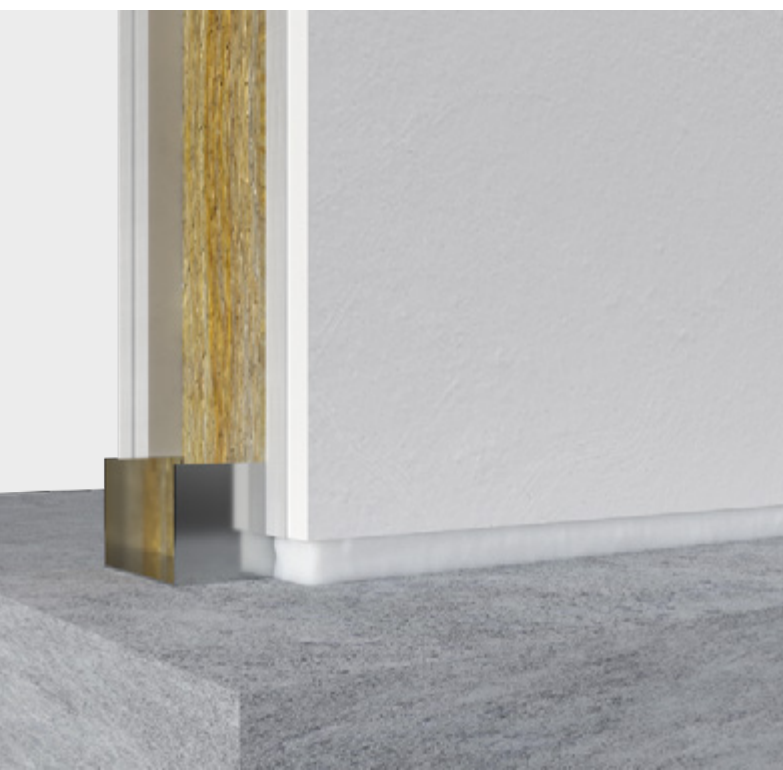
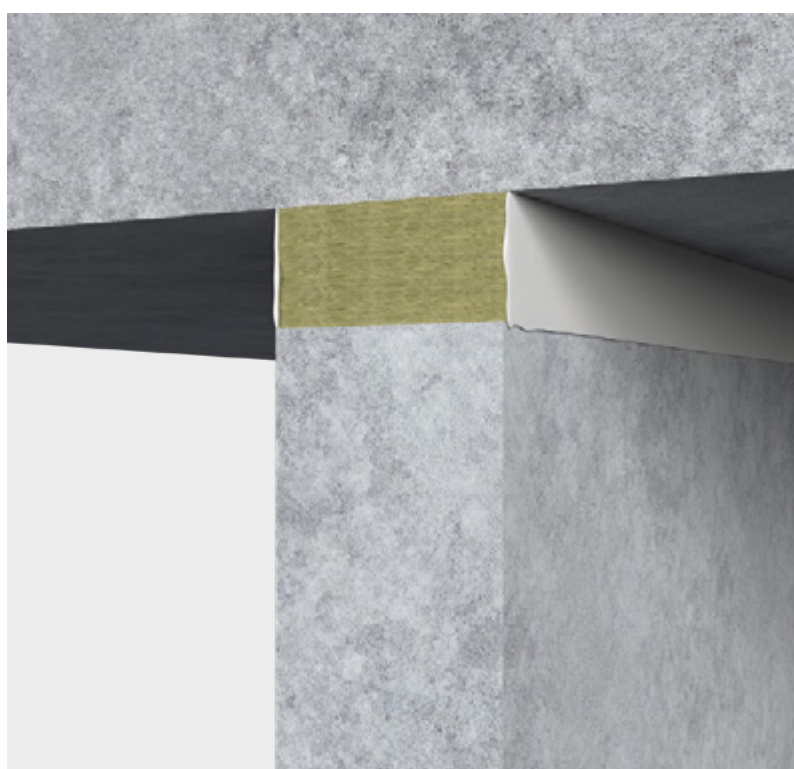


Fire Protection Solutions – Joint Sealings

High-performance sealing of joints up to 3 hours fire rating





FLAMRO® – the svt international quality brand for passive fire protection worldwide

With its headquarters in Germany, the svt Group of Companies is recognised worldwide as a reliable manufacturer and supplier of passive fire protection solutions. As part of the svt Group of Companies, the name Flamro has long stood for particularly high standards in structural fire protection in Germany and Europe. FLAMRO® from svt has now also established itself as a quality brand in this sector on the international market.

