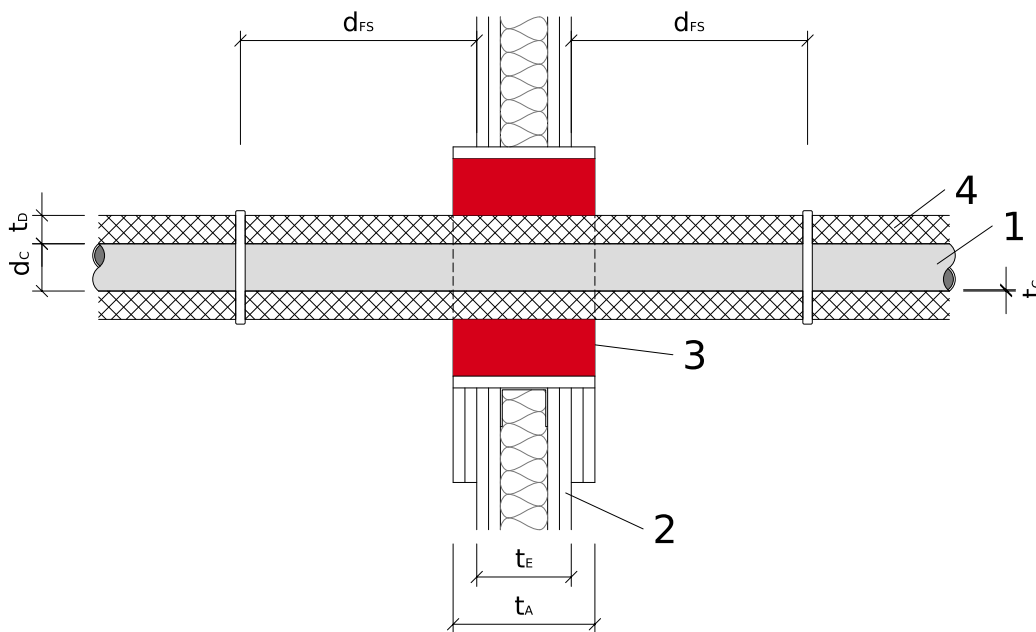
	Product Hilti firestop foam CFS-F FX	
ID 10/0109#92	Solution Copper Pipe with non-combustible insulation in Flexible Wall - EI 120 (C/U)	
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Product description

Hilti CFS-F FX: Easy-to-install flexible firestop foam to help create a fire and smoke barrier around cable and mixed penetrations in concrete, masonry and drywall

- Approval document ETA: 10/0109
- Installation acc. Hilti Instructions for Use



Fire-resistance classification EI 120 C/U

1 Penetrant


1.1 Copper Pipe

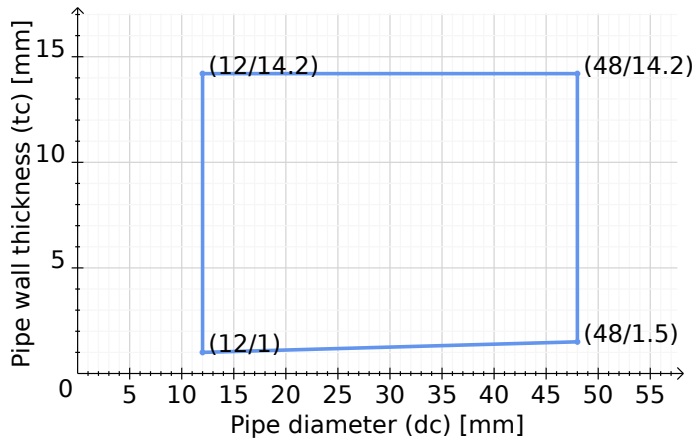
Penetrant	Diameter range (d _c)	Wall thickness range (t _c)	Maximum support distance (d _{FS})	All data also valid for these penetrants	Pipe end configuration
Copper Pipe	12 mm – 48 mm	see diagram	300 mm	Steel Pipe Cast Iron Pipe Stainless Steel Pipe	C/U

- Application example: Drinking water pipes, Industrial piping, Heating pipes

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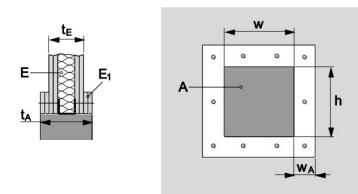


2 Flexible Wall

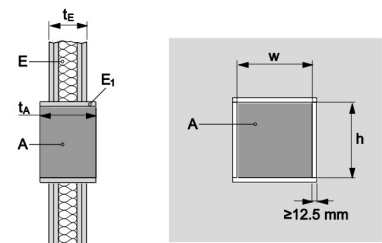
- Minimum thickness of supporting construction (t_E): 100 mm
- Description: The wall must comprise timber or steel studs lined on both faces with minimum 2 layers of min. 12.5 mm thick boards (acc. to EN 520 type F). For timber stud walls there must be a minimum distance of 100 mm between the seal and any stud. The cavity must be filled with minimum 100 mm insulation of Class A1 or A2 (in accordance with EN 13501-1)

