

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and
Laender Governments



European Technical Assessment

ETA-11/0208
of 10 December 2021

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

AWM II / AWM II light

Product family
to which the construction product belongs

pipe collar for fire resistant penetration seals

Manufacturer

FLAMRO Brandschutz-Systeme GmbH
Am Sportplatz 2
56291 Leiningen
DEUTSCHLAND

Manufacturing plant

Werk E

This European Technical Assessment
contains

12 pages including 8 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

EAD 350454-00-1104

This version replaces

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Specific Part

1 Technical description of the product

"AWM II / AWM II light" is a pipe collar consisting of a pipe collar enclosure and a fire-protective inlay.

The pipe collar enclosure shall be made of steel sheet and be sufficiently protected against corrosion. The fire-protective inlay shall be made of an intumescent material which expands under heat exposure.

The pipe collar shall have the dimensions stated in Annexes 2 to 4.

Detailed specifications and fire safety related performance criteria for 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

"AWM II / AWM II light" is designed to form part of a pipe penetration seal for plastic pipes.

Pipe penetration seals are used to seal openings in fire resistant walls and floors, which are penetrated by pipes. Their aim is to preserve the walls' or floors' fire resistance in the area of the penetrations.

Within the scope of this ETA the fire resistance of a pipe seal was demonstrated that consisted of two pipes collars (for wall application) or one pipe collar (for floor application) and a joint sealing.

More detailed information and data on the verified penetration seals are given in Annexes 5 to 8. The performances given in Section 3 relate exclusively to these penetration seals (e.g. with respect to the design and arrangement of the penetration seals' components 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 (BWR 2)

Essential characteristic	Performance
Reaction to fire	Pipe collar enclosure: Class A1 in accordance with Commission Decision 96/603/EC (as amended) Inlay: Class E in accordance with EN 13501-1
Fire resistance of a penetration seal ¹	Class EI 120-U/U ¹ or EI 180-U/C ¹ or EI 240-U/C ¹ in accordance with EN 13501-2

¹ The fire resistance depends on how the penetration seal is designed and/or installed and on the penetrating pipes: Annexes 5 to 8 include details on the penetration seals for which the fire resistance indicated was demonstrated.

3.2 General aspects

Testing the essential characteristics includes the verification of durability.

In end-use applications, the construction products described in section 1 may be used in accordance with the provisions applying to use category X (external use) without significant changes in the characteristics relevant for fire protection to be expected.

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

In accordance with the European Assessment Document (EAD) no. 350454-00-1104, the following legal base shall apply: 1999/454/EC.

The system to be applied is: 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 10. December 2021 by Deutsches Institut für Bautechnik

