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appointed according to Article 29 of Construction Products Regulation 2011 as amended by the Construction Products (Amendment etc.) (EU Exit) Regulations 2019 and the Construction Products (Amendment etc.) (EU Exit) Regulations 2020

## UK Technical Assessment

**0843-UKTA-22/0050**  
**of 30/05/2023**

**Technical Assessment Body Issuing the UKTA:**

UL International (UK) Ltd

**Trade name of the construction product**

Hilti Firestop Joint Spray CFS-SP WB

**Product family to which the construction product belongs**

Fire Stopping and Fire Sealing Products – Linear Joint and Gap Seals

**Manufacturer**

Hilti Corporation  
Feldkircherstrasse 100  
9494 Schaan  
LIECHTENSTEIN

**Manufacturing plant(s)**

HILTI production plant 4a

**This UK Technical Assessment contains**

15 pages including 4 annexes which form an integral part of this assessment

**This UK Technical Assessment\* is issued, on the basis of**

EAD 350141-00-1106, September 2017

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\* in accordance with Construction Products Regulation 2011 as amended by the Construction Products (Amendment etc.) (EU Exit) Regulations 2019 and the Construction Products (Amendment etc.) (EU Exit) Regulations 2020

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## **SPECIFIC PARTS OF THE UK TECHNICAL ASSESSMENT**

### **1 Technical description of the product**

#### **1.1 Definition of the construction product**

Hilti Firestop Joint Spray CFS-SP WB is a membrane-forming coating used to form a linear joint or gap seal with mineral wool as backfill material. In wall constructions the coating is used on both sides, in floor constructions normally only on the top side. For further details on Hilti Firestop Joint Spray CFS-SP WB respectively for a specification of suitable mineral wool as backfilling material see Annex 2.

### **2 Specification of the intended use(s) in accordance with the applicable UK Assessment Document (Pre-Exit European Assessment Document): EAD 350141-00-1106**

#### **2.1 Intended use**

The intended use of Hilti Firestop Joint Spray CFS-SP WB is to reinstate the fire resistance performance of linear joints and gaps (floor to floor, wall to wall, “top/head of wall”). Details on the classification of the supporting constructions are given in Annex 3. Following specific structures may be used:

- Rigid floors
- Rigid walls
- Flexible walls

#### **2.2 Use category**

The use category of Hilti Firestop Joint Spray CFS-SP WB is Y<sub>1</sub>. Therefore, all requirements for type Y<sub>2</sub>, Z<sub>1</sub> and Z<sub>2</sub> are included.

Type Y<sub>1</sub>: Products intended for use at temperatures between -5 °C and + 70°C with exposure to UV but without exposure to rain.

Type Y<sub>2</sub>: Products intended for use at temperatures between -5 °C and + 70°C but without exposure to rain and UV.

Type Z<sub>1</sub>: Products intended for use at internal conditions with high humidity, excluding temperatures below 0°C.<sup>1</sup>

Type Z<sub>2</sub>: Products intended for uses at internal conditions with humidity classes other than Z<sub>1</sub>, excluding temperatures below 0°C.

#### **2.3 General assumptions**

It is assumed that:

- damages to the penetration seal are repaired accordingly,
- the installation of the penetration seal does not affect the stability of the adjacent building element (even in case of fire),
- the lintel or floor above the penetration seal is designed structurally and in terms of fire protection such that no additional mechanical load (other than its own weight) is imposed on the penetration seal,
- the aperture lining within a flexible wall is supported by the studs (transoms and mullions) in such a way that the mechanical load imposed to the aperture lining by the penetration seal does not affect the stability of the aperture lining and the flexible wall,
- the installations are fixed to the adjacent building element in accordance with the relevant regulations in such a way that, in case of fire, no additional mechanical load is imposed to the penetration seal,
- the support of the installations is maintained for the required period of fire resistance

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<sup>1</sup> These uses apply for internal humidity class 5 in accordance with EN ISO 13788  
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## **2.4 Manufacturing control**

The UK Technical Assessment is issued for the product on the basis of agreed data/information, deposited with UL International (UK) Ltd, which identifies the product that has been assessed and judged. Changes to the product or production process, which could result in this deposited data/information being incorrect, should be notified to UL International (UK) Ltd before the changes are introduced.

UL International (UK) Ltd will decide whether or not such changes affect the UK Technical Assessment and consequently the validity of the UKCA marking based on the UK Technical Assessment and if so whether further assessment or alterations to the UK Technical Assessment shall be necessary.

