



**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 V en 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)

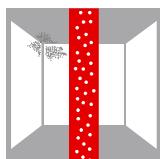
Technical data

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

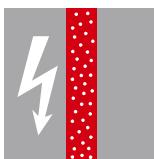
¹⁾ at 25°C and 50% relative humidity; from date of manufacture

Advantages

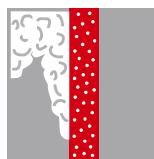
- Simple – sealant-free installation
- Fast – installed in 10 seconds
- Powerful – broad application range
- Intuitive – easy to install
- Surface-mounted solution
- No backfilling material required
- Shelf life of 24 months
- Minimizes waste

Mold and mildew
resistant

Sound insulation



Electrical insulation



Smoke



Ordering

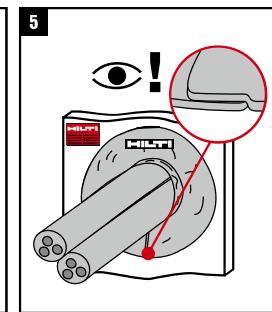
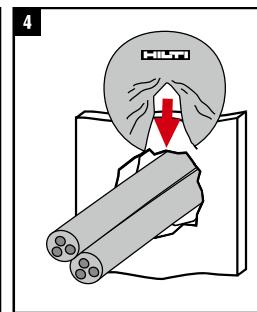
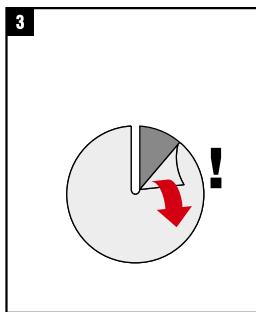
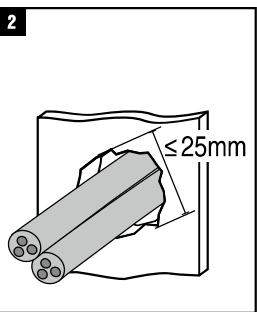
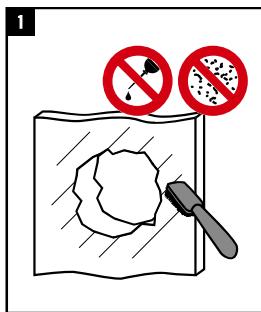
Ordering Designation	Packaging Type	Content	Item Number
Firestop Cable Disc	Box	32 PC	2116246

Installation instructions



www.hilti.com
fsselector.hilti.com

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- 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	
		Flexible Wall (100 mm)	Rigid Wall (100 mm)
Empty openings		EI 90	
Cables			
All cable types $\varnothing \leq 21 \text{ mm}$		EI 60	
Single-conductor cables** $\varnothing \leq 14 \text{ mm}$	Copper content: $\leq 35 \text{ mm}^2$ (Cable density $\leq 23\%$)	EI 90	
Multi-conductor cables** $\varnothing \leq 19 \text{ mm}$	Copper content: $\leq 40 \text{ mm}^2$ (Cable density $\leq 14\%$)	EI 90	
Multi-conductor cables** $\varnothing \leq 13 \text{ mm}$	Copper content: $\leq 7.5 \text{ mm}^2$ (Cable density $\leq 5.6\%$)	EI 120	
Small Plastic Tubes and Tubes			
Plastic Conduits $\varnothing \leq 16 \text{ mm}$	Wall thickness: $\geq 1 \text{ mm}$ Distance* $\geq 5 \text{ mm}$	EI 60 C/U	
Plastic Conduits $\varnothing \leq 16 \text{ mm}$	Wall thickness: $\geq 1 \text{ mm}$ Distance* $\geq 150 \text{ mm}$	EI 90 C/U	
Metal Pipes			
Metal pipes and conduits $\varnothing \leq 16 \text{ mm}$	Wall thickness: $\leq 1 \text{ mm}$ Distance* $\geq 150 \text{ mm}$	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 [mm ²]	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
Ölflex 3x1,5	3	1.5	OK
Ölflex 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 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 mm^2 opening. The distance from the wall to the first service supporting construction is 500 mm on both sides of the wall.