Christina Pritzkow
Head of section

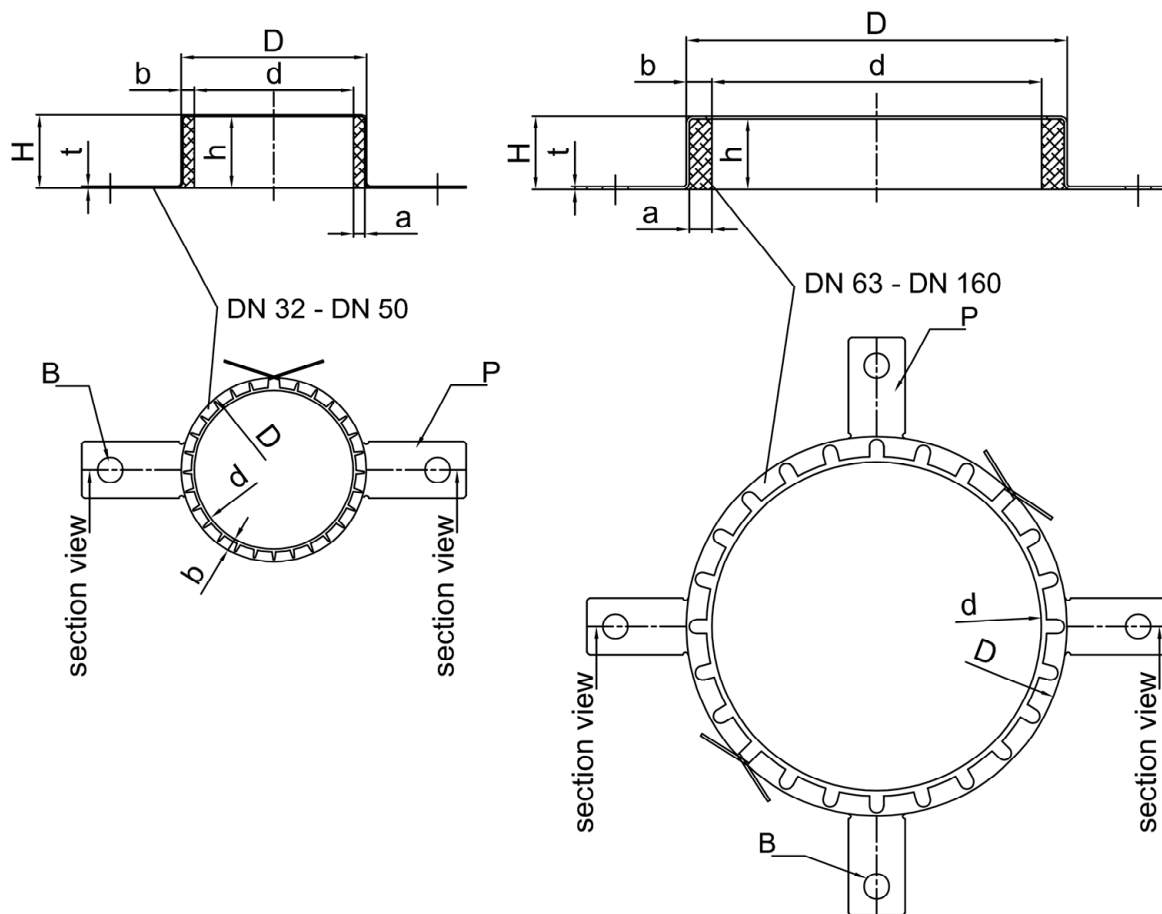
beglaubigt:
Meske-Dallal

The factory manufactured construction product pipe collar "AWM II /AWM II light" consists of a pipe collar steel housing and an insert of an intumescent building material which is incorporated in multiple layers in the pipe collar housing.

Properties and performance criteria of the components of the construction products

Component	Description