Application Note

Alternatively to the Aperture framing, a gypsum plasterboard doubling around the opening can be mounted on the wall in case of: - a flexible wall with full insulation between the panels filling the space between the linings completely, an insulation of a density of more than or equal to 100 kg/m³ or an insulation not made from glass wool. Width $w_A \geq 50$ mm, total thickness wall plus frame \geq bulkhead thickness t_A . The doubling frame must be fastened with at least 2 metal screws on each side of the frame, with a maximum distance of 150 mm between the screws. The frame must be mounted on both sides so that the penetration seal is centred with respect to the wall.




An aperture framing must be installed in the opening in case of: - the required seal thickness t_A is bigger than the actual wall thickness t_E - a flexible wall with no insulation between the panels, an insulation that does not fill the space between the linings completely, an insulation of a density of less than 100 kg/m³ or an insulation made from glass wool. This framing must be made of the same material that was used to build the wall, i.e. braces and panels with a minimum panel thickness of 12.5 mm



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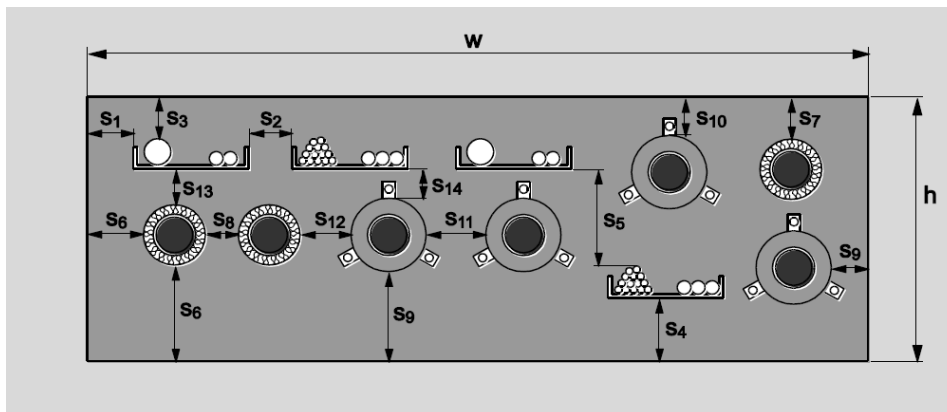
3 Hilti firestop foam CFS-F FX

- Seal Shape: Round opening, Rectangular opening
- Round opening size $\varnothing \leq 400$ mm; Rectangular opening size (w × h) max. 400 mm x 400 mm
- Minimum seal thickness (t_A): 200 mm
- Seal Type - Mixed application: The shown application can also be used in combination with additional penetrations of another type acc. EN 1366-3. The distances shown in the chapter below have to be followed.
- Seal Occupancy: provided that the total amount of services (including insulation) is equal or lower than 60%

4 Non-combustible Insulation


- Rockwool RS 800 (ROCKWOOL)
- Description: Similar/Equal Insulation
- Insulation case acc. EN 1366-3: continued (C), sustained (S)
- Insulation thickness (t_D): 20 mm

5 Distances



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5.1 Distances between penetrants / seal edge within seal

Penetrant	Penetrant / Seal edge	Minimum distance between penetrants	Abbreviation	Description	Position of penetrants
Metal Pipe	Aluminium Composite Pipe	100 mm	-	acc. EN 1366-3:2021	
Metal Pipe	Cable Bundle	50 mm	s13		
Metal Pipe	Cable Support	50 mm	s13		
Metal Pipe	Clima Split - Bundles of Pipes & Cables	100 mm	-	acc. EN 1366-3:2021	
Metal Pipe	Combustible Plastic Pipe	35 mm	s12		
Metal Pipe	Conduit	100 mm	-	acc. EN 1366-3:2021	
Metal Pipe	Conduit Bundle	100 mm	-	acc. EN 1366-3:2021	
Metal Pipe	Lateral seal edge	0 mm	s6		
Metal Pipe	Lower seal edge	0 mm	s6		
Metal Pipe	Metal Pipe	0 mm	s8		Linear arrangement
Metal Pipe	Metal Pipe	40 mm	s8		Cluster arrangement
Metal Pipe	Single Cable	50 mm	s13		
Metal Pipe	Small conduit (≤16mm)	50 mm	s13		
Metal Pipe	Upper seal edge	20 mm	s7		

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5.2 Distances between different penetration seals

Kind of opening	Minimum distance to opening	Comment
Other Openings	200 mm	acc. EN 1366-3:2021
Penetration seal	100 mm	acc. EN 1366-3:2021

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