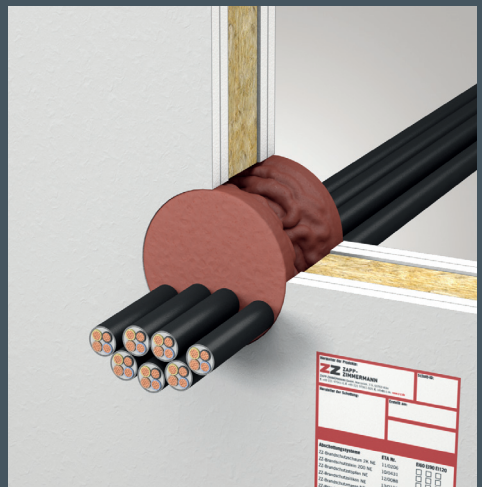
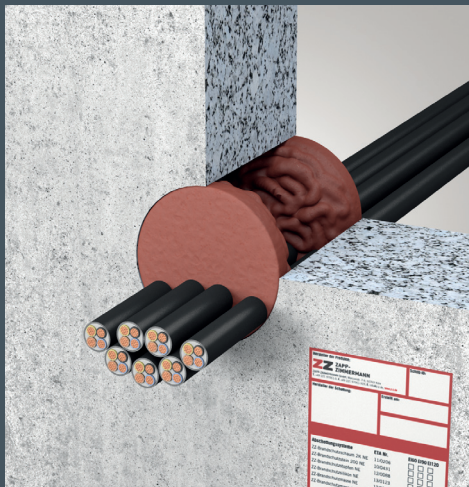


System ZZ-Fire protection mastic NE ETA-13/0093

INSTALLATION MANUAL



System ZZ-Fire protection mastic NE:	3-16
/ Fundamentals	4
/ System components and accessories	5
/ General instructions	6
/ Permissible install locations of the through penetration firestop system	7
/ Approved penetrating elements	7
/ Minimum working clearances	8
/ Particularities for installation	10
/ Board frame and lining	11
/ Installation steps	12
/ Retroactive installation of cables	13
/ Supplemental national requirements	13
/ Product data ZZ-Mastic NE	14
/ Testing the fire safety properties under environmental influences	15
/ Declaration of performance	16

System ZZ-Fire protection mastic NE

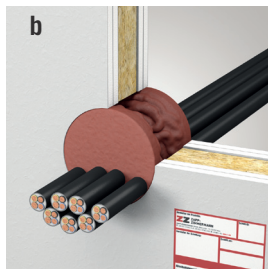
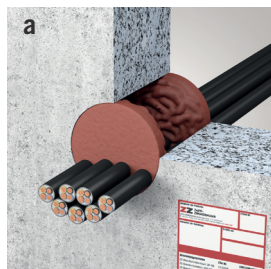
for cable penetration seals up to EI 120

The System ZZ-Fire protection mastic NE restores the fire resistance in areas of walls and floors where cables penetrate the component.

System ZZ-Fire protection mastic NE ETA-13/0093

Cable penetration seal up to EI 120 for rigid walls, rigid floors and flexible walls.

Through penetration firestop system for electrical, telecommunication and optical fibre cables.



a. System ZZ-Fire protection mastic NE in rigid wall

b. System ZZ-Fire protection mastic NE in flexible wall

Specially suited for: 1. Fast and easy sealing of component openings

2. Small through penetration firestop systems, 3. Openings that are difficult to access or that are irregular

Fundamentals

- / For execution of the through penetration firestop system the European technical approval ETA-13/0093 issued by the Austrian Institute of Construction Engineering (Österreichisches Institut für Bautechnik) is authoritative.
- / All technical specifications of the ETA, such as maximum opening size, wall types/floor types, fire resistance classifications, penetrating elements and the first support of the penetrating elements, working clearances, etc. are provided in the approval.
- / It must be ensured that the stability of the adjacent component is not impaired through installation of the through penetration firestop system, even in the event of fire. The information specified in the usability certification must be complied with.
- / All applicable directives and technical rules of other trades, particularly electrical engineering directives and technical rules, must be complied with.
- / Through penetration firestop systems in floors must be safeguarded against loads, in particular also against being walked on, through suitable measures (e.g. through enclosure or through covering with a grate).
- / In accordance with ETAG 026-2, the through penetration firestop system can be assigned to use category Z₁. This means that the permissible ambient conditions for use of the product are indoor areas with humidity and temperatures above 0 °C.
- / Comply with the instructions on the safety data sheets for the products.