For over 50 years, svt and Flamro have ensured safety in case of fire. Thanks to our high-quality preventive fire protection solutions, such as penetration seals, cable coatings, and fire protection bandages and collars, human lives are protected, operational failures are prevented, property damage is reduced, and environmental damage is limited.

Whether in New Zealand, Australia, Singapore, Malaysia, Indonesia, the Philippines, India, Bangladesh, Myanmar, Laos, Cambodia, Thailand, Vietnam, South Korea, Japan, Sri Lanka, Egypt, Saudi Arabia, Bahrain, Jordan, Oman, Pakistan, Kuwait, Qatar, Iraq, Yemen, Lebanon, or the United Arab Emirates: if you are looking for reliable preventive fire protection solutions, then you are in exactly the right place with Flamro.

Flamro – passive structural fire protection in svt quality

Since 2018, Flamro has been a member of the svt Group of Companies, which offers a diverse range of state-of-the-art fire protection products and applications. Within the svt Group, Flamro is the expert for passive fire protection solutions in the construction sector. For this reason, svt places emphasis on the FLAMRO® brand name with regard to products and applications in this field. This also applies for svt Middle East Fire Protection Trading LLC, based in the United Arab Emirates and ASIA Pacific Pte. Ltd. based in Singapore, which supplies numerous customers in the construction industry with reliable fire protection solutions from Flamro.

Flamro is committed to the development of innovative preventive structural fire protection products. With high-quality penetration seals, cable ducts, fire protection bandages, coatings and collars, Flamro reliably ensures building safety in case of fire. As a result, operational failures and environmental damage are prevented worldwide and, above all, human lives and property are protected.

Your benefits with Flamro as experts in passive fire protection

Flamro has decades of experience in preventive fire protection. This is evident in the practical processing and application of our products as well as in the development of new FLAMRO® products at our own research department in Germany.

With Flamro, you will find reliable “Made in Germany” fire protection solutions that comply with international standards, laws, and guidelines. In this regard, we have particularly high standards for the quality of our holistic solutions.

Flamro is a globally operating manufacturer of preventive fire protection products. We not only ensure consistent quality and international certifications, but also a steadily growing network to provide customised support around the world.

At Flamro, the topic of sustainability is very close to our hearts. Accordingly, our products are manufactured in line with the latest findings in the areas of occupational health and safety and environmental protection. As a result, Flamro offers you tested quality according to high standards.

Internationally recognised fire protection certifications

As a globally operating company, Flamro aligns itself with a wide range of fire protection certifications. Our passive fire protection products and systems comply with various international standards – both industry-specific and cross-sectoral. We provide solutions certified according to UL 1479/ASTM E814, UL 2079/ASTM E1966, FM 3971, and EN 1366, among others. The high standards of our products and systems are achieved through meticulous preliminary testing at our own fire testing facilities and recognised certification from renowned and accredited testing laboratories. Trust in “Made in Germany” quality.

The FLAMRO® UL Product Guide

Find the right fire protection solution quickly and directly – online! The Flamro® UL Product Guide is a practical tool designed to facilitate decision-making in passive structural fire protection. Step by step, it will take you to the optimum fire protection system for your specific needs.

The FLAMRO® UL Product Guide is available at:
flamro.com/mena/services/product-guide



Reliable protection for lives and property

According to world statistics, a fire breaks out every minute of the day, whether in a residential building, an industrial plant, or in a public space. Fire incidents are likely to cause personal injury and considerable property damage, thus bringing great uncertainty and heavy losses to those involved. Sometimes, objects of value or documents destroyed in a fire can neither be recovered nor replaced and are lost forever. In many cases, the financial predicament resulting from process downtimes is so serious that companies are unable to resume their business operations properly, with some of them going bankrupt in the aftermath of the disaster.

