Nullifire
Smart Protection

FS704
Fire Resistant Hybrid Sealant

Technical Handbook

Construction
Products Group
Europe

Intelligent Engineered Passive Fire Protection

We are specialists, with one focus that has not and will not change – to protect people and buildings from fire. For 50 years, Nullifire has been a market leader in the Passive Fire Protection industry. We pride ourselves for being the only manufacturer offering intumescent and fire stopping solutions.

Passive fire protection is highly complex but crucially important, especially as buildings become more sophisticated. At Nullifire, we understand the need to have confidence in fire protection; so, we provide systems that perform when they are called upon.

With a unique team of technical experts, everything is focused on providing what our customers need at every stage of their project – smart protection.

Nullifire is a brand of CPG, Construction Products Group, a European manufacturer and service provider of high performance building materials.

Contents

Assistance When Required

Our targeted approach allows you to access answers to all of your questions - quickly, simply and for at any stage of the design, build and installation process.

Regardless of the complexity of a project, you can turn to the team here at Nullifire. Our trained expert team support architects, specifiers, main contractors and installers in product selection, specification writing and industry best practices. Involving us at the early stages of a project can help you save money and time, as well as the assurance that the products selected are fully compatible and ideal for the job at hand.

Whilst choosing the right product is vitally important, the application is equally as critical. To optimise this process, we are able to supply the field teams data on formulations, installation specifications and technical drawings to ensure the correct application of our products. Bespoke manuals and instructions can be prepared by our technical teams for specific situations. Our extensive online and face-to-face training ensures Nullifire products are applied professionally and efficiently, whilst giving installers and contractors access to new technologies

Contact our Technical departement

All of our product data-sheets,technical notes and additional product information can be downloaded from www.nullifire.com.

Technical Product Description

FS704

Fire Resistant Hybrid Sealant

up to 120 mins

FS704 is a non-sagging fire resistant sealant with excellent processing properties. Based on hybrid polymers, FS704 is a paintable elastic sealant free of phthalated, isocyantes and silicone. In a reaction with humidity from the air it forms a soft elastic sealant that shows good resistance to light, ageing and weathering.

Key Benefits Summary

- Up to 2 hours fire resistance Tested to EN 1366-4
- Up to 25% movement capability normal usage in building, not during fire
- Suitable for flexible walls and rigid walls & floors
- Can be painted if required
- Tested for smoke leakage
- Acoustic rating: 66 dB
- Air permeability: airtight up to 600 Pa

Preparation

- Always read SDS, pre-application guidance and relevant application detail prior to application.
- All surfaces must be clean and sound, free from dirt, grease and other contamination.
- Wood, plaster and brick may be damp but not running wet.
- Porous or high gloss surfaces require priming prior to application.
- If a clean line is required on adjoining substrates, masking tape should be used.
- Insert required backing material oversized to joint width to ensure stability, to provide correct depth of seal.
- Gun sealant into gap to required depth by applying an even pressure to the trigger.
- Work and tool to a smooth finish immediately with a wet profiling tool or spatula.

Information in tables

Fire performance in accordance with EN1366-4 testing.

Key to abbreviations: E = Integrity
I = Insulation
W = Joint width range

Orientation: H = Horizontal supporting construction
V = Vertical supporting construction - vertical joint
T = Vertical supporting construction - horizontal joint

Movement capability: X = No movement

Type of splices: F = Field

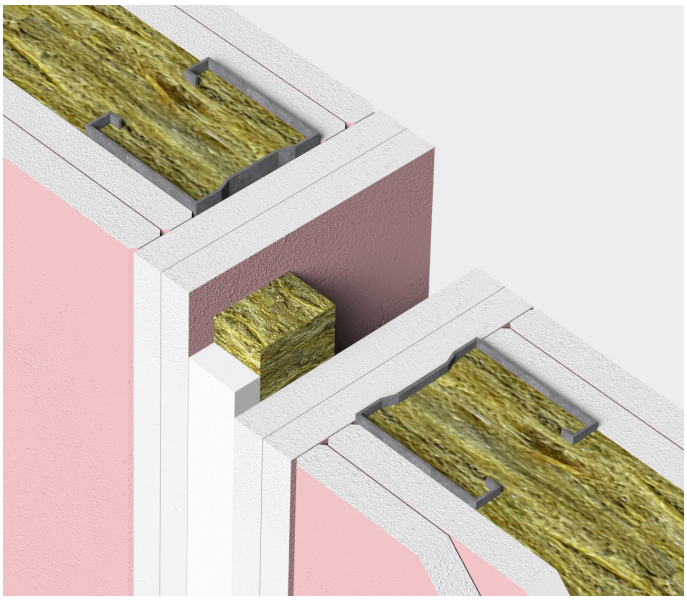
Density of materials

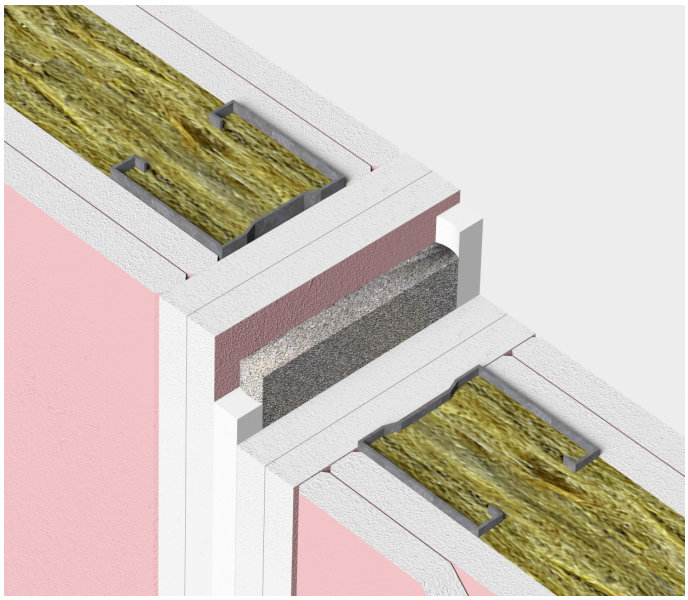
- Concrete wall : ≥ 2400 ± 200 kg/m^3]
- Masonry wall (Concrete Block or ACC Block) : ≥ 350 kg/m^3
- Timber wood : ≥ 450 kg/m^3

