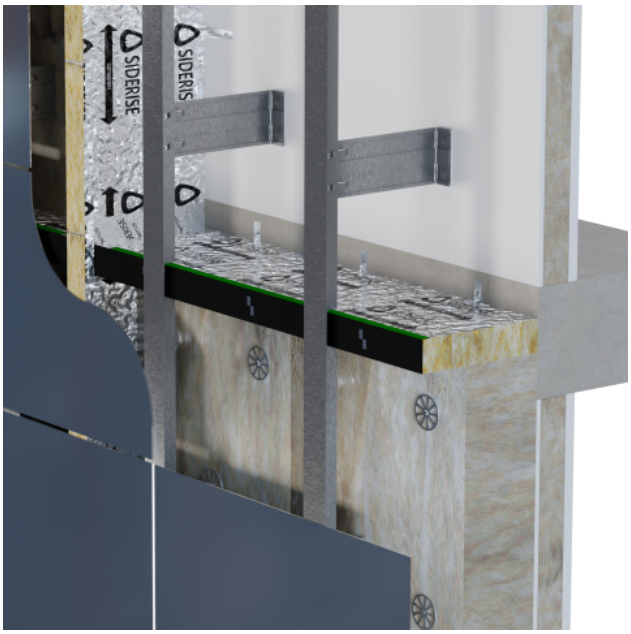
RH Rainscreen Horizontal Open State Cavity Barrier



Open state cavity barriers designed to allow ventilation and drainage in rainscreen façades whilst offering fire protection.

Application

The **Siderise RH 'Open State' horizontal cavity barrier (Fireblock)** has been specifically developed to meet the requirements for cavity barriers used in drained and ventilated façades or rainscreen systems. Its use ensures that the system will drain moisture within the façade construction whilst maintaining airflow in normal service. In the event of fire, the intumescent on the leading edge rapidly expands, closing the ventilation gap to provide an effective fire seal.

Siderise has developed two 'Open State' (open void) horizontal solutions: RH25 for air gaps up to 0.98 inches [25mm] and RH50 for air gaps up to 1.97 inches [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.

Third-party Certification
Siderise was the first manufacturer to achieve Third-party certification for Rainscreen Cavity Barriers.

For current details of Siderise certified 'Open State' Cavity Barriers, including the testing and scope of our Third-Party Certification, please refer to IFC Certification IFCC 1712.

This Certificate is available from our online Technical Resources or by contacting our Technical Support department: natech@siderise.com

Product Description

The Siderise RH 'Open State' horizontal cavity barrier (Fireblock) consists of a non-combustible stone wool lamella core, with reinforced aluminum foil faces. This primary seal has a reaction to fire performance of Class A to ASTM E84-21a: Flame Spread Index(FSI) – 10, Smoke Developed Index (SDI) – 15. The

exposed leading edge is also sealed with aluminum foil. While 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 reactive intumescent strip which is bonded to the leading edge. 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 0.98 inches [25mm] air gaps - referred to as RH25 - or 1.97 inches [50mm] air gaps - referred to as

RH50. Both options are available with either galvanized 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 polymer film. As standard, the film is black 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 color-coded and labelled to

show the product fire performance 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.

We advise that all 'RH' Open State Cavity Barriers are positioned either flush or projecting in front of the thermal insulation.

Product Fire Performance

Siderise RH25 'Open State' horizontal cavity barrier for maximum 0.98 inches [25mm] air gaps

Siderise has tested horizontal cavity barriers with a 0.98 inches [25mm] air gap to the ASFP TGD19 method. During the fire tests, the seals achieved full effective closure in under 5 minutes. Seal temperatures remained below a 180°C

rise during this activation period and maintained the EI requirements for up to E 120 and I 120. See Table 1 for details.

Siderise RH50 'Open State' horizontal cavity barrier for maximum 1.97 inches [50mm] air gaps

Siderise has tested horizontal cavity barriers with a 1.97 inches [50mm] air gap to the ASFP TGD19 method. During the fire tests, the seals achieved full effective closure in under 5 minutes. Seal temperatures remained below a 180°C rise during this activation period and maintained the EI requirements as detailed in Table 1 for up to E 60 and I 60. See Table 1 for details.

