

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

ETA-17/0472  
of 22 May 2017

English translation prepared by DIBt - Original version in German language

### General Part

Technical Assessment Body issuing the  
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

PYROMIX®

Product family  
to which the construction product belongs

product for use in penetration seals

Manufacturer

OBO BETTERMANN GmbH & Co. KG  
Hüingser Ring 52  
58710 Menden  
DEUTSCHLAND

Manufacturing plant

Herstellwerk S

This European Technical Assessment  
contains

7 pages including 3 annexes which form an integral part  
of this assessment

This European Technical Assessment is  
issued in accordance with Regulation (EU)  
No 305/2011, on the basis of

Guideline for European technical approval of "Fire  
Stopping and Fire Sealing Products", ETAG 026 Part 2:  
"Penetration Seals",  
used as European Assessment Document (EAD)  
according to Article 66 Paragraph 3 of Regulation (EU)  
No 305/2011.

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## Specific Part

### 1 Technical description of the product

The construction product "PYROMIX<sup>®</sup>" is a mortar which is intended to be used in penetration seals. It is supplied in powder form in bags, in cement grey color.

A detailed technical description and the fire-safety-related performance criteria of the construction products are given in Annex 1.

NOTE:

The characteristics listed are suitable both for identifying the construction products as well as for performing the manufacturer's factory production control.

### 2 Specification of the intended use in accordance with the applicable European Assessment Document

The construction product "PYROMIX<sup>®</sup>" is intended to be used as a component with a fire protection effect in building elements or parts thereof or constructions that are subject to fire-protection requirements. Heat transmission and spread of fire are restricted in the event of fire.

The construction product "PYROMIX<sup>®</sup>" is intended for use in penetration seals.

Construction products for penetration seals are used to seal openings in fire-resistant walls or floors, which are penetrated by services. Penetration seals are used to maintain the fire resistance of the wall or floor in the area of these penetrations.

Within the scope of this ETA, a set of test specimens were subjected to a fire test. A fire resistance of EI 240 was demonstrated for individual designs of cable penetration seals and a fire resistance of EI 120 was demonstrated for individual designs of pipe penetration seals - manufactured using the construction product "PYROMIX<sup>®</sup>".

The construction product may be used for the installation of penetration seals in dry interior areas and temperatures above 0 °C (use category Type Z<sub>2</sub>).

The performances referred to in section 3 refer only to the aforementioned specimen used in the context of the verification procedure (e.g. regarding the design and arrangement of the components of the penetration seal and the type and position of the services).

### 3 Performance of the product and references to the methods used for its assessment

#### 3.1 Safety in case of fire

Essential characteristic	Performance
Fire resistance of a penetration seal in which the product is incorporated.	The fire resistance depends on the arrangement/ installation of the penetration seal and the other components that make up the penetration seal. Details of the tested penetration seals as well as the related fire resistance classes are given in annexes 1 to 3

**4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal basis**

In accordance with the European Technical Approval Guideline "Fire Stopping and Fire Sealing Products", ETAG 026, Part 2: "Penetration Seals", August 2011, which is used as European Assessment Document (EAD), the following legal basis shall apply: 1999/454/EC.

The system to be applied is: system 1.

**5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD**

The technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 22 May 2017 by Deutsches Institut für Bautechnik.

Prof. Gunter Hoppe  
Head of Department

*beglaubigt:*  
Bisemeier

### Properties and performances criteria of the construction products "PYROMIX®"

Property	Performance criterion
Fire behavior	Classification of fire behavior according to EN 13501-1: A1
Compressive strength	M 2,5
Density	$\rho \geq 900 \text{ kg/m}^3$
initial shear strength	0,15 N/mm <sup>2</sup> (table value)
Contents of chlorides	$\leq 0,10 \text{ M.-%}$
Water vapour permeability $\mu$	5/20 (table value)
Thermal conductivity $\lambda_{10, \text{dry, mat}}$	$\leq 0,25 \text{ W/(m}^{\circ}\text{K)}$ für P = 50% (table value) $\leq 0,27 \text{ W/(m}^{\circ}\text{K)}$ für P = 90%

The properties listed can be used both for the identification of the construction product and for the implementation of the factory production control of the manufacturer.

Implementation details for the factory production control are included in the inspection plan.