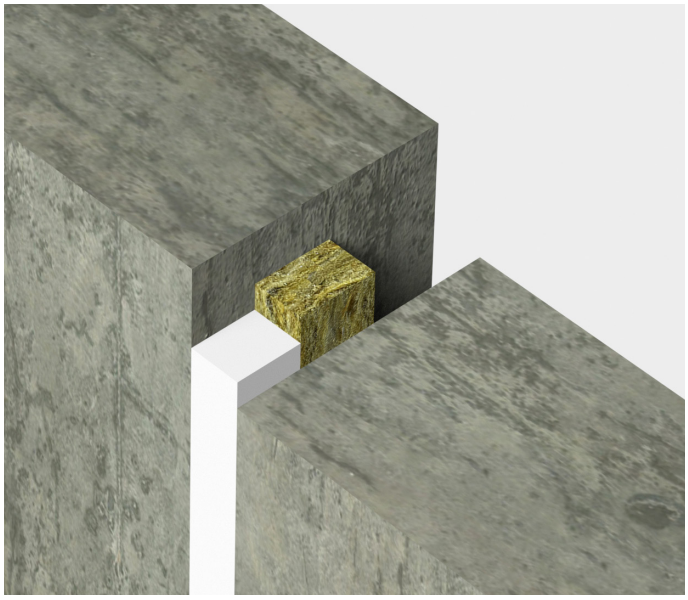
Depth of rock fibre backer

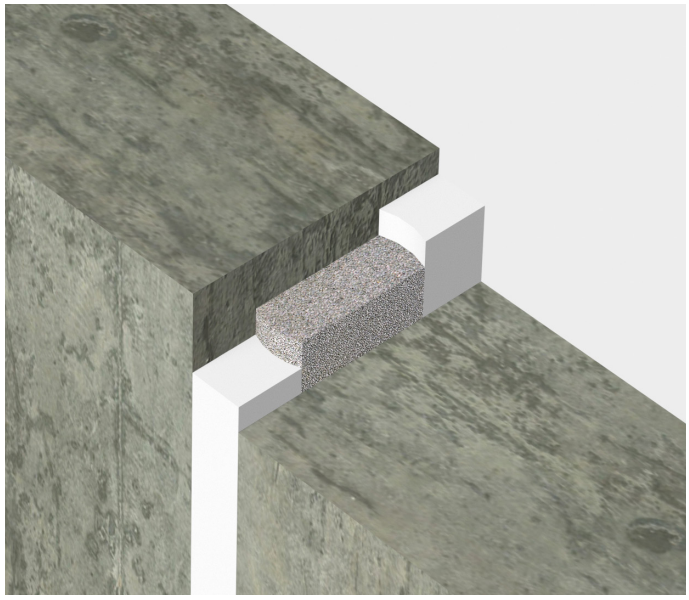
- W 05 - 20 : 40 mm depth
- W 21 - 50 : 50 mm depth

Walls ≥ 100 mm - Vertical Linear Joints





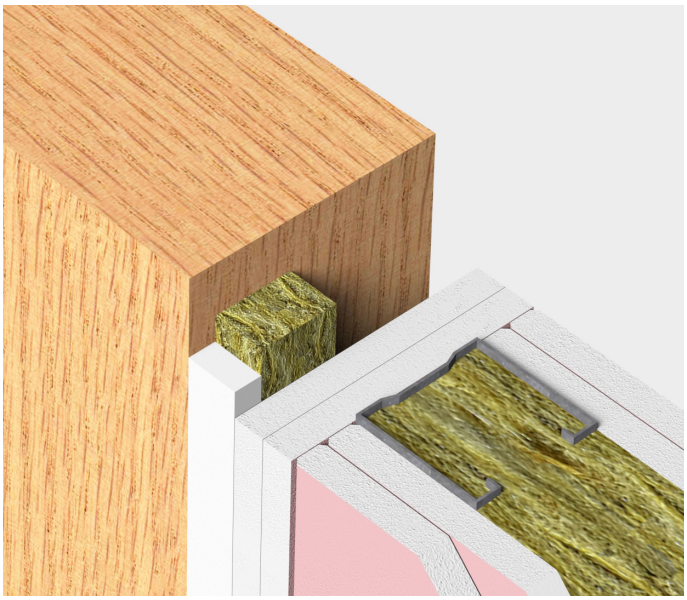


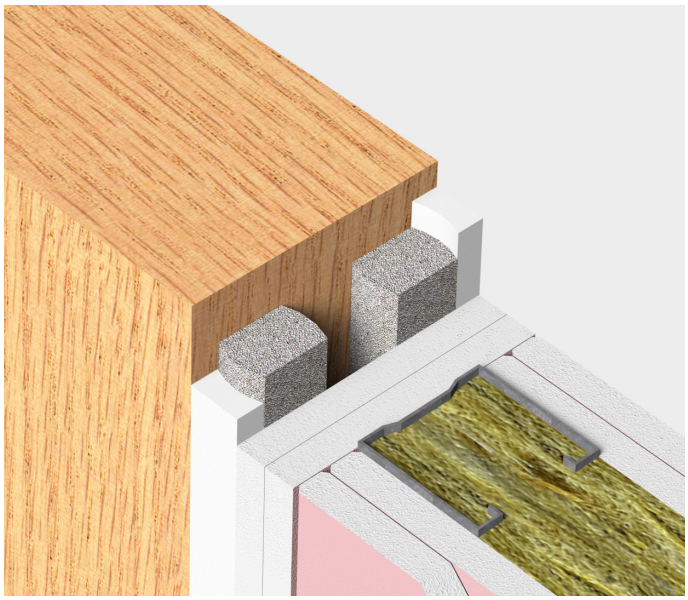


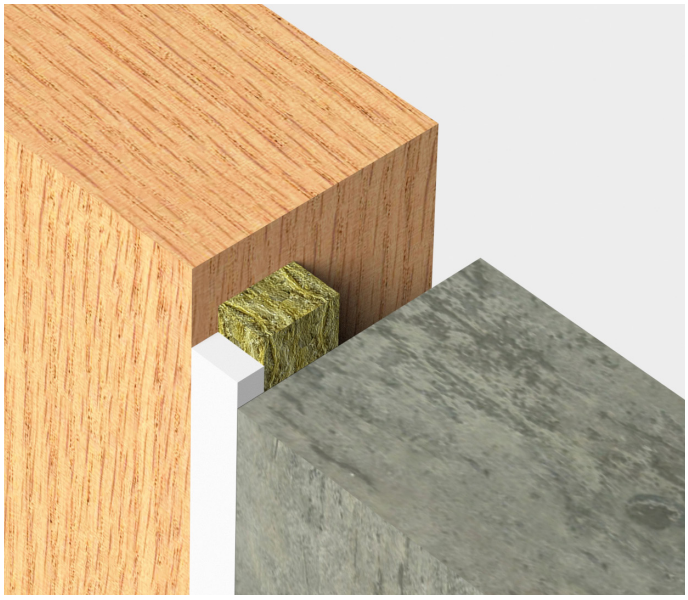
Substrate	Backing Material	Sealant Installation	Sealant Depth (mm)	Classification	Application and usage	Gap width range
Drywall - Drywall	Rock fibre 33 kg/m³	Fire side	25	EI 60	V - X - F	W 05 - 50
Drywall - Drywall	PE/PU	Both sides	10	EI 60	V - X - F	W 05 - 20
Drywall - Drywall	PE/PU	Both sides	2:1	EI 60	V - X - F	W 20 - 50

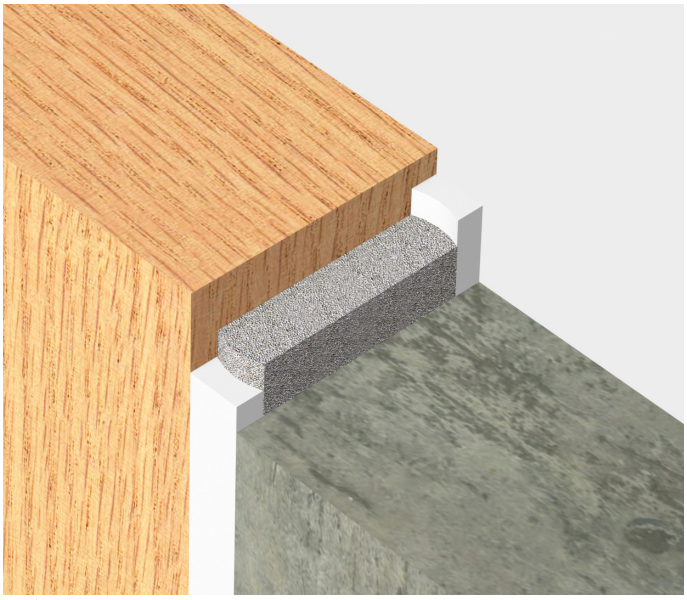
All results for drywalls are also valid for concrete and masonry walls.
2:1 = ratio of width to depth of the sealant.

