HILTI

Technical Data Sheet

Hilti CFS-CU Firestop Cushion

European technical approval ETA Nº 08/0213

Issue 04/2011

Firestop Cushion CFS-CU

The most cost-efficient system available for firestop applications in temporary installations

Applications

- Permanent firestopping in cable penetrations through walls and floors, particularly where flexibility is required due to frequent changes in cabling
- Sealing penetrations for single or bunched cables and openings in floors and walls for PVC pipes up to 50 mm diameter
- Temporary sealing of openings or breaches in floors and walls during construction work

Advantages

- Easy and very quick installation
- No special tools required
- Fully functional immediately after installation
- Re-usable and thus economical
- No packaging waste and thus ecological
- Very economical in use thanks to optimized cushion dimensions

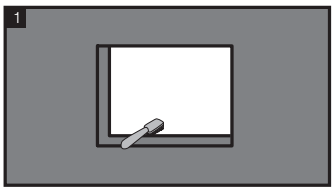
Technical data

	CFS-CU
Intumescent	Yes
Re penetration	Yes
Color	White
Temporary closing	Yes
Singlesided installation possible	Yes
2nd component	for ceiling openings: CFS-S ACR
Reusable (and removable)	Yes
Reaction to fire class	B-s1 d0 (according to EN 13501-1)

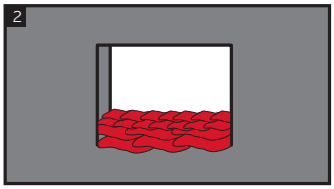
The European Technical Approval (ETA) can be obtained via your local Hilti contact.

Order designation	Sales Quantity	Item Number
Firestop cushion CFS-CU L	6	02007447
Firestop cushion CFS-CU M	15	02007446
Firestop cushion CFS-CU S	30	02007445

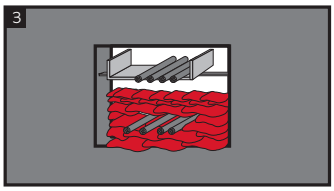
Installation instructions



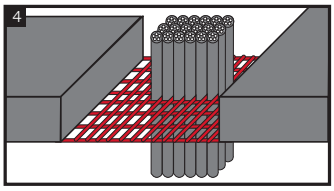
Clean the opening.



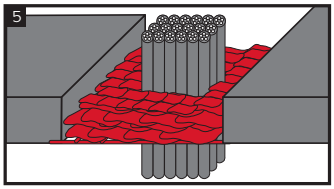
Cushion arrangement without cables running through wall partition.
Opening must be framed in drywall applications.



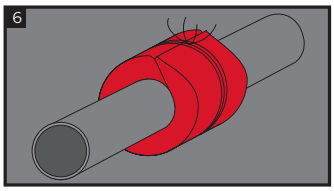
Cushion arrangement with cables/ cable trays running through wall partition.



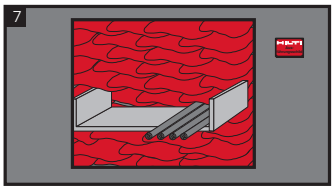
When closing floor openings, fasten wire mesh in place as shown in drawing.



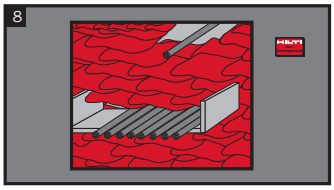
Cushion arrangement in floor. If required, seal gaps between cables and Hilti Firestop Cushions with Hilti Acrylic Sealant CFS-S ACR (please refer to approval).



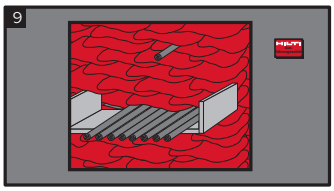
If required by approval, wrap cable/ cable tray resp. pipe with Hilti Firestop Cushion CFS-CU L and fix with wire as shown in drawing.



Fasten identification plate in place if required.



Re-installing cables or pipes:
Remove a Hilti Firestop Cushion from the seal and install the cable or pipe.



Close the opening with Hilti Firestop Cushions in compliance with the approval.

