



FIRESTOP FOAM CFS-F FX

Technical Manual

European Technical Assessment
ETA 10/0109



FLEXIBLE FIRESTOP FOAM CFS-F FX



Applications

- Electrical: cable conduits, cables, cable bundles, cable trays and cable trunking
- Mechanical: metal & plastic pipes, composite pipes, split AC unit piping
- Mixed penetration seal
- Repenetration with single cables
- Approvals in combination with Hilti CFS-BL firestop blocks, especially for large openings or applications in specialist industry applications (telecom, industrial)

Advantages

- Foam can be easily shaped during the curing process
- Neat and tidy application
- Very quick and easy to install and provides a reliable firestop seal with only one product
- Maintenance and retrofitting of cables is very easy
- Single-sided installation possible
- Smoke-tightness and firestopping with one system



Technical Data

Base materials	Concrete, Masonry, Drywall
Approvals	ETA-10/0109
Repenetration	Easy
Approx. tack-free time (at 23 °C / 50% rel. humidity)	5 min
Approx. curing time1)	10 min
Application temperature range	10 - 35 °C
Temperature resistance range	-30 - 60 °C
Storage and transportation temperature range	5 - 25 °C
Required dispenser	HDM 330, HDE 500
Content per can / cartridge	325 ml

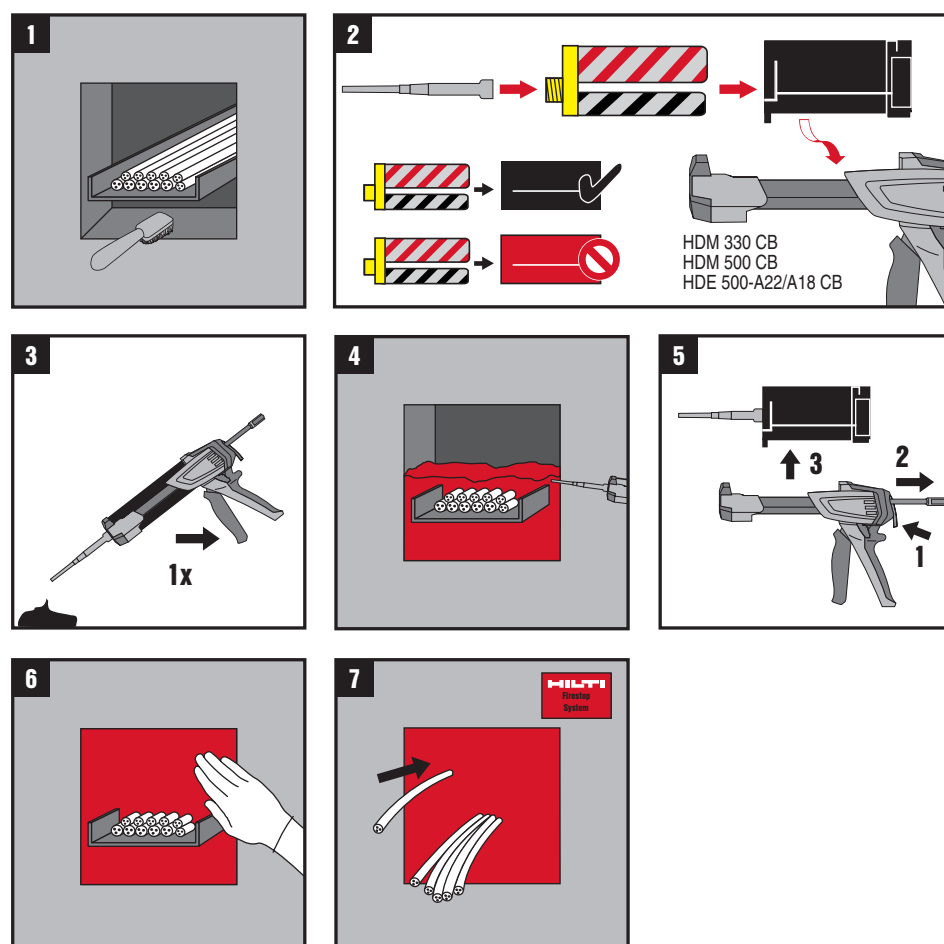


Ordering description	Package contents	Sales pack quantity	Item number
CFS-F FX	1x Firestop Foam CFS-F FX	1 pc	429802

Accessories

Ordering designation		CFS-F FX	Sales pack quantity	Item number
HDM 330 manual dispenser		•	1 pc	2036319
HDE 500-A22 cordless dispenser		•	1 pc	2005637

