

**Hilti Firestop
Cable Disc CFS-D 25**

European
Technical Assessment
ETA N° 16/0050



Gemeente Breda

Bijlage bij besluit

Z2020-000974 -V01

23-04-2020 Ven L

Firestop Cable Disc CFS-D 25



LV: DataCom



MV: Electric Power



Conduits: Plastic / Metal

Applications

- Pre-formed firestop solution for single and multiple cables in openings up to max. 25 mm
- For use on drywall, masonry and concrete
- Suitable for a broad range of low-voltage and mid-voltage cables
- Suitable for plastic and metal conduits
- Suitable for small plastic and metal pipe penetrations
- Covers regular and irregular openings (including blank openings)
- Firestops new and existing cable installations
- Seals through-penetrations and one-sided penetrations
- All cable types currently and commonly used in building practice in Europe (e.g. power, control, signal, telecommunication, emergency and optical fiber cables)

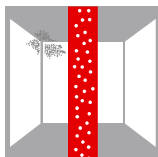
Advantages

- Simple – sealant-free installation
- Fast – installed in 10 seconds
- Powerful – broad application range
- Intuitive – easy to install
- Surface-mounted solution
- No backfilling material required
- Shelf life of 24 months
- Minimizes waste

Technical data

CFS-D 25	
Color	Red
Intumescent	No
Application temperature range	0 – 40 °C
Storage and transportation temperature range	-5 – 40 °C
Shelf life ¹⁾	24 months

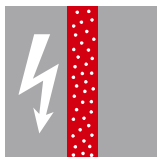
¹⁾ at 25°C and 50% relative humidity; from date of manufacture



Mold and mildew resistant



Sound insulation



Electrical insulation



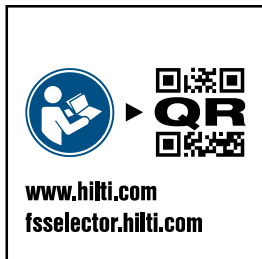
Smoke



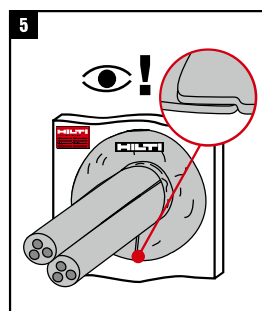
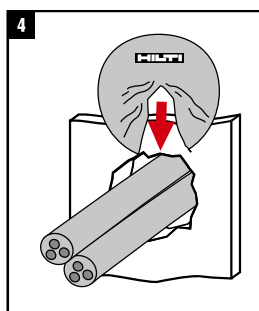
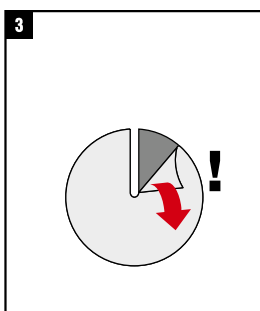
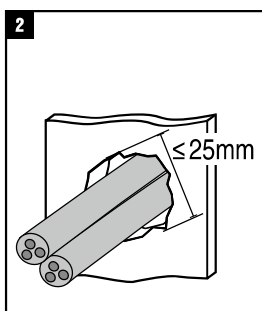
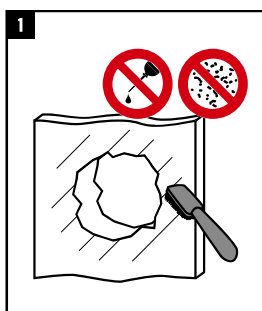
Ordering

Ordering Designation	Packaging Type	Content	Item Number
Firestop Cable Disc	Box	32 PC	2116246

Installation instructions



- en** Before handling and for specific application details, refer to Hilti product literature, 3rd party published listings and national approvals. For industrial use only.
- de** Vor Gebrauch und für spezifische Anwendungshinweise lesen Sie die Hilti Produktbeschreibungen, veröffentlichte Listungen von Fremdüberwachern und nationale Zulassungen. Nur für gewerbliche Anwender.
- fr** Avant toute utilisation et pour tout détail concernant une application, se référer à la documentation Hilti, à la liste de publications des tierces parties et aux approbations nationales. Seulement pour utilisateurs professionnels.
- es** Antes de usar y para detalles específicos de aplicación, véase la información que acompaña al producto Hilti, el listado publicado por terceros y las aprobaciones nacionales. Solamente para los usuarios profesionales.