## **2.5 Installation**

The product shall be installed and used as described in this UK Technical Assessment. Additional marking of the penetration seal shall be done in case of national requirements.

## Performance of the product and references to the methods used for its assessment

Basic requirements for construction works	Essential characteristic	Method of verification	Performance
<b>BWR 2</b>	Reaction to fire	EN 13501-1	Clause 3.2.1 of this UKTA
	Resistance to fire	EN 13501-2	See Clause 3.2.2 and Annex 3 of this UKTA
<b>BWR 3</b>	Air permeability	EN 1026	Clause 3.3.1 of this UKTA
	Water permeability	Annex C of EAD 350141-00-1106	Clause 3.3.2 of this UKTA
	Content and/or release of dangerous substances	Declaration of conformity by the manufacturer	
<b>BWR 4</b>	Mechanical resistance and stability	EOTA TR001	Clause 3.4.1 of this UKTA
	Resistance to impact/movement	EOTA TR001	Clause 3.4.2 of this UKTA
	Adhesion	EOTA TR001	Clause 3.4.3 of this UKTA
<b>BWR 5</b>	Airborne sound insulation	EN ISO 140-3 EN ISO 20140-10 EN ISO 717-1	Clause 3.5.1 of this UKTA
<b>BWR 6</b>	Thermal properties	No performance determined	
	Water vapour permeability	No performance determined	

**3.1 Mechanical resistance and stability (BWR 1)**

Not relevant

**3.2 Safety in case of fire (BWR 2)**

3.2.1 Reaction to fire

Hilti Firestop Joint Spray CFS-SP WB is classified 'E' in accordance with EN 13501-1.

3.2.2 Resistance to fire

Hilti Firestop Joint Spray CFS-SP WB has been tested in accordance with EN 1366-4:2006.

Based upon these test results and the field of direct application specified within EN 1366-4:2006, Hilti Firestop Joint Spray CFS-SP WB has been classified according to EN 13501-2, as shown in Annex 3.

**3.3 Hygiene, health and environment (BWR 3)**

3.3.1 Air permeability

The air permeability of the Hilti Firestop Joint Spray CFS-SP WB was tested in a joint set up with dimension 1030 x 80 mm according to EAD 350141-00-1106, clause 2.2.4 by applying the test principle of EN 1026.

Pressure (Pa)	50	250	300	450	600
q/A air(m <sup>3</sup> /h)	No representative air flow measured				

3.3.2 Water permeability

The water permeability has been tested using the principles of the test procedure according to Annex C of EAD 350141-00-1106. The specimen consisted of 2 mm Hilti Firestop Joint Spray CFS-SP WB (dry film thickness) on mineral wool. Test result: Water tight to 1000 mm head of water or 9806 Pa.

3.3.3 Content, emission and/or release of dangerous substances.

The manufacturer has provided a declaration on the content, emission and/or release of dangerous substances in relation to their products with the title "Statement on Product Regulatory Compliance: Version 1.1 October 2022).

In addition to the specific clauses relating to dangerous substances contained in this UK Technical Assessment, there may be other requirements applicable to the products falling within its scope (e.g. transposed UK legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products Regulation, these requirements need also to be complied with, when and where they apply.

**3.4 Safety and accessibility in use (BWR 4)**

3.4.1 Mechanical resistance and stability

See 3.4.2.

### 3.4.2 Resistance to impact / movement

The resistance to impact / movement has been tested using the test procedure according to EAD 350141-00-1106. Due to the maximum seal width of 200 mm the method according to Clause 3 of EOTA TR001 (hard body impact) had to be used. The hard body impact test simulates the impact, resulting from an object accidentally falling against the seal.

- Safety in Use:  
The requirement of withstanding a 10 Nm impact was fulfilled without damages.
- Serviceability:  
The requirement of withstanding a 10 Nm impact was fulfilled without damages.

### 3.4.3 Adhesion

Adhesion is covered by the impact tests described in 3.4.2.

## 3.5 Protection against noise (BWR 5)

### 3.5.1 Airborne sound insulation

Test reports from noise reduction according to EN 20140-10, EN ISO 140-1, EN 20140-3, EN ISO 10140-1, EN ISO 10140-2, EN ISO 10140-5 and EN ISO 717-1 have been provided.