Cable, conduit and pipe penetration

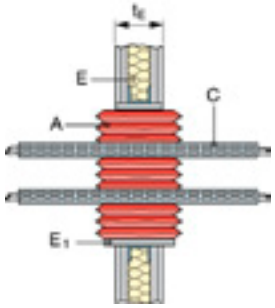
Flexible Wall | Rigid Wall

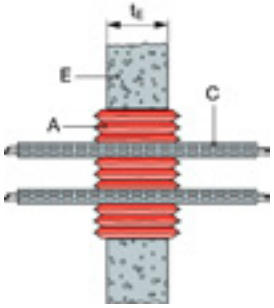
The intended use of the Hilti Firestop Cushion CFS-CU is to reinstate the fire resistance performance of:
Flexible walls/drywalls (E), with a minimum thickness 100 mm (t_E) with timber or steel studs lined on both faces with a minimum of two layers of 12.5 mm thick boards. For timber stud walls there must be a minimum distance of 100mm between the seal and any stud, and the cavity must be filled with a minimum of 100 mm of Class A1 or A2 insulation in accordance with EN 13501-1.
Rigid walls (E) consisting of concrete, aerated concrete or masonry, minimum density of 650 kg/m^3, minimum thickness 100/150 mm (t_E).
Maximum opening size (w x h) 1200 mm x 1500 mm in flexible and rigid walls.

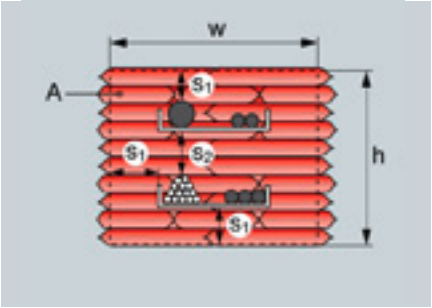
Penetration seal (A)/services (C)	**Wall type and thickness (t_E)**	**Classification E = Integrity I = Insulation**	**Other criteria Description Minimum distances (s_1, s_2)**
All sheathed cable types up to 80 mm diameter	Flexible wall Rigid wall >100 mm	EI 120	Additional cable wrapping with CFS-CU L Minimum distances: cable/cable tray to seal edge (s_1) = 40 mm cable to cable (s_2) = 0 mm cable to cable bundle (s_2) = 80 mm cable to cable tray (s_2) = 80 mm
Tied cable bundles up to 80 mm overall diameter, containing sheathed cables up to 21 mm diameter			
All non-sheathed electrical cables up to 24 mm diameter			
Steel or plastic conduits up to 16 mm diameter		EI 120-U/U	
All sheathed cable types up to 80 mm diameter	Flexible wall Rigid wall >100 mm	EI 45 (E 120)	**No additional cable wrapping** Minimum distances: cable/cable tray to seal edge (s_1) = 40 mm cable to cable (s_2) = 0 mm cable to cable bundle (s_2) = 80 mm cable to cable tray (s_2) = 80 mm plastic pipe to seal edge (s_1) = 100 mm plastic pipe to plastic pipe (s_2) = 100 mm plastic pipe to cable tray (s_2) = 175 mm
Tied cable bundles up to 80mm overall diameter, containing sheathed cables up to 21 mm diameter			
All non-sheathed electrical cables up to 24 mm diameter			
Steel or plastic conduits up to 16 mm diameter		EI 45-U/U (E 120)	
PVC-U pipes (C) according to EN 1452-1 and DIN 8061/8062 diameter 50 mm and pipe wall thickness 1.8–5.3 mm		EI 120-U/C	

