

European Technical Approval ETA-13/0913

English translation prepared by DIBt - Original version in German language

Handelsbezeichnung
Trade name

"System SPM"

Zulassungsinhaber
Holder of approval

Franken Plastik GmbH
Balbierer Straße 11
90763 Fürth
DEUTSCHLAND

Zulassungsgegenstand
und Verwendungszweck
*Generic type and use
of construction product*

Rohrabschottung
pipe penetration seal

Geltungsdauer:
Validity: vom
from
bis
to

28 June 2013
28 June 2018

Herstellwerk
Manufacturing plant

FS-Kunststofftechnologie GmbH
Hahnenseifener Straße 15
51580 Reichshof-Hahn
DEUTSCHLAND

Diese Zulassung umfasst
This Approval contains

15 Seiten einschließlich 7 Anlagen
15 pages including 7 annexes

I LEGAL BASES AND GENERAL CONDITIONS

- 1 This European technical approval is issued by Deutsches Institut für Bautechnik in accordance with:
 - Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of Member States relating to construction products¹, modified by Council Directive 93/68/EEC² and Regulation (EC) N° 1882/2003 of the European Parliament and of the Council³;
 - Gesetz über das In-Verkehr-Bringen von und den freien Warenverkehr mit Bauprodukten zur Umsetzung der Richtlinie 89/106/EWG des Rates vom 21. Dezember 1988 zur Angleichung der Rechts- und Verwaltungsvorschriften der Mitgliedstaaten über Bauprodukte und anderer Rechtsakte der Europäischen Gemeinschaften (Bauproduktengesetz - BauPG) vom 28. April 1998⁴, as amended by Article 2 of the law of 8 November 2011⁵;
 - Common Procedural Rules for Requesting, Preparing and the Granting of European technical approvals set out in the Annex to Commission Decision 94/23/EC⁶;
 - Guideline for European technical approval of "Fire Stopping and Fire Sealing Products - Part 2: Penetration Seals", ETAG 026-02.
- 2 Deutsches Institut für Bautechnik is authorized to check whether the provisions of this European technical approval are met. Checking may take place in the manufacturing plant. Nevertheless, the responsibility for the conformity of the products to the European technical approval and for their fitness for the intended use remains with the holder of the European technical approval.
- 3 This European technical approval is not to be transferred to manufacturers or agents of manufacturers other than those indicated on page 1, or manufacturing plants other than those indicated on page 1 of this European technical approval.
- 4 This European technical approval may be withdrawn by Deutsches Institut für Bautechnik, in particular pursuant to information by the Commission according to Article 5(1) of Council Directive 89/106/EEC.
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- 6 The European technical approval is issued by the approval body in its official language. This version corresponds fully to the version circulated within EOTA. Translations into other languages have to be designated as such.

¹ Official Journal of the European Communities L 40, 11 February 1989, p. 12
² Official Journal of the European Communities L 220, 30 August 1993, p. 1
³ Official Journal of the European Union L 284, 31 October 2003, p. 25
⁴ *Bundesgesetzblatt Teil I* 1998, p. 812
⁵ *Bundesgesetzblatt Teil I* 2011, p. 2178
⁶ Official Journal of the European Communities L 17, 20 January 1994, p. 34

II SPECIFIC CONDITIONS OF THE EUROPEAN TECHNICAL APPROVAL

1 Definition of the product and intended use

1.1 Definition of the construction product

1.1.1 Description of the pipe penetration seal

The pipe penetration seal called "System SPM" mainly consists of a gap filling with an intumescent material (see Appendix 1). The pipe penetration seal shall be constructed in accordance with Appendix 3 using the components listed in Annex 1.

1.1.2 Description of the components of the pipe penetration seal

The intumescent material called "FP-BSPA-RK 2" of Franken Plastik GmbH, 90763 Fürth, Germany for filling the annular gap between the pipe and the building element shall comply with the specifications given in Annex 1.