The resulting  $R_w(C;Ctr)$  and  $D_{n,e,w}(C; Ctr)$  values are:

Coating	$R_w(C;Ctr)$ [dB]	$D_{n,e,w}(C; Ctr)$ [dB]
Both sides	40 (-1;-5) <sup>a)</sup>	55 ( 0;-4) <sup>b)</sup>
Top side	37 (-1;-4) <sup>a)</sup>	52 (-1;-4) <sup>b)</sup>

<sup>a)</sup> where  $S = 0,3 \text{ m}^2$  ( $S$  = Area to which the measurement applies)

<sup>b)</sup> where  $A_0 = 10 \text{ m}^2$  ( $A_0$  = Area on which the standardisation is carried out)

- Joint width 200mm
- Seal depth 200mm

## 3.6 Energy economy and heat retention (BWR 6)

### 3.6.1 Thermal properties

No performance determined

### 3.6.2 Water vapour permeability

No performance determined

## 3.7 General aspects relating to fitness for use

### 3.7.1 Movement capability

The movement capability of  $\pm 40\%$  was verified by a small scale movement test.

### 3.7.2 Overpaintability

Hilti Firestop Joint Spray CFS-SP WB may be overpainted with Acrylic paint systems.

### 3.7.3 Compatibility with metals

The compatibility test showed no negative influence of Hilti Firestop Joint Spray CFS-SP WB on steel and aluminium surfaces.

**4 Assessment and verification of constancy of performance (hereinafter AVCP) system applied, with reference to its legal base**

According to the Statutory Instrument 2019 No. 465 – made 5th March 2019 and cited as the Construction Products (Amendment etc.) (EU Exit) Regulations 2019 and coming into force on exit day and Statutory Instrument 2020 No. 1359 – made 26th November 2020 and cited as the Construction Products (Amendment etc.) (EU Exit) Regulations 2020 and coming into force immediately before the 2019 Regulations come into force, on the procedure for attesting the conformity of construction products as regards fire stopping, fire sealing and fire protective products, published as 'Pre-Exit' European Assessment Documents, (see <https://www.gov.uk/guidance/pre-exit-european-assessment-documents-construction-products>), the system of assessment and verification of constancy of performance (see Annex V to Construction Products Regulation 2011 as amended by the Construction Products (Amendment etc.) (EU Exit) Regulations 2019 and the Construction Products (Amendment etc.) (EU Exit) Regulations 2020) given in the following table(s) apply.

Product(s)	Intended use(s)	Level(s) or class(es)	System
Fire Stopping and Fire Sealing Products	For fire compartmentation and/or fire protection or fire performance	any	1

**5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD**

Tasks of the manufacturer:  
Factory production control

The manufacturer shall exercise permanent internal control of production. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures, including records of results performed. This production control system shall ensure that the product is in conformity with this UK Technical Assessment.

The manufacturer may only use initial / raw / constituent materials stated in the technical documentation of this UK Technical Assessment.

The factory production control shall be in accordance with the Control Plan of 16/12/2021 relating to the UK Technical Assessment 0843-UKTA-22/0050 issued on 30/05/2023 which is part of the technical documentation of this UK technical Assessment. The "Control Plan" is laid down in the context of the factory production control system operated by the manufacturer and deposited at UL International (UK) Ltd.

The results of factory production control shall be recorded and evaluated in accordance with the provisions of the Control Plan.



Other tasks of the manufacturer  
Additional information

The manufacturer shall provide a technical data sheet and an installation instruction with the following minimum information:

(a) Technical data sheet:

- Field of application:
- Building elements for which the linear joint and gap seal is suitable, type and properties of the building elements like minimum thickness, density, and - in case of lightweight constructions – the construction requirements.
- Limits in size, minimum thickness etc. of the perimeter seal
- Construction of the linear joint and gap seal including the necessary components and additional products (e.g. backfilling material) with clear indication whether they are generic or specific.

(b) Installation instruction:

- Steps to be followed
- Procedure in case of retrofitting
- Stipulations on maintenance, repair and replacement

**Issued on: 30<sup>th</sup> May 2023**

Report by:



C. Sweeney  
Project Engineer  
Built Environment

**For and on behalf of UL International (UK) Ltd.**

Reviewed by:



C. Johnson  
Senior Staff Engineer  
Built Environment

## ANNEX 1 -Reference documents and list of abbreviations

### 1.1 References to standards mentioned in the UKTA:

EN 1366-4	Fire resistance tests for service installations - Part 4: Linear joint seals
EN 13501-1	Fire classification of construction products and building elements – Part 1: Classification using test data from reaction to fire tests
EN 13501-2	Fire classification of construction products and building elements – Part 2: Classification using test data from fire resistance tests
EN ISO 140-1	Measurement of sound insulation in buildings and of building elements – Part 1: Requirements for laboratory test facilities with suppressed flanking transmission
EN 20140-3	Acoustics – Measurement of sound insulation in buildings and of building elements – Part 3: Laboratory measurements of airborne sound insulation of building elements
EN 20140-10	Acoustics – Measurements of sound insulation in buildings and of building elements – Part 10: Laboratory measurement of airborne sound insulation of small building elements
EN ISO 10140	Acoustics - Laboratory measurement of sound insulation of building elements – Part 1: Application rules for specific products Part 2: Measurement of airborne sound insulation Part 5: Requirements for test facilities and equipment
EN ISO 717-1	Acoustics – Rating of sound insulation of buildings and of building elements – Part 1: Airborne sound insulation
ISO 11600	Building construction - Jointing products - Classification and requirements for sealants

### 1.2 Other reference documents:

EOTA TR 001	Determination of impact resistance of panels and panel assemblies
EOTA TR 024	Characterisation, Aspects of Durability and Factory Production Control for Reactive Materials, Components and Products

## ANNEX 2 - Description of product(s) & product literature

### 2.1 Hilti Firestop Joint Spray CFS-SP WB

Hilti Firestop Joint Spray CFS-SP WB is a 1-component product. It is composed essentially of filling substances and an acrylic binder, provided in various colours.

Hilti Firestop Joint Spray CFS-SP WB is supplied in 19 Liter pails/buckets.

The Control Plan is defined in document "Control Plan is relating to the UK Technical Assessment UKTA-22/0050 - Hilti Firestop Joint Spray CFS-SP WB" which is a non-public part of this UKTA.

### 2.2 Ancillary products:

#### 2.2.1 Mineral wool

Mineral wool products suitable for being used as backfilling material

Characteristics	Specification
Stone wool	EN 13162 or EN 14303
Density	30 to 70 kg/m <sup>3</sup>
Facing	No Al-facing, no other facing

### 3 Technical product literature:

- technical Data Sheet Hilti Firestop Joint Spray CFS-SP WB
- Safety Data Sheet acc. to 1907/2006/EC, Article 31, for Hilti Firestop Joint Spray CFS-SP WB

**ANNEX 3 - Resistance to fire classification of linear joint/gap seals made from Hilti Firestop  
Joint Spray CFS-SP WB**

**3.1 General information:**

3.1.1 Wall / Floor constructions covered:

- rigid floor      the floor must have a minimum thickness of 150 mm and comprise concrete / aerated concrete with a minimum density of 2400kg/m<sup>3</sup> / 550 kg/m<sup>3</sup>.
- rigid wall      the wall must have a minimum thickness of 100 mm and comprise concrete, aerated concrete or masonry, with a minimum density of 380 kg/m<sup>3</sup>.
- flexible wall    the wall must have a minimum thickness of 100 mm and comprise timber or steel studs lined on both faces with minimum 2 layers of 12,5 mm thick boards according EN 520 type F.  
In steel stud construction the space between linings has not to be completely filled with insulation material, especially adjacent to the seal. Nevertheless, the wall has to be set up according to requirements.  
For timber stud walls there must be a minimum distance of 100 mm of the seal to any stud and the cavity between stud and seal must be closed and a minimum of 100 mm insulation of Class A1 or A2 (in accordance with EN 13501-1) in the cavity between stud and seal is necessary.

The walls / floors must be classified in accordance with EN 13501-2 for the required fire resistance period or fulfil the requirements of the relevant Eurocode. This ETA does not cover use of the product as a penetration seal in sandwich panel constructions

