



FIRESTOP BLOCK CFS-BL

Technical Manual

European Technical Assessment
ETA N° 13/0099



FIRESTOP BLOCK CFS-BL



Technical Data

Dimensions	200 mm × 130 mm × 50 mm
Chemical basis	polyurethane
Color	Red
Reaction to fire class	E
Storage temperature	-5 – +40 °C
Application temperature	+5 – +40 °C
Temperature resistance	-15 – +60 °C
Shelf life	Not relevant
Can be painted	Yes

Applications

- Temporary or permanent passive fire sealing around cables, cable bundles and cable trays in wall and floor openings
- Firestopping penetrations for cables, cable bundles and cable trays
- Firestopping penetrations for coaxial cables
- Optimal for rooms with dust- and fiber-free requirements and areas with frequent retrofitting, such as server rooms, laboratories and hospitals
- Firestopping penetrations for non-combustible (metal) pipes with mineral wool and flexible elastomeric foam insulation



Advantages

- Easier maintenance and possible retrofitting of cables is possible
- Economical installation – firestop blocks arrive pre-cured and ready to use
- Dust-, fiber-, halogen- and solvent-free
- Can be combined with CFS-F FX flexible firestop foam
- Very good seismic features
- Hilti Clean-Tec

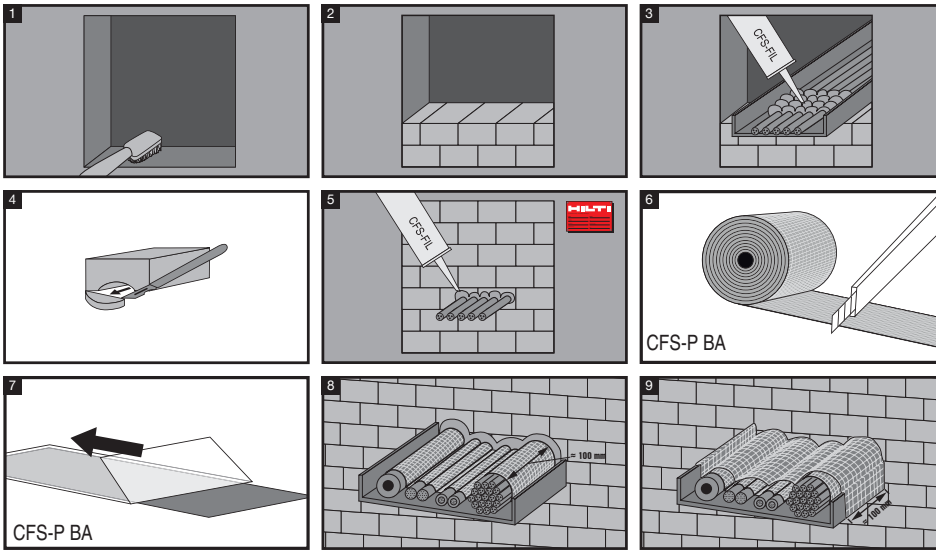


Product	Packaging	Content	Item number
Firestop Block CFS-BL	–	1 firestop block	2062863

Accessories

Product	Packaging	Content	Item number
Firestop Filler mastic CFS-FIL	cartridge	310 ml	2052899
Firestop Putty bandage CFS-P BA	roll	5 m	2062876
Firestop Foam CFS-F FX	cartridge	300 ml	429802

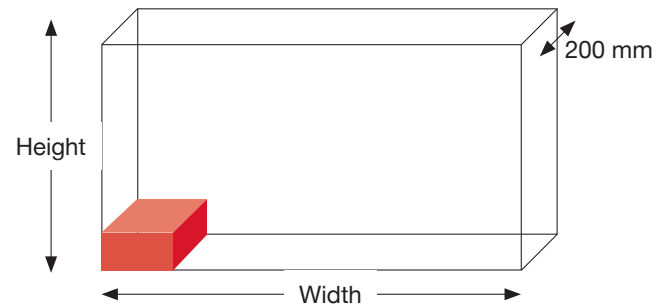
INSTALLATION INSTRUCTIONS



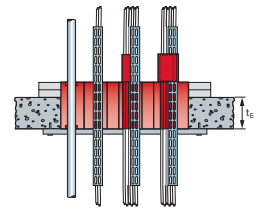
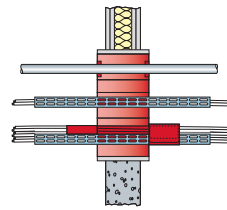
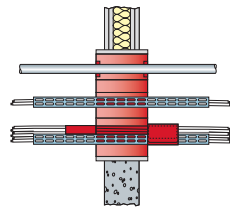
For some applications, firestop putty bandage CFS-P BA must be installed to upgrade the firestop classification to EI 120 (see pictures 6–9).