Walls ≥ 100 mm - Vertical Linear Joints





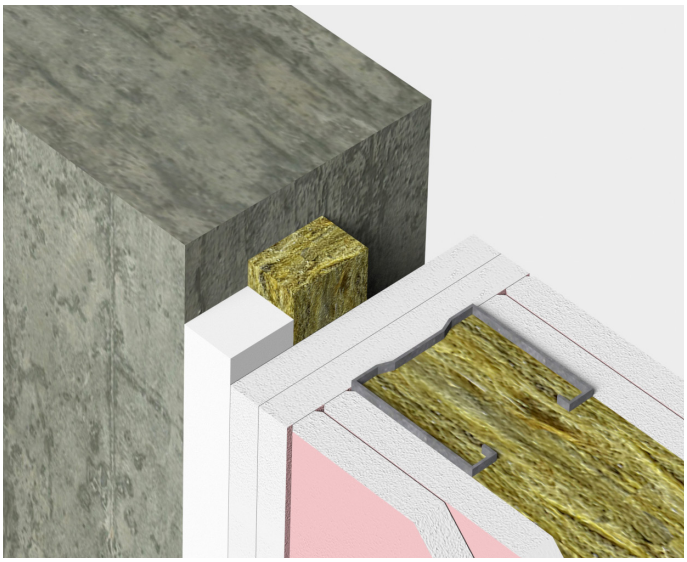


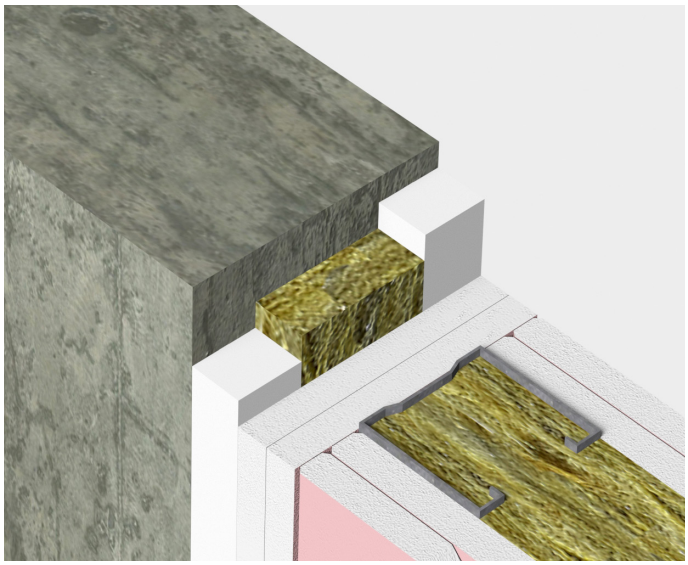


Substrate	Backing Material	Sealant Installation	Sealant Depth (mm)	Classification	Application and usage	Gap width range
Drywall - Timber wall	Rock fibre 33 kg/m³	Fire side	25	EI 60	V - X - F	W 05 - 50
Drywall - Timber wall	PE/PU	Both sides	10	EI 60	V - X - F	W 05 - 20
Drywall - Timber wall	PE/PU	Both sides	2:1	EI 60	V - X - F	W 20 - 50

All results for drywalls are also valid for concrete and masonry walls.
2:1 = ratio of width to depth of the sealant.

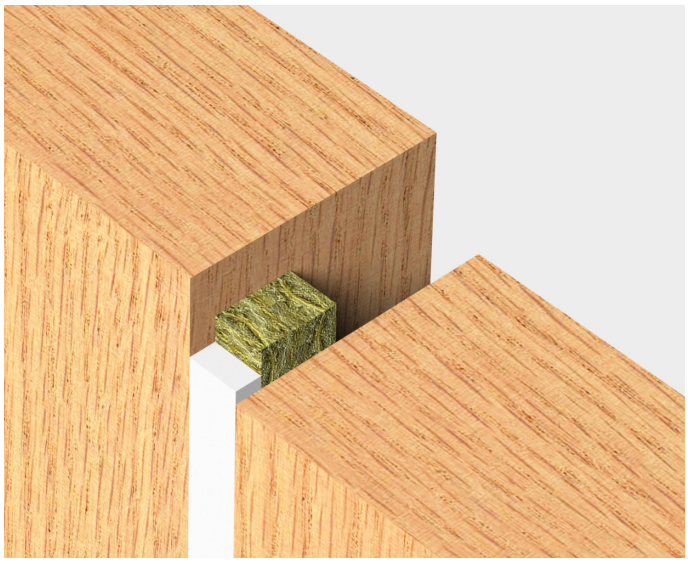
Walls ≥ 100 mm - Vertical Linear Joints

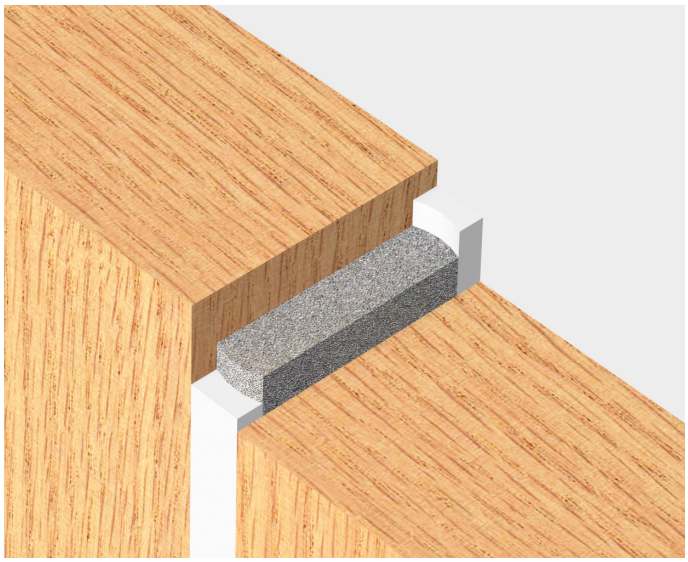




Substrate	Backing Material	Sealant Installation	Sealant Depth (mm)	Classification	Application and usage	Gap width range
Drywall - Concrete and masonry wall	Rock fibre 33 kg/m³	Fire side	10	EI 60	V- X- F	W 05- 20
Drywall - Concrete and masonry wall	Rock fibre 33 kg/m³	Both sides	25	EI 60	V- X- F	W 21- 50

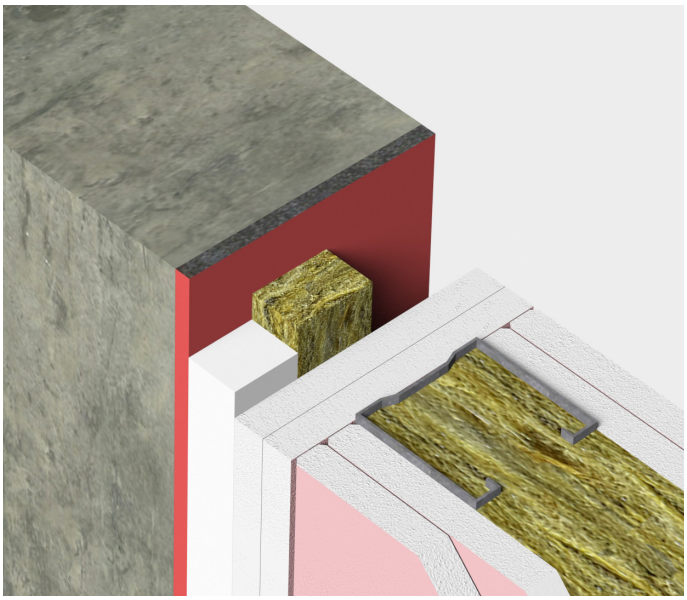
All results for drywalls are also valid for concrete and masonry walls.