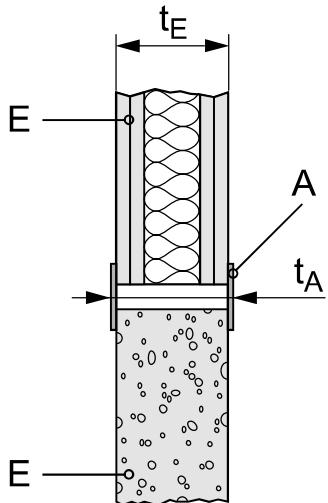


Figure A1: wall application and dimensions

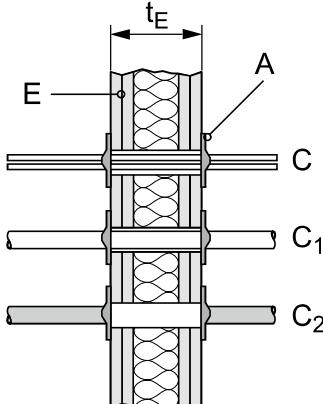


Figure A2: typical services

A: Firestop Cable Disc

t_E : Thickness of building Element

E: Building Element (rigid or flexible wall construction)

C: Cables

t_A : Overall seal depth

C_1 : Conduit

C_2 : Metal pipe/tube

5. Maximum Opening Size

Maximum opening size in the wall = 625 mm^2 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

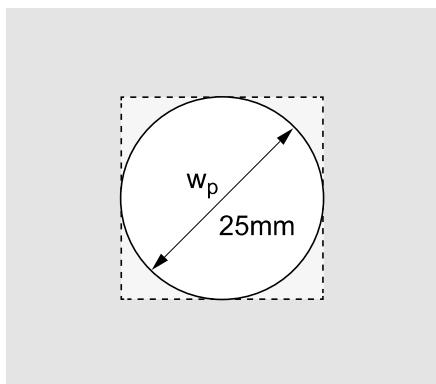


Figure A3: Maximum opening size

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.

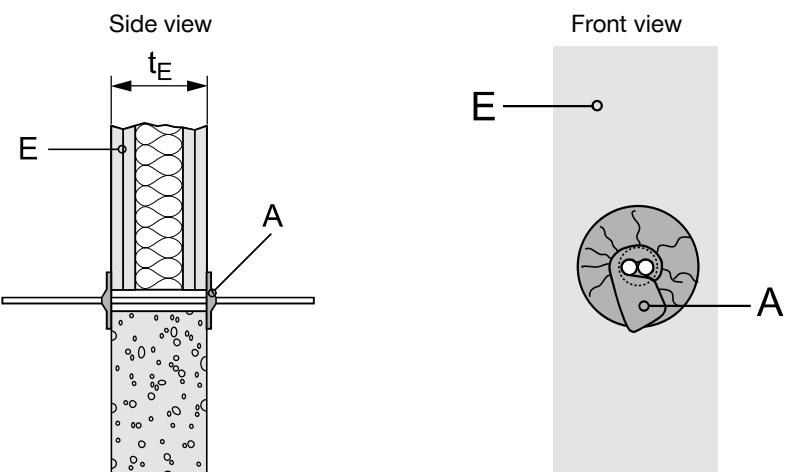


Figure A4: Hilti Firestop Cable Disc CFS-D 25 application

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)

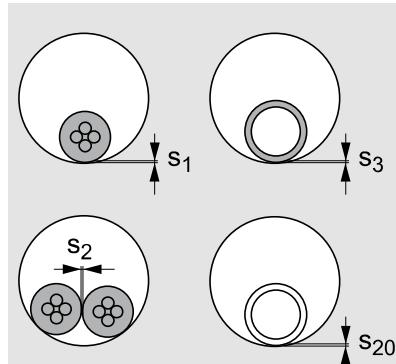


Figure A5: distances within penetration

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)

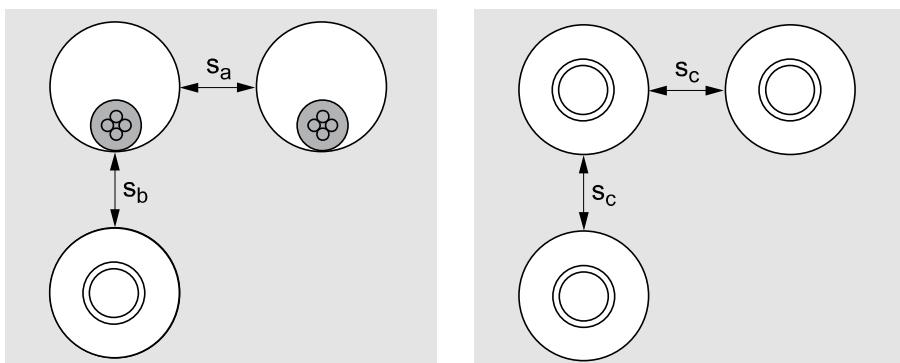


Figure A6: Cluster Arrangement

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

9. Additional Attributes

Abbreviation	Description
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; Ctr) = 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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