GENERAL INSTRUCTIONS FOR USE

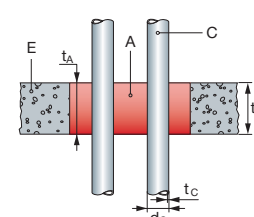
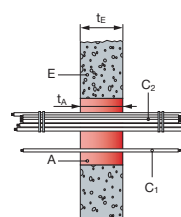
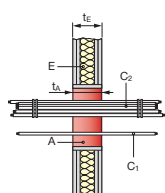
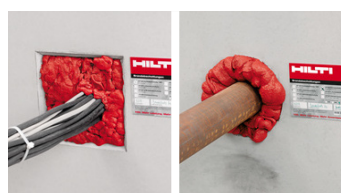


CONSUMPTION GUIDE

Number of 325 ml cartridges required for various opening sizes and penetration volumes:

Circular opening – 200 mm depth					Rectangular opening – 200 mm depth					
Opening Ø (mm)	Visual fill of penetrating items				Opening (mm)		Visual fill of penetrating items			
	0%	10%	30%	60%	Width	Height	0%	10%	30%	60%
90	1.0	1.0	1.0	0.5	50	100	1.0	1.0	0.5	0.5
120	1.5	1.5	1.0	1.0	100	100	1.5	1.5	1.0	0.5
140	2.0	2.0	1.5	1.0	100	150	2.0	2.0	1.5	1.0
160	2.5	2.5	2.0	1.0	100	200	2.5	2.5	2.0	1.0
180	3.0	3.0	2.5	1.5	100	250	3.0	3.0	2.5	1.5
200	4.0	3.5	3.0	1.5	100	300	3.5	3.5	2.5	1.5
220	4.5	4.0	3.5	2.0	200	200	5.0	4.5	3.5	2.0
240	5.5	5.0	4.0	2.5	200	225	5.5	5.0	4.0	2.5
250	6.0	5.5	4.0	2.5	200	250	6.0	5.5	4.5	2.5
280	7.5	6.5	5.0	3.0	200	300	7.0	6.5	5.0	3.0
300	8.5	7.5	6.0	3.5	200	400	9.5	8.5	6.5	4.0
320	9.5	8.5	6.5	4.0	300	300	10.5	9.5	7.5	4.5
340	10.5	9.5	7.5	4.5	300	350	12.5	11.0	8.5	5.0
350	11.5	10.0	8.0	4.5	300	400	14.0	12.5	10.0	6.0
400	14.5	13.5	10.5	6.0	400	400	18.5	17.0	13.0	7.5

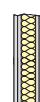
GENERAL INFORMATION

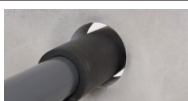


Partition	Flexible wall	Rigid wall	Floor
Base material thickness (t_E)	$\geq 100 \text{ mm}$	$\geq 100 \text{ mm}$	$\geq 100 \text{ mm}$
Opening size	$\leq 600 \times 600 \text{ mm}$ or $\phi \leq 600 \text{ mm}$	$\leq 600 \times 600 \text{ mm}$ or $\phi \leq 600 \text{ mm}$	$\leq 400 \times 400 \text{ mm}$ or $\phi \leq 400 \text{ mm}$
Total service surface	$\leq 60\%$ of surface of the opening		
Penetration	Blank seal cables and cable bundles, insulated and non-insulated metal pipes, plastic and AL composite pipes, Clima Split applications conduits and tubes plastic/metal, flexible or rigid conduits		

*conduits and tubes plastic/metal, flexible or rigid conduits

MAIN APPROVED APPLICATIONS



Penetration	Penetration Ø	Flexible wall	Rigid wall	Rigid floor
	Blank seal	EI 90 $\leq 600 \times 600 \text{ mm}$ $t_A \geq 100 \text{ mm}$		EI 120 $\leq 400 \times 400 \text{ mm}$ $t_A \geq 150 \text{ mm}$
	Cables $\phi \leq 80 \text{ mm}$ Bundles $\phi \leq 100 \text{ mm}$	EI 120 $\leq 400 \times 400 \text{ mm}$ $t_A \geq 150 \text{ mm}$		
	$\phi \leq 16 \text{ mm}$	EI 60 up to EI 120* seal thickness $t_A \geq 100 \text{ mm}$		
	Plastic conduits	$\phi \leq 16 \text{ mm}$	EI 90 up to EI 120 with $t_A \geq 100 \text{ mm}$	EI 120 $t_A \geq 150 \text{ mm}$
	Flexible / rigid plastic conduits	$16 \text{ mm} \leq \phi \leq 32 \text{ mm}$	EI 120 $t_A \geq 100 \text{ mm}$	EI 120 $t_A \geq 150 \text{ mm}$
	Bundles of plastic, conduits $16 \text{ mm} \leq \phi \leq 32 \text{ mm}$	EI 120 with $t_A \geq 200 \text{ mm}$		
	AL composite pipes $16 \text{ mm} \leq \phi \leq 32 \text{ mm}$	EI 120 with $t_A \geq 200 \text{ mm}$		

