

DECLARATION OF PERFORMANCE

according to Annex III of the Regulation (EU) No. 305/2011 (Construction Products Regulation)

Hilti Firestop Filler Mastic CFS-FIL

No. Hilti CFS-FIL

1. Unique identification code of the product-type:

Hilti Firestop Filler Mastic CFS-FIL

2. Intended use:

Fire Stopping and Sealing Product for Penetration Seals, see ETA-21/0256 (26.01.2021)

Cable and pipe penetrations	Cable and non-insulated plastic pipes
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3. Manufacturer:

Hilti Corporation, Feldkircherstrasse 100, 9494 Schaan, Principality of Liechtenstein

4. System of AVCP:

System 1

5. European Assessment Document:

EAD 350454-00-1104 "Fire stopping and fire sealing products – Penetration seals

European Technical Assessment:

ETA-21/0256 (26.01.2021))

Technical Assessment Body:

ETA-Danmark A/S

Notified body/s:

MPA-Braunschweig, No. 0761

6. Declared performance:

Essential characteristic	Declared performance / Harmonised technical specification
Reaction to fire	Class E according to EN 13501-1
Resistance to fire	Resistance to fire performance and field of application in accordance with EN 13501-2. See Annex
Dangerous substances	See Annex
Air permeability	See Annex
Durability and serviceability	Y ₂
Protection against noise	Tested according to EN ISO 10140-2. Rw (C; Ctr) = 63 (-3;-8) dB

The performance of the product identified above is in conformity with the set of declared performances. This declaration of performance is issued in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

Stefan Juli
Product Manager
Business Unit Fire Protection
Hilti Corporation

Martin Althof
Head of Quality
Business Unit Fire Protection
Hilti Corporation

Extract of ETA-21/0256 (26.01.2021)

3 Performance of the product and references to the methods used for its assessment^{*)}

Characteristic	Assessment of characteristic
3.1 Safety in case of fire (BWR2)	
Reaction to fire	The product is classified as Class E in accordance with EN 13501-1
Resistance to fire	Classification according to EN 13501-2, see Annex A for further information of fire resistant designs
3.2 Hygiene, health and the environment (BWR3)	
Content, emission and/or release of dangerous substances	The concentration of total emission of VOC: After 3 days: 0,18 mg/m ³ After 28 days: 0,06 mg/m ³
Air permeability (material property)	At a pressure of 50 Pa the nominal flow rate is $\leq 2,1 \text{ E-}07 \text{ m}^3/(\text{h}\cdot\text{m}^2)$ At a pressure of 250 Pa the nominal flow rate is $\leq 1,0 \text{ E-}06 \text{ m}^3/(\text{h}\cdot\text{m}^2)$
Water Permeability (material property)	No performance assessed
3.3 Safety in use (BWR4)	
Mechanical resistance and stability	No performance assessed
Resistance to impact/movement	No performance assessed
Adhesion	No performance assessed
Durability	Use condition: Y ₂
3.4 Protection against noise (BWR5)	
Airborne sound insulation	R _w (C; C _{tr}) = 63 (-3;-8) dB
3.5 Energy Economy and heat retention (BWR6)	
Thermal properties	No performance assessed
Water vapour permeability	No performance assessed

^{*)} See additional information in section 3.6 – 3.7.

A.1 General Information

- a) Cables (up to 21mm) cover all cable types currently and commonly used in building practice in Europe except non-sheathed cables (wires), tied bundles and waveguides, optical fibre cables are covered.
- b) The classification results obtained using standard wall and floor configurations for cable penetration seals are valid for a penetration seal size equal to or smaller than tested, the maximum opening size is 60 mm. Provided the total amount of cross sections of the cables (core and insulation) does not exceed 60% of the penetration area and the working clearances are not smaller than the minimum working clearances used in the test.
- c) The maximum opening size of the pipe penetration seal is the sum of the outer diameter of the single pipe (up to 60,3 mm) and the annular sealant Hilti Firestop Filler Mastic CFS-FIL around the circular opening in walls and floors.
- d) The pipes and cables are installed perpendicular (90°) to the penetration seal.
- e) The separation between the adjacent single pipe penetration seals is ≥ 50 mm.
- f) The separation between adjacent multiple cable penetration seals is ≥ 200 mm.
- g) The first support of the service is located at maximum 250 mm away from both faces of wall constructions (separating element) and maximum 300 mm from the upper face of floor constructions (separating element)
- h) For a thicker separating element (t_E) than given in this ETA the thickness of the penetration seal (t_A) is increased by an equal amount
- i) The pipe end configuration U/C also covers C/C.

A.1.1 Rigid wall constructions $t_E \geq 100$ mm

Rigid walls made of concrete, aerated concrete or masonry with a minimum density of 550 kg/m³, a minimum thickness of 100 mm.

A.1.2 Rigid floor $t_E \geq 150$ mm

Rigid walls made of concrete, aerated concrete or masonry with a minimum density of 550 kg/m³, a minimum thickness of 150 mm.