But how and why is it that fire spreads so fast and far, and what are typical vulnerable spots to be aware of in buildings? For example, apertures accommodating electrical service penetrations and other installations (such as piping systems routed through walls and floors or installed at floor level) are relevant breeding grounds and hotbeds for fire hazards because they allow flames and smoke to propagate extremely fast from one building unit to the next, while heat transferred through metal pipes or droplets from burning-away cable jackets may ignite furniture as well as other flammable objects and substances in adjoining rooms.

So what can be done to effectively prevent fire from spreading across a building? In a nutshell, implementing passive structural fire protection measures devised by an expert in the field will fill the bill. The right passive fire protection system from a manufacturer and service provider with proven expertise will reliably confine a fire to its zone of origin – the so-called fire compartment – for a specified period of time. Thanks to this compartmentation effect, escape and rescue routes are kept clear during the fire-rated period so that people can safely leave the building without being obstructed, while persons in need of assistance can also be brought to safety.

Wisely implemented fire containment (firestopping) measures protect the whole building and thus significantly reduce the risk of personal injury and property damage. Downtimes are minimized, and business operations can soon be resumed:

With the right fire protection solution, all's well that ends well!



A fire protection joint is a specially designed joint in a building that serves to prevent or delay the spread of fire and smoke between building parts or areas in the event of a fire. It is an important component of structural fire protection.

Purpose of the fire protection joint:

Buildings often consist of various components (e.g. floors, walls, facades), and joints stretch between these components through which fire and smoke could penetrate in an event of fire. To prevent this, the joints must be effectively sealed with an approved fire protection joint system.

Depending on the design, joint size, required movement absorption or duration time, the fire protection joints consist of backfilling with non-combustible mineral fibre products and a sealing with the ablative fire protection filler **FLAMMOTECT-A** or the fire protection acrylate **BIOFERM A**.

Typical locations:

- Between walls and floors
- Between building expansion joints
- In facade connections

Certifications & approvals

Boasting over 50 years of expertise in the in-house development and manufacture of state-of-the-art fire protection products, materials and systems, we are perfectly acquainted with the ins and outs of high-quality design. This is also reflected in our steadily rising number of official certifications and approvals.

Our products and systems are tested and approved in accordance with a large number of cross-industry and industry-specific standards at both national and international level (e.g. UL, FM, EN, BS, Warrington Certifire, or DNV GL). They comply not only with the stringent requirements that are specifically applicable to passive fire protection solutions, but they also meet further requirements: They are resistant to ambient weather, impervious to chemicals, and they are sound-insulated, as has been certified by independent accredited material testing institutes



DNV·GL



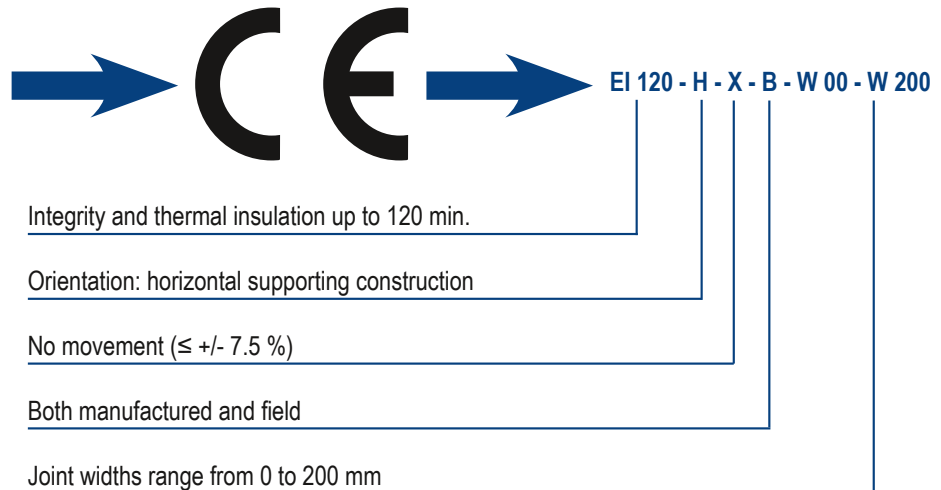
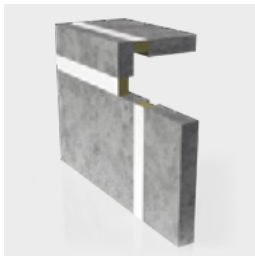
BS476



Classification for Joints acc. EN 13501-2

The fire resistance class according to EN 13501-2 for joint sealings give information about the fire resistance time but also information about orientation of the joint and the building component as well as movement capability or joint widths.