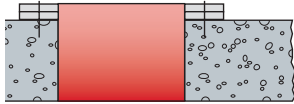
Penetration		Penetration Ø	Flexible wall	Rigid wall	Rigid floor
	Non-insulated metal pipes	28 mm		EI 90 $t_A \geq 200$ mm	
	Metal pipes with mineral wool insulation	12 mm Ø 168 mm		EI 60 up to EI 120 $t_A \geq 150$ mm	EI 60 up to 120 $t_A \geq 150$ mm
	Metal pipes with Armaflex insulation	6 mm Ø ≤ 42 mm		EI 90 up to EI 120 $t_A \geq 200$ mm	EI 120 $t_A \geq 200$ mm
	Metal pipes with Armaflex insulation with CFS-B Firestop Bandage	28–114 mm		EI 60 up to EI 120 $t_A \geq 150$ mm EI 120 $t_A \geq 200$ mm	
	Plastic pipes	≤ 50 mm		EI 60 up to EI 120 $t_A \geq 150$ mm	
	Plastic pipes with CFS-B PE/PVC	50–110 mm		EI 120 $t_A \geq 200$ mm	

Excerpt of ETA document. Check the exact field of application (cable types and diameters, pipe types/diameters and wall thickness/insulations type) in the ETA 10/0109 document.

OTHER APPROVED APPLICATIONS

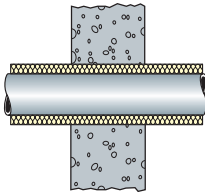
Framing for thicker seal than partition thickness

See ETA for more details



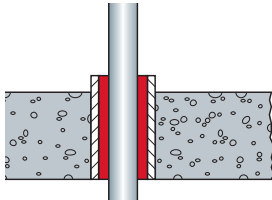
Local / continued and sustained / interrupted insulation affects EI classification

See ETA for more details



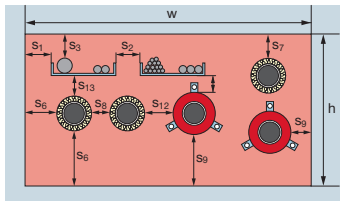
Metal and plastic pipe through wall / floors inside PVC cast-in sleeve

See ETA for detail of approved pipes and insulated pipes



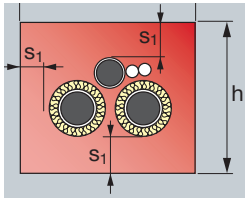
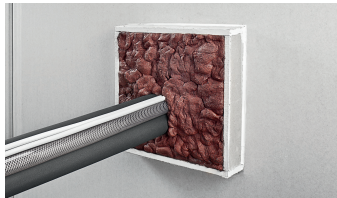
Mixed penetrations (pipes, cables, conduits)

See ETA for more details



“Clima Split” bundles of pipes, cables and PVC-U pipes

See ETA for more details



CHARACTERISTICS OF CFS-F FX

Characteristics	Flexible wall	Rigid wall
Health and the environment Air permeability (gas tightness)	$\Delta p \ 50 \text{ Pa} \Rightarrow 0.0007 \text{ q/A [m}^3\text{/(h x m}^2\text{)]}$ (174 mm thickness of layer) $\Delta p \ 250 \text{ Pa} \Rightarrow 0.0033 \text{ q/A [m}^3\text{/(h x m}^2\text{)]}$ Permeability regarding air	EN 1026
Dangerous substances	Below any respective occupational exposure limits as far as such limits exist.	Material safety data sheet
Safety in use Resistance to impact / movement / Mechanical resistance and stability / Adhesion	Soft body impact: Energy 1200 Nm Hard body impact: Energy 10 Nm Fullfills requirements of zones Type I, II, III and IV maximum opening 400 x 400 mm.	EOTA Technical Report TR001, A1
Protection against noise (Airborne sound insulation)	$R_w \text{ (C; Ctr)} = 61 \text{ (-2; -6) dB}$ $D_{n,e,w} \text{ (C; Ctr)} = 69 \text{ (-2; -7) dB}$	EN ISO 140-3 EN ISO 20140-10 EN ISO 717-1
Durability and serviceability	Category Y2 (suitable for penetration seals intended for use at temperatures between - 20 °C and + 70 °C) no exposure to rain or UV. May be coated with acrylic dispersion, alkyd resin, polyurethan / acrylic and epoxy resin).	EOTA Technical Report TR024 EAD 350454-00-1104:2017
Reaction to fire	Class E	EN 13501-1



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