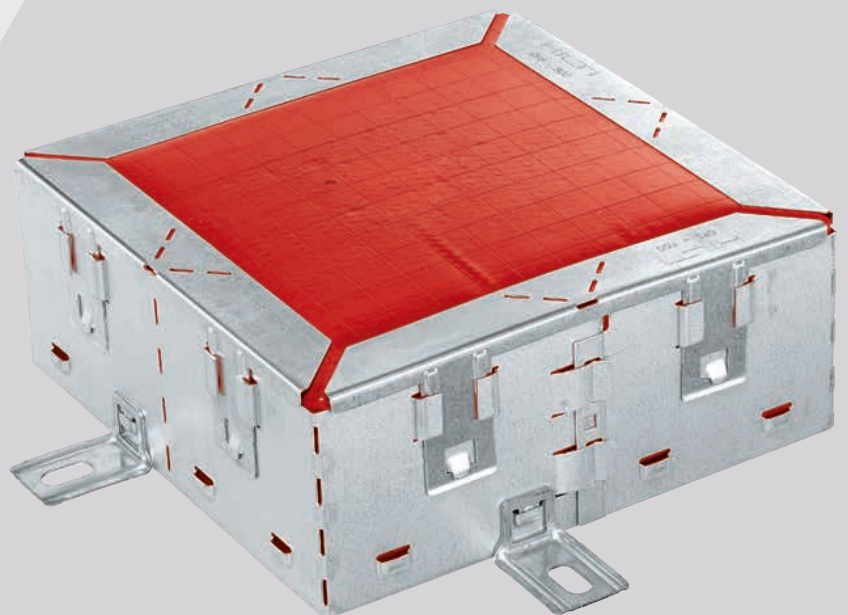




# FIRESTOP RECTANGULAR CABLE COLLAR CFS-RCC TECHNICAL MANUAL

European technical assessment  
ETA-20/0990



# FIRESTOP CABLE COLLAR CFS-RCC



## Applications

- Flexible solution for cables, conduits, cable trays and pipes in concrete, masonry and drywall applications
- For new and existing penetrations in floors and walls
- Especially suitable for renovation projects under difficult conditions
- Can be used to seal old/damaged fire compartment penetrations without removing the existing material

## Advantages

- Broad approval range – also covers mixed penetrations and mechanical penetrations with metal pipes up to 114 mm and plastic pipes up to 50 mm
- Modular system – fast and easy to install, no mortar or mineral wool required
- Surface-mounted solution – perfect for use at openings with 100% cable fill
- Excellent solution for irregular openings
- Time-saving, dust-free solution – no need for framework for drywall applications, no chiseling work on solid walls necessary
- Preformed product – immediately functional after installation
- Reliable solution – easy to inspect
- Re-penetrable – allows easy increase in future cable capacity
- Also suitable for single-sided applications for floor and wall openings
- Green building – contains no halogens, solvents or asbestos.
- LEED information available

## Technical Data

|                                                     |                                              |
|-----------------------------------------------------|----------------------------------------------|
| <b>Base material</b>                                | Concrete, aerated concrete, drywall, masonry |
| <b>Chemical basis</b>                               | Polyurethane foam                            |
| <b>Color</b>                                        | Red                                          |
| <b>Complementary products</b>                       | CFS-FIL, CFS-F FX, CFS-P BA, CP636           |
| <b>Intumescent</b>                                  | Yes                                          |
| <b>Expansion temperature (approx.)</b>              | 200 °C                                       |
| <b>Expansion ratio (unrestricted, up to)</b>        | 1:3                                          |
| <b>Application temperature range</b>                | 5 – 40 °C                                    |
| <b>Storage and transportation temperature range</b> | –5 – 40 °C                                   |
| <b>Temperature resistance range</b>                 | –15 – 60 °C                                  |



| Order designation                 | Package contents | Minimum order quantity | Item number |
|-----------------------------------|------------------|------------------------|-------------|
| CFS-RCC firestop cable collar     | 2                | 2                      | 2126526     |
| CFS-RCC EXT firestop cable collar | 2                | 2                      | 2126527     |

## FIRESTOP FILLER MASTIC CFS-FIL

### Applications

- For use with Hilti Firestop Cable Collar CFS-RCC (gap filling)