System Fire Performance

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

For information regarding performance and assembly details in system tests please see our system tests page.

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

Product Ref	Colour	Void Range inches [mm]	Air Gap inches [mm] **	Integrity (mins)	Insulation (mins)	Third-party Certification
RH25-120/90*	Grey	0-0.98 [0-25]	≤ 0.98 [≤ 25]	120	90	IFCC 1712
RH50-60/60*	Blue	0-1.97 [0-50]	≤ 1.97 [≤ 50]	60	60	IFCC 1712
RH25-90/30	Green	1.02-16.73 [26-425]	≤ 0.98 [≤ 25]	90	30	IFCC 1712
RH25-60/60	Orange	1.02-16.73 [26-425]	≤ 0.98 [≤ 25]	60	60	IFCC 1712
RH25-90/60	Purple	1.02-11.81 [26-300]	≤ 0.98 [≤ 25]	90	60	IFCC 1712
RH25-120/60	Yellow	1.02-16.73 [26-425]	≤ 0.98 [≤ 25]	120	60	IFCC 1712
RH25-120/90	Grey	1.02-16.73 [26-425]	≤ 0.98 [≤ 25]	120	90	IFCC 1712
RH25-120/120***	White	2.95-16.73 [75-425]	≤ 0.98 [≤ 25]	120	120	IFCC 1712
RH50-30/30	Red	2.01-11.81 [51-300]	≤ 1.97 [≤ 50]	30	30	IFCC 1712
RH50-60/60	Blue	2.01-11.81 [51-300]	≤ 1.97 [≤ 50]	60	60	IFCC 1712

*Intumescent strip only.
** To allow for on-site conditions, RH25 can be used for air gaps of 0.98 +/- 0.12 inches [25 +/-3mm] and RH50 can be used for air gaps of 1.97 +/- 0.2 inches [50 +/-5mm].
*** Tested with min. 1.97 inches [50mm] thick stone wool thermal insulation (classified A1 to EN 13501-1) above and below the cavity barrier.
See IFC Certification IFCC 1712 for further details.

RH open state cavity barriers are generally tested with phenolic insulation used above and below the cavity barrier, with TGD 19 setting out a ranking for insulation products. Stone wool and glass wool insulation are considered less onerous, with PIR, PUR and EPS considered more onerous. The field of application for this standard places limits on

the distance between the front face of the insulation and the leading edge of the cavity barrier when combustible insulation is utilised.

Table 2: Bracket fixing requirements and barrier dimensions for RH25 (voids greater than 2.95 inches [75mm]) and RH50 (voids greater than 3.94 inches [100mm])