1.2 Intended use

1.2.1 General

1.2.1.1 The pipe penetration seal is used to seal off openings in accordance with section 1.2.3 in fire-resistant walls and floors in accordance with section 1.2.2 penetrated by pipes in accordance with section 1.2.3⁷ and serves to preserve the fire resistance of the wall or floor in the vicinity of the penetrations.

1.2.1.2 The pipe penetration seal reaches a maximum fire resistance class of EI 120-U/C (see also section 2.3).

1.2.1.3 The pipe penetration seal can be used in interiors with and without moisture loads (see section 2.5); for the intumescent component use category X (outdoor application) in accordance with EOTA TR 024 was verified.

1.2.2 Building elements (walls and floors)

The pipe penetration seal may be used in rigid walls ($d_w \geq 150$ mm) and floors ($d_D \geq 150$ mm) according to Appendix 2. The walls and floors shall be classified according to EN 13501-2 in accordance with the fire resistance period required.

1.2.3 Openings (in the building elements)

1.2.3.1 The diameter of the round opening to be sealed off shall be such, that an annular gap of 30 mm width remains between the reveal of the opening and the penetrating pipe.

1.2.3.2 The pipe penetration seal may be used to close openings, if the distance between the opening to be sealed off and other openings or components is at least 200 mm. Deviating from this, the distance may be reduced to 100 mm, if the openings or components are not larger than 200 mm x 200 mm.

1.2.4 Services (installations)

1.2.4.1 The pipe penetration seal may be used on pipes which are fixed perpendicular to the surface of the building element (see Annex 2). The pipes shall consist of the pipe materials listed in Annex 3 and shall have dimensions⁸ according to Annex 4.

⁷ The technical provisions of the Member States for the design of piping systems and the reliability of pipe penetrations are not affected by this.

⁸ Outer pipe diameter (d_A) and pipe wall thickness (s)

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1.2.4.2 For wall applications, the first support of the services shall be at a distance of ≤ 150 mm on both sides of the wall. The supports shall be non-combustible in their essential parts.

1.2.4.3 The pipe work shall only be used for non-combustible liquids and fluids, pneumatic dispatch systems or vacuum cleaning pipes.

The regulations of the Member States shall be observed for more precise specifications of the pipe works (intended use of pipes) for which the penetration seal may be used (e.g. drinking water pipes, heating pipes, waste water pipes)⁹.

1.2.5 Working life

The provisions in this European technical approval are based on an assumed working life of 10 years for the pipe penetration seal "System SPM" provided the conditions laid down in sections 4 and 5 relating to manufacturing, installation, use and repair are met. The information provided on the working life cannot be interpreted as a guarantee given by the manufacturer, but should be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the construction.

2 Product characteristics and methods of verification

2.1 General

2.1.1 The fitness of the pipe penetration seal for the intended use was evaluated in accordance with ETAG 026 Part 2:2008-01-01.

For the evaluation of the pipe penetration seal, the product properties "reaction to fire", "fire resistance", "emission of dangerous substances" as well as "durability and serviceability" were taken into consideration.

2.1.2 The product properties specified in sections 2.2 to 2.5 only apply to the penetration seal and its components described in this ETA. Deutsches Institut für Bautechnik shall be immediately notified of any changes to the materials, composition, dimensions or properties of these components. Deutsches Institut für Bautechnik will then decide if a new evaluation is required.

2.2 Reaction to fire

The intumescent material fulfils the requirements for the reaction to fire classes according to EN 13501-1 given in Appendix 1.

2.3 Fire resistance

The pipe penetration seal was tested in accordance with prEN 1366-3:07/2007 and EN 1366-3:2009-07. As a maximum, the penetration seal fulfils the requirements of Class EI 120-U/C according to EN 13501-2 (see Appendix 2).

In the annexes the maximum fire resistance class verified – for the respective pipes – is specified. If installed in walls or floors of the same thickness and density and with the same structure as specified there, but with a lower fire resistance class, the fire resistance class of the pipe penetration seal is reduced to the fire resistance class of the wall or floor.

The fire resistance classes specified in the annexes with the ending -U/C cover the classes of the same fire resistance duration, but with the ending -C/C.