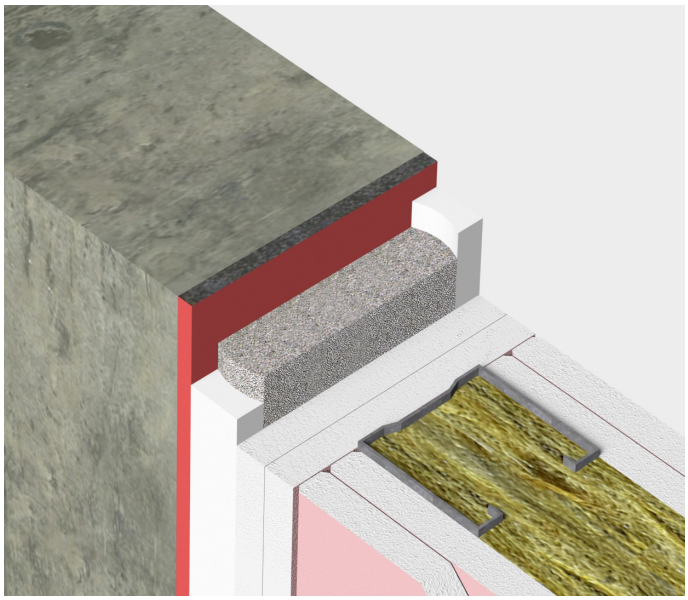


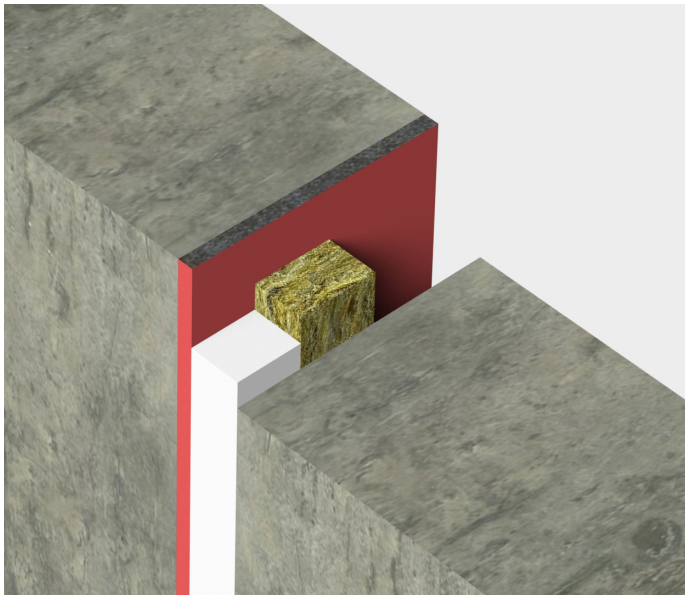


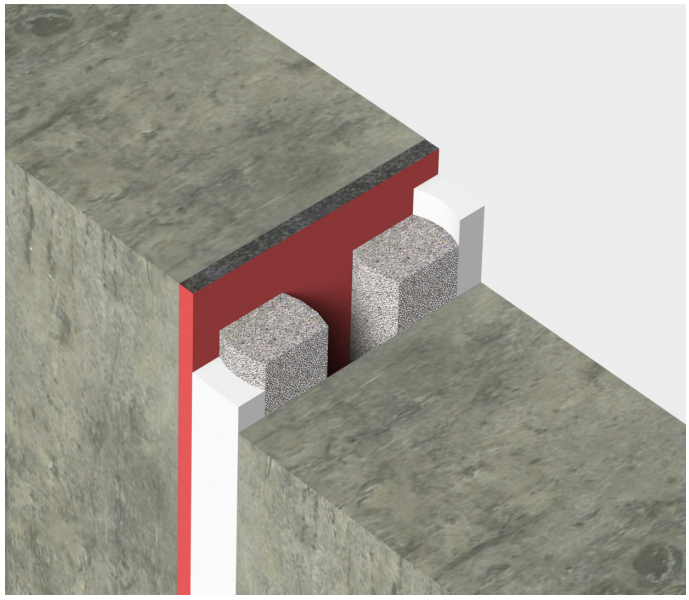
Substrate	Backing Material	Sealant Installation	Sealant Depth (mm)	Classification	Application and usage	Gap width range
Timber wall -Timber wall	Rock fibre 33 kg/m³	Fire sides	25	EI 60	V- X- F	W 05- 50
Timber wall -Timber wall	PE/PU	Both sides	10	EI 60	V- X- F	W 05- 20
Timber wall -Timber wall	PE/PU	Both sides	25	EI 60	V- X- F	W 20- 50