System components



Designation	Art. no.	PU
1. ZZ-Mastic NE 310 ml	B15N00-0013	12
2. Identification plate ETA <i>Please pay attention to the section, Supplemental national regulations</i>	B16H00-0051	1

Accessories



Designation	Art. no.	PU
3. Professional dispensing gun 310 ml	B16H00-0024	1
4. EconoMax dispensing gun (310 ml cartridge & 580 ml tubular bag)	B16H00-0052	1
5. PowerMax dispensing gun (310 ml cartridge & 580 ml tubular bag)	B16H00-0053	1
6. Smoothing trowel	B99H00-0161	1
7. Tempering box WAEKO TC 21FL <i>with digital temperature display, temperature regulator fixed at 20 °C and voltage monitor</i>	B99H00-0163	1
8. OTTO PE round cord B2 Ø 40 (length 1 m)	B99H00-0106	20

System ZZ-Fire protection mastic NE ETA-13/0093

General instructions

- / The cables must be fastened in accordance with the technical rules.
- / The total cross section area of the penetrating elements based on the area of the through penetration firestop system must not exceed 60 %.
- / The first support of the cables must be mounted maximum 200 mm in front of the through penetration firestop system for wall installation and 250 mm for floor installation (maximum distance in floors only required top-side).

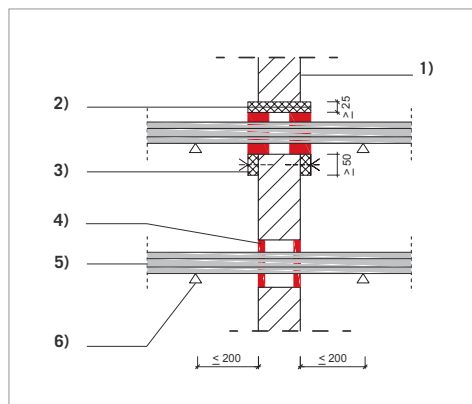


Fig. 1:
Support of cables in walls

Legend

- 1) Rigid wall
- 2) For fire resistance class EI 120: Lining of drywall, silicate or calcium silicate board
- 3) For fire resistance class EI 120: Board frame (width ≥ 50 mm) of drywall, silicate or calcium silicate board
- 4) ZZ-Mastic NE
- 5) Cables
- 6) First support of the cables

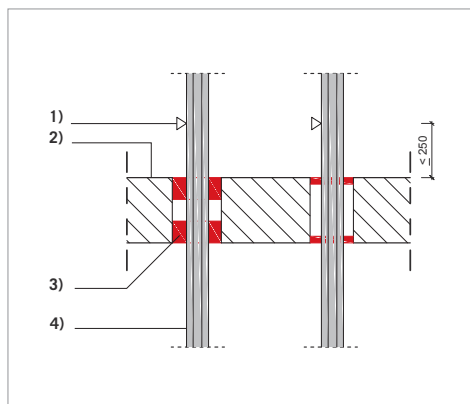


Fig. 2:
Support of cables in floors

Legend

- 1) First support of the cables
- 2) Rigid floor
- 3) ZZ-Mastic NE
- 4) Cables

Permissible install locations of the through penetration firestop system

Components	Minimum thickness	Classification of the component	Fire resistance classification *	Minimum seal thickness *	Minimum fill depth *	Maximum opening size
Rigid wall: Aerated concrete, concrete, reinforced concrete, masonry	100 mm	EN 13501-2	EI 90	100 mm	2 x 15 mm	100 x 100 [mm] ø 113 mm
			EI 120	150 mm	2 x 50 mm	
Flexible wall: Timber or steel studs lined on both sides	100 mm	EN 13501-2	EI 90	100 mm	2 x 15 mm	100 x 100 [mm] ø 113 mm
			EI 120	150 mm	2 x 50 mm	
Rigid floor: Aerated concrete, concrete, reinforced concrete	150 mm	EN 13501-2	EI 90	150 mm	2 x 15 mm	100 x 100 [mm] ø 113 mm
			EI 120	150 mm	2 x 50 mm	

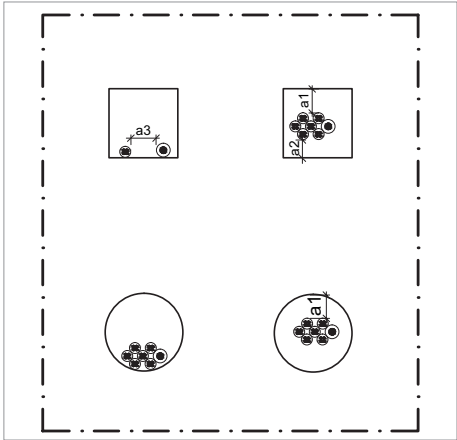
* The required seal thickness and fill depth depending on the fire resistance classification and the penetrating element that is routed through is specified in the fire resistance classification table.