⁹ The pipe penetration seal may only be fitted to these pipe work types if it fulfils the classification required in the respective country. Particular attention must be paid to the ending of the classification, which reflects the pipe end situation from the fire resistance tests performed to verify the fitness for use (see section 2.3).

2.4 Emission of dangerous substances

The intumescent material "FP-BSPA-RK 2" does not contain substances registered as dangerous substances in the list of the European Commission.

For assessment purposes, the chemical compositions of the material were made available to the Deutsches Institut für Bautechnik.

Note: In addition to the specific clauses relating to dangerous substances contained in this European technical approval, 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 Durability and serviceability

The intumescent material "FP-BSPA-RK 2" fulfils the requirements of use category X (outdoor application) in accordance with EOTA TR 024. This includes the unrestricted in-door use in accordance with the use categories type Z₂, Z₁, Y₂ and Y₁.¹⁰. That means that the materials can be exposed to the conditions in interiors with and without moisture loads, without expecting significant changes in fire protection characteristics.

3 Evaluation and attestation of conformity and CE marking

3.1 System of attestation of conformity

According to Decision 1999/454/EG, amended by Decision 2001/596/EC of the European Commission¹¹, system 1 of the attestation of conformity applies.

This system of attestation of conformity is defined as follows:

System 1: Certification of the conformity of the product by an approved certification body on the basis of:

- (a) Tasks of the manufacturer:
 - (1) factory production control;
 - (2) further testing of samples taken at the factory by the manufacturer in accordance with a prescribed test plan;
- (b) Tasks of the approved body:
 - (3) initial type-testing of the product;
 - (4) initial inspection of the factory and of factory production control;
 - (5) continuous surveillance, assessment and approval of factory production control.

Note: Approved bodies are also referred to as "notified bodies".

¹⁰ See EOTA Technical Report 024 (TR 024), edition July 2009, clause 4.1, use categories, Note 5.

¹¹ Official Journal of the European Communities 178/52, 14 July 1999

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. The factory production control shall ensure that the product is in conformity with this European technical approval.

The manufacturer may only use the initial/raw/constituent materials stated in the technical documentation of this European technical approval.

The factory production control shall be in accordance with the control plan dated 28. June 2013 relating to the European technical approval ETA-13/0913 granted on 28. June 2013, 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 with Deutsches Institut für Bautechnik.¹²

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 datasheet and an installation guide containing at least the following information:

Technical data sheet:

1. Field of application:

- Building elements into which the penetration seal may be installed, type and properties of the building elements, such as minimum thickness and density.
- Installations that may pass through the penetration seal, type and properties of the installations such as materials, diameter, thickness; necessary/permitted supports/fastenings; distances.
- Dimensions, minimum thicknesses etc. of the penetration seal
- Climatic conditions covered by the ETA

2. Construction of the penetration seal including the necessary components and additional products with clear indications whether they are generic or specific.

Installation instructions:

- Installation method (e.g. preparation of the supporting structure before installing the penetration seal)
- The sequence of working steps to be followed

The manufacturer shall, on the basis of a contract, involve a body which is approved for the tasks referred to in section 3.1 for products in accordance with ETAG 026-2, in order to undertake the actions laid down in section 3.2.2. 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 approved body involved.

The manufacturer shall make a declaration of conformity, stating that the construction product is in conformity with the provisions of the European technical approval ETA-13/0913 issued on ETA-13/0913.

¹² The control plan is a confidential part of the European technical approval and only handed over to the approved body involved in the procedure of attestation of conformity. See section 3.2.2.

3.2.2 Tasks for the approved bodies

The approved bodies shall perform the following tasks in accordance with the provisions laid down in the control plan:

- Initial type-testing of the product
- Initial inspection of factory and factory production control
- Continuous surveillance, assessment and approval of factory production control

The approved bodies shall record the essential points of their actions referred to above and state the results obtained and conclusions made in a written report.

The approved certification 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 Deutsches Institut für Bautechnik without delay.

