

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

ETA-16/0214  
of 13 September 2016

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

"KBS Pipe Seal SN"

Product family  
to which the construction product belongs

pipe collar used for penetration seals

Manufacturer

BASF Personal Care and Nutrition GmbH  
Robert-Hansen-Straße 1  
89257 Illertissen  
DEUTSCHLAND

Manufacturing plant

BASF Personal Care and Nutrition GmbH  
Robert-Hansen-Straße 1  
89257 Illertissen

This European Technical Assessment  
contains

9 pages including 5 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.

**European Technical Assessment**

**ETA-16/0214**

English translation prepared by DIBt

Page 2 of 9 | 13 September 2016

The European Technical Assessment is issued by the Technical Assessment Body in its official language. Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and shall be identified as such.

Communication of this European Technical Assessment, including transmission by electronic means, shall be in full. However, partial reproduction may only be made with the written consent of the issuing Technical Assessment Body. Any partial reproduction shall be identified as such.

This European Technical Assessment may be withdrawn by the issuing Technical Assessment Body, in particular pursuant to information by the Commission in accordance with Article 25(3) of Regulation (EU) No 305/2011.

## Specific Part

### 1 Technical description of the product

The construction product "KBS Pipe Seal SN" is a pipe collar consisting of a pipe collar housing and an intumescent inlay.

The pipe collar housing is made of steel sheet which shall be protected against corrosion. The pipe collar housing is closed with a

The intumescent inlay is made of an intumescent material which expands when exposed to fire. The intumescent material is formed in two half shells and is fixed in the pipe collar housing by an adhesive and clips.

The pipe collar is manufactured in the sizes given in Annex 2.

Detailed technical specifications and performance criteria relevant for fire safety for the pipe collar are given in the Annexes 1 and 2.

NOTE:

The characteristics listed can serve 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

Products for penetration seals are intended to be used as a component with a fire protection effect in building elements which need to meet requirements concerning the safety in case of fire and which have openings for service penetrations. The construction products are used to close these openings and/or to be applied on the penetrating services and serve to preserve the penetrated building element's fire resistance.

The construction product "KBS Pipe Seal SN" is intended to be applied to plastic pipes. In the event of fire the intumescent effect of the intumescent inlay prevents heat transmission and fire spreading in the area of these pipes.

Within the scope of this ETA, the fire resistance was demonstrated for pipe penetration seals for single arranged plastic pipes which penetrate walls and floors and for mixed penetration seals<sup>1</sup> (associated blank seals<sup>1</sup> included) which consisted of the components listed in Annex 3. Thereby the construction product "KBS Pipe Seal SN" was applied to plastic pipes.

Detailed information and data on the verified penetration seals are given in Annexes 1 to 5. The performances given in Section 3 exclusively relate to this penetration seals (e.g. with respect to the design and arrangement of the components of the penetration seals and the type and position of the services).

The verification and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of at least 10 years for "KBS Pipe Seal SN" when used under use conditions type Z<sub>1</sub> or Z<sub>2</sub> according to EOTA TR 024 and the steel parts are sufficiently protected against corrosion. The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer, but are to be regarded only as a means for choosing the right product in relation to the expected economically reasonable working life of the works.

<sup>1</sup> Mixed penetration seals are used to seal off openings penetrated by both cables and pipes. Blank penetration seals serve to demonstrate the preservation of the fire resistance in case of a low number of services passing through the opening.

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

Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Pipe collar housing: class A1 according to commission decision 96/603/EC (as amended) Intumescent inlay: class E according to EN 13501-1
Fire resistance of a penetration seal incorporating the product	The fire resistance depends on the construction/installation of the penetration seal and on the other components incorporated in the penetration seal. Details on the verified penetration seals and the related fire resistance classes are given in Annexes 1 to 5.