3.1.2 Application of Hilti Firestop Joint Spray CFS-SP WB (A)

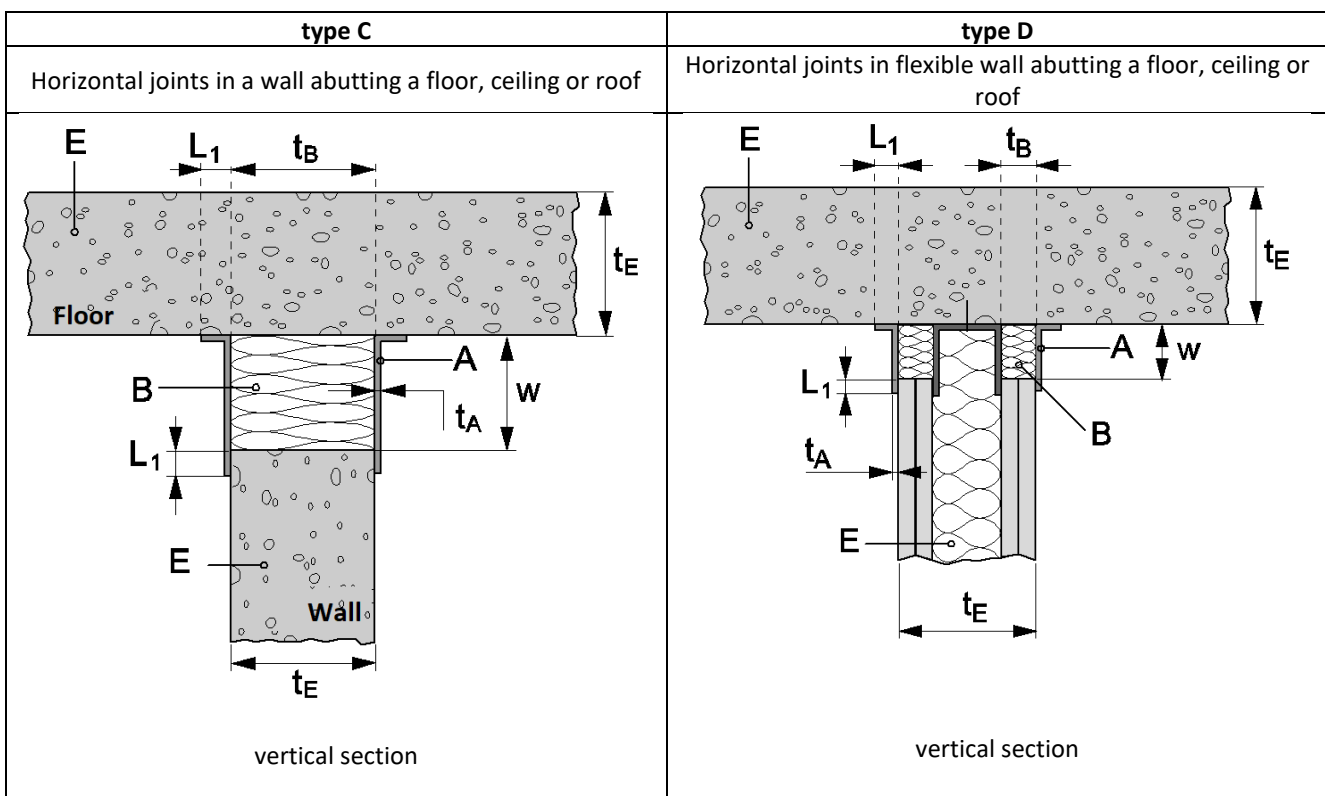
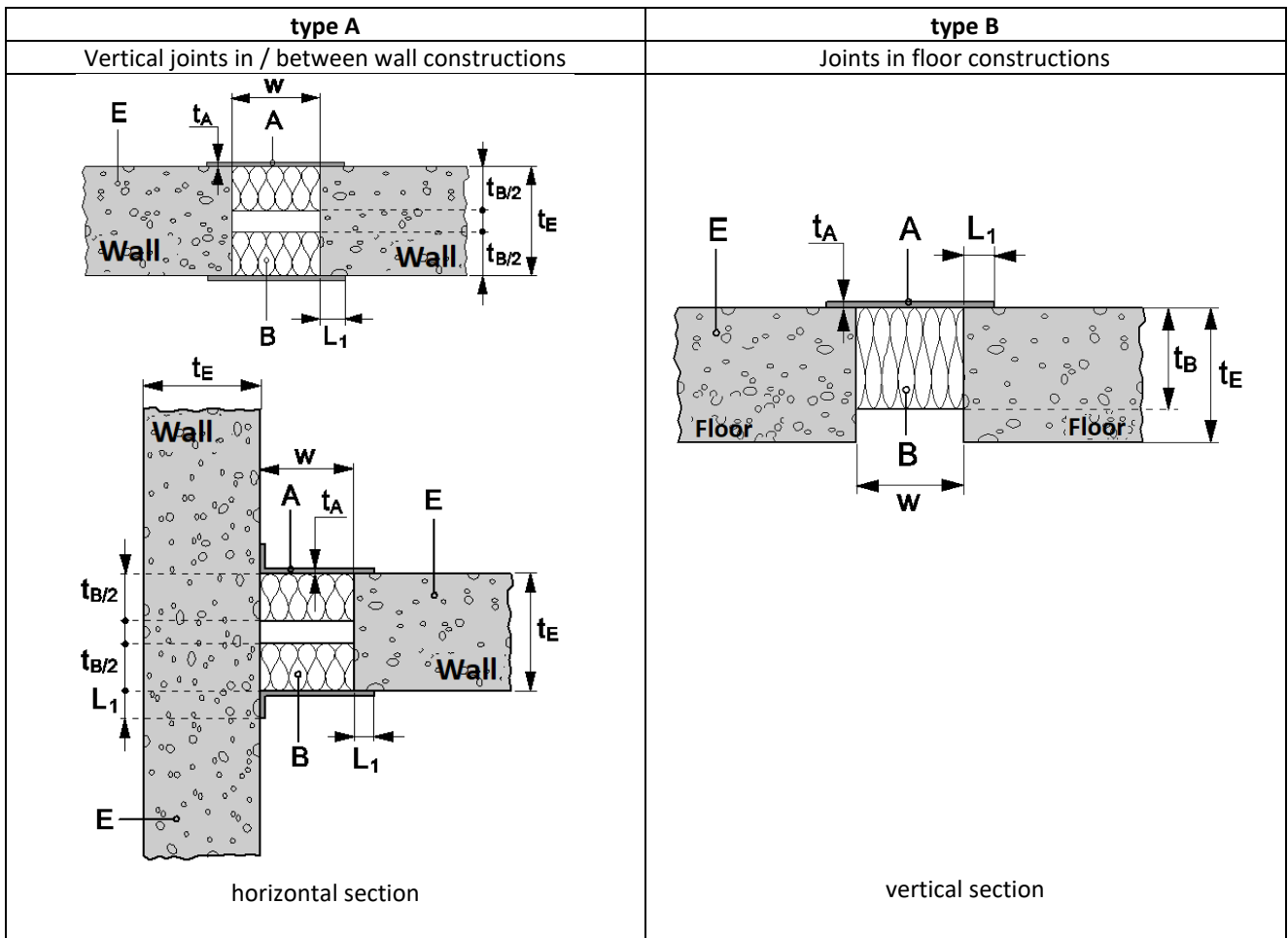
- $t_A = 3-5$  mm (wet film, resulting in ca. 2 mm dry film thickness)
- Movement capability:  $\pm 40\%$

