

II SPECIFIC CONDITIONS OF THE EUROPEAN TECHNICAL APPROVAL

1 Definition of Cable penetration seal „System ZZ-Brandschutzmasse NE” (System ZZ-Fire protection mastic NE) and intended use

The Cable penetration seal „System ZZ-Brandschutzmasse NE” (System ZZ-Fire protection mastic NE) is designed and installed in accordance with the ETA-holder’s design and installation instructions, deposited with the Österreichisches Institut für Bautechnik. The Cable penetration seal „System ZZ-Brandschutzmasse NE” (System ZZ-Fire protection mastic NE) consists of the component „ZZ-Masse NE” (ZZ- Mastic NE), which is factory-produced by the ETA-holder or a supplier. The holder is ultimately responsible for the Cable penetration seal „System ZZ-Brandschutzmasse NE” (System ZZ-Fire protection mastic NE).

1.1 Definition of the construction product

„System ZZ-Brandschutzmasse NE” (System ZZ-Fire protection mastic NE) is a Cable penetration seal based on intumescent fire protection sealant.

Component of Cable penetration seal „System ZZ-Brandschutzmasse NE” (System ZZ-Fire protection mastic NE)	Characteristics
ZZ-Masse NE (ZZ-Mastic NE)	Product in cartridges on the basis of water-borne polyacrylate with intumescent fire protection additives.

1.2 Intended use, use category and working life

1.2.1 Intended use

The Cable penetration seal „System ZZ-Brandschutzmasse NE” (System ZZ-Fire protection mastic NE) is intended to be used to temporarily or permanently reinstate the fire resistance performance of flexible wall constructions, rigid wall constructions and rigid floor constructions where they have been provided with apertures which are penetrated by sheathed cables.

The thickness of the seal has to be minimum 100 mm or 150 mm (depends on the fire resistance classification, see clause 2.3.2 of the ETA) in walls and 150 mm in floors consisting of one layer of at least 15 mm or 50 mm (depends on the fire resistance classification, see clause 2.3.2 of the ETA) „ZZ-Masse NE” (ZZ-Mastic NE) on each side of the separating element. The maximum area of the seal in flexible walls, rigid walls and rigid floors is 0,01m².

The Cable penetration seal „System ZZ-Brandschutzmasse NE” (System ZZ-Fire protection mastic NE) may be installed only in types of separating elements as specified in the following table.

Separating element	Construction	a) Maximum opening size (width x height) b) Min. thickness of the cable penetration seal
Flexible walls	<ul style="list-style-type: none"> ➤ Timber or steel studs lined on both faces ➤ Minimum thickness 100 mm ➤ This ETA does not cover sandwich panel construction – penetrations in such constructions shall be tested on a case by case basis 	<p><u>See Annex A of the ETA:</u></p> <p>a) 100 x 100 [mm] or Ø 113 mm</p> <p>b) 100 mm / 150 mm</p>

Separating element	Construction	c) Maximum opening size (width x height) d) Min. thickness of the cable penetration seal
Rigid walls	<ul style="list-style-type: none"> ➤ Aerated concrete, concrete, reinforced concrete, masonry ➤ Minimum density 450 kg/m³ ➤ Minimum thickness 100 mm 	<u>See Annex B of the ETA:</u> a) 100 x 100 [mm] or Ø 113 mm b) 100 mm / 150 mm
Rigid floors	<ul style="list-style-type: none"> ➤ Aerated concrete, concrete, reinforced concrete ➤ Minimum density 450 kg/m³ ➤ Minimum thickness 150 mm 	<u>See Annex C of the ETA:</u> a) 100 x 100 [mm] or Ø 113 mm b) 150 mm

The Cable penetration seal „System ZZ-Brandschutzmasse NE” (System ZZ-Fire protection mastic NE) can only be configured as specified in the following table.

Penetrating element	Construction characteristics
Cables	<ul style="list-style-type: none"> ➤ Sheathed electrical / telecommunication / optical fibre cables up to a maximum outer diameter of 21 mm

1.2.2 Use category

The Cable penetration seal „System ZZ-Brandschutzmasse NE” (System ZZ-Fire protection mastic NE) is intended for internal use with high humidity, excluding temperatures below 0 °C, and can therefore – according to ETAG 026-Part 2 clause 2.4.12.1.3.3 – be categorized as Type Z₁. Since the requirements for Type Z₁ are met, also the requirements for Type Z₂ are fulfilled.

1.2.3 Working life

The provisions made in this ETA are based on an assumed intended working life of the product for the intended use of 10 years, provided that it is subject to appropriate use and maintenance.

The indications given on the intended working life cannot be interpreted as a guarantee given by the producer or the approval body, but are to be used as a means for selecting the appropriate product in relation to the expected economically reasonable working life of the works.

The real working life might be, in normal use conditions, considerably longer without major degradation affecting the Essential Requirements.