3.3 CE marking

The CE marking shall be affixed on the packaging of the intumescent material. The letters "CE" shall be followed by the identification number of the approved certification body and be accompanied by the following additional information:

- the name and address of the manufacturer (legal entity responsible for the manufacture),
- 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 guideline for European technical approval,
- the use category,
- the designation of the product (trade name) (with indication of the size),
- declaration of any dangerous substances or "no dangerous substances",
- "see ETA-13/0913 for other relevant characteristics".
- For an example of the CE marking see Appendix 4.

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

4.1 General

4.1.1 It is assumed that

- the penetration seal complies with the specifications in this ETA and the installation was carried out in accordance with this ETA and also in accordance with the technical data sheet and the installation instructions by the manufacturer,
- damages to the penetration seal are repaired accordingly,
- the seal is installed only in the building elements specified in this ETA,
- only installations in accordance with the specifications in this ETA pass through the openings (Parts or service support constructions other than those in accordance with section 1.2 shall not pass through the penetration seal.),

- pneumatic dispatch systems, compressed air systems, etc. are switched off by additional means in case of fire,
 - the installation of the penetration seal does not affect the stability of the adjacent building elements – even in case of fire,
 - the installations are fixed to the adjacent building elements (not to the seal) in accordance with the relevant regulations in such a way that, in case of fire, no additional mechanical load is imposed on the seal,
 - the support of the installations is maintained for the classification period required.
- 4.1.2 This European technical approval does not address any risks associated with the emission of dangerous liquids or gases caused by failure of the pipe(s) in case of fire nor does it prove the prevention of the transmission of fire through heat transfer via the medium in the pipes.
- 4.1.3 The risk of downward spread of fire caused by burning material which drips through a pipe to floors below, is not considered in this ETA (see EN 1366-3:2009-07, section 1).
- 4.1.4 The durability assessment does not take account of the possible effect on the penetration seal of substances permeating through the pipe walls.

4.2 Production

The European technical approval was issued for the product on the basis of agreed data/information, deposited with Deutsches 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, shall be reported to Deutsches Institut für Bautechnik before the changes are introduced. Deutsches Institut für Bautechnik will decide whether or not such changes affect the approval and consequently the validity of the CE marking on the basis of the approval, and if so whether further assessment or alterations to the approval shall be necessary.

4.3 Installation

The product characteristics specified in this European technical approval shall only apply if the penetration seal is installed in accordance with the specifications in Appendix 3 and also with the technical data sheet and the manufacturer's installation instructions.

5 Indications to the manufacturer

5.1 Packaging, transport and storage

- 5.1.1 The manufacturer's specifications for packaging, transport and storage shall be observed.
- 5.1.2 The packaging of the intumescent material shall contain the following information:
- Trade name or trademark or other symbol identifying the product
 - The date of manufacture (day, month, year or coded information)
- 5.1.3 The intumescent material shall be packaged for delivery in compliance with the usual delivery conditions and providing sufficient protection against the effects of normal handling.

5.2 Use, maintenance, repair

In general, no maintenance work is necessary. Repair can be performed by renewing damaged gap seals.

Prof. Gunter Hoppe
Head of Department

beglaubigt:
Racinowski

Name/Manufacturer	Description
<p>"FP-BSPA-RK 2" Franken Plastik GmbH 90763 Fürth Germany</p>	<p>Intumescent material Reaction to fire according to EN 13501-1: class E Density (delivery condition): 1300 kg/m³ ± 15 % Loss of mass on heating*: 54 % ± 5 % (tested at 550 °C for 30 minutes) Expansion ratio*: 16 to 24 (tested at 550 °C for 30 minutes with a top load; thickness of the samples approx. 3,7 mm) Expansion pressure*: 0,75 N/mm² to 1,75 N/mm² (tested at 300 °C, method 4)</p>

* tested according to ETAG 026-2 (also see TR 024)