Product Ref	Void Range inches [mm]	Air Gap inches [mm]	Barrier Dimensions T x W inches [mm]	Length inches [mm]	Bracket Requirement
RH25-90/30	2.99-9.84 [76-250]	0.98 [25]	2.95 x Void-0.98 [75 x Void-25]	47.24 [1200]	3no RS 350 G/S
	9.88-13.78 [251-350]	0.98 [25]	2.95 x Void-0.98 [75 x Void-25]	47.24 [1200]	3no RS 450 G/S
	13.82-16.73 [351-425]	0.98 [25]	2.95 x Void-0.98 [75 x Void-25]	47.24 [1200]	3no RS 550 G/S
RH25-60/60	2.99-9.84 [76-250]	0.98 [25]	3.54 x Void-0.98 [90 x Void-25]	47.24 [1200]	3no RS 350 G/S
	9.88-13.78 [251-350]	0.98 [25]	3.54 x Void-0.98 [90 x Void-25]	47.24 [1200]	3no RS 450 G/S
	13.82-16.73 [351-425]	0.98 [25]	3.54 x Void-0.98 [90 x Void-25]	47.24 [1200]	3no RS 550 G/S
RH25-90/60	2.99-9.84 [76-250]	0.98 [25]	3.54 x Void-0.98 [90 x Void-25]	47.24 [1200]	3no RS 350 G/S
	9.88-11.81 [251-300]	0.98 [25]	3.54 x Void-0.98 [90 x Void-25]	47.24 [1200]	3no RS 450 G/S
RH25-120/60	2.99-9.84 [76-250]	0.98 [25]	4.72 x Void-0.98 [120 x Void-25]	47.24 [1200]	3no RS 350 G/S
	9.88-13.78 [251-350]	0.98 [25]	4.72 x Void-0.98 [120 x Void-25]	47.24 [1200]	3no RS 450 G/S
	13.82-16.73 [351-425]	0.98 [25]	4.72 x Void-0.98 [120 x Void-25]	47.24 [1200]	3no RS 550 G/S
RH25-120/90	2.99-9.84 [76-250]	0.98 [25]	4.72 x Void-0.98 [120 x Void-25]	47.24 [1200]	3no RS 350 G/S
	9.88-13.78 [251-350]	0.98 [25]	4.72 x Void-0.98 [120 x Void-25]	47.24 [1200]	3no RS 450 G/S
	13.82-16.73 [351-425]	0.98 [25]	4.72 x Void-0.98 [120 x Void-25]	47.24 [1200]	3no RS 550 G/S
RH25-120/120	2.99-9.84 [76-250]	0.98 [25]	4.72 x Void-0.98 [120 x Void-25]	47.24 [1200]	3no RS 350 G/S
	9.88-13.78 [251-350]	0.98 [25]	4.72 x Void-0.98 [120 x Void-25]	47.24 [1200]	3no RS 450 G/S
	13.82-16.73 [351-425]	0.98 [25]	4.72 x Void-0.98 [120 x Void-25]	47.24 [1200]	3no RS 550 G/S
RH50-30/30	3.98-9.84 [101-250]	1.97 [50]	2.95 x Void-1.97 [75 x Void-50]	47.24 [1200]	3no RS 350 G/S
	9.88-11.81 [251-300]	1.97 [50]	2.95 x Void-1.97 [75 x Void-50]	47.24 [1200]	3no RS 450 G/S
RH50-60/60	3.98-9.84 [101-250]	1.97 [50]	3.54 x Void-1.97 [90 x Void-50]	47.24 [1200]	3no RS 350 G/S
	9.88-11.81 [251-300]	1.97 [50]	3.54 x Void-1.97 [90 x Void-50]	47.24 [1200]	3no RS 450 G/S

Please note:

- RH25-120/120 was tested with min. 1.97 inches [50mm] thick stone wool thermal insulation (classified A1 to EN 13501-1) above and below the cavity barrier.
- '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 15.75 inches [400mm] centres based on a 47.24 inches [1200mm] strip. For lengths ≤31.5 inches [800mm] 2no brackets must be used, with spacing reduced pro-rata. Lengths <3.94 inches [100mm] should be avoided by cutting down the adjacent barrier accordingly.
- All brackets are to be suitably fixed to the substrate with non-combustible fixings.
- All brackets penetrate the product at mid-thickness. The protruding split ends should be counter-folded to retain the product, except for RH50-60/60 and RH25-120/120. For RH50-60/60, ensure the split end facing down overlaps with the intumescent face. For RH25-120/120, the bracket should overhang the barrier by 0.59 inches [15mm] then one of the split ends should be bent upwards and the other trimmed flush with the leading face of the barrier.
- Please refer to separate installation instructions.

Table 3: Screw fixing requirements and barrier dimensions RH25 (voids up to 2.95 inches [75mm]) and RH50 (voids up to 3.94 inches [100mm])