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

In accordance with the Guideline for European technical approval "Fire Stopping and Fire Sealing Products", ETAG 026, Part 2: "Penetration Seals", January 2008, which is used as European Assessment Document (EAD), the following legal base 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**

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 13 September 2016 by Deutsches Institut für Bautechnik

Prof. Gunter Hoppe  
Head of Department

*beglaubigt:*  
Meske-Dallal

### Description of the construction product

The pipe collar consists of a pipe collar housing made of steel sheet and an inside fixed intumescent inlay made from the intumescent material "Ignexal 34".

### Properties and criteria for the performance of the construction product "KBS Pipe Seal SN"

	Properties/Performance criteria	Test method	Parameter
1	Dimensions of the pipe collar housing	According to ETAG 026-2	see Annex 2
2	Dimensions of the intumescent inlay	According to ETAG 026-2	see Annex 2
3	Reaction to fire classification of the pipe collar housing		class A1 according to commission decision 96/603/EC (as amended)
4	Reaction to fire classification of the intumescent inlay	EN ISO 11925-2	class E according to EN 13501-1

The properties listed can be used both for identifying the construction products as well as for the implementation of the factory production control by the manufacturer.

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

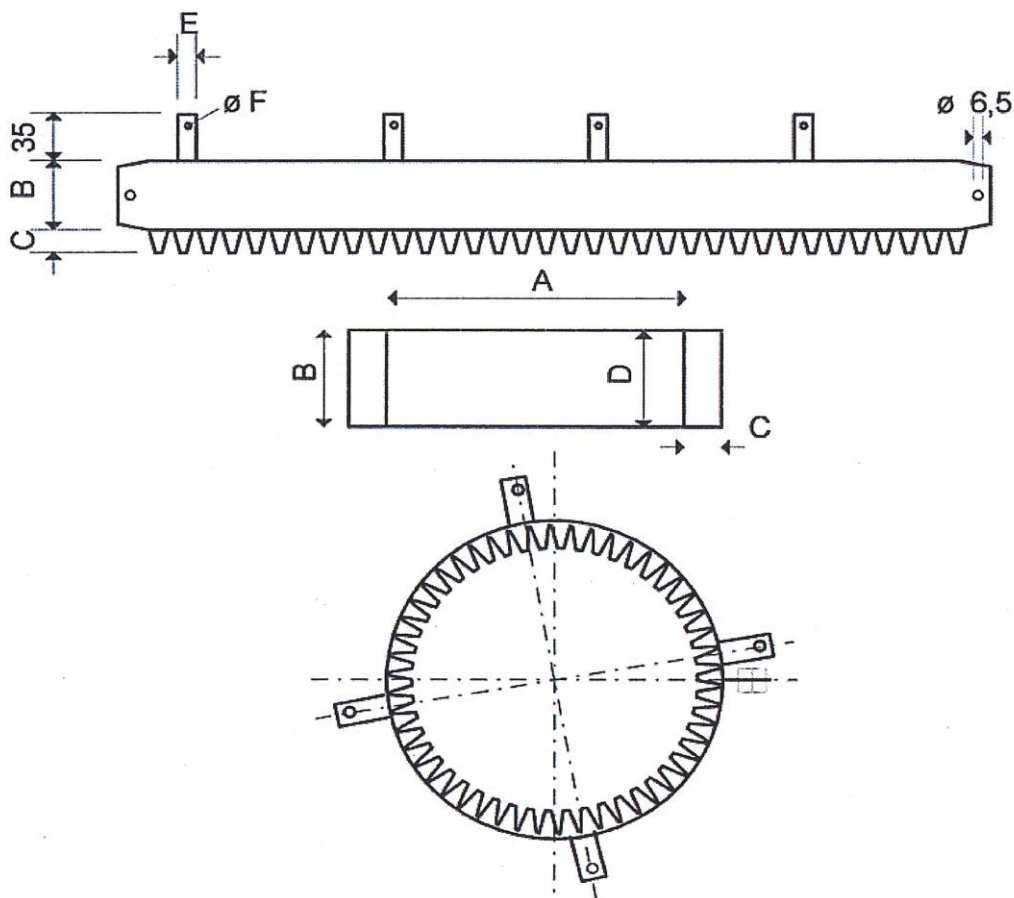
### Performance of penetration seals "KBS Pipe Seal" and "KBS Kombiabschottung INT 90/120" comprising the construction product "KBS Pipe Seal SN"

	Essential requirement	Test method	Design of the test specimen	Performance
1	Resistance to fire	EN 1366-3	100 mm thick flexible wall; design and layout of the penetration seal according to Annex 4*	See Annex 4
2	Resistance to fire	EN 1366-3	150 mm thick aerated concrete floor; design and layout of the penetration seal according to Annex 4*	See Annex 4
3	Resistance to fire	EN 1366-3	120 mm thick penetration seal "KBS Kombiabschottung INT 90/120"; design and layout of the penetration seal according to ETA-15/0656 (Details see Annex 5)*	EI 90

\* Illustration without guarantee for completeness.

The use of the construction product "KBS Pipe Seal SN" within penetration seals of the type "KBS Pipe Seal" or "KBS Kombiabschottung INT 90/120" 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.

"KBS Pipe Seal SN"	Annex 1
Properties of the construction product "KBS Pipe Seal SN" and performance of penetration seals "KBS Pipe Seal" and "KBS Kombiabschottung INT 90/120" comprising "KBS Pipe Seal SN"	



Rohr außen- durchmesser	Rohrmanschette "KBS Pipe Seal"				Brandschutz einlage "Ignexal 34"		Befestigungslaschen		Bohrung Laschen F
	Typ	A	B	Blech dicke	Dicke C	Länge D	Breite E	Anzahl Laschen	
( mm )	( - )	( mm )	( mm )	( mm )	( mm )	( mm )	( mm )	( - )	( mm )
32	SN32	40	20	0,63	10	18	15	3	6,5
40	SN40	48	20	0,63	10	18	15	3	6,5
50	SN50	58	20	0,63	10	18	15	3	6,5
63	SN63	71	20	0,63	10	18	15	3	6,5
75	SN75	83	20	0,63	10	18	15	3	6,5
90	SN90	98	30	0,63	15	28	20	3	8,5
110	SN110	118	30	0,63	15	28	20	3	8,5
125	SN125	133	45	0,63	20	43	20	4	8,5
140	SN140	148	45	0,63	20	43	20	4	8,5
160	SN160	168	45	0,63	20	43	20	4	8,5
200	SN200	210	100	0,63	20	98	20	6	8,5

"KBS Pipe Seal SN"

Dimensions of the construction product "KBS Pipe Seal SN"

Annex 2

**Description of additional components of the tested penetration seals**

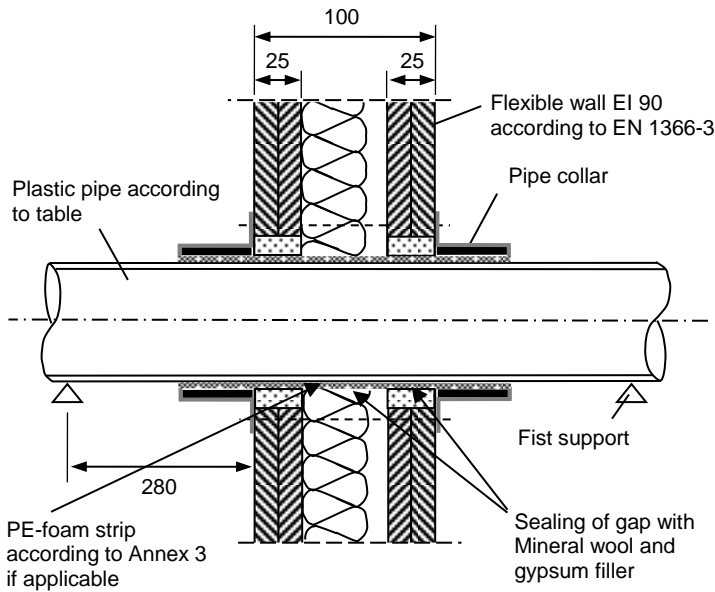
Designation / Manufacturer	Description
<p><b>"KBS Foamcoat"</b> BASF Personal Care und Nutrition GmbH 892578 Illertissen Deutschland</p>	<p><b>Intumescent material</b>, coating according to ETA-15/0656</p>
<p><b>"KBS Foamcoat HS"</b> BASF Personal Care und Nutrition GmbH 892578 Illertissen Deutschland</p>	<p><b>Intumescent material</b>, putty according to ETA-15/0657</p>
<p><b>"Hardrock 040"</b> ("Hardrock II") Deutsche Rockwool Mineralwoll GmbH 45966 Gladbeck Deutschland</p>	<p><b>Mineral fiber board</b> according to DIN EN 13162 Thickness: 60 mm Nominal density: 150 kg/m<sup>3</sup> Reaction to fire class according to DIN EN 13501-1: class A1</p>
<p><b>"FPB D150"</b> Knauf Insulation d.o.o. Skofja Loka Slovenien</p>	<p><b>Mineral fiber board</b> according to DIN EN 13162 Thickness: 60 mm Nominal density: 150 kg/m<sup>3</sup> Reaction to fire class according to DIN EN 13501-1: class A1</p>
<p><b>"Rohrschale 800"</b> ("Lapinus Rohrschale") Deutsche Rockwool Mineralwoll GmbH 45966 Gladbeck Deutschland</p>	<p><b>Mineral fiber pipe section</b> according to DIN EN 14303 Thickness: 30 mm Nominal density: 100 kg/m<sup>3</sup> Reaction to fire class according to DIN EN 13501-1: class A1</p>
<p><b>"Steinophon 290-TDZ"</b> Steinacher Dämmstoffe GmbH A-Erpfendorf</p>	<p><b>Strip of foam material</b> Material: PE-foam Thickness: 5 mm</p>

"KBS Pipe Seal SN"

Properties of additional components of penetration seals "KBS Pipe Seal" and "KBS Kombiabschottung INT 90/120"

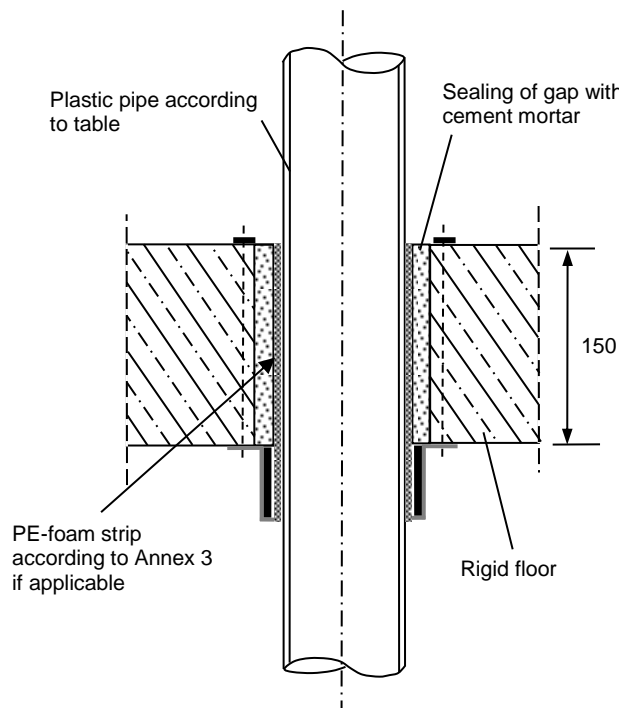
Annex 3

**Wall installation - section:**



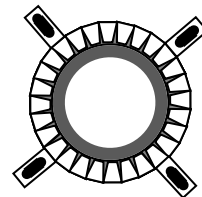
Pipe	class
PVC-U 75 x 1,8	EI 120-U/U
PVC-U 75 x 3,6	EI 90-U/U
PVC-U 110 x 1,8	EI 120-U/U
PVC-U 110 x 5,3	EI 90-U/U
PVC-U 160 x 1,8	EI 120-U/U
PVC-U 160 x 7,7	EI 90-U/U
PVC-U 200 x 4,0	EI 120-U/U
PVC-U 200 x 9,6	EI 90-U/U
PE-HD 75 x 1,9	EI 90-U/U
PE-HD 75 x 4,3	EI 90-U/U
PE-HD 110 x 2,7	EI 120-U/U
PE-HD 160 x 3,9	EI 120-U/U
PE-HD 200 x 4,9	EI 120-U/U

**Floor installation - section:**



Pipe	class
PVC-U 75 x 3,6	EI 90-U/U
PVC-U 110 x 1,8	EI 120-U/U
PVC-U 110 x 5,3	EI 90-U/U
PVC-U 160 x 7,7	EI 120-U/U
PVC-U 200 x 4,0	EI 120-U/U
PVC-U 200 x 9,6	EI 120-U/U
PE-HD 75 x 1,9	EI 120-U/U
PE-HD 75 x 4,3	EI 120-U/U
PE-HD 110 x 2,7	EI 120-U/U
PE-HD 110 x 6,3	EI 120-U/U

**Front view (example):**



Dimensions in mm

"KBS Pipe Seal SN"

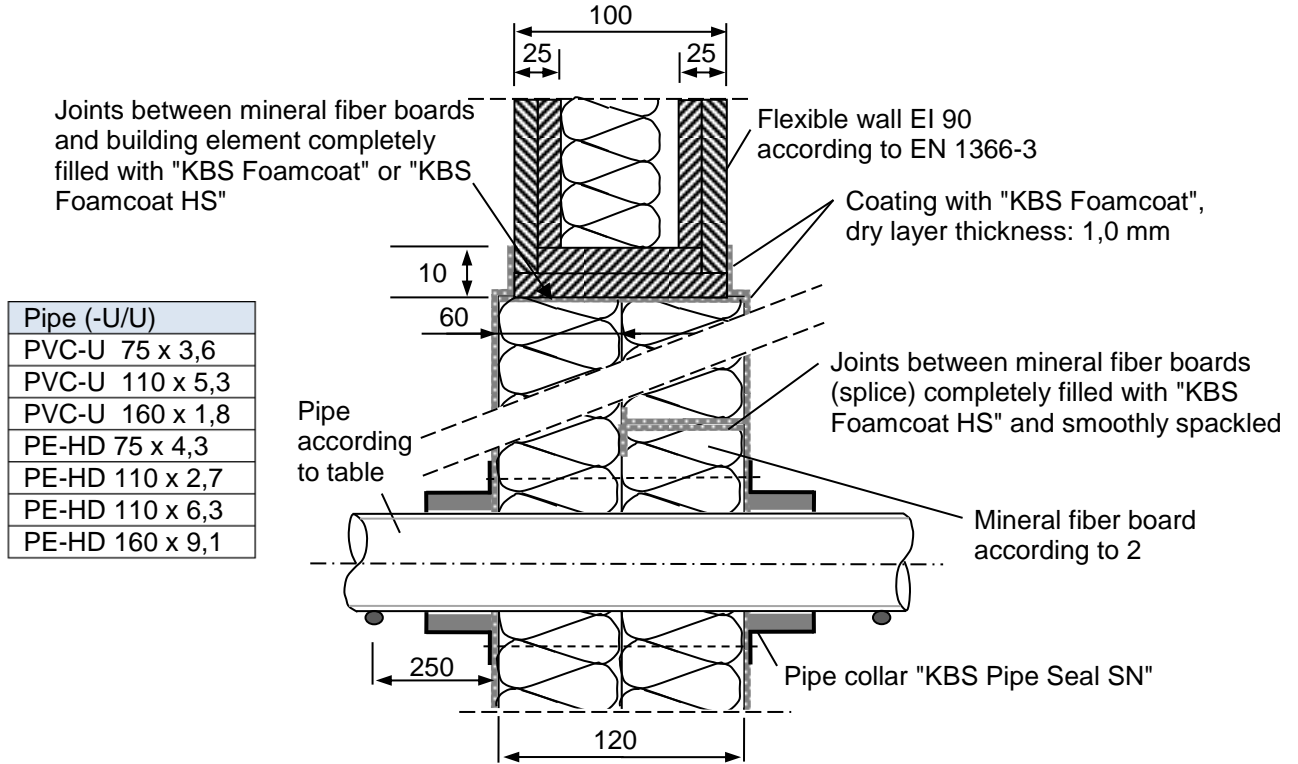
Use as part of pipe penetration seal "KBS Pipe Seal"  
Installation in walls and floors – design of the test specimen (examples)