### Performances of penetration seals, comprising the construction product "PYROMIX®"

	Essential requirement	Test method	Construction of the sample	Performance acc. to EN 13501-2
1	Resistance to fire	EN 1366-3	150 mm thick rigid wall; design and layout of the penetration seal according to Annex 2*	EI 120
2	Resistance to fire	EN 1366-3	150 mm thick rigid floor; design and layout of the penetration seal according to Annex 2*	EI 120
3	Resistance to fire	EN 1366-3	240 mm thick rigid wall; design and layout of the penetration seal according to Annex 3*	EI 240
4	Resistance to fire	EN 1366-3	200 mm thick rigid floor; design and layout of the penetration seal according to Annex 3*	EI 240

\* The illustrations on annexes 2 and 3 are without guarantee for completeness.

The use of the construction product "PYROMIX®" shall be in accordance with national requirements for planning, design and execution and in accordance with the installation instruction of the manufacturer. The tested/illustrated seals are only examples for the use.

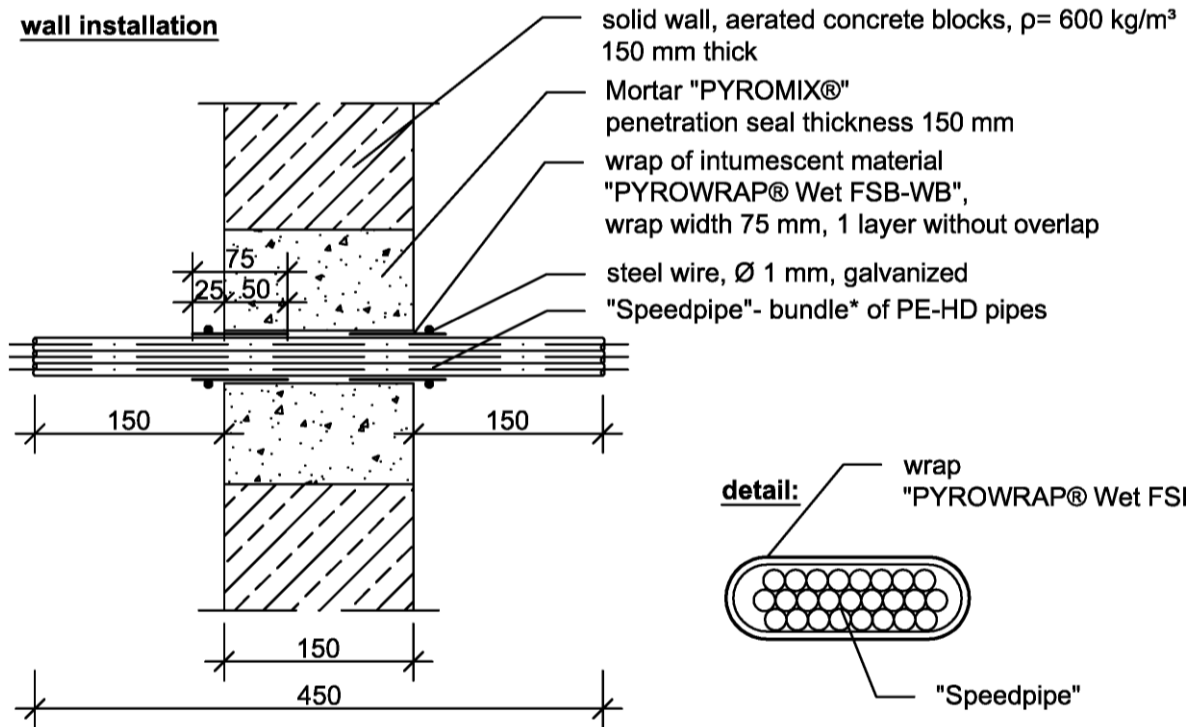
PYROMIX®

Properties of the construction product " PYROMIX®" and the performance of penetration seals, comprising " PYROMIX®"