Product Ref.	Void Width inches [mm]	Air Gap inches [mm]	Barrier Dimensions T x W inches [mm]	Length inches [mm]	Fixing Requirement
RH25-120/90*	0-0.98 [0-25]	≤ 0.98 [≤ 25]	2.95 x 1.5 [75 x 1.5]	47.24 [1200]	3no Screws
RH50-60/60*	0-1.97 [0-50]	≤ 1.97 [≤ 50]	1.38 x 3 [35 x 3]	47.24 [1200]	3no Screws
RH25-90/30	1.02-1.18 [26-30]	≤ 0.59 [≤ 15]	2.95 x 15 [75 x 15]	47.24 [1200]	3no Screws
	1.22-1.38 [31-35]	≤ 0.79 [≤ 20]	2.95 x 15 [75 x 15]	47.24 [1200]	3no Screws
	1.42-1.57 [36-40]	≤ 0.98 [≤ 25]	2.95 x 15 [75 x 15]	47.24 [1200]	3no Screws
	1.61-1.77 [41-45]	≤ 0.98 [≤ 25]	2.95 x 20 [75 x 20]	47.24 [1200]	3no Screws
	1.81-2.95 [46-75]	0.98 [25]	2.95 x Void-0.98 [75 x Void-25]	47.24 [1200]	3no Screws
RH25-60/60	1.02-1.18 [26-30]	≤ 0.59 [≤ 15]	3.54 x 15 [90 x 15]	47.24 [1200]	3no Screws
	1.22-1.38 [31-35]	≤ 0.79 [≤ 20]	3.54 x 15 [90 x 15]	47.24 [1200]	3no Screws
	1.42-1.57 [36-40]	≤ 0.98 [≤ 25]	3.54 x 15 [90 x 15]	47.24 [1200]	3no Screws
	1.61-1.77 [41-45]	≤ 0.98 [≤ 25]	3.54 x 20 [90 x 20]	47.24 [1200]	3no Screws
	1.81-2.95 [46-75]	0.98 [25]	3.54 x Void-0.98 [90 x Void-25]	47.24 [1200]	3no Screws
RH25-90/60	1.02-1.18 [26-30]	≤ 0.59 [≤ 15]	3.54 x 15 [90 x 15]	47.24 [1200]	3no Screws
	1.22-1.38 [31-35]	≤ 0.79 [≤ 20]	3.54 x 15 [90 x 15]	47.24 [1200]	3no Screws
	1.42-1.57 [36-40]	≤ 0.98 [≤ 25]	3.54 x 15 [90 x 15]	47.24 [1200]	3no Screws
	1.61-1.77 [41-45]	≤ 0.98 [≤ 25]	3.54 x 20 [90 x 20]	47.24 [1200]	3no Screws
	1.81-2.95 [46-75]	0.98 [25]	3.54 x Void-0.98 [90 x Void-25]	47.24 [1200]	3no Screws
RH25-120/60	1.02-1.18 [26-30]	≤ 0.59 [≤ 15]	4.72 x 15 [120 x 15]	47.24 [1200]	3no Screws
	1.22-1.38 [31-35]	≤ 0.79 [≤ 20]	4.72 x 15 [120 x 15]	47.24 [1200]	3no Screws
	1.42-1.57 [36-40]	≤ 0.98 [≤ 25]	4.72 x 15 [120 x 15]	47.24 [1200]	3no Screws
	1.61-1.77 [41-45]	≤ 0.98 [≤ 25]	4.72 x 20 [120 x 20]	47.24 [1200]	3no Screws
	1.81-2.95 [46-75]	0.98 [25]	4.72 x Void-0.98 [120 x Void-25]	47.24 [1200]	3no Screws
RH25-120/90	1.02-1.18 [26-30]	≤ 0.59 [≤ 15]	4.72 x 15 [120 x 15]	47.24 [1200]	3no Screws
	1.22-1.38 [31-35]	≤ 0.79 [≤ 20]	4.72 x 15 [120 x 15]	47.24 [1200]	3no Screws
	1.42-1.57 [36-40]	≤ 0.98 [≤ 25]	4.72 x 15 [120 x 15]	47.24 [1200]	3no Screws
	1.61-1.77 [41-45]	≤ 0.98 [≤ 25]	4.72 x 20 [120 x 20]	47.24 [1200]	3no Screws
	1.81-2.95 [46-75]	0.98 [25]	4.72 x Void-0.98 [120 x Void-25]	47.24 [1200]	3no Screws
RH25-120/120	2.95 [75]	0.98 [25]	4.72 x Void-0.98 [120 x Void-25]	47.24 [1200]	3no Screws
RH50-30/30	2.01-2.17 [51-55]	≤ 1.57 [≤ 40]	2.95 x 15 [75 x 15]	47.24 [1200]	3no Screws