2 Characteristics of the product and methods of verification

2.1 General

The identification tests and the assessment of the fitness for use according to the Essential Requirements were carried out in compliance with the “ETA Guidance no. 026-Part 2” concerning “Penetration Seals” –edition August 2011 (called ETAG 026-Part 2 in this ETA) and with the “EOTA technical Report no. 024” concerning “Characterisation, Aspects of Durability and Factory Production Control for Reactive Materials, Components and Products” –edition November 2006, amended July 2009 (called TR 024 in this ETA).

Clause No.	ETA Clause No.	Characteristic	Expression of product performance
Mechanical resistance and stability			
	2.2	None	Not relevant
Safety in case of fire			
ETAG 2.4.1	2.3.1	Reaction to fire	Classification according to EN 13501-1:2007+A1:2009
ETAG 2.4.2	2.3.2	Resistance to fire	Classification according to EN 13501-2:2007+A1:2009
Hygiene, health and environment			
ETAG 2.4.3	2.4.1	Air permeability (material property)	No Performance Determined
ETAG 2.4.4	2.4.2	Water permeability (material property)	No Performance Determined
ETAG 2.4.5	2.4.3	Release of dangerous substances	Declaration of manufacturer
Safety in use			
ETAG 2.4.6	2.5.1	Mechanical resistance and stability	No Performance Determined
ETAG 2.4.7	2.5.2	Resistance to impact/movement	No Performance Determined
ETAG 2.4.8	2.5.3	Adhesion	No Performance Determined
Protection against noise			
ETAG 2.4.9	2.6.1	Airborne sound insulation	No Performance Determined
Energy economy and heat retention			
ETAG 2.4.10	2.7.1	Thermal properties	No Performance Determined
ETAG 2.4.11	2.7.2	Water vapour permeability	No Performance Determined
General aspects relating to fitness for use			
TR 024 4.2.5	2.8	Exposure conditions	Test results of unexposed and exposed specimens

2.2 Mechanical resistance and stability

Not relevant.

2.3 Safety in case of fire

2.3.1 Reaction to fire

The Cable penetration seal “System ZZ-Brandschutzmasse NE” (System ZZ-Fire protection mastic NE) is tested according to ETAG 026-Part 2 clause 2.4.1, EN ISO 11925-2:2010 and in turn application of FSG recommendation 107:2004 and classified according to EN 13501-1:2007+A1:2009.

Component	Class according to EN 13501-1:2007+A1:2009
ZZ-Masse NE (ZZ-Mastic NE)	E

2.3.2 Resistance to fire

The Cable penetration seal “System ZZ-Brandschutzmasse NE” (System ZZ-Fire protection mastic NE) was tested according to ETAG 026-Part 2 clause 2.4.2, EN 1366-3:2009 in conjunction with EN 1363-1:2012. The tests were conducted under the following conditions:

- Standard flexible walls and standard rigid floors
- Largest blank penetration seal in wall and floor
- Maximum aperture size
- Standard configuration for small cable penetration seals
- Standard service support construction
- Subsequent addition / removal of cables

Based upon the gained test results and the field of direct application specified within EN 1366-3:2009 the Cable penetration seal „System ZZ-Brandschutzmasse NE” (System ZZ-Fire protection mastic NE) has been classified according to EN 13501-2:2007+A1:2009. The fire resistance classifications are listed in the following table.

Penetrating element	Fire resistance classification - Minimum seal thickness $d \geq 100$ mm (wall) and $d \geq 150$ mm (floor) with a filling depth of $b \geq 15$ mm on each side of the separating element						
	E 15 EI 15	EI 20	E 30 EI 30	E 45 EI 45	E 60 EI 60	E 90 EI 90	E 120 EI 120 ¹⁾
Sheathed electrical/ telecommunication/optical fibre cables up to a maximum diameter of 121 mm							

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1) For fire resistance classification EI 120 the thickness of the penetration seal has to be $d \geq 150$ mm (wall and floor) with a filling depth of $b \geq 50$ mm on each side of the sealing

General

The Cable penetration seal „System ZZ-Brandschutzmasse NE” (System ZZ-Fire protection mastic NE) can be used in apertures in walls and floors according to clause 1.2.1 of the ETA.

The penetration of cables in accordance with clause 1.2.1 of the ETA is allowed. The total cross section of the installations must not be more than 60 % of the opening size of the seal.

All types of cables – in flexible walls, rigid walls and rigid floors – have to be supported on both sides of the sealing by steel cable trays (perforated or non-perforated), steel ladders or alternative service support constructions according to the ETA-holder’s installation instructions. Service support constructions or other parts must not penetrate the surface of the seal.

The first support (service support construction) for installations in flexible walls and rigid walls has to be at maximum 200 mm (measured from the surface of the sealing). In rigid floors the first support (service support construction) for installations has to be on the upper side at maximum 250 mm (measured from the surface of the sealing).