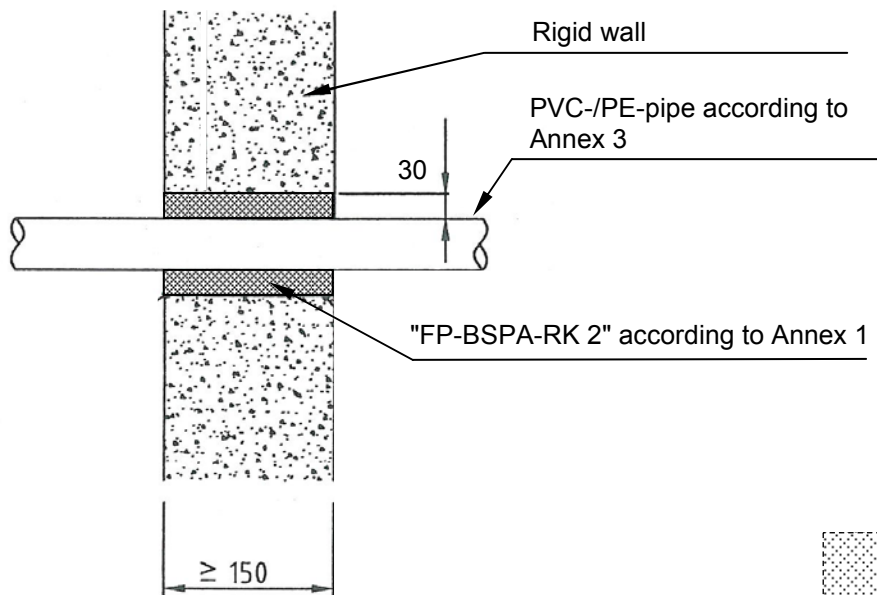
"System SPM"

APPENDIX 1 – DESCRIPTION OF THE PRODUCT

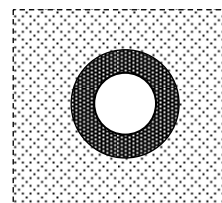
Description of the components of the pipe penetration seal

Annex 1

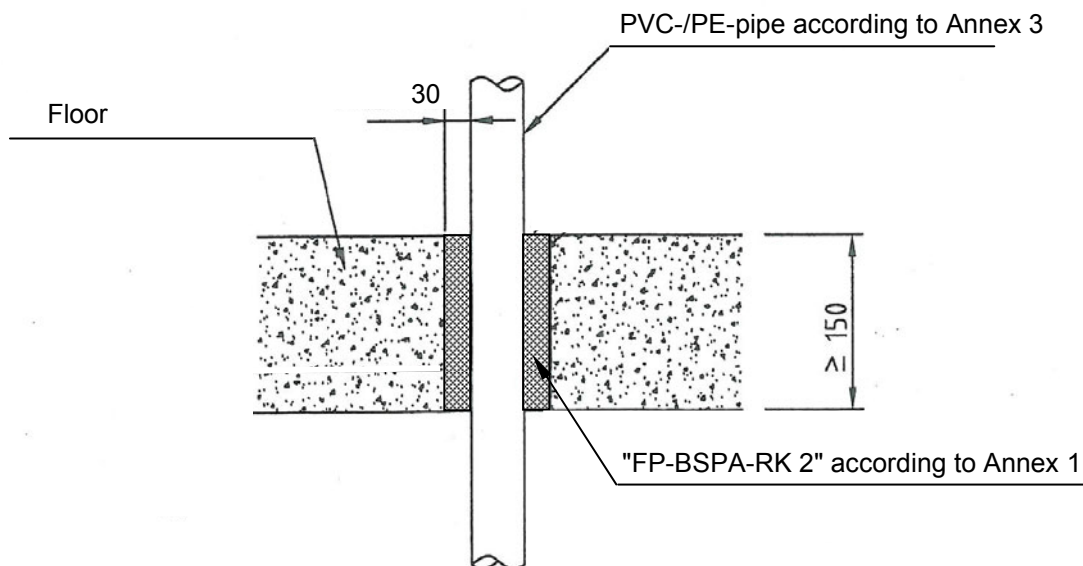
Wall installation



View:



Floor installation



Dimensions in mm

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APPENDIX 1 – DESCRIPTION OF THE PRODUCT

Description of the pipe penetration seal for installation in rigid walls and floors

Annex 2

The pipe penetration seal may be used in

Rigid walls (MW)

- of masonry, concrete, reinforced concrete or aerated concrete
- Density $\geq 630 \text{ kg/m}^3$
- Thickness $\geq 150 \text{ mm}$
- The walls shall be classified according to EN 13501-2 corresponding to the required fire resistance period.