Walls ≥ 100 mm - Vertical Linear Joints





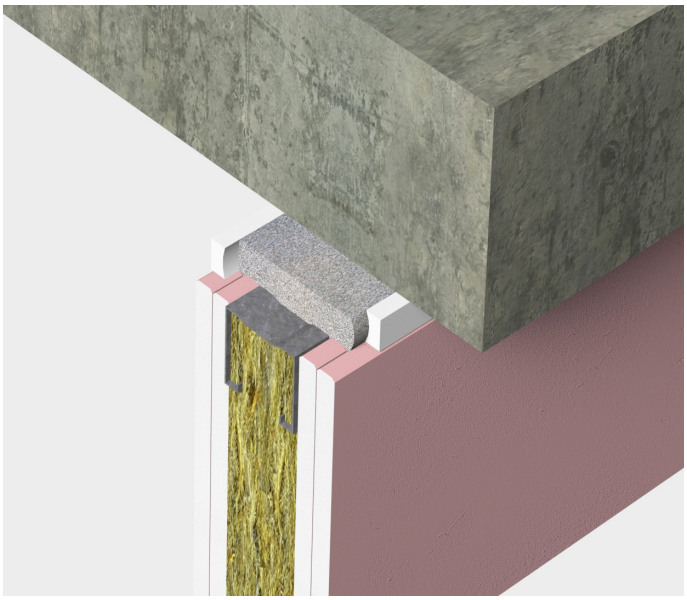


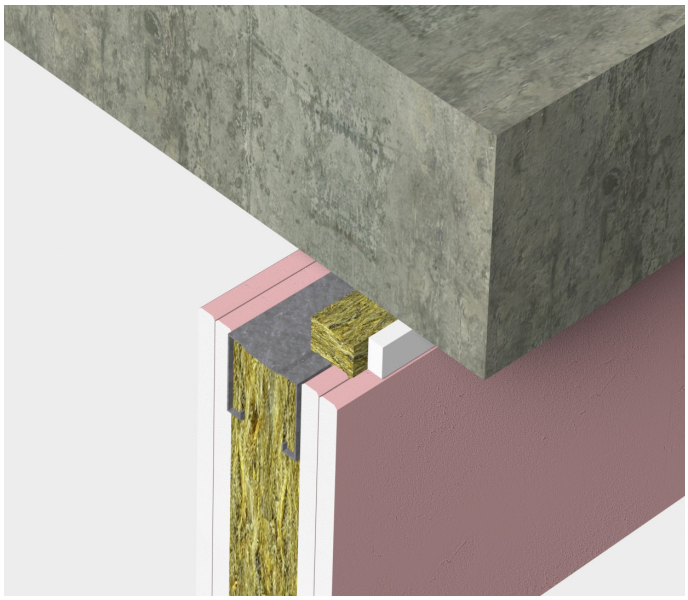


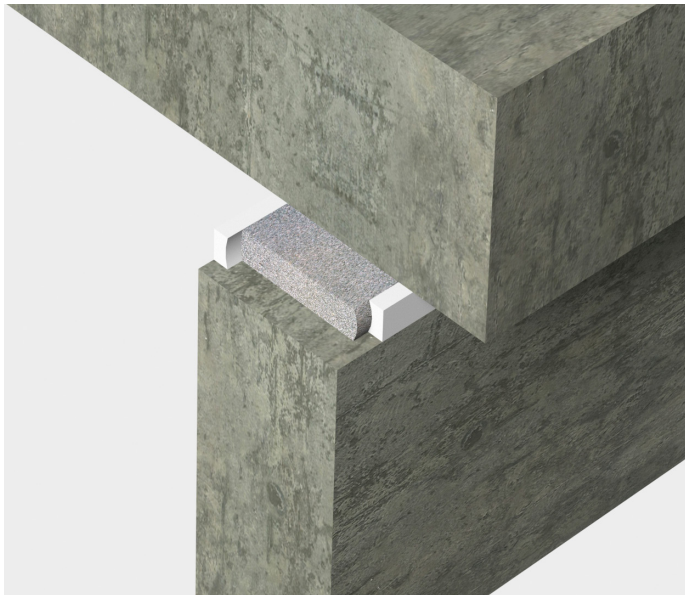
Substrate	Backing Material	Sealant Installation	Sealant Depth (mm)	Classification	Application and usage	Gap width range
Drywall - Steel	Rock fibre 33 kg/m³	Fire side	25	EI 45	V – X - F	W 20 - 50
Drywall - Steel	PE/PU	Both sides	25	EI 45	V – X - F	W 05 - 50

All results for drywalls are also valid for concrete and masonry walls.

Walls ≥ 100 mm - Horizontal Linear Joints (Head of Wall)



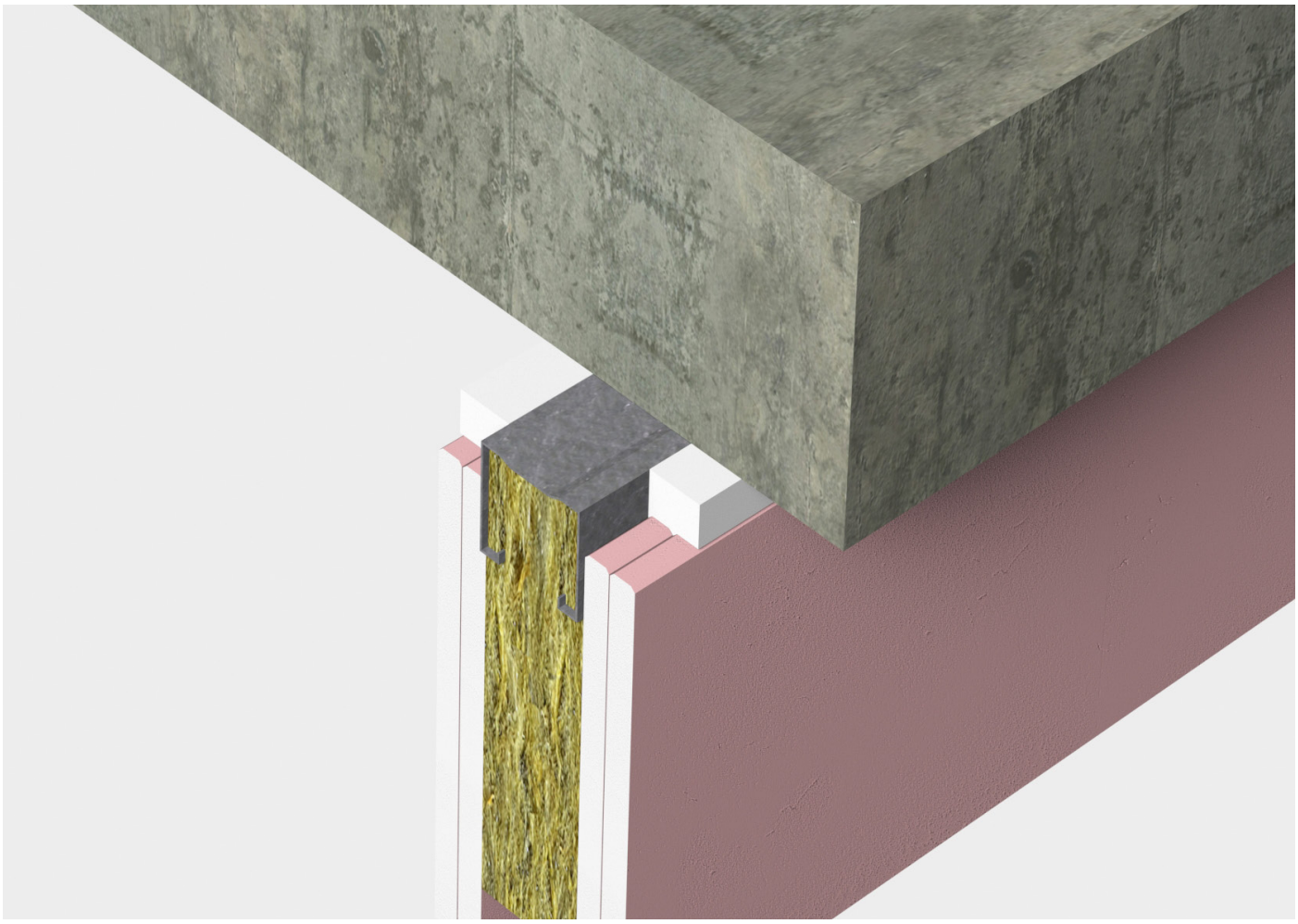




Substrate	Backing Material	Sealant Installation	Sealant Depth (mm)	Classification	Application and usage	Gap width range
Drywall - Rigid floor	PE/PU	Both sides	10	EI 120	T- X- F	W 05- 20
Drywall - Rigid floor	PE/PU	Both sides	2:1	EI 60	T- X- F	W 20- 50
Drywall - Rigid floor	Rock fibre 33 kg/m³	Fire side	10	EI 60	T- X- F	W 05- 20
Drywall - Rigid floor	Rock fibre 33 kg/m³	Fire side	2:1	EI 90	T- X- F	W 20- 50

All results for drywalls are also valid for concrete and masonry walls.
2:1 = ratio of width to depth of the sealant/

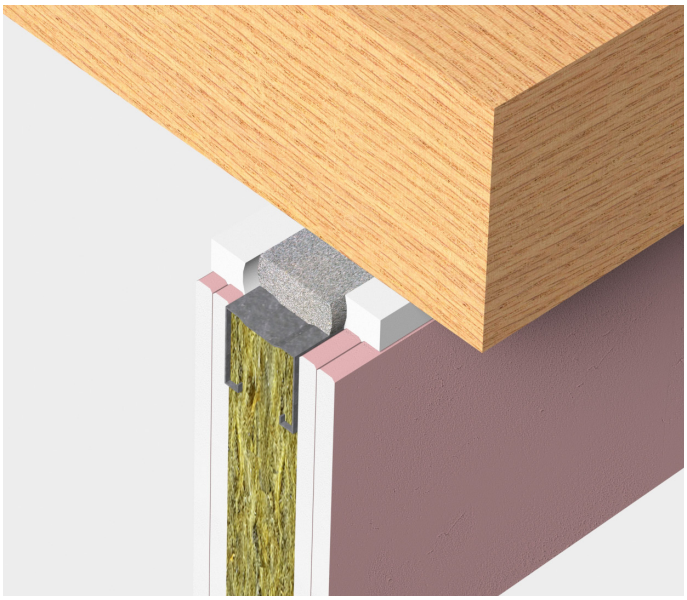
Walls ≥ 100 mm - Horizontal Linear Joints (Head of Wall)