All types of cables have to be fixed according to the ETA-holder's installation instructions to the service support construction.

The installation support constructions have to be fixed according to the ETA-holder's installation instructions to the separating element or a suitable adjacent building element on both sides of the penetration seal in such a manner that in the case of fire no additional load is imposed on the seal. Furthermore it is assumed that this support is maintained for the required period of fire resistance.

Provisions according to the ETA-holder's installation instructions have to be taken that penetration seals installed in rigid floors cannot be stepped on.

Subsequent addition / removal of cables and service supports is allowed.

After removal without addition of cables and installation supports the hole has to be closed according to the ETA-holder's installation instructions with „ZZ-Brandschutzmasse NE“ (ZZ-Fire protection mastic NE).

Details for installation of Cable penetration seal „System ZZ-Brandschutzmasse NE“ / „System ZZ-Fire protection mastic NE“

The Cable penetration seal „System ZZ-Brandschutzmasse NE“ (System ZZ-Fire protection mastic NE) will be formed by filling „ZZ-Masse NE“ (ZZ-Mastic NE) in the opening of the separating element so that all interstices and voids are carefully sealed.

It is possible to use formwork or backfilling material (e.g. mineral wool, class A1 or A2 according to EN 13501-1:2007+A1:2009 and a melting point ≥ 1000 °C) for the installation of the Cable penetration seal in walls and floors. If the formwork consists of cardboard or plastic foil, it may remain on and inside the Cable penetration seal.

The minimum working clearance (a1) and the minimum clearance between the seals are specified in Annex A to C of the ETA.

Details for installation in flexible wall constructions (see Annex A of the ETA)

For walls thinner than the minimum thickness of the penetration seal (150 mm for fire resistance classification EI 120) the opening shall be lined with minimum 2 layers of $\geq 12,5$ mm thick type F gypsum boards according to EN 520:2004 (classification A2-s1,d0 according to EN 13501-1:2007+A1:2009) or silicate- or calcium silicate boards (classification A1 according to EN 13501-1:2007+A1:2009) with a minimum density of 450 kg/m^3 and a minimum thickness of 25 mm. The boards shall be at least 150 mm wide. The boards have to be installed and fixed according to the ETA-holder's installation instructions.

Alternatively the thickness of the wall can be increased to at least 150 mm (for fire resistance classification EI 120) by fitting a board frame, minimum 50 mm wide, around the opening. Minimum 1 layer of $\geq 12,5$ mm thick type F gypsum boards according to EN 520:2004 (classification A2-s1,d0 according to EN 13501-1:2007+A1:2009) or silicate- or calcium silicate boards (classification A1 according to EN 13501-1:2007+A1:2009) with a minimum density of 450 kg/m^3 can be used. The board frame has to be installed and fixed according to the ETA-holder's installation instructions.

When no lining is necessary or a board frame is used, the whole cavity within the wall has to be filled with insulation material (e. g. mineral wool with a melting point ≥ 1000 °C and a minimum compacted apparent density of 40 kg/m^3 and class A1 or A2 according to EN 13501-1:2007+A1:2009) minimum 100 mm around the aperture.

Joints between the lining and the aperture have to be filled with „ZZ-Brandschutzmasse NE“ (ZZ-Fire protection mastic NE), plaster or mineral mortar on both sides of the sealing according to the ETA-holder's installation instructions.

For timber stud walls there must be a minimum distance of 100 mm of the seal to any timber stud. The cavity between timber stud and seal must be closed completely with insulation with classification A1 or A2-s1,d0 according to EN 13501-1:2007+A1:2009. The dimensions of the timber studs shall be $\geq 50 \text{ mm} \times 75 \text{ mm}$ (breadth / depth).

Details for installation in rigid walls (see Annex B of the ETA)

For walls thinner than the minimum thickness of the penetration seal (150 mm for fire resistance classification EI 120) the opening shall be lined with minimum 2 layers of $\geq 12,5$ mm thick type F gypsum boards according to EN 520:2004 (classification A2-s1,d0 according to EN 13501-1:2009+A1) or silicate- or calcium silicate boards (classification A1 according to EN 13501-1:2009+A1) with a minimum density of 450 kg/m^3 and a minimum thickness of 25 mm. The boards shall be at least 150 mm wide. The boards have to be installed and fixed according to the ETA-holder's installation instructions.

Alternatively the thickness of the wall can be increased to at least 150 mm (for fire resistance classification EI 120) by fitting a board frame, minimum 50 mm wide, around the opening (see Annex B of the ETA). Minimum 1 layer of $\geq 12,5$ mm thick type F gypsum boards according to EN 520:2004 (classification A2-s1,d0 according to EN 13501-1:2009+A1) or silicate- or calcium silicate boards (classification A1 according to EN 13501-1:2009+A1) with a minimum density of 450 kg/m^3 can be used. The board frame has to be installed and fixed according to the ETA-holder's installation instructions.

Details for installation in rigid floors (see Annex C of the ETA)

No additional information required.

2.4 Hygiene, health and environment

2.4.1 Air permeability

No Performance Determined.

2.4.2 Water permeability

No Performance Determined.

2.4.3 Release of dangerous substances

According to the manufacturer's declaration, the product specification has been compared with the list of dangerous substances of the European Commission to verify that it does not contain such substances above the acceptable limits.

A written declaration in this respect was submitted by the ETA-holder.

In addition to the specific clauses relating to dangerous substances contained in this ETA, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products Directive, these requirements need also to be complied with, when and where they apply.

2.5 Safety in use

2.5.1 Mechanical resistance of stability

No Performance Determined.

2.5.2 Resistance to impact/movement

No Performance Determined.

2.5.3 Adhesion

No Performance Determined.

2.6 Protection against noise

2.6.1 Airborne sound insulation

No Performance Determined.

2.7 Energy economy and heat retention

2.7.1 Thermal properties

No Performance Determined.

2.7.2 Water vapour permeability

No Performance Determined.

2.8 General aspects relating to fitness for use

The Cable penetration seal „System ZZ-Brandschutzmasse NE” (System ZZ-Fire protection mastic NE) was tested according to ETAG 026-Part 2 clause 2.4.12.

The Cable penetration seal „System ZZ-Brandschutzmasse NE” (System ZZ-Fire protection mastic NE) fulfil the requirements for the intended use category.

The Cable penetration seal „System ZZ-Brandschutzmasse NE” (System ZZ-Fire protection mastic NE) is therefore appropriate for internal use with high humidity, excluding temperatures below 0 °C, and can – according to ETAG 026-Part 2 clause 2.4.12.1.3.3 – be categorized as Type Z₁. Since the requirements for Type Z₁ are met, also the requirements for Type Z₂ are fulfilled.

3 Evaluation of Conformity and CE Marking

3.1 Attestation of Conformity system

According to the Decision 1999/454/EC of the European Commission⁵ system 1 of the attestation of conformity applies for fire-resistance-performance. This system of attestation of conformity is to be described in the following:

System 1: Certification of the conformity of the product by a Notified Certification Body on the basis of:

⁵ Official Journal of the European Communities no. L 178, 14.7.1999, p. 52

- a) Tasks of the manufacturer
 - 1) Factory Production Control
 - 2) Further testing of samples taken at the factory in accordance with a prescribed control plan
- b) Tasks of the Notified Body
 - 3) Initial type-testing of the product
 - 4) Initial inspection of factory and of factory production control
 - 5) Continuous surveillance, assessment and approval of factory production control

Additionally according to the Decision 2001/596/EC of the European Commission⁶ system 3 of the attestation of conformity is to be used in relation to the reaction-to-fire performance. This system of attestation of conformity is to be described in the following:

System 3: Declaration of conformity of the product by the manufacturer:

- a) Tasks of the manufacturer
 - 1) Factory Production Control
- b) Tasks of the Notified Body
 - 2) Initial type-testing of the product

3.2 Responsibilities

3.2.1 Tasks of the manufacturer

3.2.1.1 Factory production control

The manufacturer shall exercise permanent internal control of production. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures, including records of results performed. This production control system shall insure that the product is in conformity with this European technical approval.

The manufacturer shall draw up and keep up-to-date documents defining the factory production control that applies. The documentation to be carried out by the manufacturer and the applicable procedures shall be appropriate to the product and manufacturing process. The factory production control shall ensure the conformity of the product to an appropriate level. This involves:

- a) the preparation of documented procedures and instructions relating to factory production control operations.
- b) the effective implementation of these procedures and instructions.
- c) the recording of these procedures and their results.
- d) the use of these results to correct any deviations, repair the effects of such deviations, treat any resulting instances of non-conformity and, if necessary, revise the factory production control to rectify the cause of non-conformity.
- e) a procedure to ensure that both the approval Body and the Notified (Certification) Bodies are advised before any significant change to the product, its components or manufacturing process, is made.
- f) a procedure to ensure that personnel involved in the production processes and the quality control procedures are qualified and adequately trained to carry out their required tasks.
- g) that all testing and measuring equipment is maintained and up to date calibration records are documented.
- h) maintenance of records to ensure every batch produced is clearly labelled with the batch number, which allows traceability to its production to be identified.

⁶ Official Journal of the European Communities no. L 209, 2.8.2001, p. 33

The manufacturer may only use components stated in the technical documentation of this European technical approval.

For the components which the ETA-holder does not manufacture by himself, he shall make sure that factory production control carried out by the other manufacturers gives the guaranty of the components compliance with the European technical approval.

The factory production control and the provisions taken by the ETA-holder for components not produced by himself shall be in accordance with the control plan⁷ relating to this European technical approval which is part of the technical documentation of this European technical approval. The control plan is laid down in the context of the factory production control system operated by the manufacturer and deposited at the Österreichisches Institut für Bautechnik.

The results of factory production control shall be recorded and evaluated in accordance with the provisions of the control plan.

3.2.1.2 Other tasks of the manufacturer

The manufacturer shall provide a technical data sheet and an installation instruction with the following minimum information:

- technical data sheet:
 - a) Field of application:
 - 1) Building elements for which the penetration seal is suitable, type and properties of the building elements like minimum thickness, density, and – in case of lightweight constructions – the construction requirements.
 - 2) Services for which the penetration seal is suitable, type and properties of the services like material, diameter, thickness etc. in case of pipes including insulation materials; necessary/allowed supports/fixings (e.g. cable trays).
 - 3) Limits in size, minimum thickness etc. of the penetration seal.
 - b) Construction of the penetration seal including the necessary components and additional products (e.g. backfilling material) with clear indication whether they are generic or specific.
- Installation instruction:
 - a) Steps to be followed.
 - b) Procedure in case of retrofitting.

The manufacturer shall, on the basis of a contract, involve a body (bodies) which is (are) notified for the tasks referred to in section 3.1 in the field of approval product in order to undertake the actions laid down in section 3.3. For this purpose, the control plan referred to in sections 3.2.1.1 and 3.2.2 shall be handed over by the manufacturer to the Notified Body or Bodies involved.

The manufacturer shall make a declaration of conformity, stating that the construction product is in conformity with the provisions of this European technical approval

3.2.2 Tasks of the Notified Bodies

The Notified Body (Bodies) shall perform the:

- initial type-testing of the product
The results of the tests performed as part of the assessment for the European technical approval can be used unless there are changes in the production line or plant. In such cases, the necessary initial type testing has to be agreed between the Österreichisches Institut für Bautechnik and the Notified Bodies involved.
- initial inspection of factory and of factory production control
The Notified Body (Bodies) shall ascertain that, in accordance with the control plan, the fac-

⁷ The control plan is a confidential part of the European technical approval and only handed over to the Notified Body or Bodies involved in the procedure of conformity.

tory (in particular the employees and the equipment) and the factory production control are suitable to ensure continuous and orderly manufacturing of the components according to the specifications mentioned in clause 2 of this ETA.

- continuous surveillance, assessment and approval of factory production control
The Notified Body (Bodies) shall visit the factory at least once a year for surveillance of this manufacturer having a FPC system complying with a quality management system covering the manufacturing of the approval product components. It has to be verified that the system of factory production control and the specified automated manufacturing process are maintained taking into account the control plan

These tasks shall be performed in accordance with the provisions laid down in the control plan of this European technical approval.

The Notified Body (Bodies) shall retain the essential points of its (their) actions referred to above and state the results obtained and conclusions drawn in written report.

- In the case of Attestation of Conformity system 1:
The Notified Body involved by the manufacturer shall issue an EC certificate of conformity of the product stating the conformity with the provisions of this European technical approval.

In cases where the provisions of the European technical approval and its control plan are no longer fulfilled, the Certification Body shall withdraw the certificate of conformity and inform the Österreichisches Institut für Bautechnik without delay.

3.3 CE marking

The CE marking shall be affixed either on the product itself, on a label attached to it, on its packaging or on the commercial documents accompanying the components of the product. The letters « CE » shall be followed by the identification number of the Notified Body involved and be accompanied by the following additional information:

- the name or identifying mark and address of the ETA-holder
- the last two digits of the year in which the CE marking was affixed
- the number of the EC certificate of conformity for the product
- the number of the European technical approval
- the number of the ETAG (ETAG N° 026 part 2)
- the designation of the product (trade name)
- the use category in accordance with the ETA section 1 and 2
- for other relevant characteristics (e.g. resistance to fire) see ETA-13/0093

4 Assumptions under which the fitness of the product for the intended use was favourably assessed

4.1 Manufacturing

The European technical approval is issued for the product on the basis of agreed data/information, deposited with the Österreichisches Institut für Bautechnik, which identifies the product that has been assessed and judged. Changes to the product or production process, which could result in this deposited data/information being incorrect, should be notified to the Österreichisches Institut für Bautechnik before the changes are introduced. The Österreichisches Institut für Bautechnik will decide whether or not such changes affect the ETA and consequently the validity of the CE marking on the basis of the ETA and if so whether further assessment or alterations to the ETA, shall be necessary.

4.2 Installation

The ETA is issued under the assumption that the installation of the approval product shall be in accordance with the manufacturer's technical literature.

5 Indications to the manufacturers

5.1 Packaging, transport and storage

In the accompanying document and/or on the packaging the manufacturer shall give information as to transport and storage.

At least the following shall be indicated: storing temperature, maximum duration of storage and required data related to minimum temperature for transport and storage.

5.2 Use, maintenance and repair

The product shall be installed and used as described in this ETA.

The assessment of the fitness for use is based on the assumption that necessary maintenance and repair if required is carried out in accordance with the manufacturer's instructions during the assumed intended working life.

On behalf of Österreichisches Institut für Bautechnik

The original document is signed by:

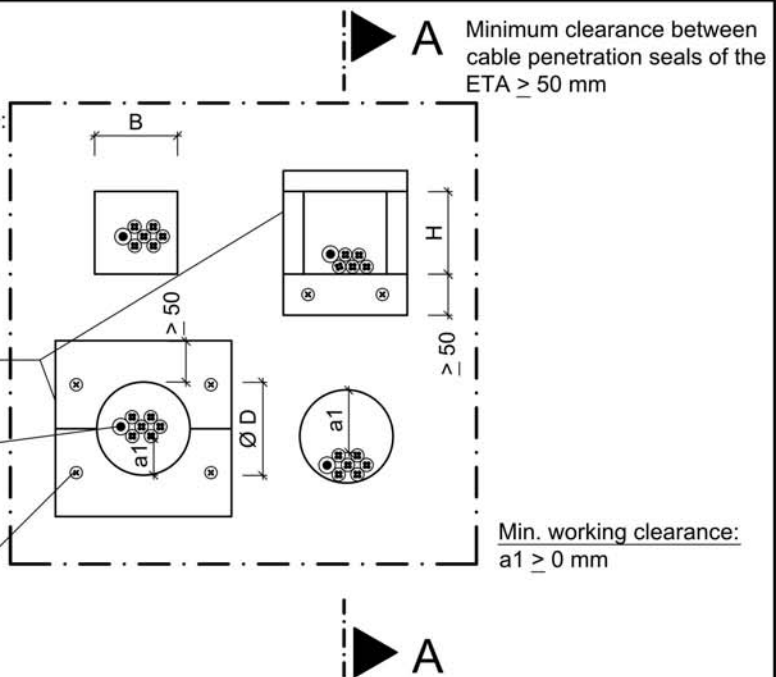
Rainer Mikulits
Managing Director

View:

For Fire resistance classification EI 120:
Lining (min. two layers of gypsum board of thickness $\geq 12,5$ mm or min. one layer of silicate/calcium silicate board of thickness ≥ 25 mm) alternatively frame made from gypsum board or silicate/ calcium silicate board ≥ 50 mm width around the opening (see clause 2.3.2 of the ETA)

Cables

Fixing according to the ETA - holder's installation instruction



Cross Section A-A:

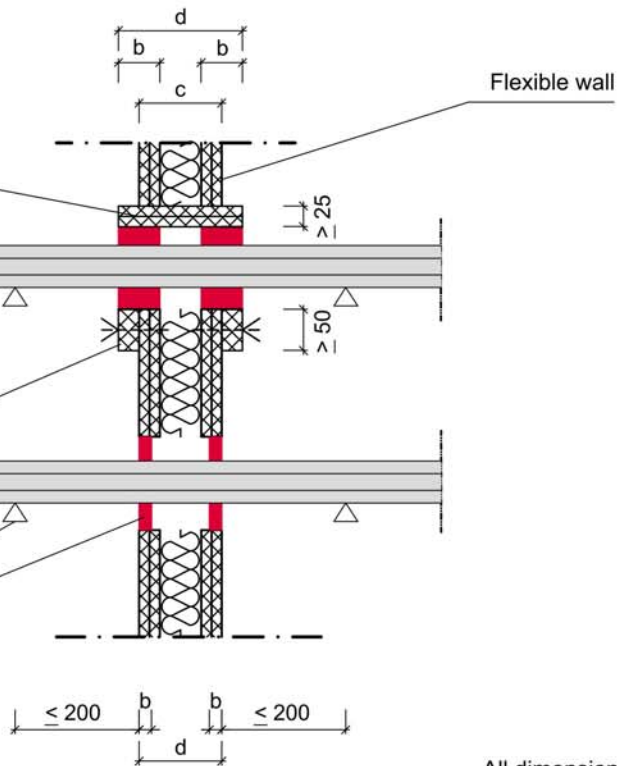
For Fire resistance classification EI 120:
Lining made from gypsum board, or silicate/ calcium silicate board

For Fire resistance classification EI 120:
Increase the thickness of the wall either on one or on both sides to at least min. seal thickness by fitting a board frame (≥ 50 mm wide) around the opening

Cables

Service support construction (see clause 2.3.2 of the ETA)

"ZZ-Mastic NE"



All dimensions in mm

Separating element	Fire resistance classification	Wall thickness c [mm]	Max. opening size H [mm] x B [mm] / Ø D [mm]	Seal Thickness d and Filling depth b [mm]
Flexible wall	see clause 2.3.2 of the ETA	≥ 100	$\leq 100 \times x \leq 100 / \text{Ø} \leq 113$	see clause 2.3.2 of the ETA

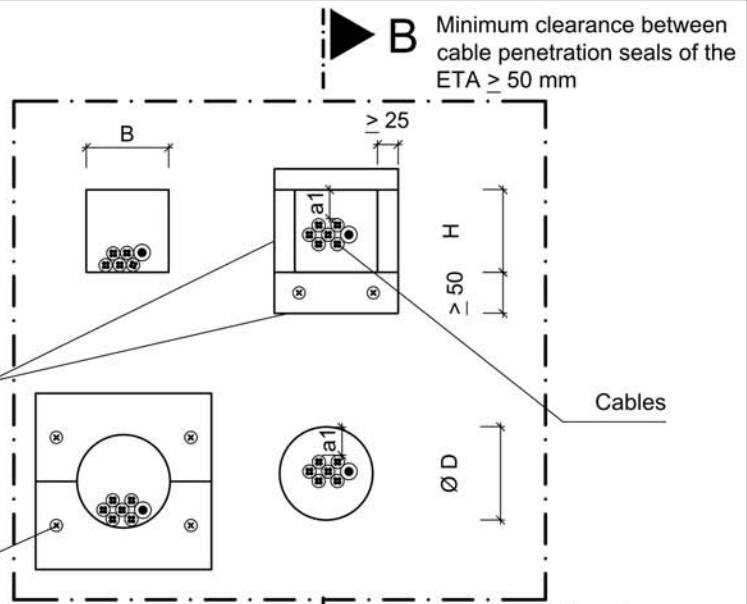
Cable penetration seal
"ZZ-Fire protection mastic NE"
- Installation in flexible wall $c \geq 100$ mm -

ANNEX A

View:

For Fire resistance classification EI 120:
Lining (min. two layers of gypsum board of thickness $> 12,5$ mm or min. one layer of silicate/calcium silicate board of thickness ≥ 25 mm)
alternatively frame made from gypsum board or silicate/ calcium silicate board ≥ 50 mm width around the opening
(see clause 2.3.2 of the ETA)

Fixing according to the ETA - holder's installation instruction



Cross Section B-B:

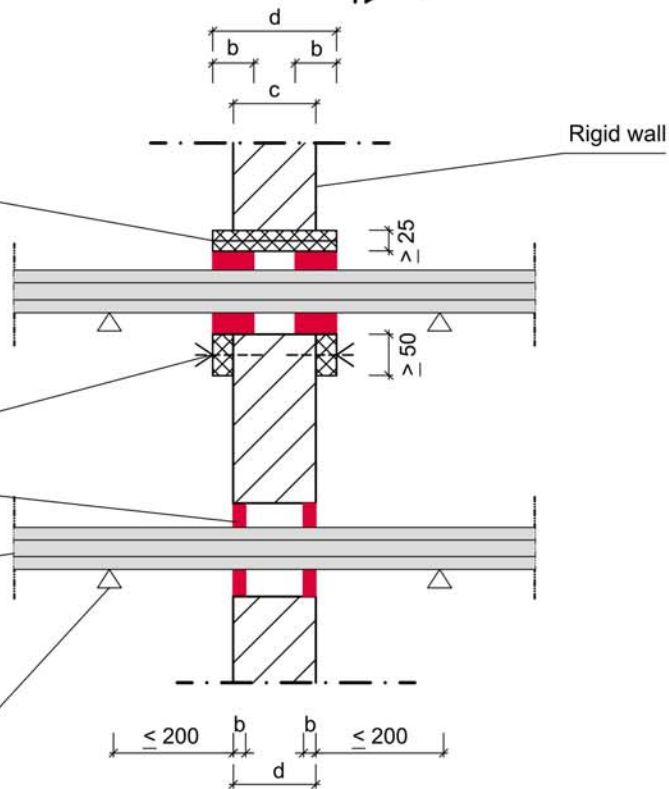
For Fire resistance classification EI 120:
Lining made from gypsum board, or silicate/ calcium silicate board

For Fire resistance classification EI 120:
Increase the thickness of the wall either on one or on both sides to at least min. seal thickness by fitting a board frame (≥ 50 mm wide) around the opening

"ZZ-Mastic NE"

Cables

Service support construction (see clause 2.3.2 of the ETA)



