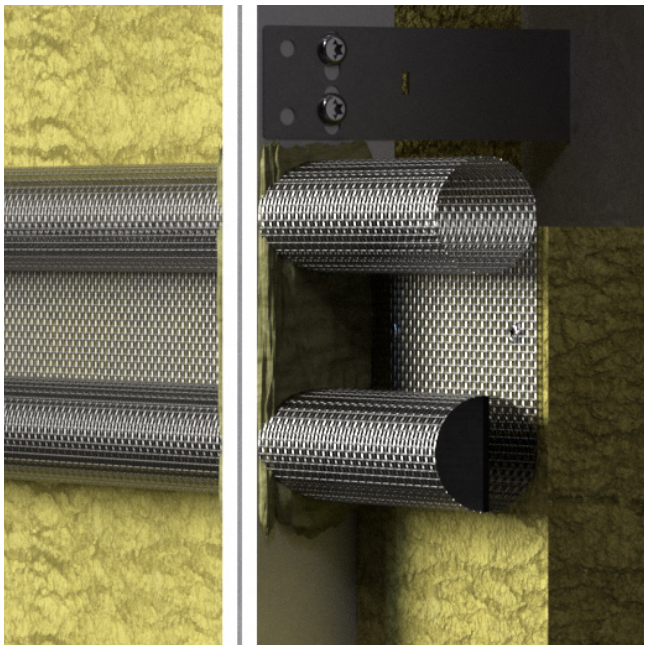
Firebreather® Cavity Barrier

Open state cavity barrier

Application for preventing fire spread behind façade cladding

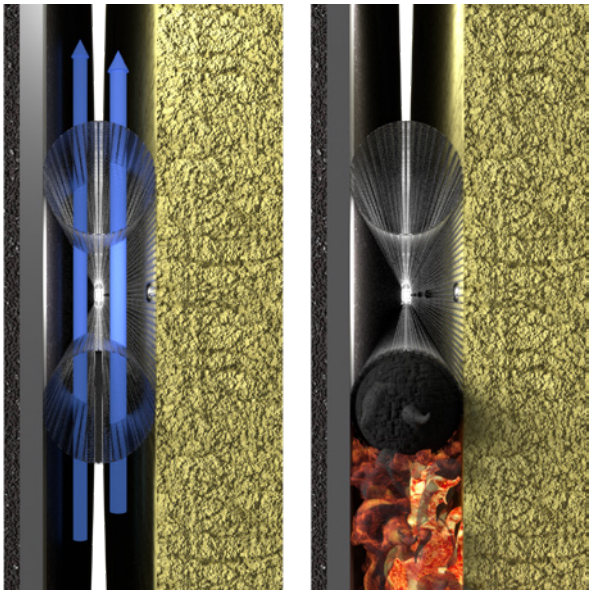


Mode of operation

The Firebreather® technology employs multiple mechanisms of heat transfer blocking of fire to instantly prevent fire spread. No ignition will be possible at the unexposed side from the first millisecond throughout the fire rating period.

The design maximises convective heat transfer by hot gases to solid surfaces. As hot gases are cooled, intumescent material is heated accordingly. Solid components act as secondary heat sinks efficiently cooling the smoke temperature below ignition temperatures of typical fuels until intumescent sealing is completed. Insulating parts and air gaps are carefully designed for thermal break performance.

The Firebreather® Cavity Barrier is made solely from non-corrosive materials and does not need any routine testing or maintenance to ensure satisfactory performance in case of fire.



unexposed to fire | exposed to fire

Benefits

- for uncompromising fire safe venting of voids and cavities in constructions
- instantly prevents flame spread but provides ample ventilation behind the cladding until the intumescent strip has fully expanded
- fully passive vent design, containing no moving parts or cabling
- no disintegration during a fire
- no PVC or plastic that can form burning droplets spreading downward fires
- blocks ember attacks
- blocks birds, rodents and insects which are larger than 2 mm

Fire resistance classes

Fire rating EI 30 / EI 60 / EI 90 in accordance with EN 13501-2, depending on the material behind the ventilated façade.

Fields of application

- behind ventilated façade cladding or other cavities with fire protection requirements

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Firebreather® Cavity Barrier

Certificates of usability

- RISE DOCUMENTATION RISEFR 010-0238
- CSTB Appréciation de Laboratoire N° AL16-182
- Certificate of Conformity ESL-24-11693

Test standards and methods

- EN 1366-4 (product test)
- EN 1364-6 (product test)
- ASTM 2912 (product test)
- TGD 19 (product test)
- BS 8414 (system test)
- SP FIRE 105 (system test)
- Lepir 2 (system test)
- NFPA 285 (system test)

Selected fire resistance classes

Every construction site has its own requirements and not every detail can be tested in advance. To help you plan as precisely and individually as possible, here is a selection of results from our various international tests.

