



HILTI CFS-F FX Flexible Firestop Foam Instruction Manual

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HILTI CFS-F FX Flexible Firestop Foam



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

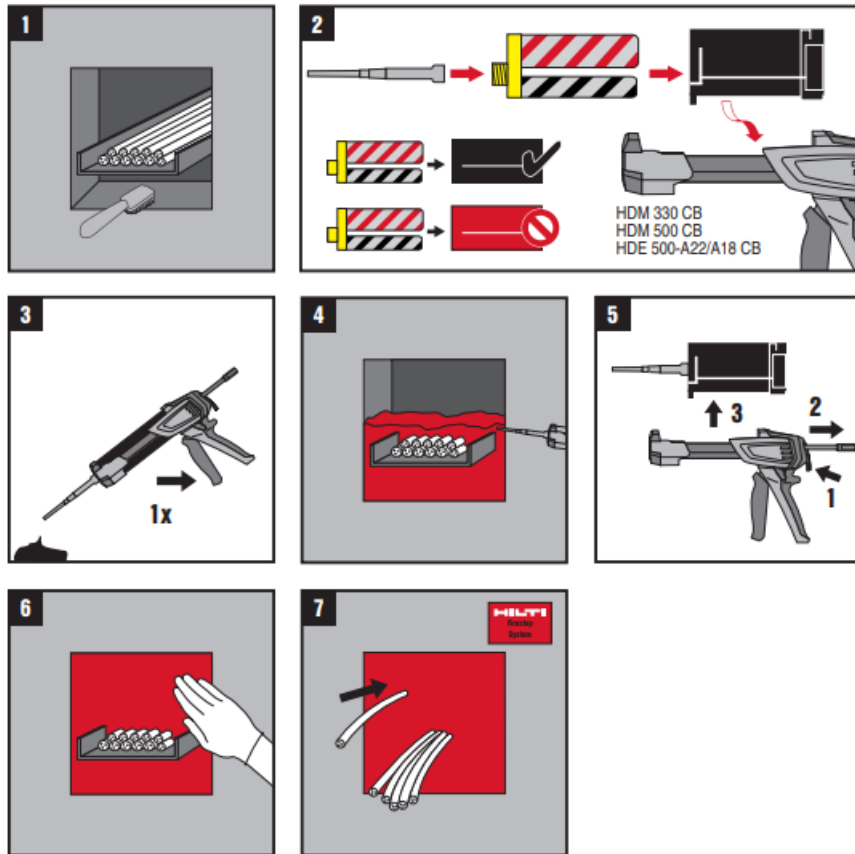
Technical Data

- 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

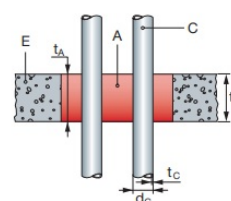
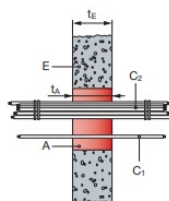
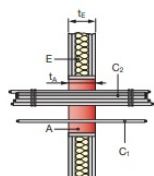
Number of 325 ml cartridges required for various opening sizes and penetration volumes:

Circular opening – 200 mm depth

Rectangular opening – 200 mm depth

0 ⁹	1.0	1.0	1.0	0.5	50	100	1.0	1.0	0.5	0.5
0 ¹²	1.5	1.5	1.0	1.0	100	100	1.5	1.5	1.0	0.5
0 ¹⁴	2.0	2.0	1.5	1.0	100	150	2.0	2.0	1.5	1.0
0 ¹⁶	2.5	2.5	2.0	1.0	100	200	2.5	2.5	2.0	1.0
0 ¹⁸	3.0	3.0	2.5	1.5	100	250	3.0	3.0	2.5	1.5
0 ²⁰	4.0	3.5	3.0	1.5	100	300	3.5	3.5	2.5	1.5
0 ²²	4.5	4.0	3.5	2.0	200	200	5.0	4.5	3.5	2.0
0 ²⁴	5.5	5.0	4.0	2.5	200	225	5.5	5.0	4.0	2.5
0 ²⁵	6.0	5.5	4.0	2.5	200	250	6.0	5.5	4.5	2.5
0 ²⁸	7.5	6.5	5.0	3.0	200	300	7.0	6.5	5.0	3.0
0 ³⁰	8.5	7.5	6.0	3.5	200	400	9.5	8.5	6.5	4.0
0 ³²	9.5	8.5	6.5	4.0	300	300	10.5	9.5	7.5	4.5
0 ³⁴	10.5	9.5	7.5	4.5	300	350	12.5	11.0	8.5	5.0
0 ³⁵	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

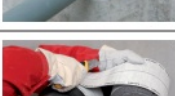
GENERAL INFORMATION



Partition	Flexible wall	Rigid wall	Floor
Base material thickness (t_E)	≥ 100 mm	≥ 100 mm	≥ 100 mm
Opening size	$\leq 600 \times 600$ mm or $\phi \leq 600$ mm	$\leq 600 \times 600$ mm or $\phi \leq 600$ mm	$\leq 400 \times 400$ mm or $\phi \leq 400$ 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		

MAIN APPROVED APPLICATIONS

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

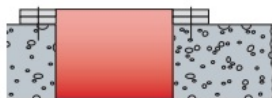
Penetration		Penetration Ø	Flexible wall	Rigid wall	Rigid floor
	Non-insulated metal pipes	28 mm		EI 90 $t_A \geq 200$ mm	
	Metal pipes with mineral wool insulation	12 mm Ø 168 mm		EI 60 up to EI 120 $t_A \geq 150$ mm	EI 60 up to 120 $t_A \geq 150$ mm
	Metal pipes with Armaflex insulation	6 mm Ø ≤ 42 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

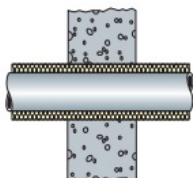
Framing for thicker seal than partition thickness

See ETA for more details



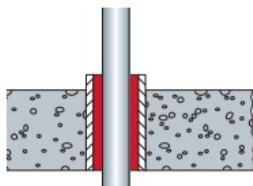
Local / continued and sustained / interrupted insulation affects EI classification

See ETA for more details



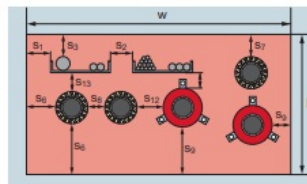
Metal and plastic pipe through wall / floors inside PVC cast-in sleeve

See ETA for detail of approved pipes and insulated pipes



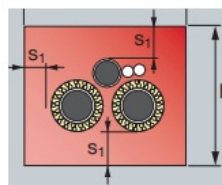
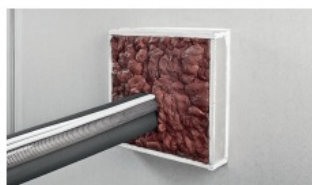
Mixed penetrations (pipes, cables, conduits)

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

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Documents / Resources

	HILTI CFS-F FX Flexible Firestop Foam [pdf] Instruction Manual CFS-F FX, Flexible Firestop Foam, CFS-F FX Flexible Firestop Foam, Firestop Foam
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