The separating elements shall be constructed as prescribed in the EN 1366-3:2009 (see 7.2.2 standard supporting constructions)

A.2 Penetration seal for rigid walls ≥ 100 mm

Hilti Firestop Filler Mastic CFS-FIL(A) applied in full dept of the separating element (E), thickness (t_A) ≥ 100 mm.

Minimum distances between the cables (mm) acc. A.1

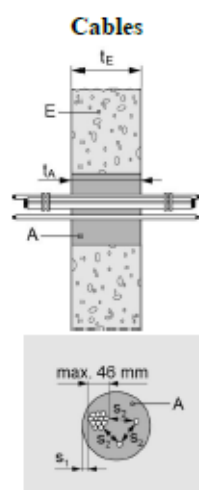
Single/multiple cable to single/multiple cable	$S_2 = 0$
Single cable or multiple cable to edge of aperture; see A.1 b)	$S_1 = 0$

Minimum distances between the penetrations (mm) acc. A.1

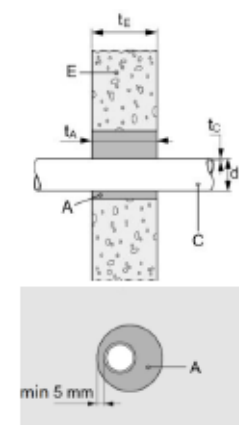
CPVC pipe to CPVC pipe penetration	50
Single/multiple cable(s) penetration to other services	200

A.2.1 Construction details

For abbreviations see the related text and Annex Fejl! Henvisningskilde ikke fundet. of the ETA.



Single pipe penetration



A.2.2 Cables¹

	Classification
single cable diameter up to $\varnothing 21$ mm (small cables, see A.1 a))	EI 90 E 120
multiple cables (single cable diameter max. $\varnothing 21$ mm. small cables, see A.1 a)), up to a bundle of $\varnothing 46$ mm with zero distance between the cables	EI 90 E 120

¹ the total amount of cross sections of the cables (core and insulation) does not exceed 60% of the penetration area acc. A.1 b)

A.2.3 Single pipe penetrations

CPVC Blazemaster: The width of the annular gap is min 5 mm, max. 25 mm				
	Pipe		Opening size	Classification
	diameter (d_c) [mm]	wall thickness (t_c) [mm]	max. ($d_c + 25$) [mm]	
Blazemaster 25	33,4	2,7	58,4	EI 120 U/C
Blazemaster 32	42,2	3,4	67,2	EI 120 U/C
Blazemaster 50	60,3	4,7	85,3	EI 120 U/C

CPVC Spears EverTuff: The width of the annular gap is min 5 mm, max. 25 mm				
	Pipe		Opening size	Classification
	diameter (d_c) [mm]	wall thickness (t_c) [mm]	max. ($d_c + 25$) [mm]	
Spears EverTuff ½"	15,88	1,98	40,88	EI 120 U/C
Spears EverTuff 1"	28,58	2,85	53,58	EI 120 U/C
Spears EverTuff 2"	53,98	5,19	78,98	EI 120 U/C

A.3 Penetration seal for rigid floors ≥ 150 mm

Hilti Firestop Filler Mastic CFS-FIL (A) applied in full depth of the separating element (E), thickness (t_A) ≥ 150 mm.

Minimum distances between the services (mm) acc. A.1

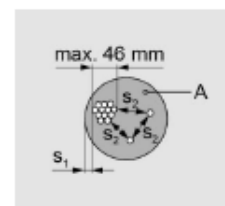
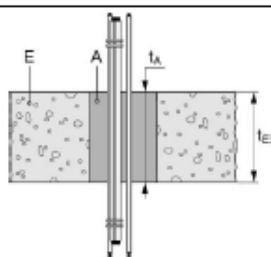
Single/multiple cable(s) to single/multiple cable(s)	$S_2 = 0$
Single/multiple cable(s) to edge of aperture; see A.1 b)	$S_1 = 0$

Minimum distances between the penetrations (mm) acc. A.1

Cable or multiple cable penetration and other services	200
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A.3.1 Construction details

Cables



For abbreviations see the related text and Annex Fejl! Henvisningskilde ikke fundet. of the ETA.

A.3.2 Cables²

	Classification
single cable diameter up to $\varnothing 21$ mm (small cables, see A.1 a))	EI 120
multiple cables (single cable diameter max. $\varnothing 21$ mm, small cables, see A.1 a)), up to a bundle of $\varnothing 46$ mm with zero distance between the cables	EI 120

² the total amount of cross sections of the cables (core and insulation) does not exceed 60% of the penetration area acc. A.1 b)

Abbreviation	Description drawings
A	Hilti Firestop Filler Mastic CFS-FIL
E	separating element (wall, floor)
C	penetration/service element (Pipe, cable)
s_1, s_2	Distances
t_A	Thickness (depth) of penetration seal
t_E	Thickness of the separating element
d_C	Pipe diameter (nominal outside diameter) for pipes
t_C	Pipe wall thickness