Consumption guide

Opening size		Number of CFS-BL
Width (mm)	Height (mm)	
200	200	7
300	300	15
500	500	40
700	500	55
1000	700	109
1000	1000	155

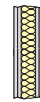


GENERAL INFORMATION



Partition	Flexible wall	Rigid wall	Rigid floor
Base material thickness (t _E)	≥ 100 mm	≥ 100 mm	≥ 150 mm
Seal thickness	200 mm (aperture framing or beading required)		
Opening size	1000 mm x 1000 mm		1000 mm x 700 mm
Gap filler	CFS-FIL		
Penetration	Single cable and cable bundles, cable trays, small steel and plastic conduits, insulated steel and copper pipes (with mineral wool and Armaflex insulation)		

MAIN APPROVED APPLICATIONS



Penetration: cables*	Cable Ø	Flexible wall	Rigid wall	Rigid floor
All sheathed cables*	≤ 80	EI 90 (EI 120 with CFS-P BA in addition)		
Tied cables* bundles Ø 100 mm	≤ 21	EI 120		
Non-sheathed cables	≤ 24	EI 60 (EI 120 with CFS-P BA in addition)		
Waveguide, coaxial cables**	27.8 – 59.9	EI 120-U/C with CFS-CT 0.7 mm thick 150 mm length		
Penetration: conduits	Conduit Ø mm	Flexible wall	Rigid wall	Rigid floor
Plastic conduits and tubes with or without cables	≤ 16	EI 120-U/U		
Steel conduits and tubes with or without cables	≤ 16	EI 120-C/U		
Flexible conduits PO*** without cables	16 – 20			
Flexible conduits PO*** with cables	16 – 40			
Flexible conduits PVC*** with or without cables	16 – 20	EI 120-U/U		
Rigid conduits PO / PVC*** with or without cables	16 – 40			
Bundles (Ø ≤ 100 mm) of conduits	≤ 20			

* All sheathed cable types currently and commonly used in building practice in Europe (e.g. power, control, signal, telecommunication, data, optical fiber cables).

** RFS Cellflex: LCF 78-50 JA Ø 27.8 mm, LCF 214-50 J Ø 59.9 mm; RFS Heliflex HCA 78-50 JFNA Ø 28.0 mm, HCA 158J Ø 59.9 mm; RFS Radiaflex RLKW 78-50 Ø 28.5 mm, RLKU 158-50 JFLA Ø 48.2 mm.

*** PO: polyolefin (PE, PP, PPE, PPO); PVC: polyvinyl chloride.

Excerpt of ETA document. Check the exact field of application for each penetration (type, diameter) in the ETA 13/0099 document.
 For wall installation, maximum distance of 1st service support is 250 mm.
 For floor installation, maximum distance of 1st service support is 230 mm.

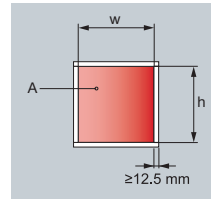


MAIN APPROVED APPLICATIONS

No penetration	Max. opening size (mm)	Flexible walls	Rigid walls	Rigid floors
Blank seal	1000 × 1000	EI 120	EI 120	-
Blank seal	500 × 700	-	-	EI 120
Blank seal with supporting structures	1000 × 700	-	-	EI 120
Blank seal without supporting structures	1000 × 700	-	-	EI 60

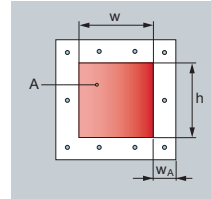
OTHER APPROVED SOLUTIONS

Aperture framing in rigid and flexible wall to reach 200 mm seal thickness



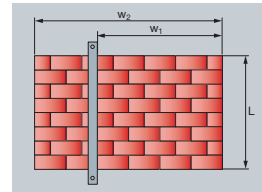
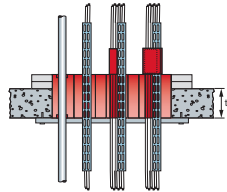
When $t_e \leq 200$ mm, frame should be installed made of class A1 or A2 material (e.g. gypsum).