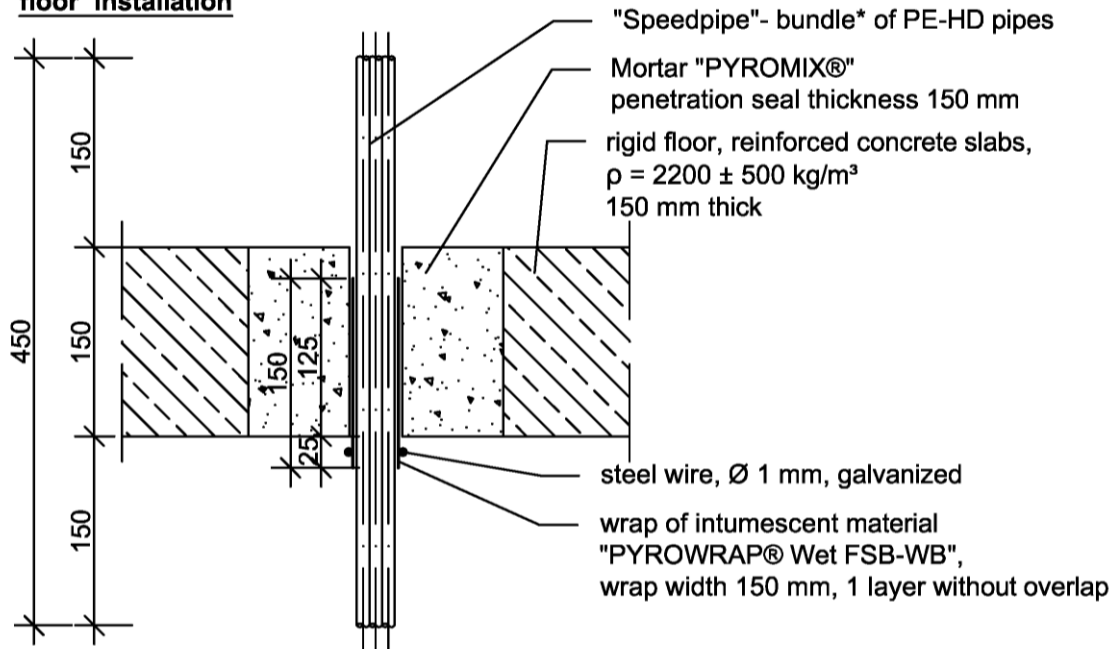
Annex 1

"PYROMIX®" (EI 120)

**wall installation**



**floor installation**



\* "Speedpipe"-bundle  
1 x type SRV-G 50 / 5 x 12  
1 x type SRV-G 50 / 7 x 10  
1 x type SRV-G 50 / 24 x 7

dimensions in mm

PYROMIX®

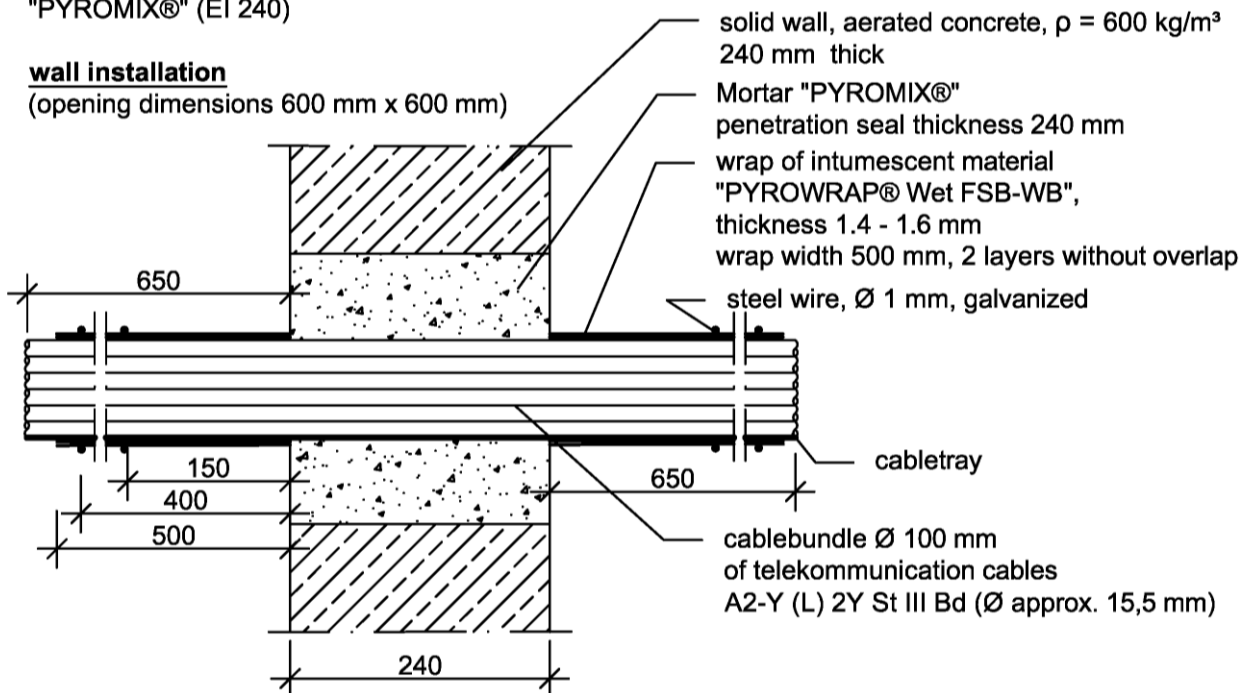
Use as a part of a pipe penetration seal (EI 120)  
Examples for installation in a wall or in a floor