"Pipe collar housing"	Dimensions: See Annex 1-3 Material: Sheet steel Classification of fire behavior: Class A1 according to the commission decision 96/603/EC (in the amended version)
"Insert"	Dimensions: See Annex 1-3 Material: Intumescent building material according to ETA-10/0117 Classification of the fire behavior according to EN 13501-1: Class E

AWM II / AWM II light	Annex 1
Description of the construction products, properties and performances	



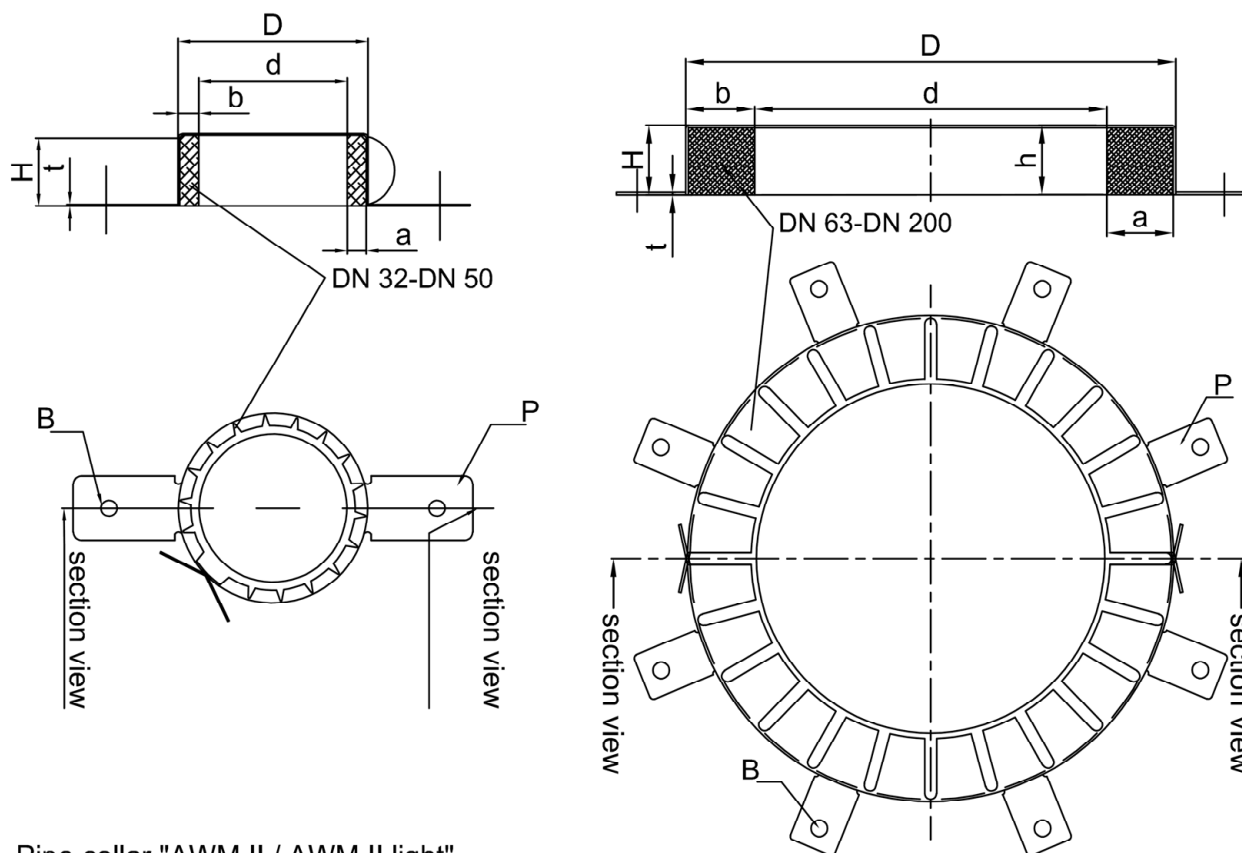
Pipe collar "AWM II / AWM II light"
in the dimensions "AWM II light"