1. Performance Overview

Penetration Types	Specification	Fire Resistance Classification E = integrity I = insulation	
		Flexible Wall (100 mm)	Rigid Wall (100 mm)
Empty openings		EI 90	
Cables			
All cable types Ø ≤ 21 mm		EI 60	
Single-conductor cables** Ø ≤ 14 mm	Copper content: ≤ 35 mm ² (Cable density ≤ 23%)	EI 90	
Multi-conductor cables** Ø ≤ 19 mm	Copper content: ≤ 40 mm ² (Cable density ≤ 14%)	EI 90	
Multi-conductor cables** Ø ≤ 13 mm	Copper content: ≤ 7.5 mm ² (Cable density ≤ 5.6%)	EI 120	
Small Plastic Tubes and Tubes			
Plastic Conduits Ø ≤ 16 mm	Wall thickness: ≥ 1 mm Distance* ≥ 5 mm	EI 60 C/U	
Plastic Conduits Ø ≤ 16 mm	Wall thickness: ≥ 1 mm Distance* ≥ 150 mm	EI 90 C/U	
Metal Pipes			
Metal pipes and conduits Ø ≤ 16 mm	Wall thickness: ≤ 1 mm Distance* ≥ 150 mm	EI 60 U/U E 120 U/U	

*of nearby penetrations

** see also type list

Notes:

Copper content measured as total copper conductor cross-section

Typical cable types

Cable Designation	No of conductors	Copper cross section per conductor [mm²]	EI 90
NYM-J 1x2,5	1	2.5	OK
NYM-J 1x4	1	4	OK
NYM-J 1x6	1	6	OK
NYM-J 1x10	1	10	OK
NYM-J 1x16	1	16	OK
NYM-J 3x1,5	3	1.5	OK
NYM-J 4x1,5	4	1.5	OK
NYM-J 5x1,5	5	1.5	OK
NYM-J 7x1,5	7	1.5	OK
NYM-J 3x2,5	3	2.5	OK
NYM-J 4x2,5	4	2.5	OK
NYM-J 5x2,5	5	2.5	OK
NYM-J 7x2,5	7	2.5	OK
NYM 4x4	4	4	OK
NYY-J 1x25	1	25	OK
NYY-J 1x35	1	35	OK
NYY-J 3x1,5	3	1.5	OK
NYY-J 4x1,5	4	1.5	OK
NYY-J 5x1,5	5	1.5	OK
NYY-J 7x1,5	7	1.5	OK
NYY 4x10	4	10	OK
NYY 5x4	5	4	OK
(N)HXMH 5x2,5	5	2.5	OK
J-Y(ST)Y 1x2x0,8	2	0.5	OK
J-Y(ST)Y 2x2x0,8	4	0.5	OK
J-Y(ST)Y 4x2x0,8	8	0.5	OK
J-Y(ST)Y 10x2x0,8	20	0.5	OK
J-Y(ST)Y 2x2x0,6	4	0.28	OK
J-Y(ST)Y 4x2x0,6	8	0.28	OK
J-Y(ST)Y 10x2x0,6	20	0.28	OK
J-Y(ST)Y 20x2x0,6	40	0.28	OK
J-Y(ST)Y 20x2x0,8	40	0.28	OK
Öfflex 3x1,5	3	1.5	OK
Öfflex 5x1,5	5	1.5	OK
Coax LCD 95	1	1.13	OK
Coax LCD 111	1	1.13	OK
CAT.7	8	0.326	OK

2. Wall Constructions

Rigid Wall:

- The fire classification results may be applied to concrete or masonry walls with a thickness equal or greater than 100 mm and a density equal or greater than 450 kg/m³

Flexible Wall:

The fire classification results may be applied to all flexible wall constructions with an appropriate fire resistance classification provided:

- The construction is classified in accordance with EN 13501-2;
- The construction has an overall thickness equal or greater than 100 mm;
- Two layers of gypsum boards – overall board thickness: 12,5 mm are applied on both sides of the construction
- Flexible walls with timber studs are constructed with two layers of gypsum boards on both sides, no part of the penetration seal is closer than 100 mm to a stud, the cavity is closed between the penetration seal and the stud, and minimum 100 mm of insulation of class A1 or A2 according to EN 130501-1 is provided within the cavity between the penetration seal and the stud
- The classification covers applications with or without aperture framing
- The classification does not cover sandwich panel constructions and flexible walls where the lining does not cover the studs on both sides

3. Abbreviations used in drawings

Abbreviation	Description ^a
A, A ₁ , A ₂ , ...	Firestop Products
C, C ₁ , C ₂ ,	Penetrating services
E, E ₁ , E ₂ ...	Building Elements (wall, floor)
S ₁ , S ₂ , S _n	Distances
t _A	Overall seal depth
t _E	Thickness of the building element
W _P	Max opening diameter
Copper Content [mm ²]	total copper conductor cross-section in a cable
Cable density [%]	Copper cross-section/total cable cross section

4. Penetration

The overall seal depth (t_A) is ≥ 100 mm. The wall has a minimum thickness of 100 mm (t_E). None or several cables may be included in the wall opening as it will fit in the 625 mm² opening. The distance from the wall to the first service supporting construction is 500 mm on both sides of the wall.

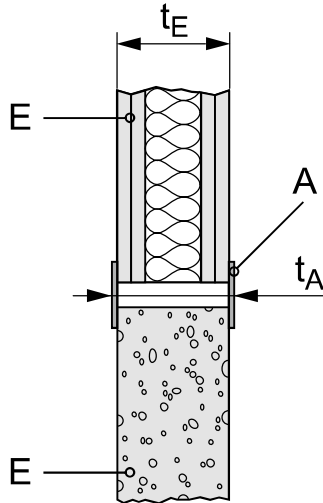


Figure A1: wall application and dimensions

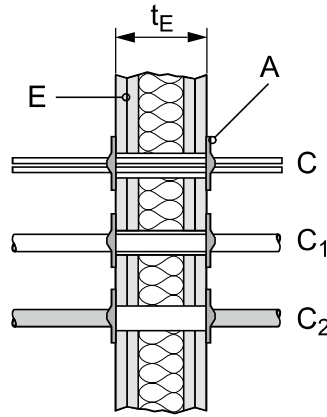


Figure A2: typical services

A: Firestop Cable Disc

E: Building Element (rigid or flexible wall construction)

t_A : Overall seal depth

t_E : Thickness of building Element

C: Cables

C_1 : Conduit

C_2 : Metal pipe/tube

5. Maximum Opening Size

Maximum opening size in the wall = 625 mm² with maximum outer dimensions of 25 mm x 25 mm.

All wall openings / shapes covered by a square of 25 mm may be used.

W_p (maximum opening diameter): 25 mm

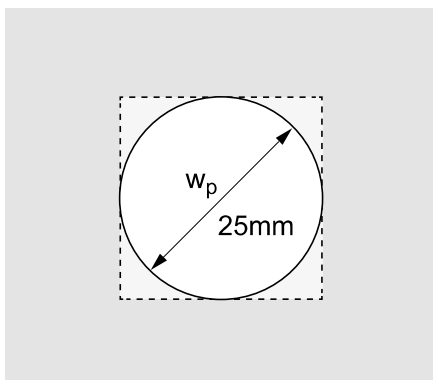


Figure A3: Maximum opening size

6. Sealing of Penetration

Gap between services and wall is closed by wrapping the Hilti Firestop Cable Disc CFS-D 25 around services and adhering residual disc to wall.

Opening has to be completely covered by the Hilti Firestop Cable Disc CFS-D 25.

Penetrations of cables, which exist/penetrate wall from one side only, are sealed as standard penetration but at penetration side only.