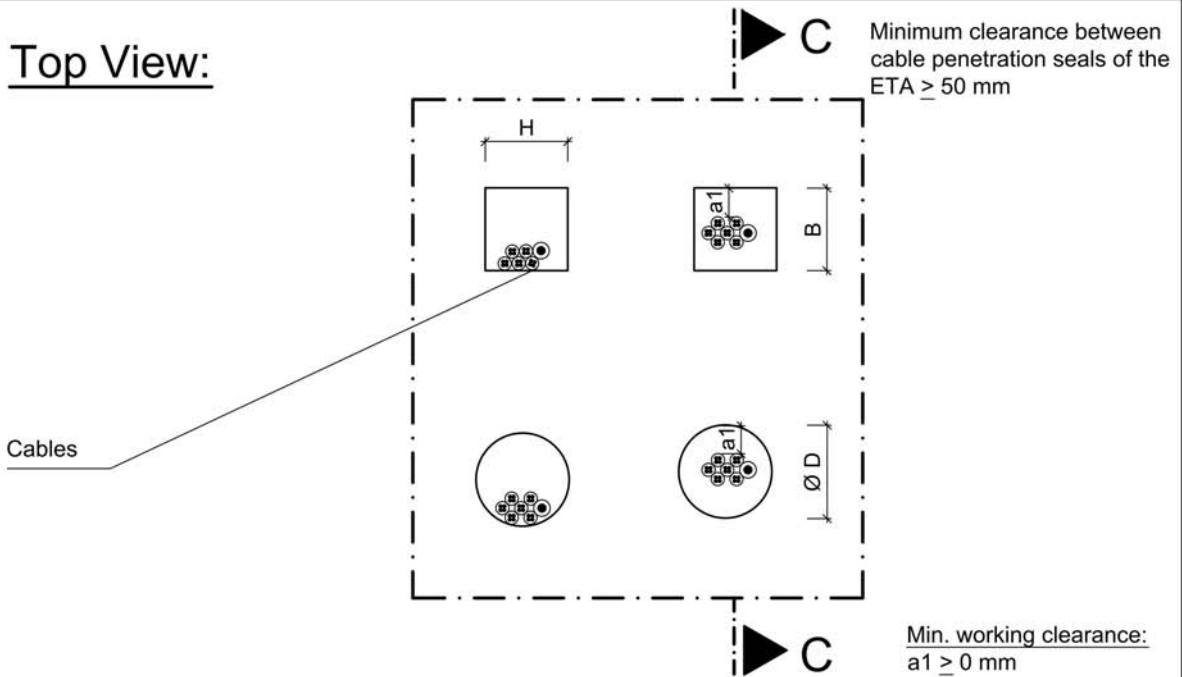
All dimensions in mm

Separating element	Fire resistance classification	Wall thickness c [mm]	Max. opening size H [mm] x B [mm] / Ø D [mm]	Seal Thickness d and Filling depth b [mm]
Rigid wall	see clause 2.3.2 of the ETA	$c \geq 100$	$\leq 100 \times \leq 100 / \text{Ø} \leq 113$	see clause 2.3.2 of the ETA

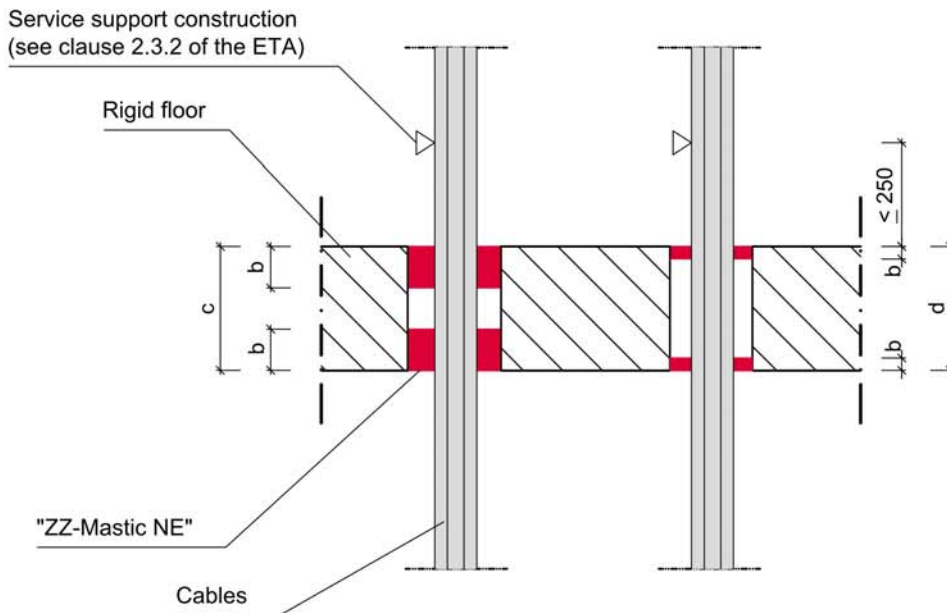
Cable penetration seal
"ZZ-Fire protection mastic NE"
- Installation in rigid wall $c \geq 100$ mm -

ANNEX B

Top View:



Cross Section C-C:



All dimensions in mm

Separating element	Fire resistance classification	Floor thickness c [mm]	Max. opening size H [mm] x B [mm] / Ø D [mm]	Seal Thickness d and Filling depth b [mm]
Rigid floor	see clause 2.3.2 of the ETA	≥ 150	≤ 100 x ≤ 100 / Ø ≤ 113	see clause 2.3.2 of the ETA

Mixed penetration seal
"ZZ-Fire protection mastic NE"
- Installation in rigid floor c ≥ 150 mm -

ANNEX C