### Advantages

- Can be used with Hilti dispenser CFS-DISP



| Order designation              | Package contents | Minimum order quantity | Item number |
|--------------------------------|------------------|------------------------|-------------|
| Firestop Filler Mastic CFS-FIL | 310 ml           | 1 pc                   | 2052899     |

## CFS-F FX FIRESTOP FOAM

### Applications

- For use with Hilti Firestop Cable Collar RCC (gap filling)
- For use with Hilti Firestop Cable Collar (polyurethane inlay replacement on both sides)
- For use with Hilti Firestop Cable Collar (wall opening filling for single-sided application)

### Advantages

- Can be used with Hilti HDM 330 Manual Dispenser and HDE 500-A22 Cordless Dispenser
- Allows rough cutting of the polyurethane inlay



| Order designation      | Package contents                            | Item number |
|------------------------|---------------------------------------------|-------------|
| CFS-F FX Firestop foam | incl. 1 mixing nozzle, instructions for use | 429802      |

## FIRESTOP PUTTY BANDAGE CFS-B PA

### Applications

- For use with Hilti Cable Collar CFS-RCC
- For specific cable configurations, to achieve EI 120

### Advantages

- Easy to cut
- Self-adhesive



| Order designation              | Packing content | Minimum order quantity | Item number |
|--------------------------------|-----------------|------------------------|-------------|
| Firestop Putty Bandage CFS-PBA | 5 m             | 1 pc                   | 2062876     |

## CP 636 FIRESTOP MORTAR

### Applications

- Permanent firestopping of cables, cable trays, and non-combustible pipes in medium-to-large wall and floor openings
- Single, multiple and mixed penetrations
- Medium-large multiple penetrations in concrete and masonry in combination with other products

### Advantages

- Easier to install – consistency can be varied for application with a trowel or commercially available pumps
- Excellent thermal insulating properties
- Minimal shrinkage during curing and no spalling in event of fire



| Order designation      | Packing content | Minimum order quantity | Item number |
|------------------------|-----------------|------------------------|-------------|
| CP 636 Firestop Mortar | 20 kg           | 1                      | 334897      |

## INSTALLATION INSTRUCTIONS

**CFS-RCC**  
#2126526

2x  
4x  
8x  
8x

**CFS-RCC EXT**  
#2126527

2x  
4x  
4x  
4x

**1**

$y \leq 162 \text{ mm}$

$x \leq 162 \text{ mm}$  1x CFS-RCC  
 $x \leq 362 \text{ mm}$  1x CFS-RCC + 1x CFS-RCC EXT  
 $x \leq 562 \text{ mm}$  1x CFS-RCC + 2x CFS-RCC EXT