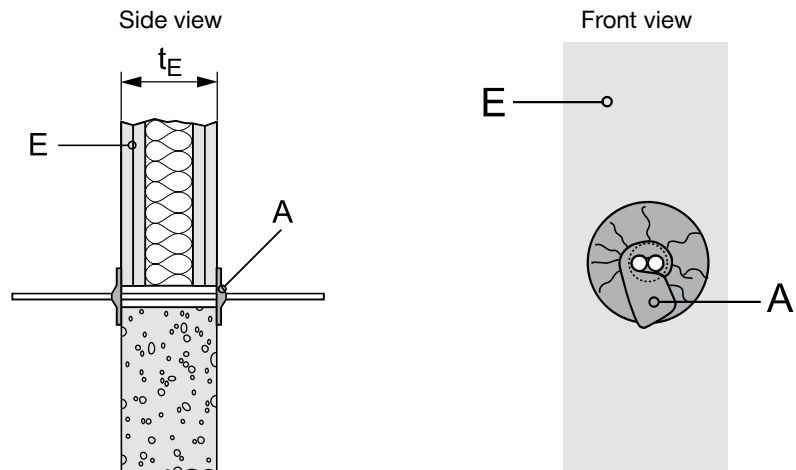


Figure A4: Hilti Firestop Cable Disc CFS-D 25 application

7. Distances inside opening

Distances valid for wall installations.

Minimum distances in mm (see illustration):

- $S_1 \geq 0$ (distance cables to seal edge)
- $S_2 \geq 0$ (distance between cables)
- $S_3 \geq 0$ (distance metal pipe to seal edge)
- $S_{20} \geq 0$ (conduits to seal edge)

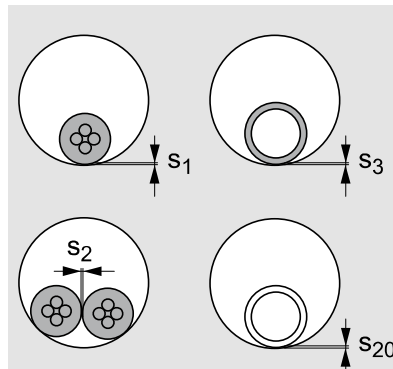


Figure A5: distances within penetration

8. Cluster arrangement (distance between opening)

Minimum distances in mm (see illustration):

- $S_a \geq 5$ (distance between openings (with/without cables, to other openings with/without cables))
- $S_b \geq 5$ (distance of openings with conduits to other openings with/without cables)
- $S_c \geq 150$ (distance of openings with metal pipe to other services)

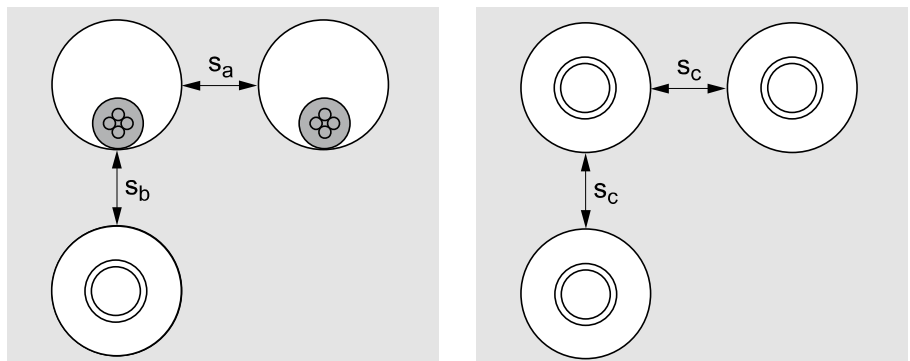


Figure A6: Cluster Arrangement

Hilti Firestop Cable Disc CFD-25 from nearby openings are installed by overlap

9. Additional Attributes

Abbreviation	Descriptiona
Reaction to fire	Class E according to EN 13501-1
Dangerous substances	No dangerous substances
Protection against noise	Tested according to EN ISO 717-1 $R_w (C; C_{tr}) = 62 (-2; -7)$ dB – with and without cable
Electrical properties	Tested according to DIN IEC 60093 (VDE 0303 Part 30:1993-12). $7,7 \cdot 10^{14} \Omega \text{cm}$
Durability and serviceability	Y1 according ETAG 026-2
Mold & Mildew Resistance	Tested according to EN ISO 846 Class = 0
VOC	Complies with AgBB regulations
VOC	Complies with Affset regulations A+
Aging	Tested according to DAfStb regulations for the protection and rehabilitation of concrete members
Other	Not applicable/No performance determined

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