For example, FLAMMOTECT-A joint sealing is classified acc. to EN as follows for a specific application:

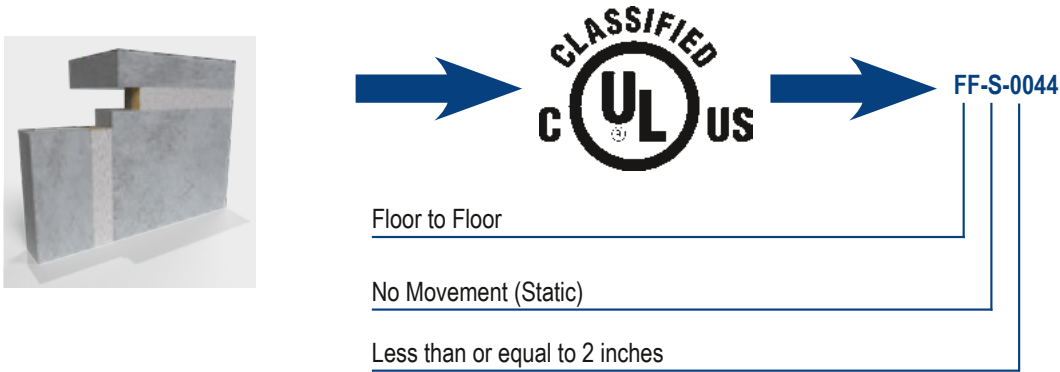


Letter	Description
E	Integrity
I	Thermal insulation
H	Orientation: horizontal supporting construction
V	Orientation: vertical supporting construction, vertical linear joint seal
T	Orientation: vertical supporting construction, horizontal linear joint seal
X	No movement
B	Both manufactured and field
W	Joint widths range (in mm)

UL Listing No. for joints

UL uses a combination of letters and numbers to designate firestop systems. The first two letters indicate the structural elements between which a joint is placed. The third letter describes the joint's movement capability, and the numbers identify the size of the joint. Details such as products used are specified individually in each UL listing.

For example, Flammotect joint sealing is UL-classified as follows:



First two letters	Description
FF	Floor to Floor
FW	Floor to Wall
WW	Wall to Wall
HW	Head of Wall
CG	Wall to Wall intended as Corner Guards
BW	Bottom of Wall

Third letter	Description
S	No movement (Static)
D	Dynamic

No. Range	Description
0000-0999	Less or equal to 2
1000-1999	Greater than 2 and less or equal to 6
2000-2999	Greater than 6 and less or equal to 12
3000-3999	Greater than 12 and less or equal to 24
4000-4999	Greater than 24

Specifications in inches

FLAMMOTECT-A – Ablative fire protection coating

Fire protection coating – free of solvents and halogen – which can be used indoors and outdoors.

FLAMMOTECT-A is resistant to moisture, freeze-thaw changes, UV radiation and a great variety of oils and chemicals.

Product data



Areas of application

- Coating for penetration sealing systems.
- Protective coating for cables and cable systems.
- Sealing of fire protection joints.

Basic physical and chemical properties

State of aggregation	Liquid or pasty, resp.
Colour	White
Odour	Almost odourless
pH-value	7.0 - 7.8
pH solution	10 % in water
Density (at +20 °C)	1.34 - 1.48 g/cm ³
Non-volatile compounds	66 - 86 % as per EN ISO 3251
Loss of mass on heating	38 - 48 % as per EN ISO 3451-1 / EOTA TR024 at 400 °C for 30 minutes
LOI (Limited Oxygen Index)	52 - 58 % as per ISO 4589; sample thickness 1.5 mm
Coating flexibility	≥ 5 mm as per EN ISO 1519; sample thickness 1.5 mm

Fire protection and fire behaviour

Reaction to fire	Class E	in acc. with EN 13501-1
FM Approval Class 3971	FM Approvals – Certificate of Compliance Approval Identification: 3037058 certified dry film thickness of 1.6 mm	
Smoke density	D _s (4) = 81, VOF4 = 154 min., D _s (max) = 85 D _s Average = 174.36	in acc. with DIN EN ISO 5659-2 in acc. with ASTM E 662
Smoke toxicity	CIT _G = 0.20 (Conventional Index of Toxicity) No release of HCl, HF, HBr, HCN	EN 45545-2 Annex C and ISO 5659-2

