



ETA-Danmark A/S
Göteborg Plads 1
DK-2150 Nordhavn
Tel. +45 72 24 59 00
Internet www.etadanmark.dk

Authorised and notified according
to Article 29 of the Regulation (EU)
No 305/2011 of the European
Parliament and of the Council of 9
March 2011

MEMBER OF EOTA



European Technical Assessment ETA-22/0622 of 2022/09/07

I General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S

Trade name of the
construction product:

UBA Tec Pipe Penetration Seal System UBA-BV

Product family to which the
above construction product
belongs:

Fire Stopping and Sealing Product -
Pipe penetration seal system

Manufacturer:

UBA Tec Europa GmbH
Markgrafendamm 5
DE-10245 Berlin
Tel. + 49 30 29000271
Internet www.ubatec.de

Manufacturing plant:

UBA Tec Europa GmbH

This European Technical
Assessment contains:

17 pages including 3 annexes which form an integral
part of the document

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

EAD 350454-00-1104: "Fire stopping and Fire Sealing
Products, Penetration Seals"

This version replaces:

-

Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and should be identified as such.

Communication of this European Technical Assessment, including transmission by electronic means, shall be in full (excepted the confidential Annex(es) referred to above). However, partial reproduction may be made, with the written consent of the issuing Technical Assessment Body. Any partial reproduction has to be identified as such

II SPECIFIC PART OF THE EUROPEAN TECHNICAL ASSESSMENT

1 Technical description of product

UBA Tec Pipe Penetration Seal System UBA-BV is a fire stopping and fire sealing penetration seal consisting of 3 different products:

- UBA BV - fire protection coupling
- UBA-Flex - pipe wrap and
- UBA-W4 or UBA-W9 - sectional insulation mat

The UBA Tec Pipe Penetration Seal System UBA-BV is installed for storey-wise partitioning of cast iron pipes used in drainage systems in combination with burnable plastic pipes according to annex 1, or partly used for plastic pipe installations only according to annex 2.

The fire protection coupling is made from stainless steel, a single continuous EPDM seal and incorporates a PVC protected middle part with the intumescent sealing material UBA-Flex which in case of a fire is building a fire barrier to close the pipe diameter and avoid a chimney effect inside the installation.

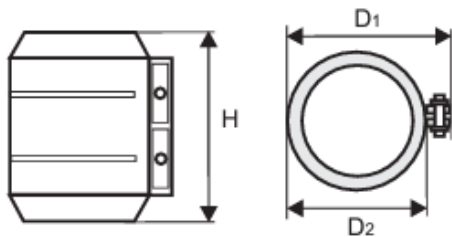


Figure 1: UBA-BV fire protection collar

DN	H	D1	D2	Weight
	[mm]	[mm]	[mm]	[kg]
50	120	90	76	0,46
70	120	110	97	0,53
80	120	118	110	0,60
100	120	145	130	0,70
125	120	173	155	0,95
150	120	198	180	1,12

Table 1: UBA-BV fire protection collar, dimensions

The UBA-Flex pipe wrap, is an approx. 4 mm thick, flexible, aluminium-laminated (mesh-reinforced) mat, consisting of an intumescent material that expands in the event of a fire. The UBA-Flex is wrapped around the pipe in the floor area and fixed with aluminium adhesive tape. In the event of a fire, the foaming material ensures that cracks and openings in the flooring perforation are closed.

Noise levels of UBA-Flex pipe wrap for drainage systems made of cast iron according to EN 877

Test set up:

- Drainage System according EN 877 wrapped with UBA-Flex pipe wrap in floor penetration and embedded in concrete
- Fixed with standard pipe clamp with elastomer insert BISMAT 2000, 108-114 by company Walraven GmbH
- and additional sound decoupler PAM-GLOBAL acoustic damper by Saint Gobain HES GmbH

The results below are following to EN 14366, DIN 4109, VDI 4100 and Swiss Norm SIA 181 tested in the laboratory

		Noise level [dB (A)]				
		Flow [l/s]	0,5	1,0	2,0	4,0
Installation noise level $L_{AFeq,n}$ according to DIN 4109 measured in the room	Basement front		40	44	46	48
	Basement rear		<10	<10	13	17
Installation noise level $L_{AFeq,nT}$ according to VDI 4100 measured in the room	Basement front		38	41	44	46
	Basement rear		<10	<10	<10	13
Total value $L_{H,tot}$ according to SIA 181 measured in the room	Basement front		38	42	45	47
	Basement rear		<10	<10	11	15
Airborne sound level $L_{a,A}$ according to EN 14366 in the room	Basement front		40	44	46	48
Structure borne sound characteristic level $L_{SC,A}$ according to EN 14366 in the room	Basement rear		<10	<10	<10	12

Table 2: UBA-Flex pipe wrap, noise-reducing effect

Standard dimensions: 47cm width x 25 cm height, to fit DN 100 pipe diameter. For other dimensions of pipes and ceiling heights the UBA-Flex can be cut to size and taped with aluminium tape.

The UBA-W4 and UBA-W9 sectional insulation mat is an aluminium laminated glass needle mat, wrapped around the pipe as further insulation in case it is needed along the applications shown in annex 3.

Dimensions: 30 cm height x500 cm length reel, and a thickness of 4 or 9 mm, the UBA-W4 or UBA-W9 mat can be cut to size for each diameter of pipe and fixed with aluminium tape.

Detailed specifications for identification and performance criteria relevant for fire safety with regard to the construction products are given in Annex 2 and 3.