Annex 4

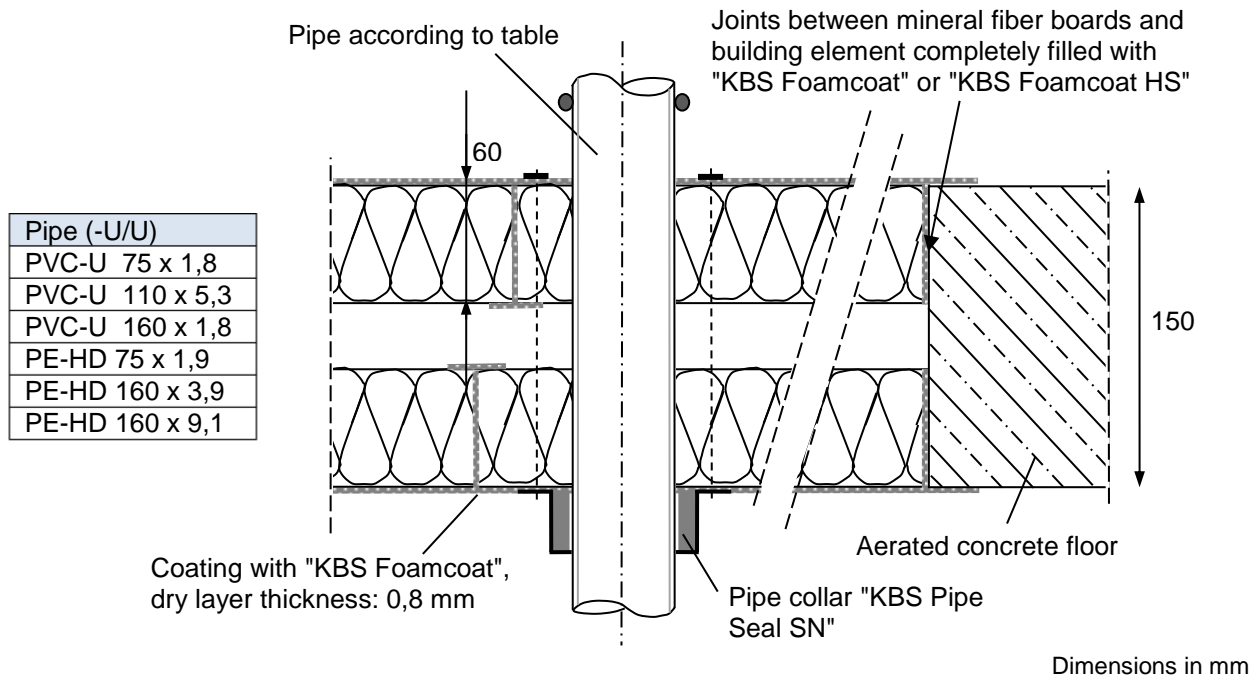


English translation prepared by DIBt

**Wall installation of the penetration seal "KBS Kombischott INT 90/120": section**  
– Detail in the area of the collar "KBS Pipe Seal SN"



**Floor installation of the penetration seal "KBS Kombischott INT 90/120": section**  
– Detail in the area of the collar "KBS Pipe Seal SN"



electronic copy of the eta by dibt: eta-16/0214

"KBS Pipe Seal SN"

Use as part of mixed penetration seal "KBS Pipe Seal" (EI 90)  
Installation in walls and floors – design of the test specimen in the area of the plastic pipes  
(front view and section of the entire test specimen see ETA-15/0656)

Annex 5