Beading in rigid and flexible wall can be used as alternative to aperture framing to reach 200 mm seal thickness.



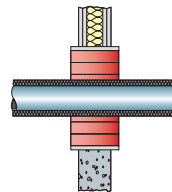
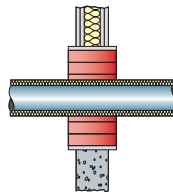
When $t_e \leq 200$ mm beading should be installed made of class A1 or A2 material (e.g. gypsum). $w_A \geq 100$ mm.

For large (≥ 700 mm x 500 mm) blank floor seals, additional support needed



Add metal band width ≥ 30 mm, thickness ≥ 2 mm for large floor seals without penetration.

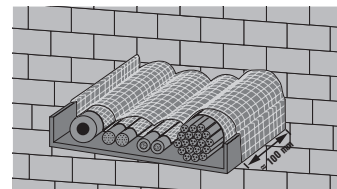
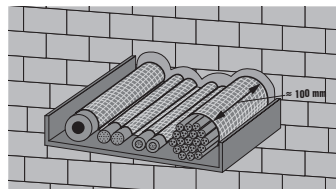
Metal pipes



Copper pipes up to diameter of 54 mm and steel pipes up to 159 mm with mineral wool insulation.

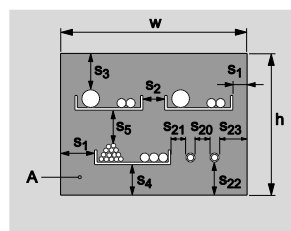
Copper pipes up to diameter of 54 mm and steel pipes up to 159 mm with Armaflex insulation.

To reach EI 120 with cables, Firestop putty bandage CFS-P BA must be used



See ETA for details. Cover to 100 mm outside opening with 1st layer. Cover the cables and the tray with additional layer.

Distance requirements



See ETA 13/0099 for details.

Hilti Firestop Foam CFS-F FX to seal small gaps



Hilti Firestop Foam CFS-F FX is used in areas without services to fill gaps at the top of penetrations where Hilti Firestop Block would be used. Otherwise have to cut to complete the sealing of the penetration. Classification of the penetration is as for a blank seal, seal depth 200 mm.

Application in sandwich panel partitions (≥ 100 mm)

All sheathed cables ≤ 80 mm
Tied cable bundle ≤ 100 mm
Plastic conduits and tubes ≤ 16 mm
Steel conduits and tubes ≤ 16 mm

EI 90 (with 2 layers of putty CFS-P BA)

Busbar

EAE ELEKTRIK – Type: E-Line KCX 40505-B; 4000 A

Maximum outer dimension of the section: 372 mm x 150 mm
Conductor material: copper
Maximum number of conductors: 10
Maximum section of conductors: 140 mm x 6 mm

Flexible or rigid walls (≥ 200 mm): EI 120 (with and without support tray) with 2 layers of putty CFS-P BA

Sandwich panel partitions (≥ 100 mm): EI 90 (with and without support tray, with 2 layers of putty CFS-P BA)

CHARACTERISTICS OF CFS-BL

Characteristics	Assessment of characteristics	Norm, standard, test
Air permeability	Resistance to static pressure: impermeable (lengthwise and crosswise)	EN 1026
Health and the environment Dangerous substances	Clean-Tec Below any respective occupational exposure limits as far as such limits exist (compared with the list of dangerous substances of the European Commission)	Hilti Clean-Tec criteria Material safety data sheet
Protection against noise Airborne sound insulation	CFS-BL = R_w (C; Ctr) = 51 (-1; -5) dB	EN ISO 140-3
Safety in use Mechanical resistance and stability resistance to impact / movement	No performance figures determined. Large floor seals or wall penetrations must be protected to avoid risk of injury to people, e.g. by installing a metal sheet or wire mesh.	
Thermal properties	Thermal conductivity $\lambda = 0.089$ W/mK and thermal resistance $R = 0.563$ m ² K/W	EN 12667
Electrical properties	Electrical volume resistivity: 2.17E+9 (± 0.5) Ω cm	DIN IEC 60093 (VDE 0303 Part 30):1993-12
Durability and serviceability	Category Y ₁ (products intended for use at temperatures between - 5 °C and + 70 °C with exposure to UV but without exposure to rain.)	EAD 350454-00-1104
Reaction to fire	Class E	EN 13501-1



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

www.facebook.com/hiltigroup
www.hilti.group