2 Specification of the intended use in accordance with the applicable European Assessment Document (hereinafter EAD)

The construction product UBA Tec Pipe Penetration Seal is a fire stopping and fire sealing penetration seal system for building services penetrating fire rated floors. It is applicable when cast iron drainage pipes, according to EN 877, are installed in combination with burnable plastic pipes, a so-called mix installation, in respective fire compartments and passing the floors of many above storeys in a building. The fire integrity for which the fire resistance is prescribed has to be maintained and this system is designed to close the cross section of the pipe and stop hot flue gasses passing into the cast iron pipe branch or main line opening where in case of fire plastic pipes have melted and burned away, thus avoiding the so-called “chimney effect”.

All applications stated in Annex 3 may be carried out without the fire protection coupling UBA-BV, if no plastic pipe is connected to the main or branch pipe made of cast iron on the same floor.

All pipes depicted as plastic pipes in annex 3 may also be made of cast iron according to EN 877.

The through-elements are installed in drilled holes or in reservations made through concrete or masonry floors, ≥ 180 mm thick with a density equal or greater than 550 kg/m^3 .

Plastic pipes must be supported from the topside of the floor construction at a distance of ≤ 600 mm. The mounting of the cast iron pipe installation must be carried out according to the manufacturer’s specifications.

Pipes that are routed along the soffit must be suspended with a fireproof suspension system.

The length of a local insulation may be increased, but not decreased according to the illustrations in annex 3.

Couplings must be closed with a sheet steel jacket and internal EPDM gasket (RAPID coupling). E.g. Würth SML Coupling RAPID; NORMACONNECT® connector DCS; Rapid MSM, Geberit Transition connector.

For applications according to annex 2 (plastic pipes only) the PE soft foam can be used up to an insulation thickness of $T=4$ mm along a solid floor thickness of at least 150 mm. Minimum distance of the plastic pipe (linear) are to be kept ≥ 20 mm (see annex 2).

Furthermore, minimum distances according to annex 2 and 3:

All other distances to pipes (metal) ≥ 100 mm.

All other distances to other penetrations (cables) ≥ 200 mm.

The detailed descriptions of these construction elements are given in Annex 1 of this ETA. This ETA covers assemblies installed in accordance with the provisions given in Annex 2 and 3. Other intended uses may be supported by other means at national level but are not covered by this ETA.

The verification and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of at least 25 years for the UBA Tec Pipe Penetration Seal System UBA-BV, provided that the fire stopping pipe closure device is subject to appropriate installation, use and maintenance, in accordance with the manufacturer’s recommendations.

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.

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

Characteristic	Assessment of characteristic
3.2 Safety in case of fire (BWR 2)	
Reaction to fire	The fire protection coupling, UBA-BV; Pipe wrap UBA-Flex, 2 mm, and sectional insulation mat UBA-W4 and UBA-W9; are all individually classified as Euroclass E in accordance with EN 13501-1 and Delegated Regulation 2016/364.
Resistance to fire	The UBA Tec Pipe Penetration Seal System UBA-BV for pipe penetrations is permitted in solid floors with a thickness of at least 180 mm, and a density of minimum 550 kg/m ³ . If used as pipe penetration seal for plastic pipes only it is permitted in solid floors with a thickness of at least 150 mm and a density of minimum 550 kg/m ³ . The system is classified as described in the Annexes 2 and 3 in accordance with EN 13501-2
3.3 Hygiene, health, and the environment (BWR 3)	
Air permeability	No performance assessed
Water permeability	No performance assessed
Content, emission and/or release of dangerous substances*	No performance assessed
3.4 Safety and accessibility in use (BWR 4)	
Mechanical resistance and stability	No performance assessed
Resistance to impact/movement	No performance assessed
Adhesion	No performance assessed
Durability	Use category: Z₁
3.5 Protection against noise (BWR 5)	
Airborne sound insulation	No performance assessed
3.6 Energy Economy and heat retention (BWR 6)	
Thermal properties	No performance assessed
Water vapour permeability	No performance assessed

See additional information in section 3.7

*) In addition to the specific clauses relating to dangerous substances contained in this European technical Assessment, 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 Regulation, these requirements need also to be complied with, when and where they apply.

3.7 General aspects

Durability and serviceability:

The verification of durability and serviceability is part of testing the essential characteristics. UBA Tec Pipe Penetration Seal System UBA-BV fulfils the requirements according to EAD 350454-00-1104 clause 1.2.1 – for use **Category type: Z₁**, internal conditions with humidity $\geq 85\%$ RH excluding temperature below 0°C, without exposure to rain and UV.

Although a firesleeve is intended for indoor applications only, the construction process may result in it being subjected to more exposed conditions for a period before the building is closed. For this case provisions shall be made to protect temporarily exposed firesleeves according to the ETA-holder's installation instructions.

The European Technical Assessment is issued for the system based on agreed data/information, deposited with ETA-Danmark, which identifies the product that has been assessed. Changes to the product or production process, which could result in this deposited data/information being incorrect, should be notified to ETA-Danmark before the changes are introduced. ETA-Danmark will decide if such changes affect the ETA and consequently the validity of the CE marking based on the ETA and if so whether further assessment or alterations to the ETA, shall be necessary.

UBA Tec Pipe Penetration Seal System UBA-BV are manufactured in accordance with the provisions of this European Technical Assessment using the manufacturing processes as identified in the inspection of the plant by the notified inspection body and laid down in the technical documentation.