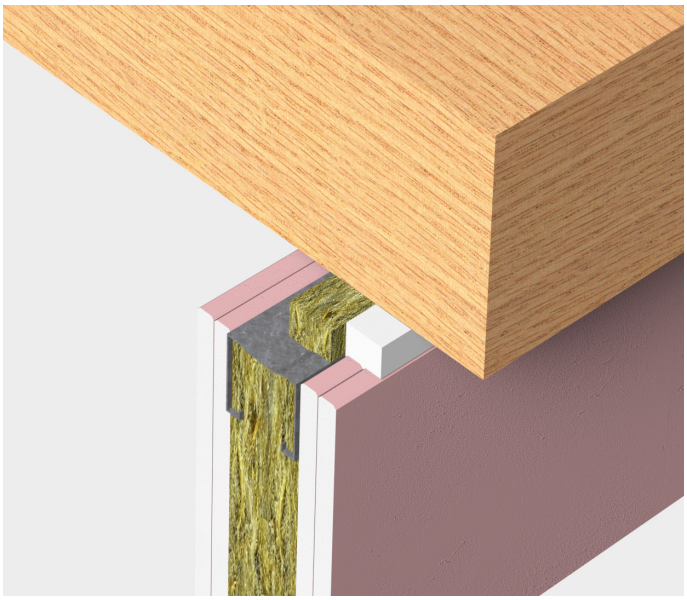


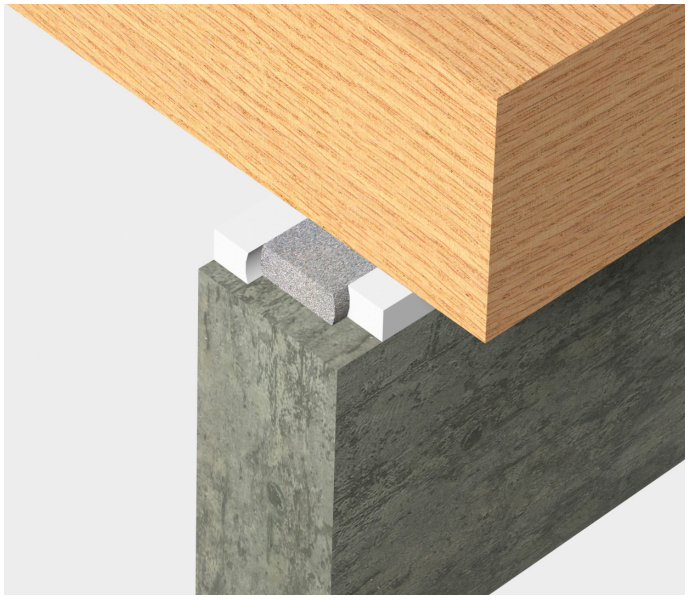
Substrate	Backing Material	Sealant Installation	Sealant Depth (mm)	Classification	Application and usage	Gap width range
Drywall - Rigid floor	None	Both sides*	25	EI 120	T- X- F	W 05- 20

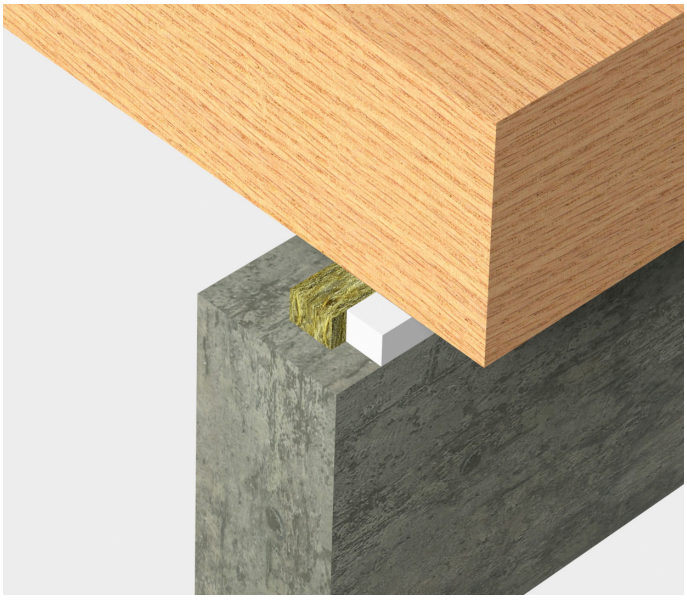
All results for drywalls are also valid for concrete and masonry walls.
*No backer, application direct on metal head track.

Walls ≥ 100 mm - Horizontal Linear Joints (Head of Wall)





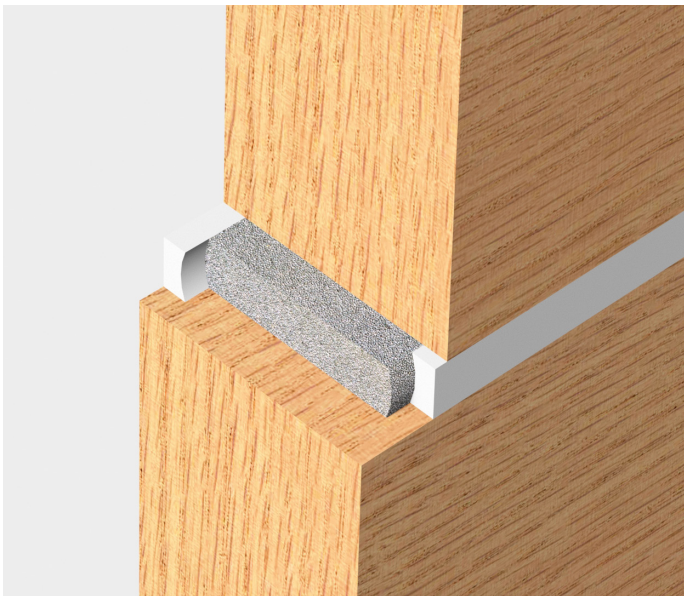


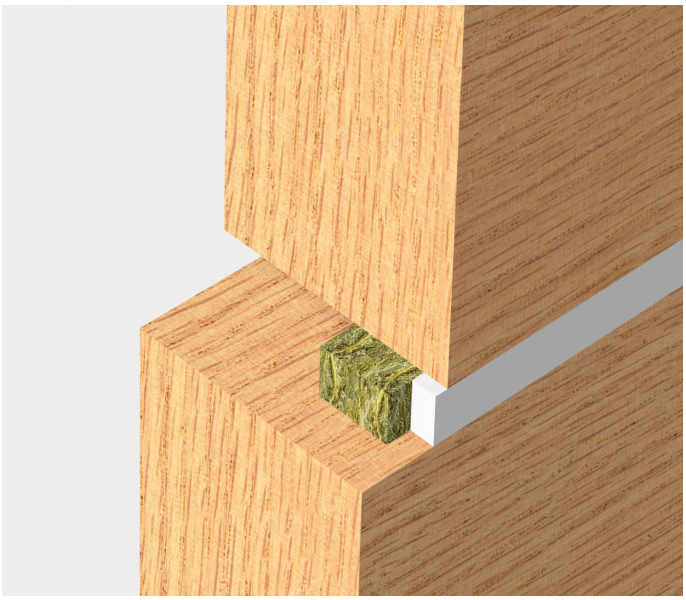


Substrate	Backing Material	Sealant Installation	Sealant Depth (mm)	Classification	Application and usage	Gap width range
Drywall - Timber floor	PE/PU	Both sides	25	EI 60	T - X - F	W 00 - 50
Drywall - Timber floor	Rock fibre 33 kg/m³	Fire side	25	EI 60	T - X - F	W 05 - 50
Drywall - Timber floor	Rock fibre 33 kg/m³	Fire side	10	EI 45	T - X - F	W 20 - 50

All results for drywalls are also valid for concrete and masonry walls.