Resistances

Ageing resistance	Aging does not have an effect to the general properties of FLAMMOTECT-A.	
	Artificial ageing without impairment Indoor/Outdoor use: Extreme temperature changing from +71 °C and -40 °C, UV irradiation and humidity	in acc. with FM 3971 in acc. with EOTA TR024
	Long-term ageing without impairment Outdoor use: Material was exposed for five years to outdoor weathering without any changes in its reaction to fire (MPA Nordrhein-Westfalen (notified body 0432), Report No. 230006109-1) Indoor use: Material was stored for 10 years in an indoor area without any changes in its reaction to fire (MPA Braunschweig (notified body 0761), Report No. 3224/821/11)	
Weather resistance	Use category X (product suitable for use in areas exposed to natural weathering)	in acc. with EOTA TR024
Salt water resistance	Long-term exposure to salt water	in acc. with FM 3971 in acc. with EOTA TR024 in acc. with EN ISO 2812-1
Radiation resistance	Classified as radiation-resistant at a radiation dose of 1.0×10^6 Gy (108 rad)	
Resistance against aggressive deactivation media	Approved to withstand various types of deactivation media, e. g. nitric acid, sodium hydroxide, boric acid	
Chemical resistance	Resistant against a variety of different chemical e.g. heating oil, diesel and different acids in acc. with EN ISO 2812-1	

Products



Item	Packaging form	Item No.	PU
FLAMMOTECT-A Coating	12.5 kg pail	01155131	40 pcs. per pallet
	15 kg pail	01155150	32 pcs. per pallet
FLAMMOTECT-A Filler	12.5 kg pail	01155134	40 pcs. per pallet
	15 kg pail	01155152	32 pcs. per pallet
	310 ml cartridge	01155115	12 pcs. per box
	600 ml sausage	01155153	20 pcs. per box
FLAMMOTECT-A Solid emulsion	12.5 kg pail	01155136	40 pcs. per pallet
	15 kg pail	01155151	32 pcs. per pallet
Item	Packaging form	Item No.	PU
Loose Mineral Fibre Wool	10 kg bag	01183000	–
Lamella mat	Roll of 610 × 50 cm = 3.05 m ²	01187100	–

System Flammotect Joint Seal

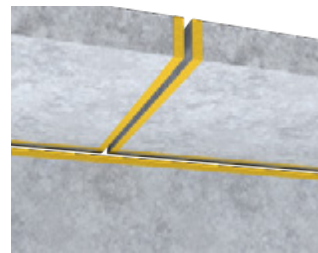
Versatile fireproof joint sealing system for joints up to 200 mm width made of mineral fibre products and ablative fire protection coating **FLAMMOTECT-A**.

Fire-resistant up to max. 120 minutes acc. EN 13501-2 and up to max. 3 hrs. acc. ANSI / UL 2079, CAN / ULC S115

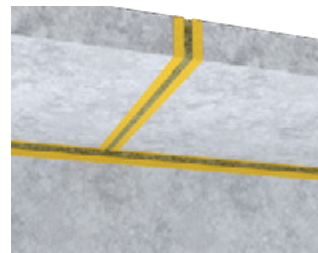
Areas of application

- For small or large joints
- Application in solid walls and floors
- For joints with movement up to +/- 7.5 %

Installation steps



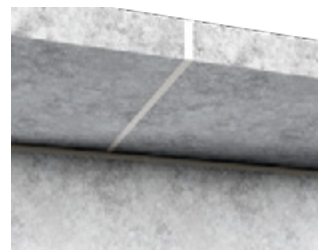
1. Clean the inner surface of the opening in the structural element, and check the joint for dimensional accuracy. Cover the adjacent surfaces with adhesive tape.