Rigid floors (D)

- of concrete, reinforced concrete or aerated concrete
- Density $\geq 630 \text{ kg/m}^3$
- Thickness $\geq 150 \text{ mm}$
- The floors shall be classified according to EN 13501-2 corresponding to the required fire resistance period.

note: This ETA do not cover the installation of the seal in special walls, i.e. in sandwich panel constructions.

Services

- The open annular gap around the pipes shall be 30 mm wide.
- For group arrangement the distance between the openings shall be at least 100 mm.
- For wall applications, the first support of the pipes shall be at a distance of $\leq 150 \text{ mm}$ on both sides of the wall. The supports shall be made from materials of class A1 or A2 according to EN 13501-1 in their essential parts.

Type of service

Typ	Description
Plastic pipes	<ul style="list-style-type: none"> – Pipe group A: Pipes made from PVC-U according to EN 1452-1 and also to DIN 8061/8062 with dimensions (d_R, s) according to Annex 4, Figure 1 – Pipe group B: Pipes made from PE-HD, according to EN 1519-1 and also to DIN 8074/8075 with dimensions (d_R, s) according to Annex 4, Figure 2

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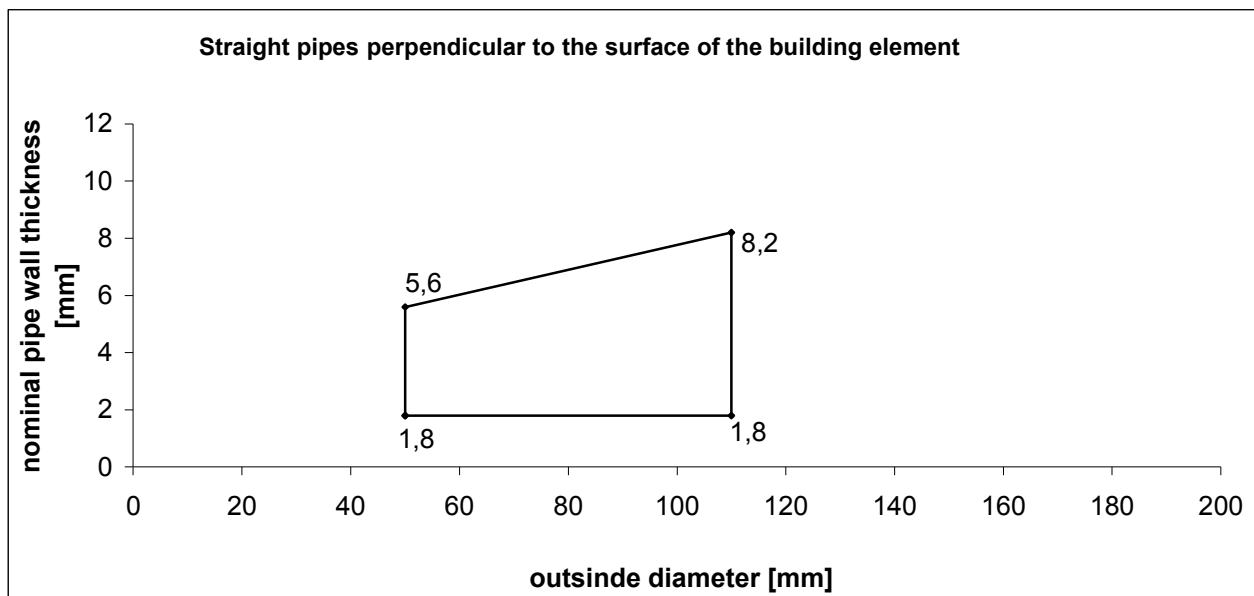
APPENDIX 2 – FIELD OF APPLICATION
Walls and floors / Overview of the installations

Annex 3

Pipe group A

Pipes made from PVC-U according to EN 1452-1 and also to DIN 8061/8062.