4 Assessment and verification of constancy of performance (AVCP)

4.1 AVCP system

According to the decision 1999/454/EC of the European Commission, as amended by 2001/596/EC, the system(s) of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) is 1.

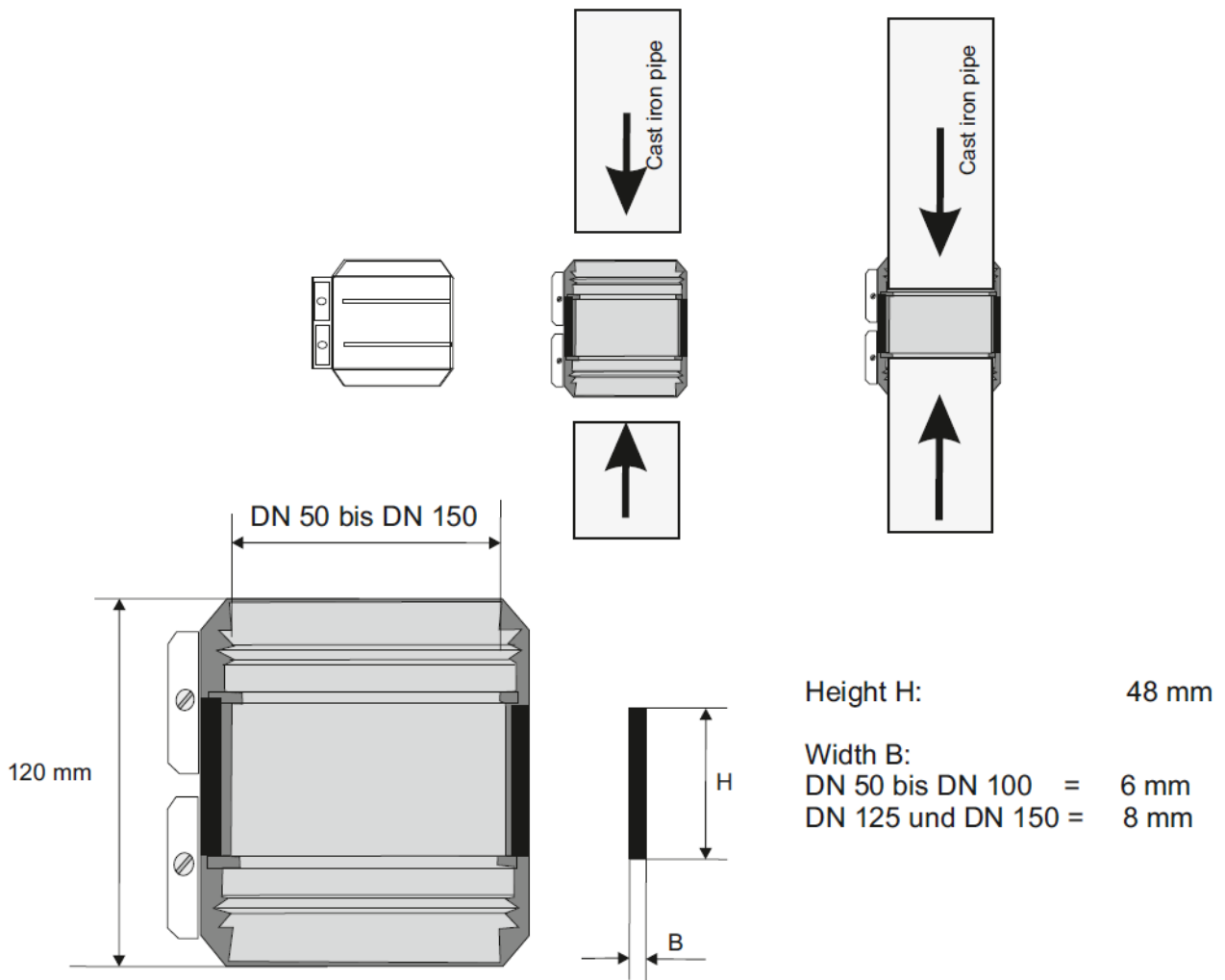
5 Technical details necessary for the implementation of the AVCP system, as foreseen in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at ETA-Danmark prior to CE marking

Issued in Copenhagen on 2022-09-07 by



Thomas Bruun
Managing Director, ETA-Danmark

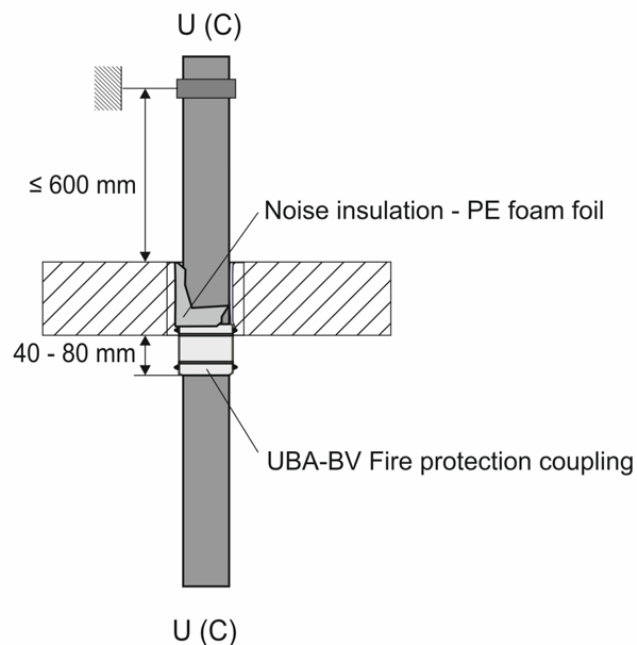
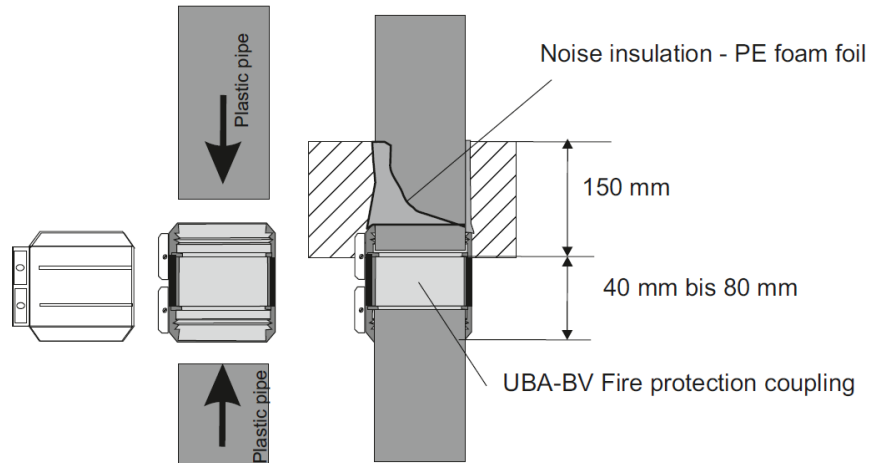


UBA Tec Pipe Penetration Seal System UBA-BV

Illustration of system with cast iron pipes combined with plastic pipes, also showing design group and active inlay dimensions

**Annex 1
 General**

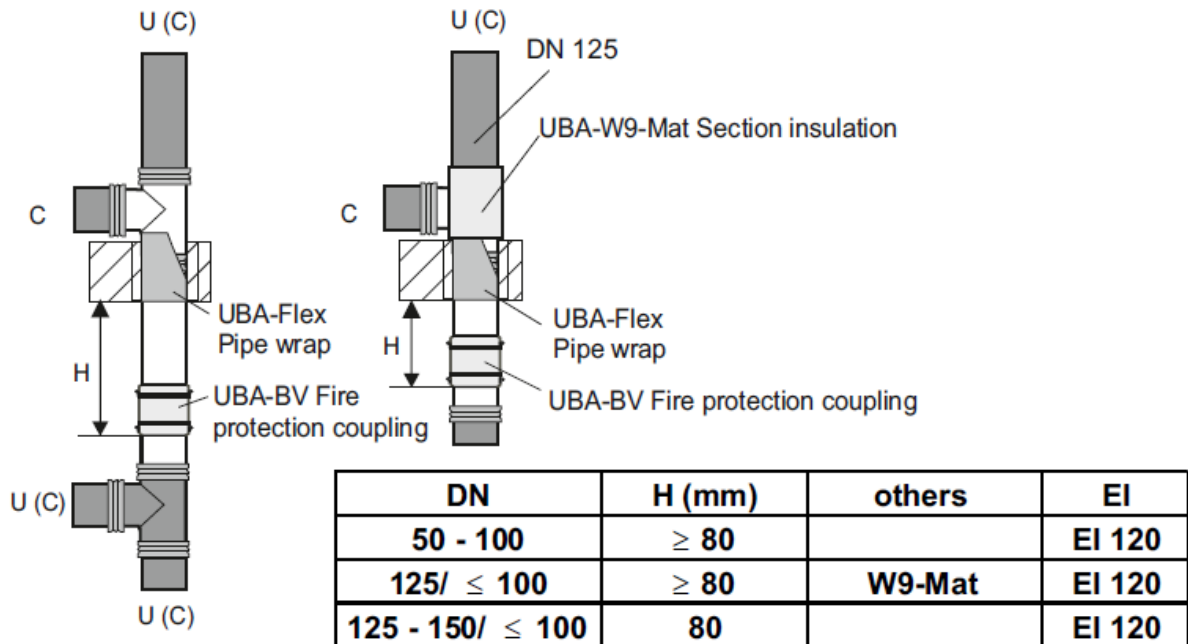
Plastic pipe UBA-BV Fire protection coupling



Field of application, plastic pipes:

Pipe	DN	t	
Rehau Raupiano Plus	100	2,7 mm	EI 120 U/U
	90	2,2 mm	EI 120 U/U
	70	1,9 mm	EI 120 U/U
Geberit Silent dB20	100	6,0 mm	EI 120 U/U
Wavin SiTech+	100	3,6 mm	EI 120 U/U
Skolan dB	100	5,3 mm	EI 120 U/U

UBA Tec Pipe Penetration Seal System UBA-BV	Annex 2 General
Illustration of system with plastic pipes only	



The cast iron pipe must be insulated within the floor with UBA-Flex of thickness $T = 4$ mm, whereby the insulation on the topside of the floor must project by 20 mm.

When the UBA-BV fire protection coupling is fixed > 80 mm underneath the floor, the cast iron pipe (DN 125) must be insulated with the UBA-W9 glass needle mat on the topside of the floor over a length of $LI \geq 300$ mm.

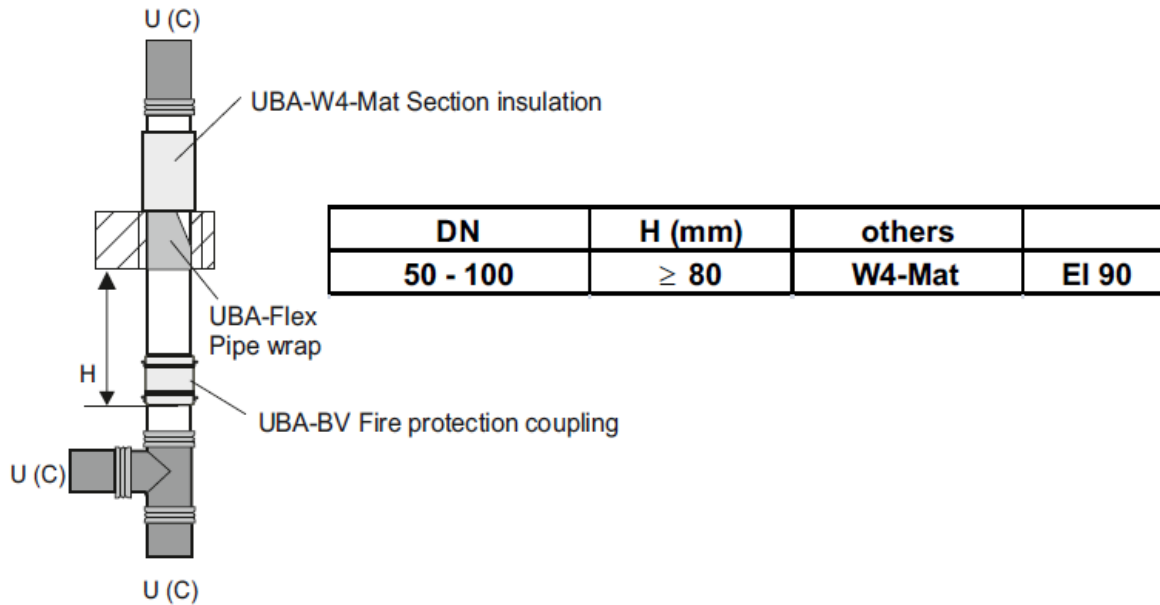
The UBA-Flex pipe wrap and the UBA-W9 glass needle mat overlap each other on the top-side of the floor over a length of 20 mm.

The cast iron pipes must be connected by means of couplings. The connection between the cast iron branch and the plastic pipe is made by means of a coupling or transition coupling.

On the topside of the floor a continuation with plastic pipes can be made using couplings and transition couplings. The connection to the cast iron pipe on the topside of the floor is made by means of couplings or transition couplings. The penetration that continues upwards is not subject of this classification.

Plastic pipes are depicted in dark grey.

UBA Tec Pipe Penetration Seal System UBA-BV	Annex 3
Resistance to fire performance	



The cast iron pipe must be insulated within the floor with UBA-Flex of thickness $T = 4$ mm, whereby the insulation on the topside of the floor must project by 20 mm.

The cast iron pipe must be insulated on the topside of the floor with the glass needle mat UBA-W4 over a length of $LI \geq 300$ mm.

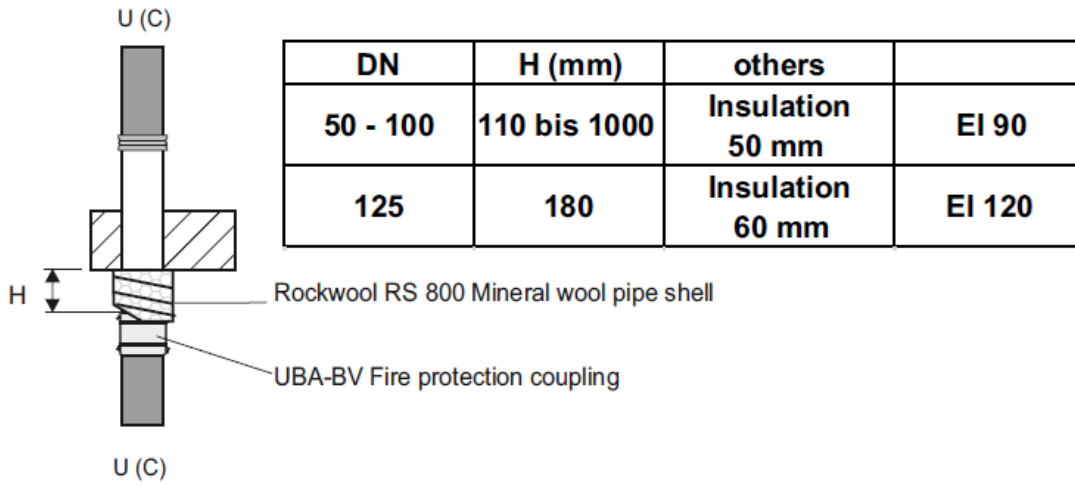
The pipe wrap UBA-Flex and the UBA-W4 glass needle mat overlap each other on the top-side of the floor over a length of 20 mm.

The cast iron pipes must be connected by means of couplings. The connection between the cast iron branch and the plastic pipe is made by means of a coupling or transition coupling.

On the topside of the floor a continuation with plastic pipes can be made using couplings and transition couplings. The connection to the cast iron pipe on the topside of the floor is made by means of couplings or transition couplings. The penetration that continues upwards is not subject of this classification.

Plastic pipes are depicted in dark grey.

UBA Tec Pipe Penetration Seal System UBA-BV	Annex 3
Resistance to fire performance	



The cast iron pipe must be insulated below the floor with Rockwool RS800 of thickness T

Pipe outer diameter Ø [mm]	Section insulation to the lower edge of the floor H x T [mm]
58-110	110-1000 x 50
135	180 x 60

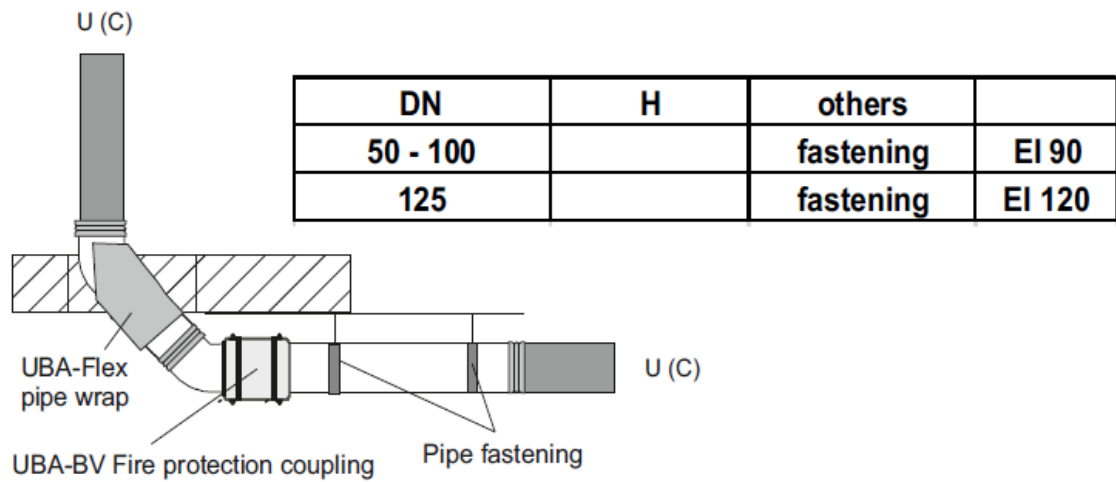
The cast iron pipe is embedded in concrete within the floor.

Cast iron pipes must be connected by means of couplings.

On the topside of the floor a continuation with plastic pipes can be made using couplings and transition couplings. The connection to the cast iron pipe on the topside of the floor is made by means of couplings or transition couplings. The penetration that continues upwards is not subject of this classification

Plastic pipes are depicted in dark grey.

UBA Tec Pipe Penetration Seal System UBA-BV	Annex 3
Resistance to fire performance	



The UBA-BV fire protection coupling must be fitted immediately after the pipe bends.

The cast iron pipe must be insulated within the floor with UBA-Flex of thickness $T = 4$ mm, whereby the insulation on the topside of the floor must project by 20 mm.

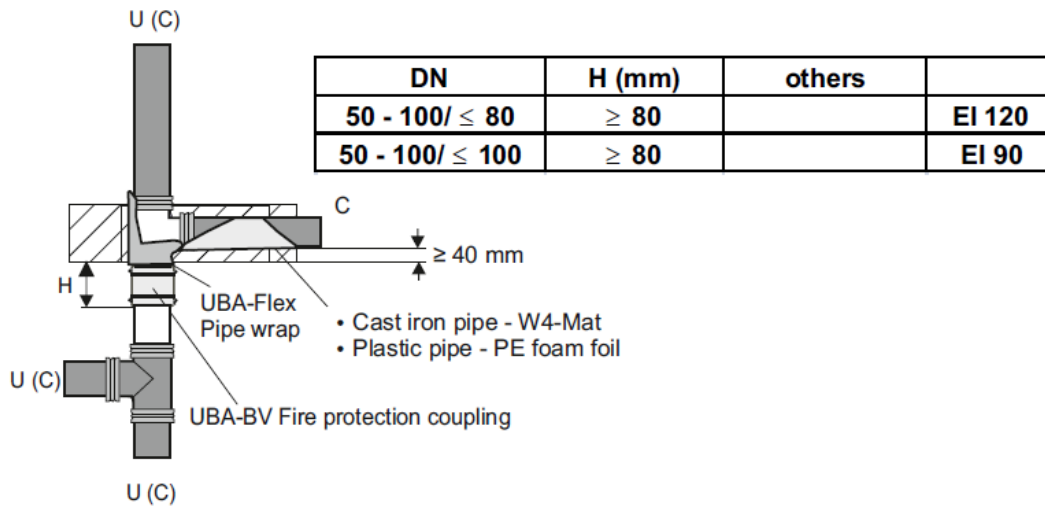
The cast iron pipes must be connected by means of couplings.

On the topside of the floor a continuation with plastic pipes can be made using couplings and transition couplings.

The connection to the cast iron pipe on the topside of the floor is made by means of couplings or transition couplings. The penetration that continues upwards is not subject of this classification.

Plastic pipes are depicted in dark grey.

UBA Tec Pipe Penetration Seal System UBA-BV	Annex 3
Resistance to fire performance	



Pipe outer diameter Ø [mm]	Assessed distance to lower edge of the floor H [mm]
58-110 Branch pipe made of cast iron	≥ 80
58-110 Branch pipe made of plastic	≥ 80

The cast iron pipe must be insulated within the floor with UBA-Flex of thickness $T = 4$ mm, whereby the insulation on the topside of the floor must project by 20 mm.

A cast iron pipe routed in the floor must be insulated along the entire length with a UBA-W4 mat.

A plastic pipe routed in the floor must be insulated along the entire length with a PE soft foam mat (e.g. Armacell Tubolit ARS).

The cast iron pipes must be connected by means of couplings.

The connection between the cast iron branch and the cast iron pipe is made by means of a coupling.

The connection between the cast iron branch and the plastic pipe is made by means of a coupling or an appropriate transition coupling

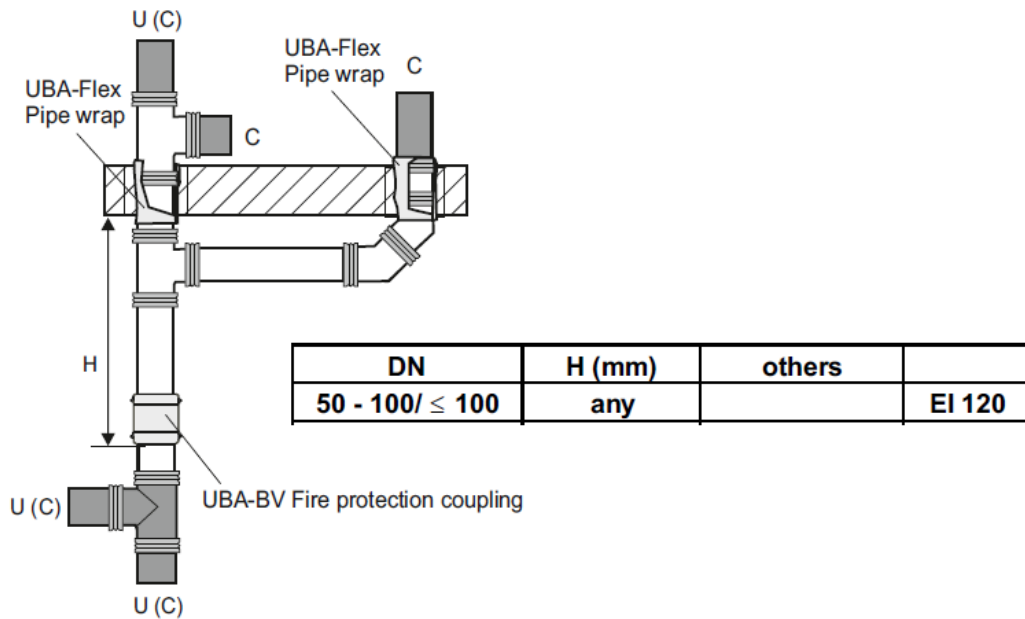
On the topside of the floor a continuation with plastic pipes can be made using couplings and transition couplings.

The connection to the cast iron pipe on the topside of the floor is made by means of coupling or transition couplings.

The penetration that continues upwards is not subject of this classification.

Plastic pipes are depicted in dark grey.

UBA Tec Pipe Penetration Seal System UBA-BV	Annex 3
Resistance to fire performance	



Pipe outer diameter Ø [mm]	Assessed distance to lower edge of the floor H [mm]
58-110	Below the branch

The cast iron pipe must be insulated within the floor with UBA-Flex of thickness $T = 4$ mm, whereby the insulation on the topside of the floor must project by 20 mm.

The cast iron pipes must be connected by means of couplings.

The connection between the cast iron branch and the cast iron pipe is made by means of a coupling

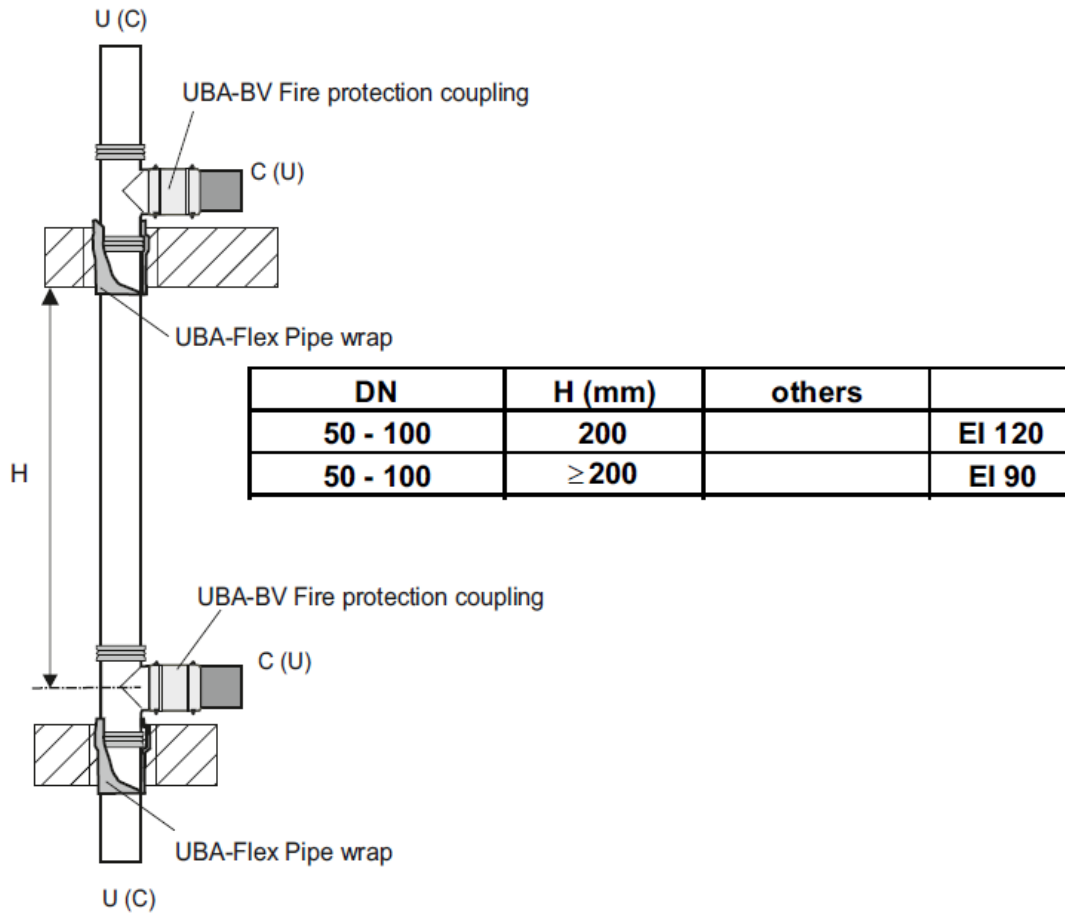
On the topside of the floor a continuation with plastic pipes can be made using couplings and transition couplings.

The connection to the cast iron pipe on the topside of the floor is made by means of couplings or transition couplings.

The penetration that continues upwards is not subject of this classification.

Plastic pipes are depicted in dark grey.

UBA Tec Pipe Penetration Seal System UBA-BV	Annex 3
Resistance to fire performance	



Pipe outer diameter Ø [mm]	Assessed distance to lower edge of the floor H [mm]
58-110	≥ 200

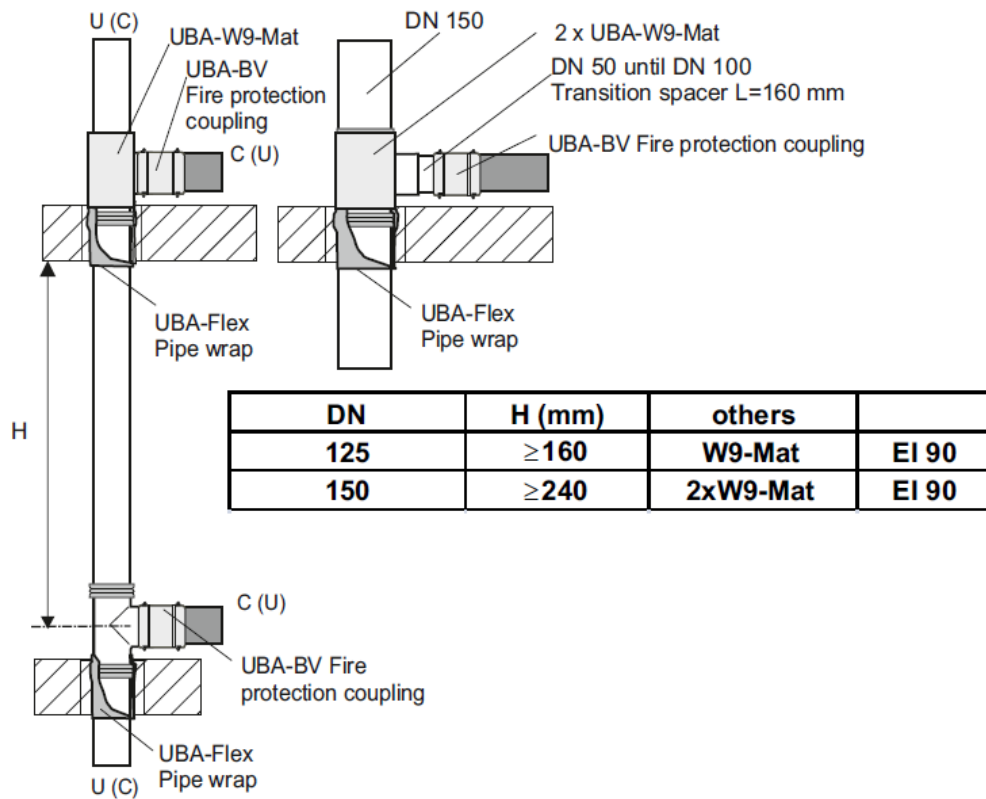
The cast iron pipe must be insulated within the floor with UBA-Flex of thickness $T = 4$ mm, whereby the insulation on the topside of the floor must project by 20 mm.

The cast iron pipes must be connected by means of couplings. The connection between the cast iron branch and the plastic pipe must be made using the UBA-BV fire protection coupling.

Combination with plastic pipes in riser pipe: Not allowed

Plastic pipes are depicted in dark grey.

UBA Tec Pipe Penetration Seal System UBA-BV	Annex 3
Resistance to fire performance	



Pipe outer diameter Ø [mm]	Assessed distance to lower edge of the floor H [mm]
135	≥ 160
160	≥ 240

The cast iron pipe must be insulated within the floor with UBA-Flex of thickness $T = 4$ mm, whereby the insulation on the topside of the floor must project by 20 mm.

The cast iron pipe must be insulated on the topside of the floor and independent of diameter with one or more layers of glass needle mat UBA-W9 over a length of $L_I \geq 300$ mm.

The pipe wrap UBA-Flex and the UBA-W9 glass needle mat overlap each other on the top-side of the floor over a length of 20 mm.

The cast iron pipes must be connected by means of couplings. The connection between the cast iron branch and the plastic pipe must be made using the UBA-BV fire protection coupling.

Combination with plastic pipes in riser pipe: Not allowed

Plastic pipes are depicted in dark grey.

UBA Tec Pipe Penetration Seal System UBA-BV	Annex 3
Resistance to fire performance	