3.1.3 Application of mineral wool (B)

- compression of mineral wool  $\geq 50\%$ ,
- splice distance minimum 625 mm

3.2 Construction details:

- Differentiation in 4 types



### 3.3 Classification for linear joint / gaps seals

Orientation (Type)	Joint width (mm)	Classification
Vertical joints in / between wall constructions ( <u>type A</u> ) $t_B \geq 150 \text{ mm}$ <sup>a)</sup>	6 to 100	EI 240-V-M 40-F-W 6 to 100
Joints in floor constructions ( <u>type B</u> ) $t_B \geq 100 \text{ mm}$		EI 120-H-M 40-F-W 6 to 100 E 240-H-M 40-F-W 6 to 100
Horizontal joints in a wall abutting a floor, ceiling or roof ( <u>type C</u> ) $t_B \geq 100 \text{ mm}$ (joint depth fully filled)		EI 120-T-M 40-F-W 6 to 100 E 240-T-M 40-F-W 6 to 100
Horizontal joints in a flexible wall abutting a floor, ceiling or roof ( <u>type D</u> ) $t_B \geq 25 \text{ mm}$ (joint depth fully filled)	6 to 40	EI 90-T-M 40-F-W 6 to 40 E 120-T-M 40-F-W 6 to 40

<sup>a)</sup> In case of a wall thickness  $t_E > 150 \text{ mm}$  the mineral wool backfilling may be installed on both sides flush with the surface of the wall with a minimum thickness  $t_B \geq 75 \text{ mm}$  and an air gap in between.

### 3.3 Abbreviations used in drawings

Abbreviation	Description
A	Hilti Firestop Joint Spray CFS-SP WB
B	Backfilling material (mineral wool)
E	Building element (wall, floor)
L <sub>1</sub>	Overlap of Hilti Firestop Joint Spray CFS-SP WB
t <sub>A</sub>	Thickness of Hilti Firestop Joint Spray CFS-SP WB
t <sub>B</sub>	Thickness of backfilling material
t <sub>E</sub>	Thickness of the building element / joint depth
w	Joint width

## ANNEX 4 - Installation of the product

### 4.1

#### Instruction for use:

Installation of the Hilti Firestop Joint Spray CFS-SP WB should be conducted as follows:

