

## System ZZ-Fire protection collar NE ETA-13/0117

### INSTALLATION MANUAL



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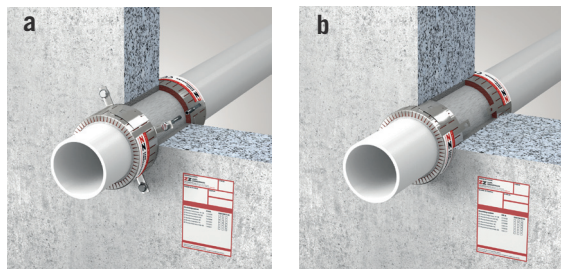
# **System ZZ-Fire protection collar NE**

**for pipe penetration seals up to EI 120**

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

**System ZZ-Fire protection collar NE ETA-13/0117**

*Pipe penetration seal up to EI 120 for rigid walls, rigid floors and flexible walls.  
Through penetration firestop system for flammable pipes.*



**a.** System ZZ-Fire protection collar NE in rigid wall, surface installation

**b.** System ZZ-Fire protection collar NE in rigid wall, inserted installation

**Especially suited for:** 1. Through penetration firestop system for flammable pipes up to Ø 160 mm  
2. Direct and retroactive installation of through penetration firestop system

**Fundamentals**

- / For execution of the through penetration firestop system the European Technical Approval ETA-13/0117 issued by the Austrian Institute of Construction Engineering (Österreichisches Institut für Bautechnik) is authoritative.
- / All technical specifications of the ETA, such as wall types/floor types, fire resistance classifications, pipe types and the first support of the pipes, 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 of the component must be complied with.
- / All applicable directives and technical rules of other trades must be complied with.
- / In accordance with ETAG 026-2, the through penetration firestop system can be assigned to use category Z<sub>1</sub>. This means that the permissible ambient conditions for use of the product are indoor areas with any level of humidity and temperatures above 0°C.
- / Comply with the instructions on the safety data sheets for the products.

## System components



Designation	Suitable for pipe diameter [mm]	Art. no.	PU
1. ZZ-Collar NE 32	32 mm	B16N01-0001	1
1. ZZ-Collar NE 40	40 mm	B16N01-0002	1
1. ZZ-Collar NE 50–110	50 mm–110 mm	B16N01-0003	1
1. ZZ-Collar NE 125–160	125 mm–160 mm	B16N01-0004	1
2. Identification plate ETA		B16H00-0051	1
<i>Please pay attention to the section, Supplemental national regulations</i>			

## Accessories

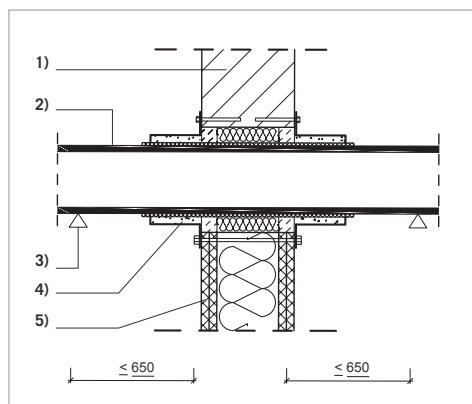


Designation	Art. no.	PU
3. HECO Multi-Monti MMS-F 6,0 x 60 [mm] <i>Screws for direct installation</i>	B99H00-0094	100
4. Washers 8,4 x 25 x 1,5 [mm]	B99H00-0179	100
5. Sound insulation 615 x 300 x 5 [mm] <i>Sound insulation for the pipes in the aperture, can be trimmed to the required size</i>	B99H00-0137	1

## System ZZ-Fire protection collar NE ETA-13/0117

### General instructions

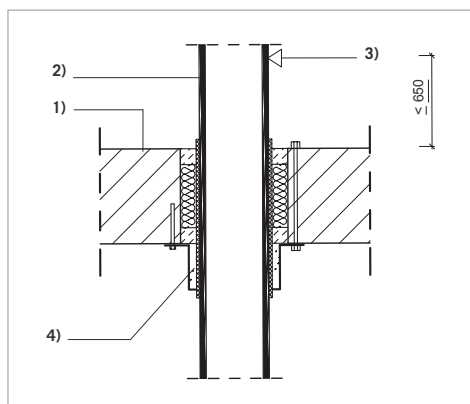
- / The pipe support systems and their fastenings must be fastened on both sides of the through penetration firestop systems in such a manner that in the event of fire, additional mechanical stress cannot act on the through penetration firestop systems over the period of time specified in the required fire resistance class. In this regard, the technical rules and specifications provided by the manufacturer of the support systems or of the fastening systems must be complied with.
- / The first support of the pipes must be mounted maximum 650 mm in front of the through penetration firestop system for wall and floor installation (maximum distance in floors only required top-side).
- / The pipelines must penetrate the walls or floors vertically.
- / The pipeline may be designed for the conveyance of non-flammable liquids or gases, for pneumatic conveyance systems or dust extraction lines.
- / The function of the pipe penetration seal is only ensured if pneumatic conveyance systems, compressed air lines, etc., are shut off in the event of fire.
- / Risks posed by the destruction of the pipelines in the event of fire and the associated escape of hazardous liquids or gases must be appropriately prevented.
- / In walls one ZZ-Collar NE must be installed on each side, in floors, only one ZZ-Collar NE must be fastened on the underside of the floor.



**Fig. 1:**  
Support of pipes in walls

#### Legend

- 1) Rigid wall
- 2) Flammable pipe
- 3) First support of the pipe
- 4) ZZ-Collar NE
- 5) Flexible wall



**Fig. 2:**  
Support of pipes in floors

#### Legend

- 1) Rigid floor
- 2) Flammable pipe
- 3) First support of the pipe
- 4) ZZ-Collar NE

With the through penetration firestop system there are two different installation variants available: Surface installation and Inserted installation.

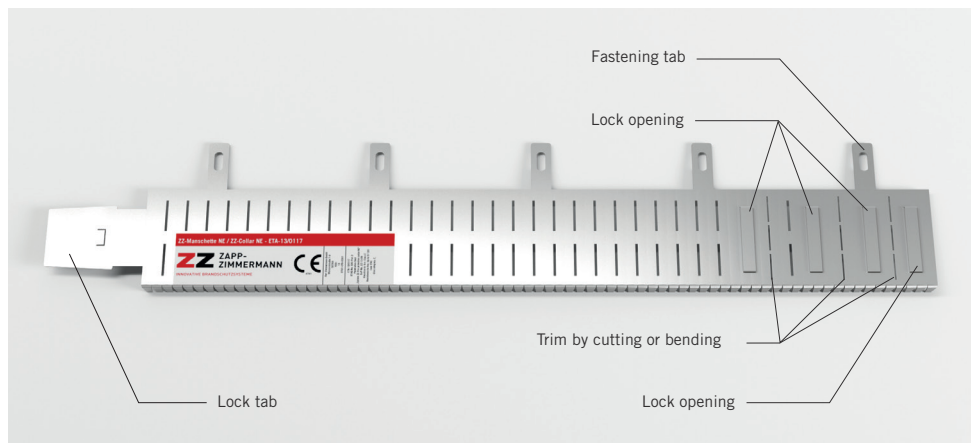


Surface installation, suitable for retroactive installation of the ZZ-Collar NE



Inserted installation, suitable for direct installation of the ZZ-Collar NE

## System ZZ-Fire protection collar NE ETA-13/0117



From the ZZ-Collar NE 50–110 and ZZ-Collar NE 125–160, in addition three sizes can be produced by cutting to size or bending. For this purpose there are slots in the collar sheet metal (3 slots, see photo) that mark the points for cutting or bending.

### Collar types

Designation	Compatible pipe outside diameters	Thickness of the intumescent inlay	Width
ZZ-Collar NE 32	32 mm	7 mm	70 mm
ZZ-Collar NE 40	40 mm	7 mm	70 mm
ZZ-Collar NE 50–110	50 mm 75 mm 90 mm 110 mm	7 mm	70 mm
ZZ-Collar NE 125–160	125 mm 140 mm 150 mm 160 mm	12 mm	80 mm



### Permissible install locations of the through penetration firestop system

Components	Minimum thickness	Classification of the component	Fire resistance classification *	Permissible pipe outside diameter *
<b>Rigid wall:</b> Aerated concrete, concrete, reinforced concrete, masonry	100 mm	EN 13501-2	EI 120	To 160 mm
<b>Flexible wall:</b> Timber or steel studs lined on both sides	100 mm	EN 13501-2	EI 120	To 160 mm
<b>Rigid floor:</b> Aerated concrete, concrete, reinforced concrete	150 mm	EN 13501-2	EI 120	To 160 mm

\* Details, see Fire resistance classifications – pipe diagrams

### Approved penetrating elements

#### Flammable pipes

/ Polyvinyl chloride pipes that are free of softeners (PVC-U) in accordance with EN 1329-1, EN 1453-1, EN 1452-1, as well as DIN 8061/8062, and pipes of chlorinated polyvinyl chloride (PVC-C), in accordance with EN 1566-1 up to an outer diameter of 160 mm are permissible. The permissible nominal pipe wall thicknesses as specified in Diagram 3 and 6 must be complied with.

/ Pipes of polyethylene (PE) in accordance with EN 1519-1, EN 12666-1, EN 12201-2, as well as DIN 8074/8075, pipes of acrylonitrile butadiene styrene (ABS) in accordance with EN 1455-1 and pipes of styrene/copolymer blends (SAN+PVC) in accordance with EN 1565-1 up to an outer diameter of 160 mm are permissible. The permissible nominal pipe wall thicknesses as specified in Diagram 1 and 2 as well as 4 and 5 must be complied with.

/ The permissible pipe dimensions (pipe outside diameter, pipe wall thickness) depend on the selected installation variant. Details, see Fire resistance classifications – pipe diagrams.

**System ZZ-Fire protection collar NE ETA-13/0117****Installation variant: Surface installation**

*For retroactive installation of the ZZ-Collar NE.*

**Fire resistance classifications**

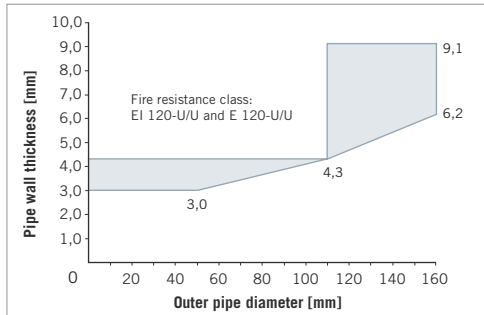
The diagrams below specify the permissible pipes according to material, pipe outside diameter, pipe wall thickness and maximum fire resistance classification.

Each pipe dimension within the highlighted area or on the edge is compatible with the System ZZ-Fire protection collar NE. The maximum verified fire resistance class is shown in the diagrams.

## Fire resistance classification - Surface installation

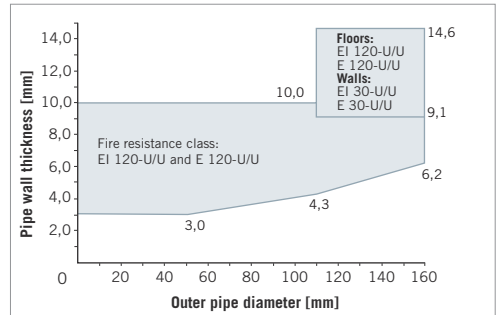
**Diagram 1 \***

Pipes of polyethylene (PE) in accordance with EN 1519-1, EN 12666-1, as well as DIN 8074/8075, pipes of acrylonitrile butadiene styrene (ABS) in accordance with EN 1455-1 and pipes of styrene/copolymer blends (SAN+PVC) in accordance with EN 1565-1



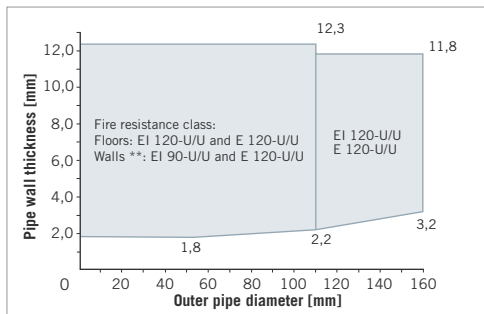
**Diagram 2 \***

Pipes of polyethylene (PE) in accordance with EN 12201-2, as well as DIN 8074/8075



**Diagram 3 \***

Polyvinyl chloride pipes that are free of softeners (PVC-U) in accordance with EN 1329-1, EN 1453-1, EN 1452-1, as well as DIN 8061/8062, and pipes of chlorinated polyvinyl chloride (PVC-C), in accordance with EN 1566-1

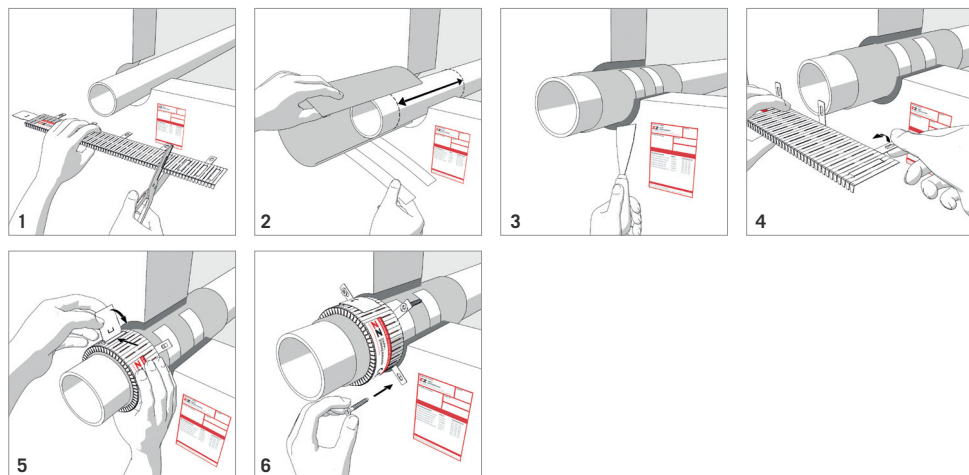


**Note:**

\* For through penetration firestop systems of flammable pipes, in Germany Class EI ... (U/U) or EI ... (U/C) (for drinking water lines, heating and cooling lines  $\phi \leq 110$  mm) is required (see Bauregelliste A Part 1 Table 2). Fire resistance class EI ... (U/U) covers fire resistance class EI ... (U/C), EI ... (C/C), EI ... (C/U).

\*\* For pipes with outside diameter  $< 110$  mm and pipe wall thickness  $< 2.2$  mm the fire resistance classification is EI 120-U/U

## System ZZ-Fire protection collar NE ETA-13/0117



### Installation steps

**The approval, ETA-13/0117, and the respective national regulations are authoritative for execution of the through penetration firestop system.**

1. Select the collar size that is suitable for the pipeline or cut the ZZ-Collar NE to size. In this regard, also comply with the section, General instructions.
2. For sound-proofing reasons the pipeline must be insulated in the entire aperture. The provided PE sound insulation must be fastened in the area of ZZ-collar NE.
3. The annular space (max. width 50 mm) between pipe and the edge of the aperture must be sealed with concrete, cement, or gypsum mortar. Alternatively the annular space (max. width in walls 50 mm and 15 mm in floors) can be tightly plugged with mineral wool (plug density minimum 40 kg/m<sup>3</sup>) and sealed on both sides at least 25 mm deep with concrete, cement or gypsum plaster.
4. Bend over all fastening tabs outward at a right angle.
5. Remove gypsum or mortar residues and place the ZZ-Collar NE around the pipe. Fasten the collar by pulling the lock tab through the lock opening and bending the tab over 180°.
6. Slide the ZZ-Collar NE onto the component so that it seals and fasten the fastening tabs (see the table below for the required number) with screws and steel plugs or screw anchors that are suitable for the substrate (minimum diameter in each case 6 mm) as well as washers (minimum diameter 25 mm). In aerated concrete dry-wall screws or chip-board screws without dowels (minimum size Ø 6 mm x L 100 mm) and with washers must be used. In flexible walls the ZZ-Collars NE must be fastened with pass through threaded rods (minimum diameter 6 mm) and nuts, as well as washers (→ can be used alternatively in rigid walls and floors).

Collar type	Pipe outside diameter	Minimum number of the fastening tabs to be fastened *
ZZ-Collar NE 32	32 mm	3 pcs
ZZ-Collar NE 40	40 mm	3 pcs
ZZ-Collar NE 50–110	50 mm	3 pcs
	75 mm	3 pcs
	90 mm	3 pcs
	110 mm	4 pcs
ZZ-Collar NE 125–160	125 mm	4 pcs
	140 mm	4 pcs
	150 mm	5 pcs
	160 mm	5 pcs

\* The two fastening tabs on the left and right of the lock tab must always be bolted to the wall or floor with the prescribed fasteners.

## Particularities/ Minimum working clearances



/ ZZ-Collar NE can be installed up to an pipe outside diameter of 110 mm with 0 mm distance. For larger pipes a minimum distance of 100 mm must be taken into account.

## System ZZ-Fire protection collar NE ETA-13/0117

### Installation variant: Inserted installation

*Suitable for direct installation of the ZZ-Collar NE.*



### Fire resistance classifications

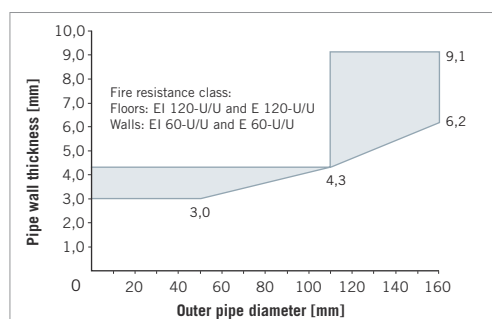
The diagrams below specify the permissible pipes according to material, pipe outside diameter, pipe wall thickness and maximum fire resistance classification.

Each pipe dimension within the highlighted area or on the edge is compatible with the System ZZ-Fire protection collar NE. The maximum verified fire resistance class is shown in the diagrams.

# Fire resistance classification - Inserted installation

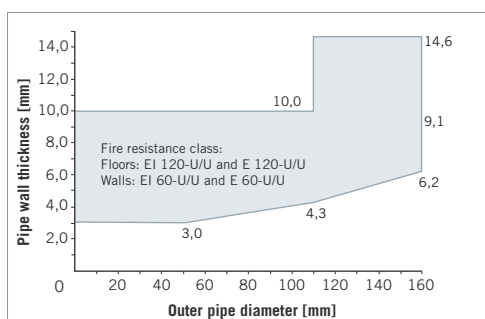
**Diagram 4 \***

Pipes of polyethylene (PE) in accordance with EN 1519-1, EN 12666-1, as well as DIN 8074/8075, pipes of acrylonitrile butadiene styrene (ABS) in accordance with EN 1455-1 and pipes of styrene/copolymer blends (SAN+PVC) in accordance with EN 1565-1



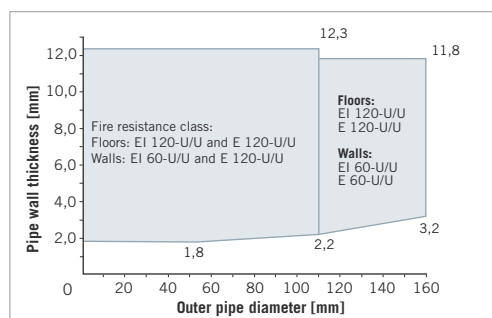
**Diagram 5 \***

Pipes of polyethylene (PE) in accordance with EN 12201-2, as well as DIN 8074/8075



**Diagram 6 \***

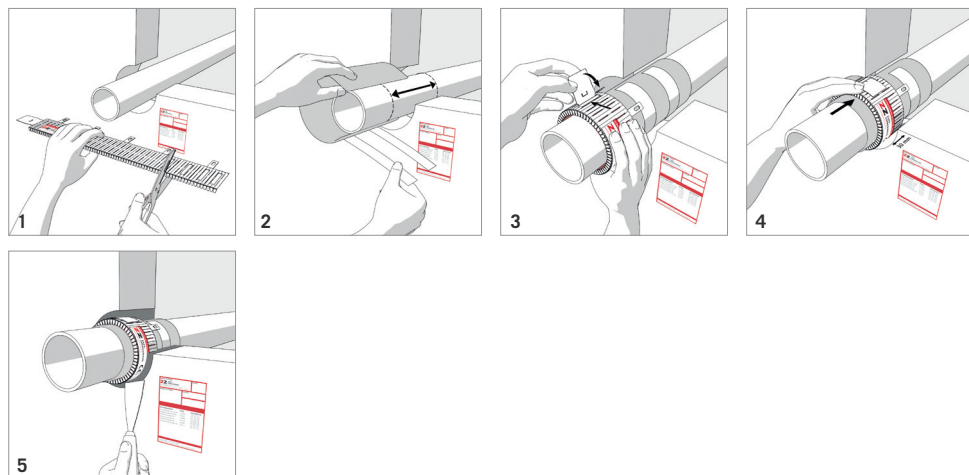
Polyvinyl chloride pipes that are free of softeners (PVC-U) in accordance with EN 1329-1, EN 1453-1, EN 1452-1, as well as DIN 8061/8062, and pipes of chlorinated polyvinyl chloride (PVC-C), in accordance with EN 1566-1



**Note:**

\* For through penetration firestop systems of flammable pipes, in Germany Class EI... (U/U) or EI... (U/C) (for drinking water lines, heating and cooling lines  $\varnothing \leq 110$  mm) is required (see Bauregelliste A Part 1 Table 2). Fire resistance class EI... (U/U) covers fire resistance class EI... (U/C), EI... (C/C), EI... (C/U).

## System ZZ-Fire protection collar NE ETA-13/0117



### Installation steps

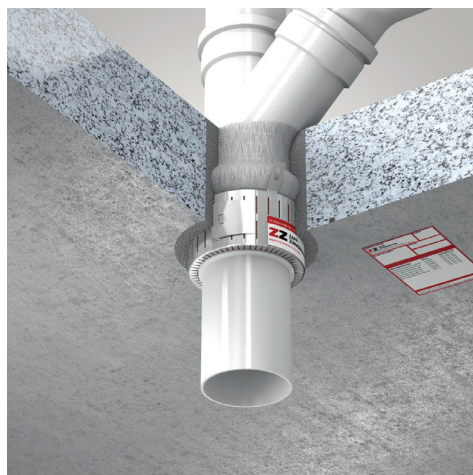
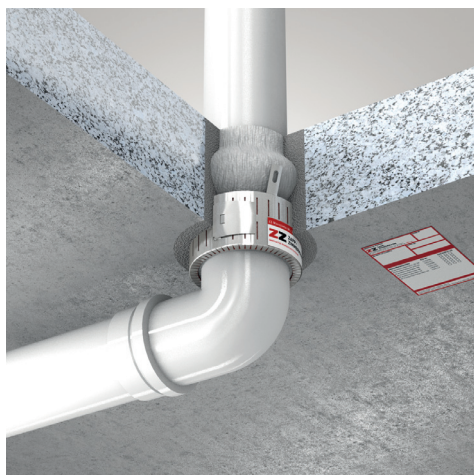
**The approval, ETA-13/0117, and the respective national regulations are authoritative for execution of the through penetration firestop system.**

1. Select the collar size that is suitable for the pipeline or cut the ZZ-Collar NE to size. In this regard, also comply with the section, General instructions.
2. For sound-proofing reasons the pipeline must be insulated in the entire aperture. The provided PE sound insulation must be fastened in the area of ZZ-collar NE.
3. Remove gypsum or mortar residues and place the ZZ-Collar NE around the pipe. Fasten the collar by pulling the lock tab through the lock opening and bending the lock tab over 180°.
4. Slide the ZZ-Collar NE far enough into the component opening so that it projects 30 mm over the surface of the component. For provisional fixation in floors the fastening tabs can be slightly bent so that the collar is wedged in the aperture and cannot fall out.
5. The annular space (max. width 50 mm) between pipe and the edge of the aperture must be sealed with concrete, cement, or gypsum mortar. Alternatively the annular space in walls (max. width 50 mm) can be tightly plugged with mineral wool (plug density minimum 40 kg/m³) and sealed on both sides at least 25 mm deep with concrete, cement or gypsum plaster.

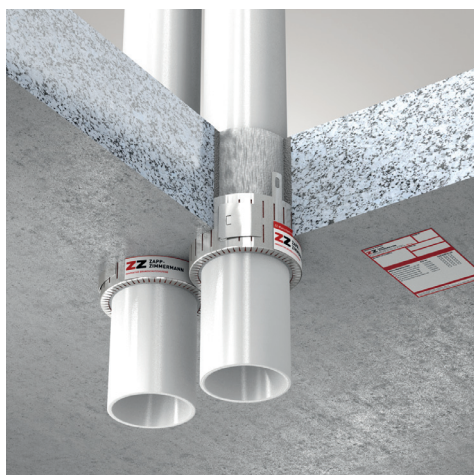


**Particularities/ Minimum working clearances**

In the inserted installation variant, the ZZ-Collar NE can be arranged in pipeline systems up to an outer diameter of 110 mm around pipe couplings (e.g. pipe elbow or pipe coupler). For this, the next larger collar size must always be used.



ZZ-Collar NE can be installed up to a pipe outside diameter of 110 mm with 0 mm distance. For larger pipes a minimum distance of 100 mm must be taken into account.



**System ZZ-Fire protection collar NE ETA-13/0117****Tips**

- / By bending several times on the provided slots (see General instructions), the types ZZ-Collar NE 50–110 and ZZ-Collar NE 125–160 can even be shortened to the desired size without sheet metal shears.
- / Prior to the adjustment of the collar sheet metal the intumescent inlay can be cut with a knife to the appropriate length.
- / Even if the ZZ-Collar NE is already fastened on the pipe, it can be easily slid to the prescribed position, if the provided PE sound insulation is used (see section, Installation steps).

**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.

### Product data ZZ-Collar NE

Reaction to fire in accordance with DIN EN 13501-1:	Class E (specification refers to the intumescent inlay)
Transport/storage:	Dry, protected against dust and only in the original packaging
Density of the intumescent inlay:	Approx. 1000 kg/m <sup>3</sup>
Continuous contact or ambient temperature:	≤ 80 °C
Sheet metal:	Non-rusting austenitic steel (stainless steel)

### Testing the fire safety properties under environmental influences

#### Permissible ambient conditions:

#### In accordance with ETAG 026-2

Use category Z<sub>1</sub>  
 Products for use in indoor areas with any level of humidity and temperatures above 0 °C

## Declaration of performance

### Links to the declaration of performance

System component	Link
ZZ-Collar NE	<a href="http://www.z-z.eu/dop-13-09">www.z-z.eu/dop-13-09</a>

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50769 Köln

Phone: +49 221 97061-0  
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