

# HILTI

**Technical  
Data Sheet**

## **Hilti Firestop Silicone Sealant CFS-S SIL**

European  
Technical Approval  
ETA N° 10/0291



Issue 12/2010

# Firestop silicone sealant CFS-S SIL

A silicone based, elastic firestop sealant that provides maximum movement in fire-rated linear joints



### Applications

- Floor-to-floor expansion joints (indoor and outdoor)
- Connection joints between steel beam and wall (frame construction)
- Joints with highest requirements

### Advantages

- High movement capabilities for expansion joints
- Impermeable to gas, smoke and water (internal use)
- Excellent weathering properties (ozone and UV resistant)
- Large joint width up to 100 mm
- Halogene and solvent free

### Technical data

	CFS-S SIL
Chemical basis	Silicone
Volume shrinkage	< 5 %
Movement capability	± 25% (ISO 11600)
Cure Time (at 23°C/50% r.H.)	~ 2mm/72h
Application temperature range	5°C - 40°C
Storage and transportation temperature - range	5°C - 25°C
Shelf life (@73°F/23°C and 50% relative humidity)	12 month(s)
Reaction to fire class	B-s2d1 (EN 13501-1)
*Approvals	ETA 10 / 0291



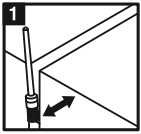
\* The European Technical Approval (ETA) can be obtained via your local Hilti contact or [www.hilti.com](http://www.hilti.com)



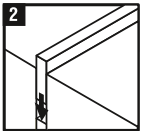
Packaging	Volume	Color	Order designation	Sales Quantity	Item Number
Cartridge	310 ml	Anthracite	<b>Firestop silicone sealant CFS-S SIL CA</b>	1 pc	<b>02004309</b>
Cartridge	310 ml	Grey	<b>Firestop silicone sealant CFS-S SIL CG</b>	1 pc	<b>02004358</b>
Cartridge	310 ml	Grey	<b>Firestop silicone sealant CFS-S SIL CG</b>	1 pc	<b>02004410</b>
Cartridge	310 ml	White	<b>Firestop silicone sealant CFS-S SIL CW</b>	1 pc	<b>02004306</b>
Cartridge	310 ml	White	<b>Firestop silicone sealant CFS-S SIL CW</b>	1 pc	<b>02004307</b>
Cartridge	310 ml	White	<b>Firestop silicone sealant CFS-S SIL CW</b>	1 pc	<b>02004308</b>
Foil pack	600 ml	White	<b>Firestop silicone sealant CFS-S SIL FW</b>	12 pc	<b>02004411</b>

## Installation instructions

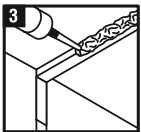
### Joint



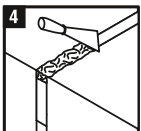
Clean joint faces. Surfaces to which CFS-S SIL will be applied should be dry, frost-free, cleaned of loose debris, dirt, oil, wax and grease. Use wire brushing for cleaning. Prepare surface with Primer CSP 264 (CFS-PRIM).



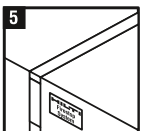
Insert backing material if required. Make sure proper backing material is used and compressed according European Technical Approval (see ETA Annex)



Apply CFS-S SIL using a dispenser.



Smooth joint sealant. Use either a diluted washing-up liquid or smoothing agent and carefully smooth using a narrow spatula.



Fasten identification plate if required

### Notes on Cleaning:

- Surfaces with cured silicone can simply be cleaned mechanically e.g. using a knife, but not with a solvent.
- Closed-cell surfaces e.g. metal or glass, can be cleaned from non-cured silicone using alcohol, isopropanol, or acetone (porous surfaces cannot be completely cleaned because of their structure).

## Linear joint seals

### Rigid walls | floors

Hilti Firestop Silicone Sealant CFS-S SIL may be used to form linear joint seals (A) in rigid walls and floors (E) with a minimum thickness of 150 mm ( $t_e$ ) and a minimum density of 2400 kg/m<sup>3</sup>.

Backfilling material (B): Stone wool, CE marked according to EN 13162 or EN 14303 without any facing and with a minimum density of 40 kg/m<sup>3</sup>. A maximum density of 75 kg/m<sup>3</sup> is recommended to allow the required compression. Minimum splice distance 1250 mm.