2. Fill the joint with mineral wool.



3. Coat the surfaces with FLAMMOTECT-A.



4. Remove the adhesive tape.

Highlights

- ✓ Particularly quick and easy installation thanks to various design variants
- ✓ Installation from one side possible
- ✓ Joint widths of up to 200 mm possible
- ✓ FLAMMOTECT-A - one product in three viscosities (coating, solid emulsion, filler) which enables easy installation for all situations
- ✓ FLAMMOTECT-A is resistant to moisture, freeze-thaw cycling, UV radiation (use category X acc. to European regulation), saltwater and various oils and chemicals

Application acc. EN 13501-2

Structural element	Design with and Fire Resistance Class	Thickness of building element [mm]		Max. joint width [mm]	Min. joint depth [mm]
		Wall	Floor		
Floor to floor Wall to wall Head of wall	Mineral fibre boards, double layer EI 120 - H - X - B - W 00 - W 200 EI 120 - V - X - B - W 00 - W 200 EI 120 - T - X - B - W 00 - W 200	≥ 150		≤ 200	≥ 100
Floor to floor	Mineral fibre boards, single layer EI 60 - H - X - B - W 00 - W 200	–	≥ 150	≤ 200	≥ 50
Floor to floor Wall to wall Head of wall	Lamella mat EI 120 - H - X - B - W 00 - W 100 EI 120 - V - X - B - W 00 - W 100 EI 120 - T - X - B - W 00 - W 100	≥ 100	≥ 150	≥ 100	≥ 90
Floor to floor Wall to wall Head of wall	Loose mineral wool EI 120 - V - X - B - W 10 - W 30 (wall) EI 120 - T - X - B - W 10 - W 30 (wall) EI 120 - H - X - B - W 00 - W 20 (floor)	≥ 100	≥ 150	≤ 30 (wall) ≤ 20 (floor)	≥ 75
Floor to floor Wall to wall Head of wall	Fire protection filler EI 120 - H - X - B - W 00 - W 04 EI 120 - V - X - B - W 00 - W 04 EI 120 - T - X - B - W 00 - W 04	≥ 100	≥ 150	≤ 4	≥ 8

Classification is valid for linear joint seals with maximum movement capability of +/- 7.5%

Application acc. ANSI / UL 2079, CAN / ULC S115

Structural element	Listings	Max. width of joint	Assembly rating	F-Rating max.	FTH-Rating max.	FT-Rating max.
Floor to floor	FF-S-0044	1 in. (25 mm)	3 hr.	3 hr.	3 hr.	3 hr.
Wall to wall	WW-S-0081	1 in. (25 mm)	3 hr.	3 hr.	3 hr.	3 hr.
Bottom of wall	BW-S-0058	1 in. (25 mm)	2 hr.	2 hr.	2 hr.	2 hr.
Head of wall	HW-S-0141	1 in. (25 mm)	2 hr.	2 hr.	2 hr.	2 hr.
	HW-S-0142	1 in. (25 mm)	1 hr.	1 hr.	1 hr.	1 hr.
	HW-S-0143	1 in. (25 mm)	3 hr.	3 hr.	3 hr.	3 hr.
	HW-S-0144	1 in. (25 mm)	2 hr.	2 hr.	2 hr.	2 hr.

BIOFERM A – Sealant

Fire protection acrylate free of halogen, solvents, isocyanate and silicone.

Can be coated over, resistant to ageing and weathering.

Product data



Areas of application

- Flexible fire-resistant sealing for structural joints in indoor and outdoor areas – for sealing connections and joints with moderate expansion stress and without constant exposure to moisture

Couleur	Light grey
Bulk density	approx. $1.56 \pm 0.04 \text{ g/cm}^3$
Stability (DIN EN ISO 7390)	$\leq 2 \text{ mm}$
Penetration (DIN 51 579, 5 sec)	approx. $250 \pm 30 \text{ 1/10 mm}$
Shore-A hardness	$15 \pm 5 \text{ units}$
Mass loss (ISO 10563)	max. 15 %
Temperature load (cured)	$-25 \text{ }^\circ\text{C}$ to $+80 \text{ }^\circ\text{C}$
Skin formation (23 °C / 50 % rel. humidity)	approx. 10 min.
Application temperature	$+5 \text{ }^\circ\text{C}$ to $+40 \text{ }^\circ\text{C}$
Application instructions	<ul style="list-style-type: none">• The adhesive surfaces must be dry, load-bearing and free of dust and grease.• For optimum adhesion to the surface, pre-treat with diluted sealing compound.
Consumption	With one cartridge and joint dimensions of: $5 \times 5 \text{ mm}$ – approx. 12 linear metres $10 \times 10 \text{ mm}$ – approx. 3 linear metres
Storage	Protect from frost! Store in a cool and dry place ($+5 \text{ }^\circ\text{C}$ to $+25 \text{ }^\circ\text{C}$). Can be stored for at least 18 months in sealed original containers.
Safety information	Please observe the safety data sheet.
Declaration of performance (DOP) no.	01156011-BIOFERM-A