**2**

? x

min. 3x      min. 4x      min. 6x

**3**

**4**

**5**

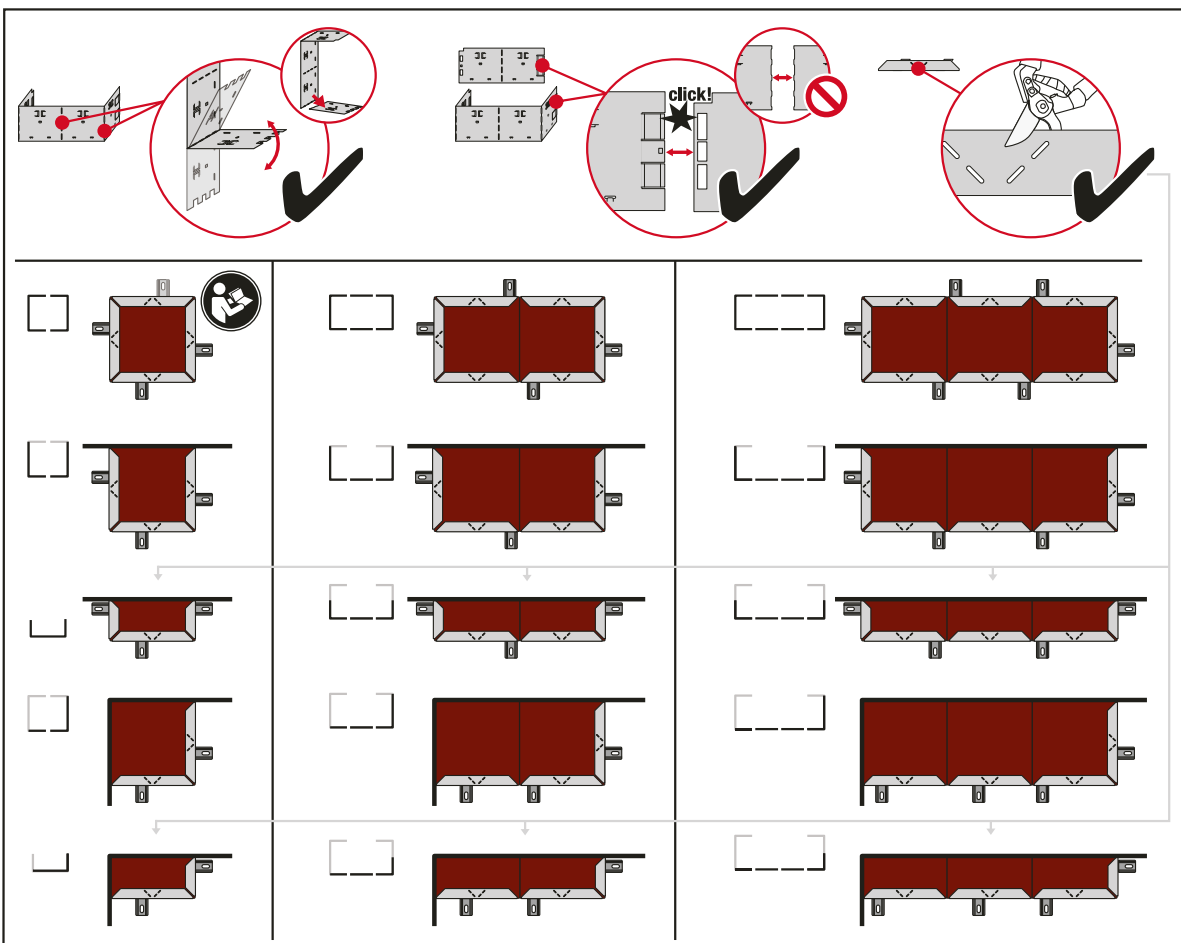
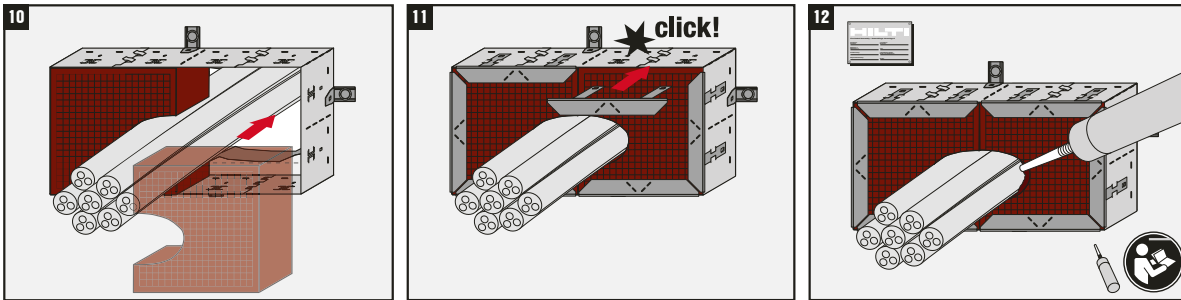
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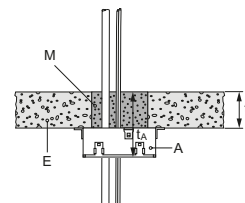
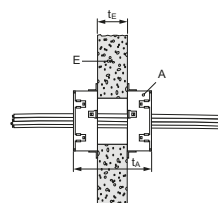
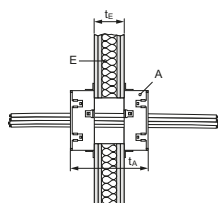
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## INSTALLATION INSTRUCTIONS