Walls ≥ 100 mm - Horizontal Linear Joints





Substrate	Backing Material	Sealant Installation	Sealant Depth (mm)	Classification	Application and usage	Gap width range
Timber wall - Timber wall	PE/PU	Both sides	10	EI 60	T - X - F	W 05 - 20
Timber wall - Timber wall	PE/PU	Both sides	2:1	EI 60	T - X - F	W 20 - 50
Timber wall - Timber wall	Rock fibre 33 kg/m³	Fire side	10	EI 60	T - X - F	W 05 - 20
Timber wall - Timber wall	Rock fibre 33 kg/m³	Fire side	2:1	EI 90	T - X - F	W 20 - 50

2:1 = ratio of width to depth of the sealant

Floors ≥ 150 mm - Horizontal Linear Joints

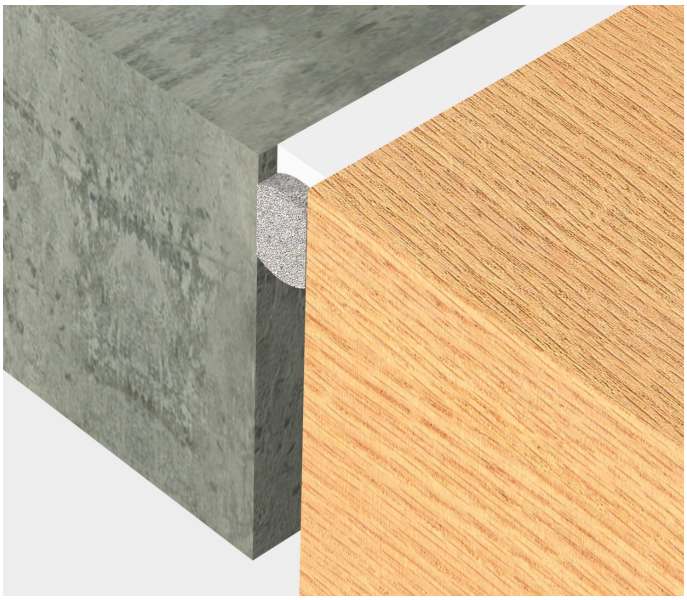
Substrate	Backing Material	Sealant Installation	Sealant Depth (mm)	Classification	Application and usage	Gap width range
Rigid floor - Rigid floor	PE/PU	Top side	10	EI 90	H - X - F	W 05 - 20
Rigid floor - Rigid floor	PE/PU	Top side	2:1	EI 60	H - X - F	W 20 - 50
Rigid floor - Rigid floor	PE/PU	Both sides	10	EI 120	H - X - F	W 05 - 20
Rigid floor - Rigid floor	PE/PU	Both sides	2:1	EI 90	H - X - F	W 20 - 50

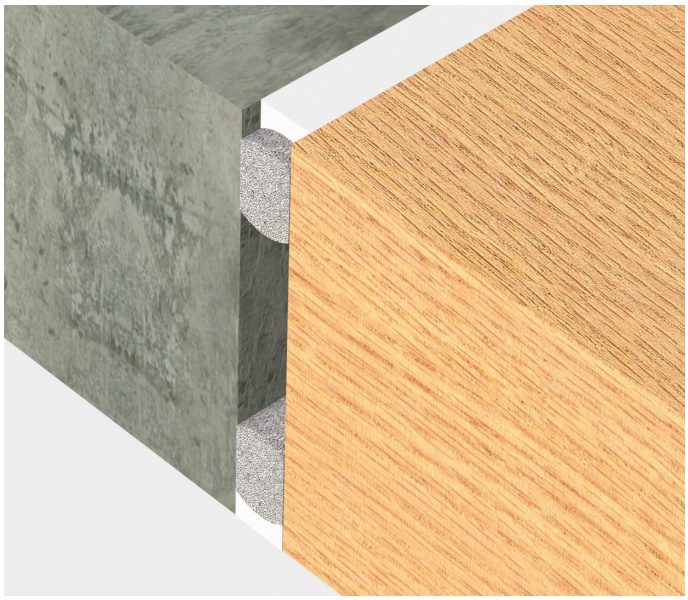
PE/PU backing material can always be replaced by Rock fibre 33 kg/m^3
2:1 = ratio of width to depth of the sealant

Substrate	Backing Material	Sealant Installation	Sealant Depth (mm)	Classification	Application and usage	Gap width range
Rigid floor - Rigid wall	None	Top side	min. 10 x 10 (triangle)*	EI 120	H - X - B	W 01 - 05

* Smoothed at 45 degrees.

Floors ≥ 150 mm - Horizontal Linear Joints

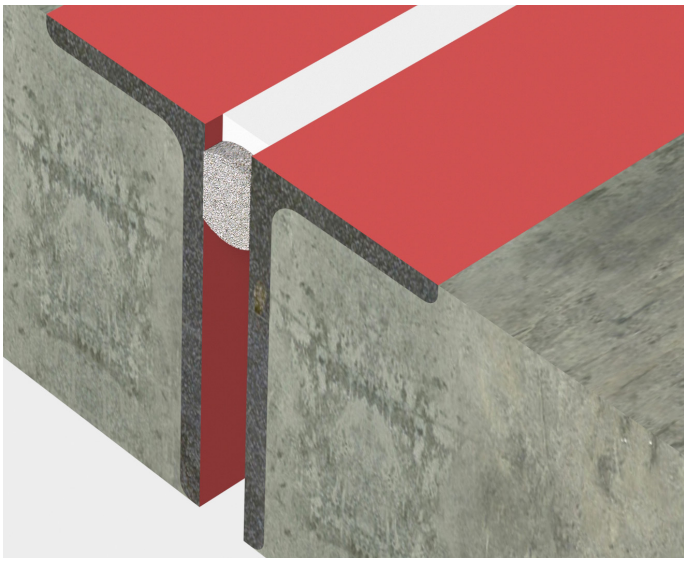


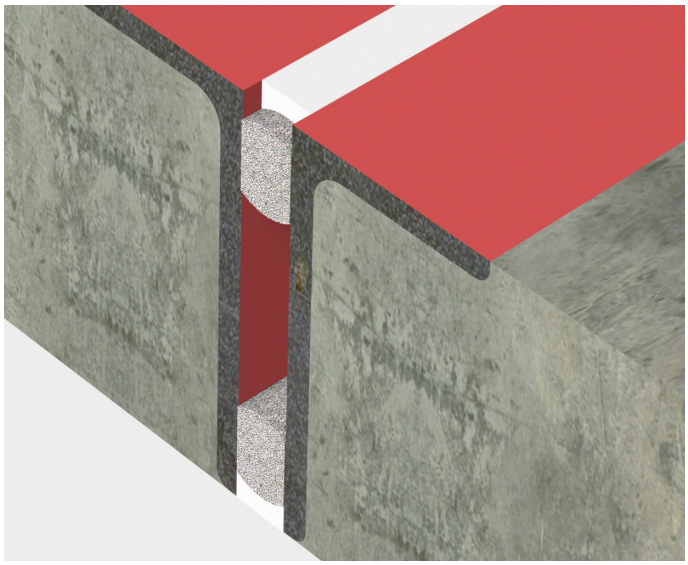


Substrate	Backing Material	Sealant Installation	Sealant Depth (mm)	Classification	Application and usage	Gap width range
Rigid floor -Timber floor	PE/PU	Top side	10	EI 90	H- X- F	W 05- 20
Rigid floor -Timber floor	PE/PU	Top side	2:1	EI 60	H- X- F	W 20- 50
Rigid floor -Timber floor	PE/PU	Both sides	10	EI 90	H- X- F	W 05- 20
Rigid floor -Timber floor	PE/PU	Both sides	2:1	EI 60	H- X- F	W 20- 50

PE/PU backing material can always be replaced by Rock fibre 33 kg/m$^{3.}$
2:1 = ratio of width to depth of the sealant.