Approved penetrating elements

Cables

/ **Sheathed electrical cables, telecommunication cables, optical fibre cables** up to a maximum outer diameter of 21 mm

Minimum working clearances



Legend

- a1: Penetrating element - top edge of aperture
- a2: Penetrating element - lower or lateral edge of aperture
- a3: Penetrating element - penetrating element

Minimum working clearances			
Penetrating elements	a1	a2	a3
Sheathed electrical cables, telecommunication cables, optical fibre cables up to a maximum outer diameter of 21 mm	0 mm	0 mm	0 mm
Between two through penetration firestop systems of this approval			50 mm

Fire resistance classifications

*Installation in flexible walls or rigid walls with a thickness ≥ 100 mm
or in rigid floors with a thickness ≥ 150 mm*

PENETRATING ELEMENTS		MINIMUM FILL DEPTH 2 x 15 mm MINIMUM SEAL THICKNESS 100 mm	MINIMUM FILL DEPTH 2 x 50 mm MINIMUM SEAL THICKNESS 150 mm
Cables	Sheathed electrical cables, telecommunication cables, optical fibre cables up to a maximum outer diameter of 21 mm	E 120 / EI 90	E 120 / EI 120

System ZZ-Fire protection mastic NE ETA-13/0093

Particularities for installation in rigid walls of fire resistance class EI 120

- / If the thickness of the rigid wall in the area of the through penetration firestop system is less than the required minimum seal thickness, then all around the opening, either an enclosing lining (see Fig. 2) or a board frame (see Fig. 1) of non-flammable drywall or silicate or calcium silicate boards (class A2-s1, d0 or A1 in accordance with EN 13501-1) must be provided.
- / The individual lining parts (at least 2 x 12.5 mm or at least 25 mm thick) are jammed together in the opening. The joint between rigid wall and lining must be sealed, for example, with plaster filler. Fastening with screws can be dispensed with.
- / For the fastening of the board frame (at least 50 mm wide) screws and metal anchors or screw anchors that are sufficiently large/long and suitable for the substrate must be used. In aerated concrete dry-wall screws or chipboard screws without dowels must be used. At least two screws per board must be used, the distance between screws must be a maximum of 150 mm.

Particularities for installation in rigid floors

- / Through penetration firestop systems in floors must be safeguarded against loads, particularly they must be safeguarded against being walked on, through a grate covering or enclosure.

Particularities for installation in flexible walls

- / If a lining is not used, the cavity between the boards of the flexible wall must be plugged tightly with mineral wool (melting point ≥ 1000 °C, minimum density 40 kg/m³) at least 10 cm around the perimeter.
- / For timber stud walls, at least a distance of 100 mm between the through penetration firestop system and timber studs must be present, and the cavity between must be plugged with mineral wool (classification A2-s1, d0 or A1 in accordance with EN 13501-1). The timber stud cross section should be at least 50 mm x 75 mm (width x depth).

Particularities for installation in flexible walls of fire resistance class EI 120

- / If the thickness of the flexible wall in the area of the through penetration firestop system is less than the required minimum seal thickness, then all around the opening, either an enclosing lining (see Fig. 2) or a board frame (see Fig. 1) of non-flammable drywall or silicate or calcium silicate boards (class A2-s1, d0 or A1 in accordance with EN 13501-1) must be provided.
- / The individual lining parts (at least 2 x 12.5 mm or at least 25 mm thick) are jammed together in the opening. The joint between flexible wall and lining must be sealed, for example, with plaster filler. Fastening with screws can be dispensed with.
- / For the fastening of the board frame (at least 50 mm wide) dry-wall screws or chipboard screws that are sufficiently large/long must be used. At least two screws per board must be used, the distance between screws must be a maximum of 150 mm.

Board frame and lining (only required for fire resistance class EI 120)



Fig. 1:
Board frame for rigid wall and flexible wall
(arranged either on one side or both sides)