## GENERAL INFORMATION



| Partition                         | Flexible wall                                                                                                                                                                                                                  | Rigid wall               | Floor         |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------------|
| Base material thickness ( $t_E$ ) | $\geq 100$ mm                                                                                                                                                                                                                  | $\geq 100$ mm            | $\geq 150$ mm |
| Opening size*                     |                                                                                                                                                                                                                                | $\leq 181 \times 581$ mm |               |
| Total service surface             | $\leq 60\%$ of surface of the opening                                                                                                                                                                                          |                          |               |
| Penetration                       | Blank seal, cables and cable bundles, waveguides, conduits (flexible/rigid, metal/plastic),<br>Insulated and non-insulated pipes (metal/plastic), aluminium composite pipes,<br>mixed and special penetrations e.g. climasplit |                          |               |

\* Depending on configuration type

## MAIN APPROVED APPLICATIONS



| Penetration                                          | Penetration $\varnothing$                              | Flexible wall  | Rigid wall          | Rigid floor    |
|------------------------------------------------------|--------------------------------------------------------|----------------|---------------------|----------------|
| Blank seal                                           |                                                        | EI120          |                     | EI180          |
| Small cables                                         | $\leq 21$ mm<br>$21 \leq \varnothing \leq 80$ mm       | EI120<br>EI90  |                     | EI180<br>EI180 |
| Cable bundle                                         | $\varnothing \leq 150$ mm                              |                | EI120               |                |
| Waveguides                                           | $\varnothing \leq 59.9$ mm                             | EI120          |                     | EI180          |
| Conduits                                             | $\varnothing \leq 16$ mm<br>$\varnothing \leq 50$ mm   | EI120<br>EI120 |                     | EI180<br>EI120 |
| Conduit bundle                                       | $\varnothing \leq 80$ mm                               | EI120          |                     | EI120          |
| Special penetration bundle                           | $\varnothing \leq 80$ mm                               |                | EI120               |                |
| Plastic pipes                                        | $\varnothing \leq 50$ mm                               | EI120          |                     | EI180          |
| Copper pipes with combustible insulation             | $\varnothing \leq 42$ mm                               | EI120          |                     | EI180          |
| Copper pipes with non-combustible insulation         | $\varnothing \leq 42$ mm<br>$\varnothing \leq 28$ mm   | EI120          |                     | EI120<br>EI180 |
| Steel pipes with combustible insulation              | $\varnothing \leq 108$ mm<br>$\varnothing \leq 114$ mm | EI120<br>EI90  |                     | EI120          |
| Steel pipes with non-combustible insulation          | $\varnothing \leq 108$ mm<br>$\varnothing \leq 114$ mm |                | EI120<br>EI90       |                |
| Aluminum composite pipes with combustible insulation | $\varnothing \leq 42$ mm                               | EI120          |                     | EI180          |
| Mixed seals without electrical cables                | View ETA please                                        |                | EI60 / EI90 / EI120 |                |
| Mixed seals with large electrical cables             |                                                        |                | EI90                |                |

## RELEVANT CONSIDERATIONS

### Configuration types: basic, side, corner



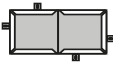
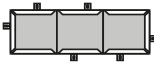
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### Seal and opening sizes

| Dimensions [mm × mm]                       | Basic configuration                                        | Corner configuration  | Side configuration    |
|--------------------------------------------|------------------------------------------------------------|-----------------------|-----------------------|
| Seal                                       | 200 × 200 (single), 200 × 400 (double), 200 × 800 (triple) |                       |                       |
|                                            | 162 × 162 (single)                                         | 181/81 × 181 (single) | 181/81 × 162 (single) |
| Opening [W <sub>1</sub> × W <sub>2</sub> ] | 162 × 362 (double)                                         | 181/81 × 381 (double) | 181/81 × 362 (double) |
|                                            | 162 × 562 (triple)                                         | 181/81 × 581 (triple) | 181/81 × 562 (triple) |