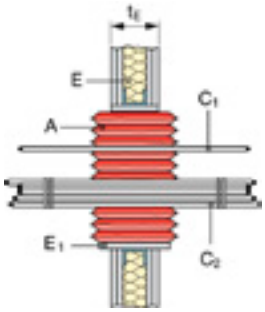
Penetration seal (A)/services (C)	Wall type and thickness (t_E)	Classification E = Integrity I = Insulation	Other criteria Description Minimum distances (s_1, s_2)
All sheathed cable types up to 80 mm diameter	Rigid wall >150 mm	EI 120 (E 240)	Additional cable wrapping with CFS-CU L Minimum distances: see above table
Tied cable bundles up to 80 mm overall diameter, containing sheathed cables up to 21 mm diameter			
All non-sheathed electrical cables up to 24 mm diameter			
Steel or plastic conduits up to 16 mm diameter		EI 120-U/U (E 240)	
All sheathed cable types up to 80 mm diameter	Rigid wall >150 mm	EI 60 (E 240)	**No additional cable wrapping** Minimum distances: see above table
Tied cable bundles up to 80mm overall diameter, containing sheathed cables up to 21 mm diameter			
All non-sheathed electrical cables up to 24 mm diameter			
Steel or plastic conduits up to 16 mm diameter		EI 45-U/U (E 240)	
PVC-U pipes (C) according to EN 1452-1 and DIN 8061/8062 diameter 50 mm and pipe wall thickness 1.8–5.3 mm		EI 240-U/C	

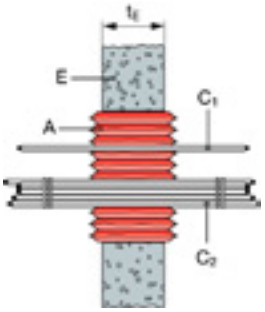
Cables | Conduits | Pipes

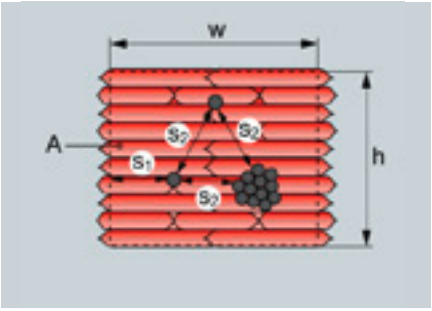


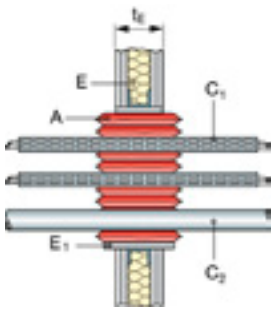


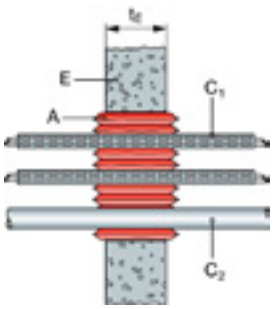


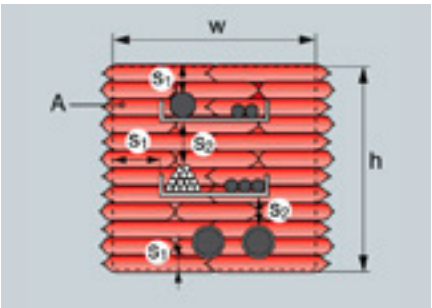




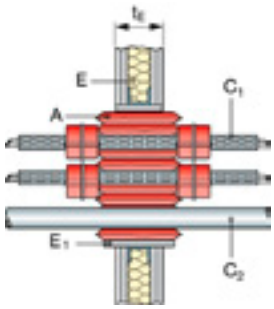


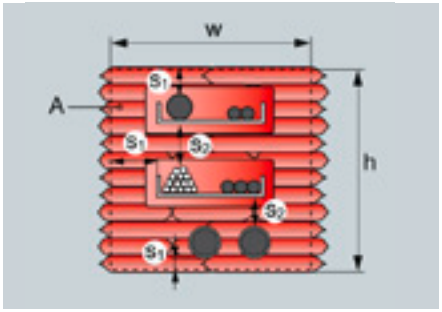






Additional cable wrapping



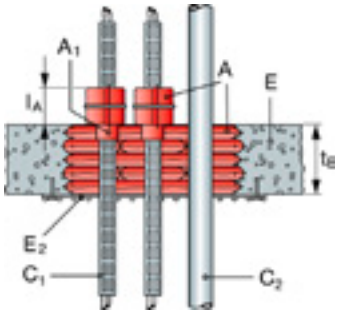


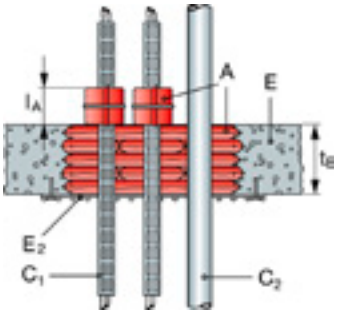
Cable, conduit and pipe penetration
Floor