Fire resistance classes as per RISEFR 010-0238

Material in cavity	Single or double strip	End seals	Fire resistance class in acc. with EN 13501-2
23–36 mm wide cavity			
51 mm × 152 mm softwood	single	stone wool	**EI 30**
13 mm gypsum board	single		**EI 60**
19 mm softwood and 12 mm fibre board	single		**EI 30**
50 mm wide cavity			
Fibre cement board and mineral wool A2, density ≥ 135 kg/m^3	single	stone wool	**EI 60**
15 mm gypsum boards type F (Norgips)	single		**EI 90**
Spruce 36 × 198 mm density ≥ 460 kg/m^3	single		**EI 60**
Fibre cement board and mineral wool A2, density ≥ 135 kg/m^3*	single		**EI 90**
13 mm gypsum board*	single		**EI 60**
13 mm gypsum board*	double		**EI 90**

* See RISEFR 010-0238, Table 2.

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Fire resistance classes as per CSTB approval N° AL16-182

36 mm wide cavity				
Single or double strip	Material in cavity	Fire resistance class in acc. with EN 13501-2		
		E	I	EI
double	wood wood	90	58	**EI 45**
single	wood wood	61	48	**EI 45**
double	13 mm gypsum board 13 mm gypsum board	90	90	**EI 90**
single	13 mm gypsum board 13 mm gypsum board	90	87	**EI 60**
single	19 mm softwood 12 mm fibre board	56	41	**EI 30**
double	13 mm gypsum board 13 mm gypsum board	90	90	**EI 90**
single	wood wood	61	41	**EI 30**

Fire resistance classes as per ESL-24-11693

28 mm wide cavity		
Single or double strip	Thermal insulation of façade	Fire resistance class in acc. with EN 13501-2
single	mineral wool thickness ≤ 100 mm, bulk density ≥ 50 kg/m³	**E 90** **I 45**
	without insulation	**E 120** **I 60**
50 mm wide cavity		
Single or double strip	**Thermal insulation of façade**	**Fire resistance class in acc. with EN 13501-2**
single	mineral wool thickness ≤ 100 mm, bulk density ≥ 50 kg/m³	**E 120** **I 45**
	without insulation	**E 120** **I 90**

Since there are no harmonised standards for façade cladding systems, feel free to contact our support for an individual assessment of your system's fire protection.

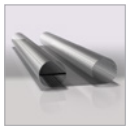
Further technical data

Air flow

Pressure level [Pa]	Air flow per cavity width [m³/h]		
	50 mm	30 mm	23 mm
5	119	108.2	68
10	181	165.5	108
15	230	195	135

Firebreather® Cavity Barrier

Products



Firebreather® Cavity Barrier

Article	Length [mm]	Fire rating	Width [mm] (Tolerance + 4 mm)	Height [mm] (Tolerance ± 7 mm)	Art. no.
Firebreather® Cavity Barrier 23 mm	1130	EI 30	23	112	500003023113
	530	EI 30	23	112	500003023053
	1130	EI 60	23	112	500006023113
	530	EI 60	23	112	500006023053
Firebreather® Cavity Barrier 28/30 mm	1130	EI 30	28 / 30	87	500003028113
	530	EI 30	28 / 30	87	500003028053
	1130	EI 60	28 / 30	87	500006028113
	530	EI 60	28 / 30	87	500006028053
Firebreather® Cavity Barrier 36 mm	1130	EI 30	36	112	500003036113
	530	EI 30	36	112	500003036053
	1130	EI 60	36	112	500006036113
	530	EI 60	36	112	500006036053
Firebreather® Cavity Barrier 50 mm	1130	EI 60	50	150	500006050113
	530	EI 60	50	150	500006050053
	1130	EI 90	50	150	500009050113
	530	EI 90	50	150	500009050053

Technical data

Firebreather® Cavity Barrier	
Mesh material	stainless steel mesh (AISI304) with wire diameter 0.56 mm and mesh width 2 mm

Intumescent strip KERAFIX® Flexpan 200 NG-A	
Composition	halogen free, expanding construction material on the basis of expandable graphite
Certificate	ETA-15/0719
Expansion rate [x times]	22 to 37
Start of reaction [°C]	from approx. 175
Expansion pressure [N/mm²]	0.6 to 1.3 (300 °C, method 4)

Storage	Store indoors in a dry place before installation.
Safety information	Consult the safety data sheet for further information.
Disposal	Dispose of the product according to local standards and regulations.