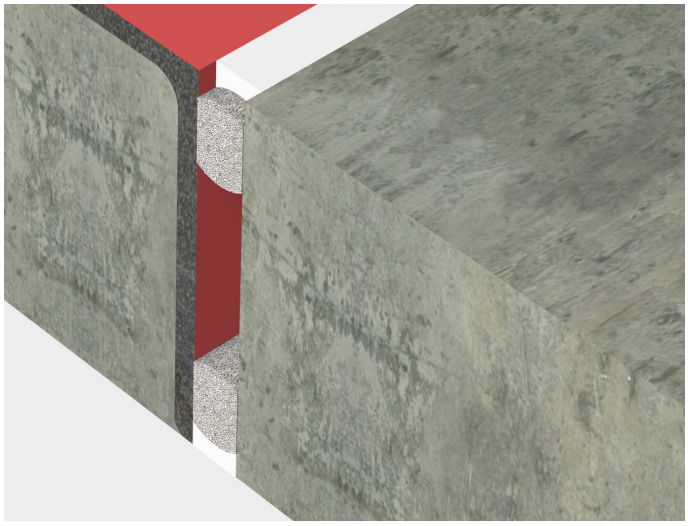
Floors ≥ 150 mm - Horizontal Linear Joints

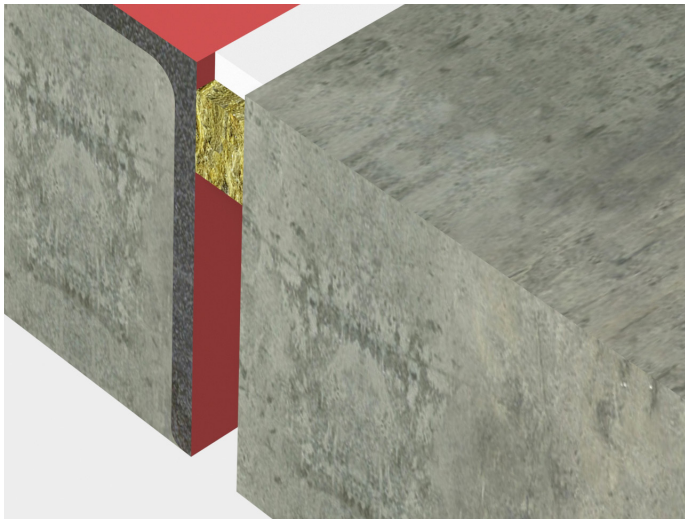




Substrate	Backing Material	Sealant Installation	Sealant Depth (mm)	Classification	Application and usage	Gap width range
Corner Steel - Corner Steel	PE/PU	Top side	10	EI 45	H- X- F	W 05- 20
Corner Steel - Corner Steel	PE/PU	Top side	2:1	EI 30	H- X- F	W 20- 50
Corner Steel - Corner Steel	PE/PU	Both sides	10	EI 90	H- X- F	W 05- 20
Corner Steel - Corner Steel	PE/PU	Both sides	2:1	EI 60	H- X- F	W 20- 50

PE/PU backing material can always be replaced by Rock fibre 33 kg/m$^{3.}$
2:1 = ratio of width to depth of the sealant.





Substrate	Backing Material	Sealant Installation	Sealant Depth (mm)	Classification	Application and usage	Gap width range
Corner Steel - Concrete	PE/PU	Both sides	10	EI 120	H- X- F	W 05- 20
Corner Steel - Concrete	PE/PU	Both sides	2:1	EI 45	H- X- F	W 20- 50

2:1 = ratio of width to depth of the sealant.

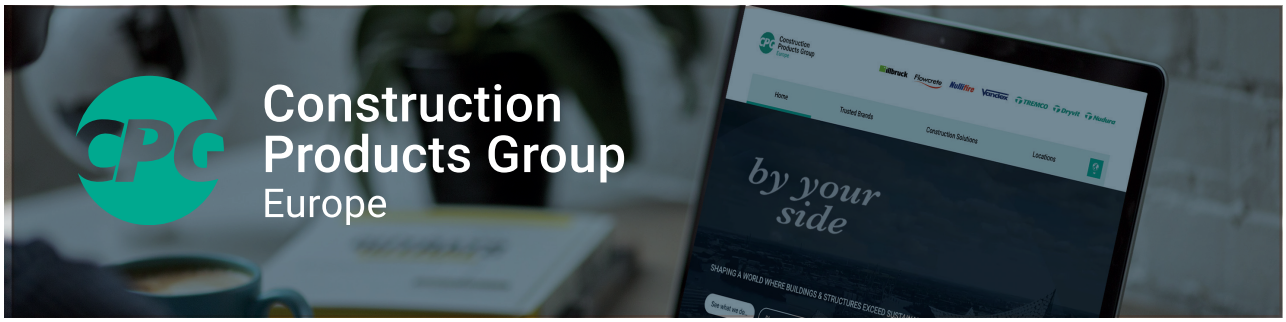
Testing & Certification

Able to assist with a comprehensive selection of passive fire protection products, Nullifire's product portfolio gives architects, specifiers, and contractors the ability to achieve fire protection requirements within any building structure.

Working closely with our in-house technical team, 3rd party accredited installers can deliver the best possible and most cost-effective fire protection solution, without compromising on quality or safety.

As the sole manufacturer to offer both intumescent coatings and fire stopping products, we are uniquely positioned to offer a full package to suit all project requirements. Nullifire's passive fire protection products, in combination with technical support and expert advice, gives all parties peace of mind and assurance of local building code compliance.

Our passive fire protection products undergo initial validation assessments at our in-house facilities prior to undergoing rigorous independent 3rd party testing and certification.



CPG Europe manufactures high performance building materials in order to solve the complex challenges faced by today's construction industry. With over 1,400 employees across Europe, we are committed to shaping a world where buildings and structures save energy, last longer and exceed sustainability benchmarks.

Delivering World-Class Construction Product Solutions.

The product brands housed within CPG Europe cover a wide array of different construction needs and provide a wealth of complex services, support and systems that are rarely found together under one roof.

Window Insulation, Façade Construction, Exterior Insulation & EIFS, Structural & Inplant Glazing

Intumescent Coatings, Fire Stopping

Seamless Resin Flooring, Subfloor Preparation, Car Parking Structures

Civil Engineering, Potable &Waste Water Industry, Balconies,Terraces, Basements & Foundations

Liquid Applied Systems, Felt Systems, Vegetated Roofing

Europe's leading construction products brands...

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For more information or to download our Technical Data Sheets, scan the QR code or visit:

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