Products



Item	Packaging form	Item No.	PU
BIOFERM A	310 ml cartridge	01156011	15 pcs. per box
	600 ml sausage	01155150	20 pcs. per box
Item	Packaging form	Item No.	PU
Loose Mineral Fibre Wool	10 kg bag	01183000	–

BIOFERM A Joint Seal

Versatile fireproof joint sealing system for joints up to 115 mm width made of mineral fibre products and fire protection acrylic **BIOFERM A**.

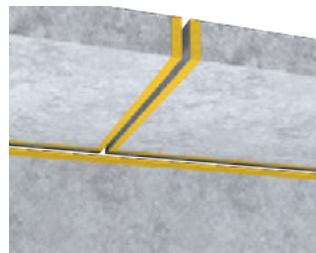
Fire-resistant up to max. up to max. 3 hrs. acc. ANSI / UL 2079, CAN / ULC S115

Areas of application

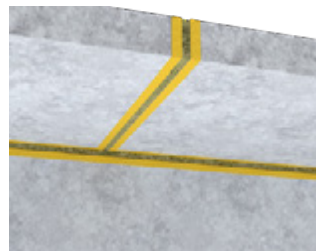
- For small and medium sized joints
- Application in solid walls, light partition walls and floors
- For joints with movement up to +/- 30 %

Installation steps

1. Clean the inner surface of the opening in the structural element, and check the joint for dimensional accuracy. Cover the adjacent surfaces with adhesive tape.



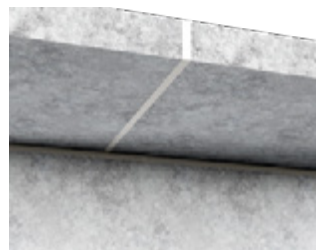
2. Fill the joint with mineral wool.



3. Coat the surfaces with BIOFERM A.



4. Remove the adhesive tape.



Highlights

- ✓ Tested for dynamic joints with movement up to +/- 30 %
- ✓ Test evidence for use in plasterboard walls
- ✓ Easy to apply – thanks to the extremely high adhesive force and strength
- ✓ Can be coated over
- ✓ Resistant to ageing and weather

Application acc. ANSI / UL 2079, CAN / ULC S115 Linear (static) joints

Structural element	Listings	Max. width of joint	Assembly rating	F-Rating max.	FTH-Rating max.	FT-Rating max.
Floor to floor	FF-S-0045	1 in. (25 mm)	3 hr.	3 hr.	3 hr.	3 hr.
Wall to wall	WW-S-0082	1 in. (25 mm)	3 hr.	3 hr.	3 hr.	3 hr.
Bottom of wall	BW-S-0057	1 in. (25 mm)	1.5 hr.	2 hr.	2 hr.	2 hr.
Head of wall	HW-S-0137	1-1/5 in. (30 mm)	2 hr.	2 hr.	2 hr.	2 hr.
	HW-S-0138	1-1/5 in. (30 mm)	1 hr.	1 hr.	1 hr.	1 hr.
	HW-S-0139	1 in. (25 mm)	3 hr.	3 hr.	3 hr.	3 hr.
	HW-S-0140	1 in. (25 mm)	1 hr.	2 hr.	2 hr.	2 hr.

Application acc. ANSI / UL 2079, CAN / ULC S115 Dynamic joints

Structural element	Listings	Max. width of joint	Movement Capabilities (Compression or Extension)	Assembly rating	F-Rating max.	FT-Rating max.
Floor to floor	FF-D-1238	115 mm	20 %	2 hr.	3 hr.	2 hr.
Head of wall	HW-D-0982	25 mm	30 %	-	3 hr.	3 hr.
		50 mm	15 %		3 hr.	3 hr.
	HW-D-1165	1 in. (25 mm)	15 %		3 hr.	3 hr.

We look forward to hearing from you!

Headquarter

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