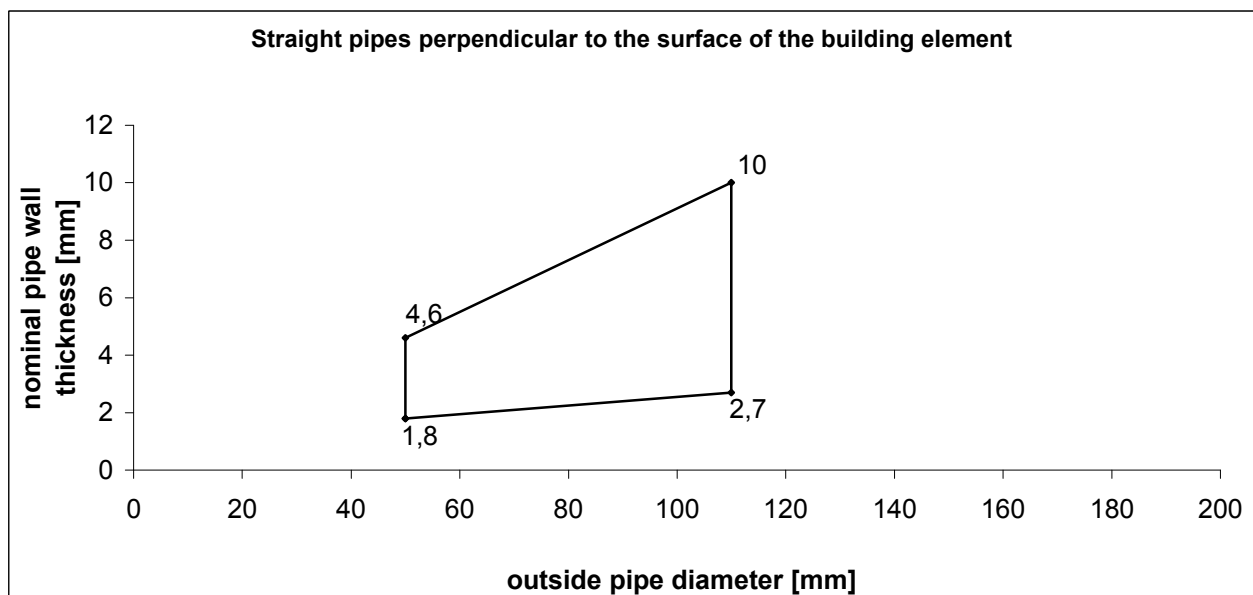
Figure 1 – EI 120-U/C (wall and floor installation)



Pipe group B

Pipes made from PE-HD, according to EN 1519-1 and also to DIN 8074/8075.

Figure 2 – EI 120-U/C (wall and floor installation)



Electronic copy of the ETA by DIBt: ETA-13/0913

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APPENDIX 2 – FIELD OF APPLICATION
Pipe dimensions

Annex 4

INSTALLATION OF THE PENETRATION SEAL

1. General

- 1.1 Before installing the pipe penetration seal it shall be checked that all conditions (e. g. type and thickness of the wall or floor, type and dimensions of the pipes and the ambient conditions) comply with the provisions of Section 1.2 and Appendices 1 and 2.
- 1.2 It shall be ensured that the assumptions under which the fitness for use was evaluated are complied with (see Section 4.1).

2. Installation of the penetration seal


- 2.1 Prior to the installation the opening reveals shall be cleaned.
- 2.2 The 30 mm wide remaining annular gap between the wall or floor and the penetrating pipe shall be completely filled with the intumescent material according to annex 1 in a thickness of 150 mm.