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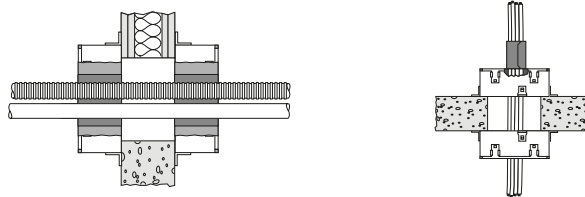
### Number of fastening points

|                      |  |  |  |
|----------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Basic configuration  | 3                                                                                 | 4                                                                                 | 6                                                                                  |
| Side configuration   | 3                                                                                 | 3                                                                                 | 4                                                                                  |
| Corner configuration | 2                                                                                 | 3                                                                                 | 4                                                                                  |

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### Seal types

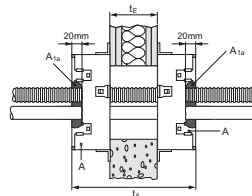
Both sides at the end wall/floor  
Both sides + foam inlay at the  
end wall/floor  
Single-sided application with  
FX foam



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### Filling gaps in penetration seals

Gaps between services and  
the Hilti Firestop Cable Collar  
are to be filled with Hilti  
CFS-FIL Firestop Filler.



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### Application with existing firestop installations or in renovation

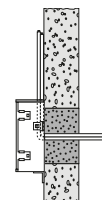
Old materials can remain inside opening between two Hilti cable  
collars. These have no negative influence on the fire resistance  
performance of the collar system.



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### Angle of penetrating services

Cables must lie perpendicular to the seal surface. In this case,  
up to 2 metal segments can be removed to make space for cable  
penetration. Three fixing hooks must be used to fasten the collar.

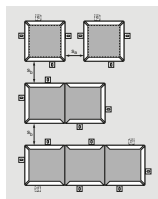


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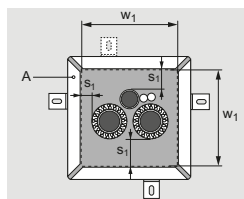
## RELEVANT CONSIDERATIONS

Distances between cluster arrangements, distances for penetrations and distances to support structures



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Special penetrations  
e.g. Climasplit, mixed  
penetrations



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## CHARACTERISTICS OF FIRESTOP CABLE COLLAR CFS-RCC

Hilti firestop products are comprehensively tested and individually tailored to the technical requirements of a building's mechanical and electrical installations. In addition to their superior behavior in passive fire protection, Hilti firestop products also meet the requirements in building technology that continue to gain significance and also help the designer and installer to meet these additional requirements. The assessment of fitness for use has been made in accordance with EOTA ETAG No 026 – Part 2.

| Characteristics                                                       | Assessment of characteristics                                                                                                                                                   | Norm, standard, test                                                                                                                                                                                              |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Health and the environment</b><br><b>Dangerous substances</b>      | Below any respective occupational exposure limits as far as such limits exist (compared with the list of dangerous substances of the European Commission)                       | VOC test report in accordance with AgBB (2015) and AFSSET (2009). French VOC regulation (2011). French CMR components (2011). Belgian Regulation (2015). Indoor Air Comfort® (2015). BREEAM International. LEED 4 |
| <b>Protection against noise</b><br><b>(airborne sound insulation)</b> | CFS-RCC=Rw (C; Ctr)=63 (-3; -9) dB                                                                                                                                              | EN ISO 140-1. EN 10140-2. EN ISO 717-1                                                                                                                                                                            |
| <b>Thermal properties</b>                                             | Thermal conductivity $\lambda = 0.089 \text{ W/mK}$<br>and thermal resistance $r = 0.55 \text{ m}^2\text{K/W}$                                                                  | EN 12667                                                                                                                                                                                                          |
| <b>Electrical properties</b>                                          | Electrical volume resistivity:<br>approx. $2.23\text{E}+9 \text{ } \Omega \text{ cm}$<br>Electrical surface resistivity:<br>approx. $47.1\text{E}+9 \text{ } \Omega \text{ cm}$ | IEC 60093 (VDE 0303 Part 30): 1993-12                                                                                                                                                                             |
| <b>Durability and serviceability</b>                                  | Overall: Category Z2 ( for internal use at low humidity)                                                                                                                        | EOTA TR 024:2009                                                                                                                                                                                                  |
| <b>Reaction to fire</b>                                               | Class E                                                                                                                                                                         | EN 13501-1                                                                                                                                                                                                        |



Hilti Corporation  
9494 Schaan, Liechtenstein  
P +423-234 2965

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