	2.2-2.36 [56-60]	≤ 1.77 [≤ 45]	2.95 x 15 [75 x 15]	47.24 [1200]	3no Screws
	2.4-2.56 [61-65]	≤ 1.97 [≤ 50]	2.95 x 15 [75 x 15]	47.24 [1200]	3no Screws
	2.6-2.76 [66-70]	≤ 1.97 [≤ 50]	2.95 x 20 [75 x 20]	47.24 [1200]	3no Screws
	2.8-3.94 [71-100]	1.97 [50]	2.95 x Void-1.97 [75 x Void-50]	47.24 [1200]	3no Screws
RH50-60/60	2.01-2.17 [51-55]	≤ 1.57 [≤ 40]	3.54 x 15 [90 x 15]	47.24 [1200]	3no Screws
	2.2-2.36 [56-60]	≤ 1.77 [≤ 45]	3.54 x 15 [90 x 15]	47.24 [1200]	3no Screws
	2.4-2.56 [61-65]	≤ 1.97 [≤ 50]	3.54 x 15 [90 x 15]	47.24 [1200]	3no Screws
	2.6-2.76 [66-70]	≤ 1.97 [≤ 50]	3.54 x 20 [90 x 20]	47.24 [1200]	3no Screws
	2.8-3.94 [71-100]	1.97 [50]	3.54 x Void-1.97 [90 x Void-50]	47.24 [1200]	3no Screws

*Intumescent strip only.

- RH25-120/120 was tested with min. 1.97 inches [50mm] thick stone wool thermal insulation (classified A1 to EN 13501-1) above and below the cavity barrier.
- Screw fixings must be installed at 15.75 inches [400mm] centres based on a 47.24 inches [1200mm] strip. For lengths ≤31.5 inches [800mm] 2no screw fixings must be used, with spacing reduced pro-rata. Lengths <3.94 inches [100mm] should be avoided by cutting down the adjacent barrier accordingly.
- All barriers to be suitably fixed to substrate with non-combustible fixings and washers with a 0.39 - 0.59 inches [10-15mm] (max.) head diameter.
- For RH25 all screw fixings to penetrate product at mid-thickness. For RH50 all screw fixings to penetrate the top edge of the RH50 intumescent.
- Please refer to separate installation instructions

Thermal Performance

Thermal conductivity: λ= 0.038 W/m.K (tested foil to foil)

Technical Specification

Siderise RH 'Open State' horizontal cavity barriers

Table 4: Technical Specification

Properties	Value
Form Supplied	47.24 inches [1200mm] long. Supplied pre-cut in width to suit advised void size reduced by the ventilation gap required.
Product Finish	Aluminium foil tape to top and bottom surfaces
Appearance	Black leading edge with coloured tapes to indicate performance

Weight	Precut strips with stone wool from 1.1 to 10.58 lbs [0.5kg to 4.8kg] dependent on grade of product and void width. Intumescent strip only product 0.44 lbs [0.2kg]
Thermal Conductivity	λ = 0.038 W/m.K (tested foil to foil)
Reaction to Fire	The primary stone wool seal is Class A to ASTM E84-21a:Flame Spread Index(FSI) – 10,Smoke Developed Index (SDI) – 15.
Resistance to Fire	For product fire performance see Tables 1, 2 and 3

Environmental

Recyclability

The stone wool core is recyclable.

Third-party verified EPD

Siderise RH 'Open State' horizontal cavity barriers have an Environmental Product Declaration (HUB-0824) in accordance with EN 15804+A2 & ISO 14025 / ISO 21930. Please see EPD in Product Resources or EPD Hub for further information.

60 Year Design Life

To confirm long-term durability, RH Cavity Barriers have been put through EOTA TR 024 'Type X' accelerated age testing. This is the harshest category which replicates exposure to rain, UV, high temperatures, and frost and thaw cycles.

When correctly installed in recommended applications, RH Cavity Barriers have an expected service lifespan of 60 years.

Additional Information Available

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

- Third-party Certification
- Environmental Product Declaration
- Material Data Sheet
- Installation Instructions
- Installation Video
- Standard Details

Technical Support

Technical Services Team: natech@siderise.com

For Installation Training or Site Inspections please contact: natech@siderise.com

For technical advice or support in the Middle East, India or Asia Pacific contact: smetech@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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