Annex 2

"PYROMIX®" (EI 240)

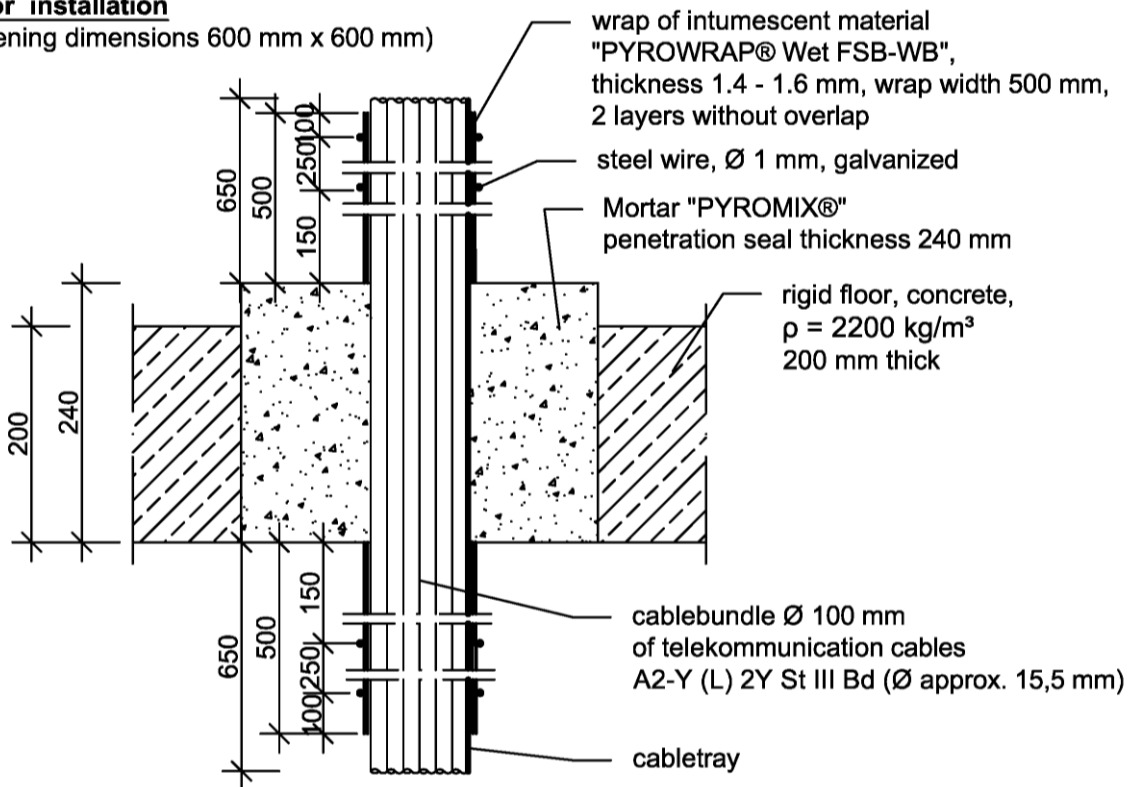
**wall installation**

(opening dimensions 600 mm x 600 mm)



**floor installation**

(opening dimensions 600 mm x 600 mm)



dimensions in mm

PYROMIX®

Use as a part of a cable penetration seal (EI 240)  
Examples for installation in a wall or in a floor

Annex 3