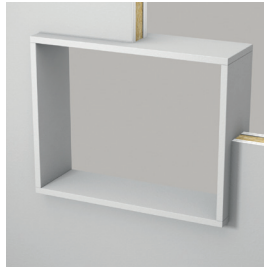
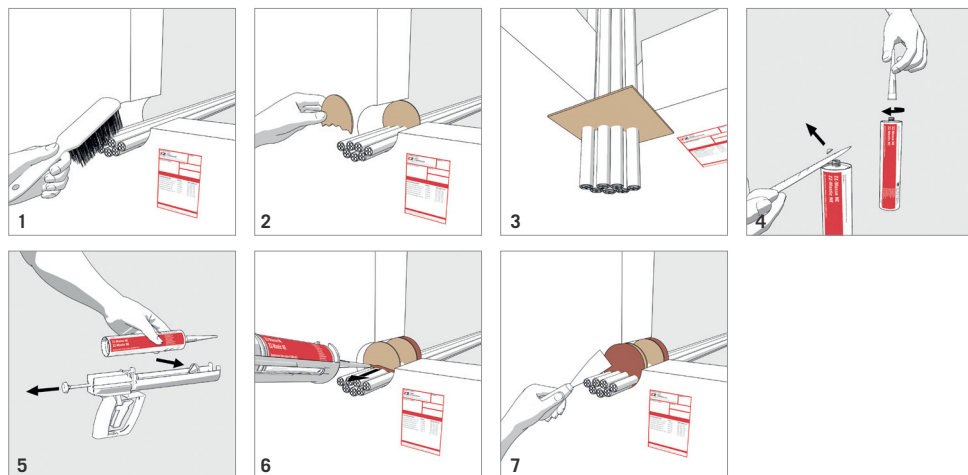


Fig. 2:
Lining for flexible wall and rigid wall
(either flush on one side or centered)

System ZZ-Fire protection mastic NE ETA-13/0093



Installation steps

The approval, ETA-13/0093, and the respective national regulations are authoritative for execution of the through penetration firestop system.

1. Clean before installing the component opening. Surfaces on which the ZZ-Mastic NE is applied should be free of dirt, oil, wax and grease.
2. Backfill material, consisting of mineral wool, cardboard or polyethylene (e.g. PE round cords) can be used. It must be ensured that the minimum fill depth of the ZZ-Mastic NE can be complied with.
3. For larger openings in floors the use of a formwork on the underside of the floor (e.g. cardboard) is recommended. This can remain on the through penetration firestop system.
4. Hold the cartridge vertically, cut off the tip with a sharp knife, and screw on the nozzle. The nozzle can be shortened as needed.
5. Insert the cartridge into the intended dispensing gun.
6. ZZ-Mastic NE must be introduced uniformly into the opening from back to front.
7. Smoothing can be executed with a smoothing trowel or a brush, for example, with a little water.

Retroactive installation of cables

- / New penetrating elements can be routed through the existing cable penetration seal. Use a suitable cutting/drilling tool to make sufficiently large openings in the penetration seal. (In compliance with the necessary protective measures and safety regulations).
- / Cavities or gaps around the newly added penetrating elements or due to removed cables must be refilled with ZZ-Mastic NE.
- / The newly added penetrating elements must satisfy all ETA requirements (e.g. first support).

Supplemental national requirements**Germany**

- / The through penetration firestop system must be permanently marked with an identification plate.
- / After the tasks have been concluded a written confirmation of conformance must be given to the client.

System ZZ-Fire protection mastic NE ETA-13/0093

Product data ZZ-Mastic NE	
Description:	Acrylic with halogen-free fire-safety additives, intumescent
Reaction to fire in accordance with DIN EN 13501-1:	Class E
Reaction to fire in accordance with DIN 4102:	DIN 4102-B1 (on solid mineral building materials, minimum thickness 20 mm and between solid mineral building materials (bulk density $\geq 1500 \text{ kg/m}^3$) in a thickness up to 20 mm and a width up to 40 mm)
Implementation areas:	ZZ-Mastic NE can be used as / cable penetration seal up to a fire resistance class EI 120 and as / system component for other through penetration firestop systems from ZAPP-ZIMMERMANN.
Colour:	Red-brown
Content:	310 ml (cartridge)
Transport/storage:	+ 5 °C to + 30 °C (dry, in original containers)
Application temperature:	+ 10 °C to + 30 °C, recommended: + 20 °C to + 25 °C
Bulk density:	1300 kg/m ³ to 1450 kg/m ³

Testing the fire safety properties under environmental influences

Permissible ambient conditions:

In accordance with ETAG 026-2:

Use category Z₁
Products for use in indoor areas with humidity
and temperatures above 0 °C

Declaration of performance

Links to the declaration of performance

System component	Link
ZZ-Mastic NE	www.z-z.eu/dop-11-05

ZAPP-ZIMMERMANN GmbH
Marconistraße 7-9
50769 Köln

Phone: +49 221 97061-0
Fax: +49 221 97061-929
E-mail: info@z-z.eu
Internet: www.z-z.eu

Bilder/ Images

ZAPP-ZIMMERMANN GmbH

Copyright

© ZAPP-ZIMMERMANN GmbH

Stand: 04.2014

Irrtümer und technische Änderungen
sind vorbehalten. Modifications and
errors excepted.

Art.-Nr./ Art. no.: B99M00-0053

www.z-z.eu