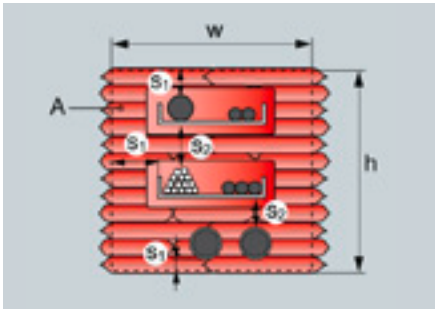
The intended use of the Hilti Firestop Cushion CFS-CU is to reinstate the fire resistance performance of rigid floors, minimum thickness 150 mm (t_E), minimum density of 2200 kg/m^3.
Maximum opening size (w x h) up to 700 mm wide and unlimited length.

Penetration seal (A)/services (C)	Wall type and thickness (t_E)	Classification E = Integrity I = Insulation	Other criteria Description Minimum distances (s_1, s_2)
All sheathed cable types up to 21 mm diameter	Rigid floor >150 mm	EI 120	Additional cable wrapping with CFS-CU L (see drawings) (I_A = 150 mm) Minimum distances: cable/cable tray to seal edge (s_1) = 40 mm cable to cable (s_2) = 0 mm cable to cable bundle (s_2) = 80 mm cable to cable tray (s_2) = 80 mm plastic pipe to seal edge (s_1) = 40 mm plastic pipe to plastic pipe (s_2) = 100 mm plastic pipe to cable tray (s_2) = 50 mm Additional support by wire mesh fixed with metal anchors underneath the seal is required (E_2).
All sheathed cable types diameter 21–90 mm		EI 60 (E 120)	
Cable bundles up to 80 mm overall diameter containing all sheathed cable types up to 21 mm diameter			
All non-sheathed cable types up to 24 mm diameter			
Steel and plastic conduits up to 16 mm diameter		EI 60-U/U (E 120)	
PVC-U pipes (C) according to EN 1452-1 and DIN 8061/8062 diameter 50 mm and pipe wall thickness 1.8–5.3 mm		EI 120-U/C	
All sheathed cable types up to 21 mm diameter	Rigid floor >150 mm	EI 120	Additional cable wrapping with CFS-CU L (see drawings) I_A = 150 mm [1] I_A = 300 mm + Hilti Firestop Acrylic Sealant CFS-S ACR (A_1) Minimum distances: see above Additional support by wire mesh fixed with metal anchors underneath the seal is required (E_2).
All sheathed cable types diameter 21–90 mm		EI 90 EI 120[1]	
Cable bundles up to 80 mm overall diameter containing all sheathed cable types up to 21 mm diameter		EI 90 (E 120)	
All non-sheathed cable types up to 24 mm diameter		EI 120 (E 240)	
Steel and plastic conduits up to 16 mm diameter		EI 120-U/U (E 240)	

Cables | Conduits | Pipes
Additional cable wrapping







Characteristics of CFS-CU
Additional Attributes

Hilti firestop products are comprehensively tested and individually matched to the technical requirements of a building's mechanical and electric installations. 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 Nº 026 – Part 2.

Charecteristics	Assessment of charecteristics	Norm, standard, test
Health and the environment Dangerous substances	Below any respective occupational exposure limits as far as such limits exist	Material safety data sheet
Protection against noise (Air borne sound insulation)	R_w (C; C_{tr}) = 50 dB $D_{n,e,w}$ (C; C_{tr}) = 58 dB	EN ISO 140-3 EN ISO 140-10 EN ISO 717-1
Safety in use Mechanical resistance and stability Resistance to impact / movement	Soft body impact: Energy 300 Nm Hard body Impact: Energy 10 Nm	EOTA Technical Report TR001
Adhesion	It is assumed that verification of adequate adhesion is covered by the impact test (see above).	
Durability and serviceability	Category Z_2 (suitable for penetration seals intended for use in indoor dry conditions with humidity classes excluding high humidity and temperatures below 0° C.	EOTA Technical Report TR 024 ETAG 026-2
Reaction to fire	Class B – s_1, d_0	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.

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