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APPENDIX 3 – INSTALLATION OF THE PENETRATION SEAL

Annex 5

Example for CE marking

 XXXX
Franken Plastik GmbH Balbierer Straße 11 90763 Fürth Deutschland/Germany 13 XXXX-CPD-XXXX
ETA-13/0913 ETAG 026 – Part 2 Rohrabschottung / Pipe Penetration Seal "System SPM" Dämmschichtbildener Baustoff / Intumescent material "FP-BSPA-RK 2" use category X

"CE"-Zeichen / "CE" marking

Identifizierungsnummer der notifizierten Stelle (für Konformitätsbescheinigungssystem 1)/ Identification number of notified certification body (for system of conformity 1)

Name und Anschrift des Herstellers oder seines autorisierten Vertreters (verantwortliche juristische Person)/ Name and address of the producer (legal entity responsible for the manufacturer)

Die letzten beiden Ziffern des Jahres, in dem die CE-Kennzeichnung angebracht wurde/ Two last digits of year of affixing CE marking

Nummer des EG-Konformitätszertifikats / Number of EC certificate of conformity

Nummer der ETA / ETA number

Nummer der Leitlinie / ETAG number

Produktbezeichnung (Handelsname) / Designation of the product (trade name)

Produktbezeichnung der Komponente (Handelsname) / Designation of the component (trade name)

Nutzungskategorie/ use category

weitere relevante Produktmerkmale (z. B. Feuerwiderstandsklasse, Abgabe gefährlicher Stoffe) s. ETA-13/0913 / See ETA-13/0913 for other relevant characteristics (i. e. fire resistance class, dangerous substances)

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APPENDIX 4 – EXAMPLE FOR CE MARKING AND ADDITIONAL INFORMATION

Annex 6

Abbreviations

FWKL: maximum fire resistance class; If installed in building elements of the same type, thickness, density and with the same structure, but with a lower fire resistance class, the fire resistance class of the pipe penetration seal is reduced to the fire resistance class of the building element.

d_R: outer pipe diameter (nominal diameter according to the standards)

s: pipe wall thickness (nominal value according to the standards)

Standards

- EN 13501-2:2010-02** Fire classification of construction products and building elements – Part 2: Classification using test data from resistance to fire tests, excluding ventilation services
- EN 13501-1:2007** Fire classification of construction products and building elements – Part 1: Classification using test data from reaction to fire tests
- prEN 1366-3:2007-07** Document from CEN TC 127 for formal vote (document N 185); title see EN 1366-3:2009-07
- EN 1366-3:2009-07** Fire resistance tests for service installations – Part 3: Penetration seals
- DIN 8077:2008-09** Rohre aus Polypropylen (PP); PP-H 100, PP-B 80, PP-R 80; Maße
- DIN 8061:2009-10** Unplasticized polyvinyl chloride (PVC-U) pipes – General quality requirements and testing
- DIN 8062:2009-10** Unplasticized polyvinyl chloride (PVC-U) pipes – Dimensions
- EN 1452-1:2010-04** Plastics piping systems for water supply and for buried and above-ground drainage and sewerage under pressure – Unplasticized poly(vinyl chloride) (PVC-U) – Part 1: General (ISO 1452-1:2009);
- DIN 8074:2011-12** Polyethylene (PE) – Pipes PE 80, PE 100 – Dimensions
- DIN 8075:2011-12** Polyethylene (PE) pipes – PE 80, PE 100 – General quality requirements, testing
- EN 1519-1:2001-01** Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure – Polyethylene (PE) – Part 1: Specifications for pipes, fittings and the system

Other Documents

- ETAG 026-2** Guideline for European Technical Approval of Fire Stopping and Fire Sealing Products, Part 2, Penetration Seals (edition January 2008)
- EOTA TR 024** Characterisation, Aspects of Durability and Factory Production Control for Reactive Materials, Components and Products (edition November 2006)

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APPENDIX 5 – ABBREVIATIONS AND REFERENCE DOCUMENTS

Annex 7