Joint orientation	Classification E = integrity I = insulation	Joint width W (mm)	Thickness of sealant $t_A$ (mm)	Movement capability	Other criteria Description
Vertical joints in/between wall constructions	EI 180-V-M 25-F-W 6 to 20 (E 240-V-M 25-F-W 6 to 20)	6 to 20	6	± 25 %	Stone wool backfilling thickness $t_B \geq 100$ mm (floor), gap filled completely (wall), compression min. 60 %
		20 to 100	10	± 25 %	Stone wool backfilling thickness $t_B \geq 100$ mm (floor), gap filled completely (wall), compression min. 50 %
Joints in floor constructions Horizontal joints in walls abutting a rigid floor, ceiling or roof (head of wall)	EI 180-H-M 25-F-W 6 to 20 (E 240-H-M 25-F-W 6 to 20)	6 to 20	6	± 25 %	Stone wool backfilling thickness $t_B \geq 100$ mm (floor), gap filled completely (wall), compression min. 60 %
		EI 120-H-M 25-F-W 20 to 100	20 to 100	10	± 25 %

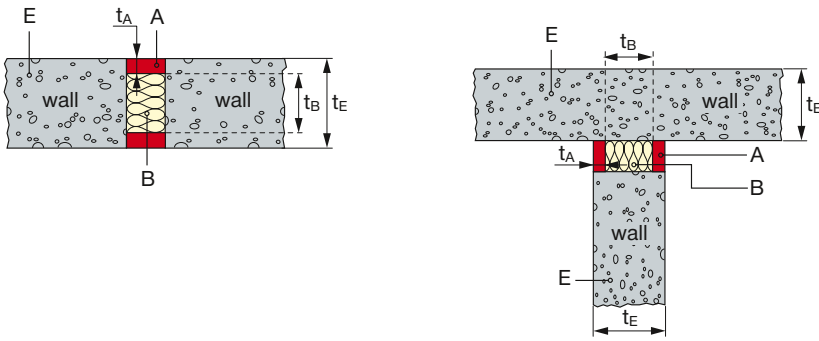
Backfilling material (B): Hilti Firestop Round Cord CFS-CO

Joint orientation	Classification E = integrity I = insulation	Joint width W (mm)	Round Cord size (mm)	Thickness of sealant $t_A$ (mm)	Movement capability	Other criteria Description
Joints in floor constructions* Horizontal joints in walls abutting a rigid floor, ceiling or roof (head of wall)** Horizontal joints in floors abutting a wall*	EI 90-H-M-25-F-W 12 to 17 EI 90-H-M-25-F-W 17 to 27 EI 90-H-M-25-F-W 27 to 37 EI 90-H-M-25-F-W 37 to 47 EI 90-H-M-25-F-W 47 to 55	12 to 17	20	6	± 25 %	Minimum 2 round cords with an air gap in between, minimum 25 mm distance from surfaces of the floor. Minimum distance of splices in the two cord layers: 100 mm
		17 to 27	30	10		
		27 to 37	40	10		
		37 to 47	50	10		
		47 to 55	60	10		

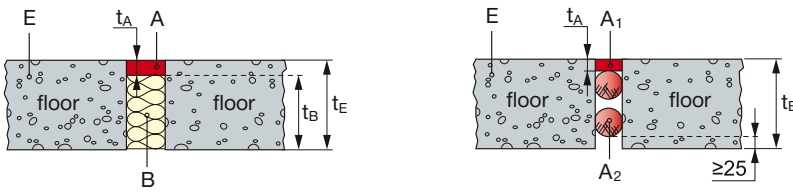
\* sealant on upper side, \*\* sealant on both sides

V = vertical, M = movement, F = splice, field, W = joint width, H = horizontal

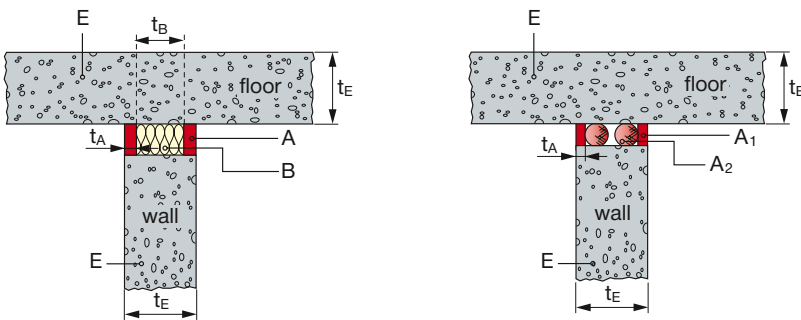
**Vertical joints in or between wall constructions**



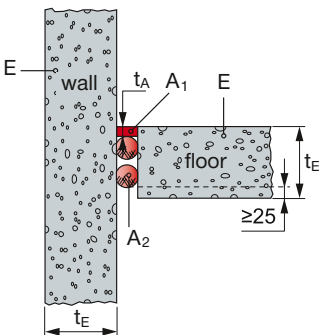
**Joints in floor constructions**



**Horizontal joints in walls abutting a rigid floor, ceiling or roof (head of wall)**



**Horizontal joints in floors abutting a wall**



## Linear joint seals

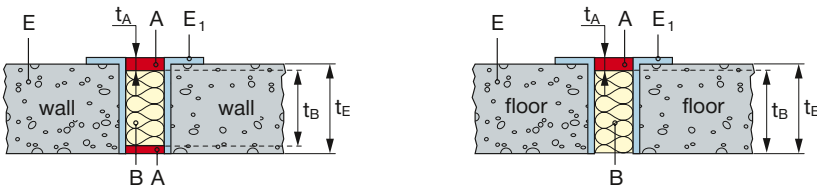
### Steel constructions/elements

Hilti Firestop Silicone Sealant CFS-S SIL may be used to form linear joint seals (A) between steel construction elements or in rigid constructions with steel elements as joint faces (E) with a minimum thickness of 150 mm ( $t_E$ ), using stone wool CE marked according to EN 13162 or EN 14303 without any facing and with a minimum density of 40 kg/m<sup>3</sup> as backfilling material. A maximum density of 75 kg/m<sup>3</sup> is recommended to allow the required compression. Minimum splice distance 1250 mm.

Joint orientation	Classification E = integrity I = insulation	Joint width W (mm)	Thickness of sealant $t_A$ (mm)	Movement capability	Other criteria Description
Vertical joints	EI 60-V-X-F-W 6 to 30 (E 240-V-X-F-W 6 to 30)	6 to 30	10	± 7.5 %	Stone wool backfilling thickness $t_B \geq 150$ mm (floor), gap filled completely (wall), compression min. 40 %
Joints in floor constructions and horizontal joints in walls abutting a floor, ceiling or roof (head of wall)	EI 60-H-X-F-W 6 to 30 (E 240-H-X-F-W 6 to 30)	6 to 30	10	± 7.5 %	Stone wool backfilling thickness $t_B \geq 100$ mm (floor), gap filled completely (wall), compression min. 40 %

V = vertical, M = movement, F = splice, field, W = joint width, H = horizontal, X = non-movement joint (± 7.5 %)

### Steel constructions/elements



## Characteristics of CFS-S SIL

### Additional Attributes

Hilti firestop products are comprehensively tested and individually matched to the technical requirements of a building's linear joint seals.

In addition to their superior passive fire protection behavior, Hilti firestop products also meet increasingly significant requirements in building technology and also help designers and installers to meet these additional requirements. The assessment of fitness for use has been made in accordance with EOTA ETAG N° 026 – Part 3.



Charecteristics	Assessment of charecteristics	Norm, standard, test
<b>Health and the environment</b> Air permeability (gas thightness)	Flow rate per area Impermeability regarding gases N <sub>2</sub> , CO <sub>2</sub> , CH <sub>4</sub> and air; tested	EN 1026/ETAG 026-3
Dangerous substances	Below any respective occupational exposure limits as far as such limits exist	Material safety data sheet Regulation 790/2009/EC
Protection against noise (airborne sound insulation)	Rigid wall R <sub>w</sub> = 51 dB D <sub>n,w</sub> = 58 dB	EN ISO 140-3 EN ISO 140-10 EN ISO 717-1
Durability and serviceability	Category X <sub>(-20/+70)°C</sub> (suitable for penetration seals intended for external use at temperatu- res between -20 ° C and +70 ° C)  Curing rate (23 ° C, 50 % rel. humidity): 2 mm/3 days Skin forming time (23 ° C, 50 % rel. humidity): approx. 15 min. Volume shrinkage: less than 5 %	ETAG 026-3
Movement capability	ISO 11600-F-25LM-M <sub>1</sub> ,up	ISO 11600
Water tightness	For internal applications Water tight to 1000 mm head of water or 9806 Pa	ETAG 026 Part 3, Annex C.2
Electrical properties	Volume resistivity: 9.8 × 10 <sup>14</sup> ± 6 × 10 <sup>14</sup> Ohm Surface resistivity: 8.0 × 10 <sup>15</sup> ± 2.1 × 10 <sup>15</sup> Ohm	DIN IEC 60093 (VDE 0303 Part 30)
Reaction to fire	Class B – s2 d1	EN 13501-1

## Service

With more than 20 years of experience worldwide, Hilti is one of the leading suppliers of firestop systems. We actively help you manage your firestop projects better by providing:

- Quick engineering judgements
- Extensive technical literature
- On-site training and demonstration
- Sophisticated jobsite logistics
- Assurance of conformity with specific application requirements
- International network of Hilti firestop specialists

Our network of experienced sales representatives, field engineers, firestop specialists and customer service representatives is just a phone call away (use the local toll-free Hilti number).

**Hilti. Outperform. Outlast.**

Hilti Corporation | 9494 Schaan | Liechtenstein | P +423-234 2111 | F +423-234 2965 | [www.hilti.com](http://www.hilti.com)