dA [mm]	d [mm]	D [mm]	b [mm]	t [mm]	H [mm]	P [Stck]	h [mm]	a [mm]	B [mm]
32	38	47	4,6	0,6	26,0	2	25,0	4,0 -0/+0,8	9,0
40	46	55	4,6	0,6	26,0	2	25,0	4,0 -0/+0,8	9,0
50	56	65	4,6	0,6	26,0	2	25,0	4,0 -0/+0,8	9,0
63	69	82	6,6	0,6	26,0	4	25,4	6,0 -0/+1,0	9,0
75	81	94	6,6	0,6	26,0	4	25,4	6,0 -0/+1,0	9,0
90	96	114	9,0	1,0	26,6	4	25,4	8,0 -0/+1,5	9,0
110	116	134	9,0	1,0	26,6	4	25,4	8,0 -0/+1,5	9,0
125	132	150	9,0	1,0	26,6	4	38,0	10 -0/+2,0	9,0
140	144	168	12	1,0	40,0	4	38,0	10 -0/+2,0	9,0
160	164	188	12	1,0	40,0	4	38,0	10 -0/+2,0	9,0

AWM II / AWM II light

Design of the pipe collar in the size AWM II light
dA from 32 mm to 160 mm

Annex 2



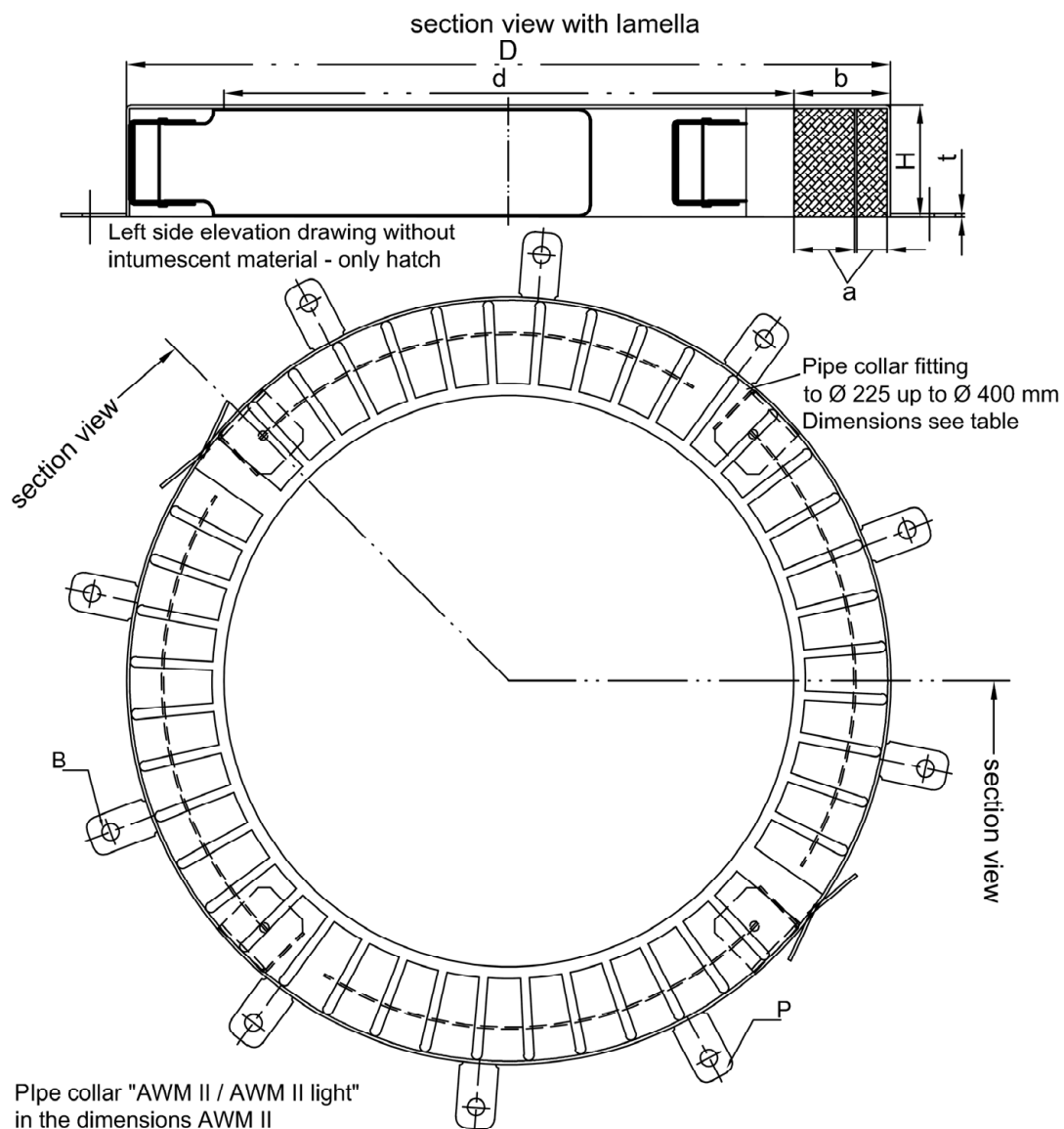
Pipe collar "AWM II / AWM II light"
in the dimensions AWM II

dA [mm]	d [mm]	D [mm]	b [mm]	t [mm]	H [mm]	P [Stck]	h [mm]	a [mm]	B [mm]
32	36	50	7,0	0,6	26,0	2	25,4	6,4 ±0,5	6,0
40	44	58	7,0	0,6	26,0	2	25,4	6,4 ±0,5	6,0
50	54	68	7,0	0,6	26,0	2	25,4	6,4 ±0,5	6,0
63	67	94	13,5	0,6	26,0	4	25,4	12,8 ±1,0	6,0
75	79	106	13,5	0,6	26,0	4	25,4	12,8 ±1,0	6,0
90	94	132	18,3	1,1	26,6	4	25,4	17,1 ±1,0	9,0
110	114	155	20,5	1,1	26,6	4	25,4	19,2 ±1,5	9,0
125	129	172	20,5	1,1	40,0	4	38,1	19,2 -0/+1,5	9,0
140	144	200	28,0	1,1	40,0	4	38,1	25,6 -0/+2,0	9,0
160	164	220	28,0	1,1	40,0	4	38,1	25,6 -0/+2,0	9,0
180	184	264	40,0	1,5	40,0	8	38,1	38,4 ± 3,0	9,0
200	204	284	40,0	1,5	40,0	8	38,1	38,4 ± 3,0	9,0

AWM II / AWM II light

Design of the pipe collar in the size AWM II
dA from 32 mm to 200 mm

Annex 3



dA [mm]	d [mm]	D [mm]	b [mm]	t [mm]	H [mm]	P [qty.]	h [mm]	a [mm]	B [mm]
225	239	328	44,5	1,5 / 1,0	51,5	10	50	42,0 \pm 3,0	8,0
250	264	353	44,5	1,5 / 1,0	51,5	10	50	42,0 \pm 3,0	8,0
280	289	378	44,5	1,5 / 1,0	51,5	12	50	42,0 \pm 3,0	8,0
300	314	403	44,5	1,5 / 1,0	51,5	12	50	42,0 \pm 3,0	8,0
315	328	417	44,5	1,5 / 1,0	51,5	12	50	42,0 \pm 3,0	8,0
355	370	459	44,5	1,5 / 1,0	51,5	12	50	42,0 \pm 3,0	8,0
400	415	504	44,5	1,5 / 1,0	51,5	12	50	42,0 \pm 3,0	8,0

AWM II / AWM II light

Design of the pipe collar in the size AWM II
dA from 225 mm to 400 mm

Annex 4

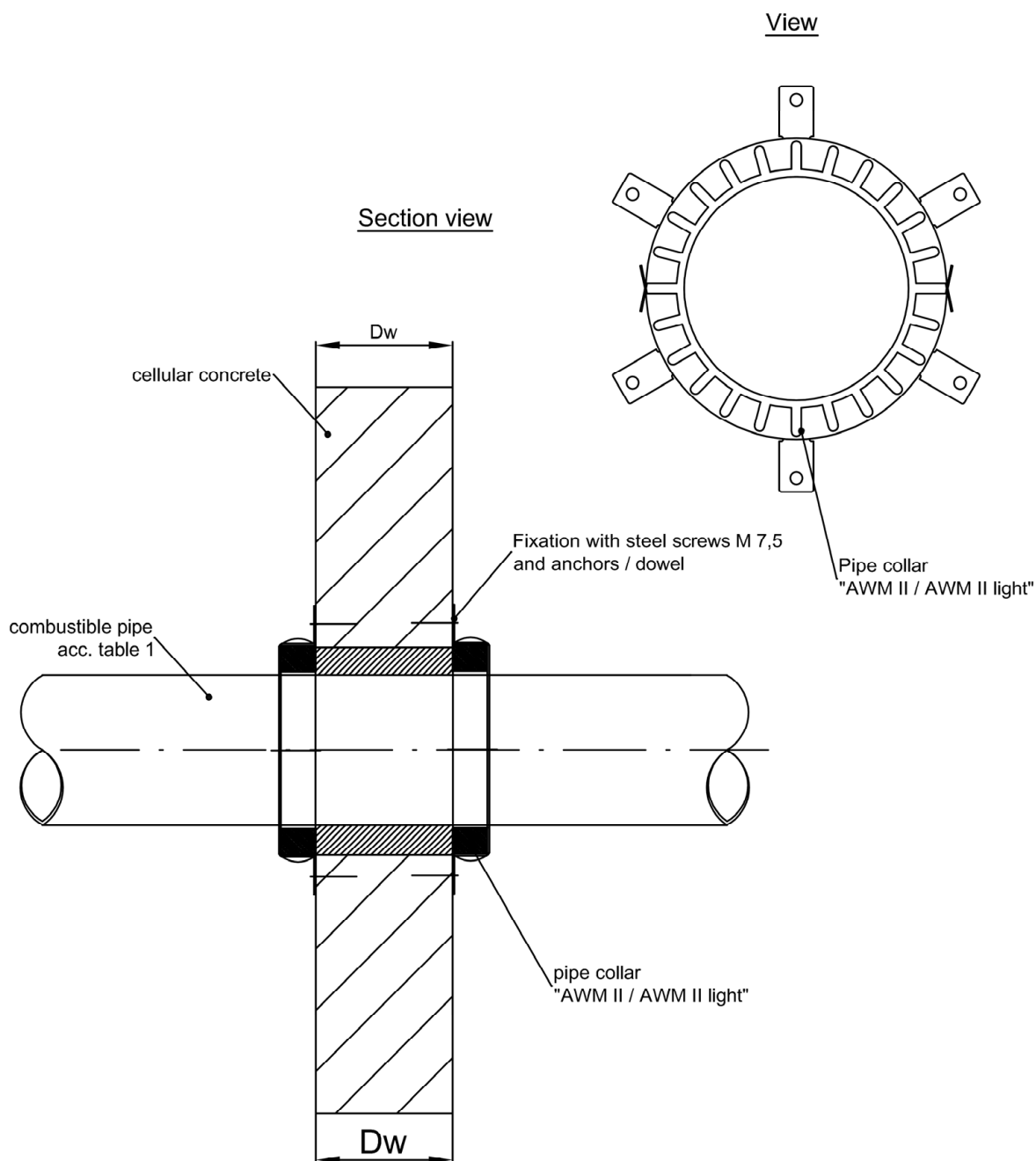


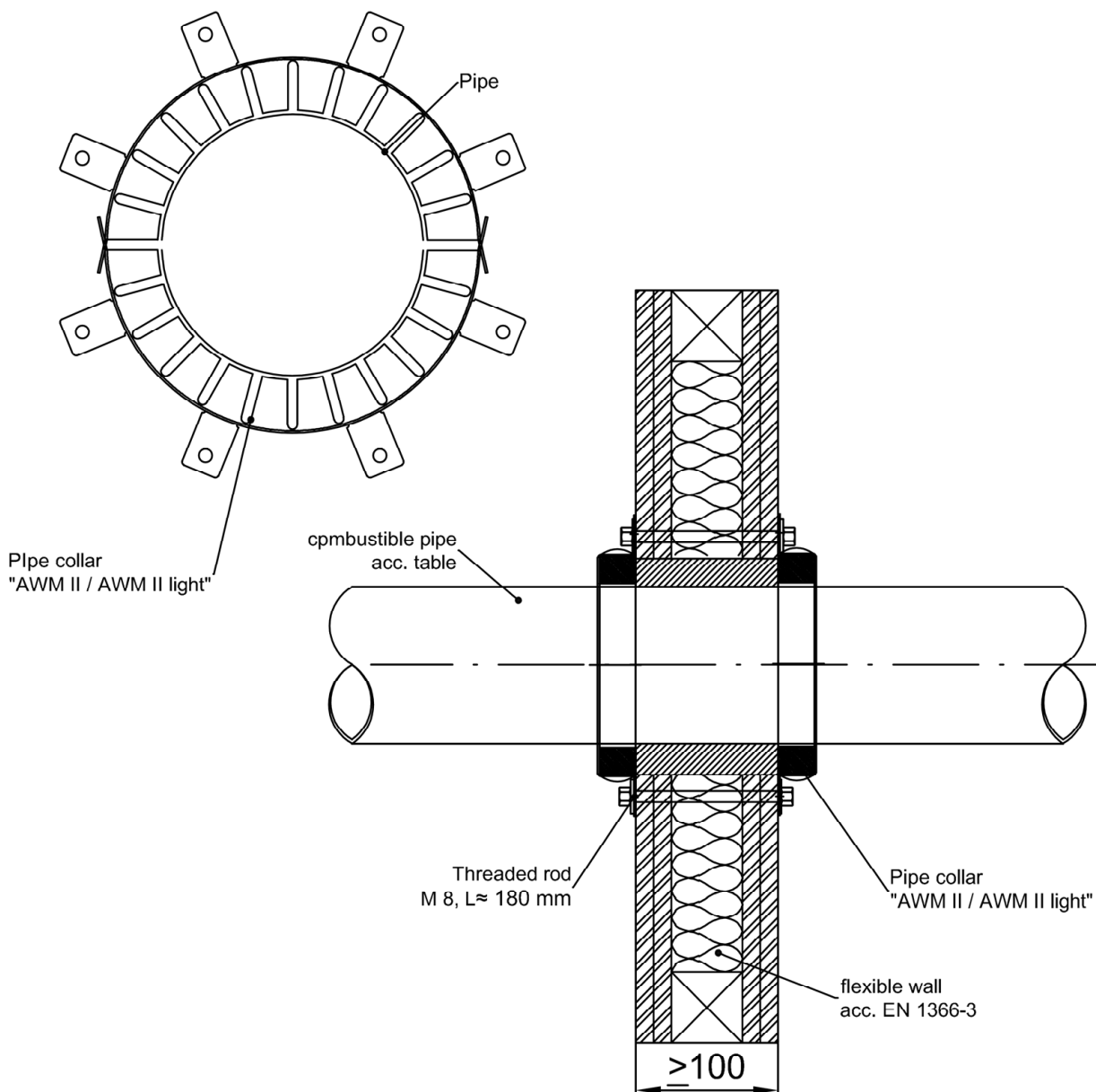
Table 1

type of pipe	Ø [mm]	s [mm]	Pipe size collar	ρ wall	Dw [mm]	Classification
PVC	200	9,6	AWM II 200	550 kg/m ³	100	EI 240-U/C

AWM II / AWM II light

Example for a pipe sealing of fire resistance class EI 240-U/C, using pipe collar "AWM II / AWM II light", in the size AWM II, Ø 200

Annex 5



Flexible wall

CW 50x50x0,6 u. UW 50x40x0,6 acc. to DIN 18182-01

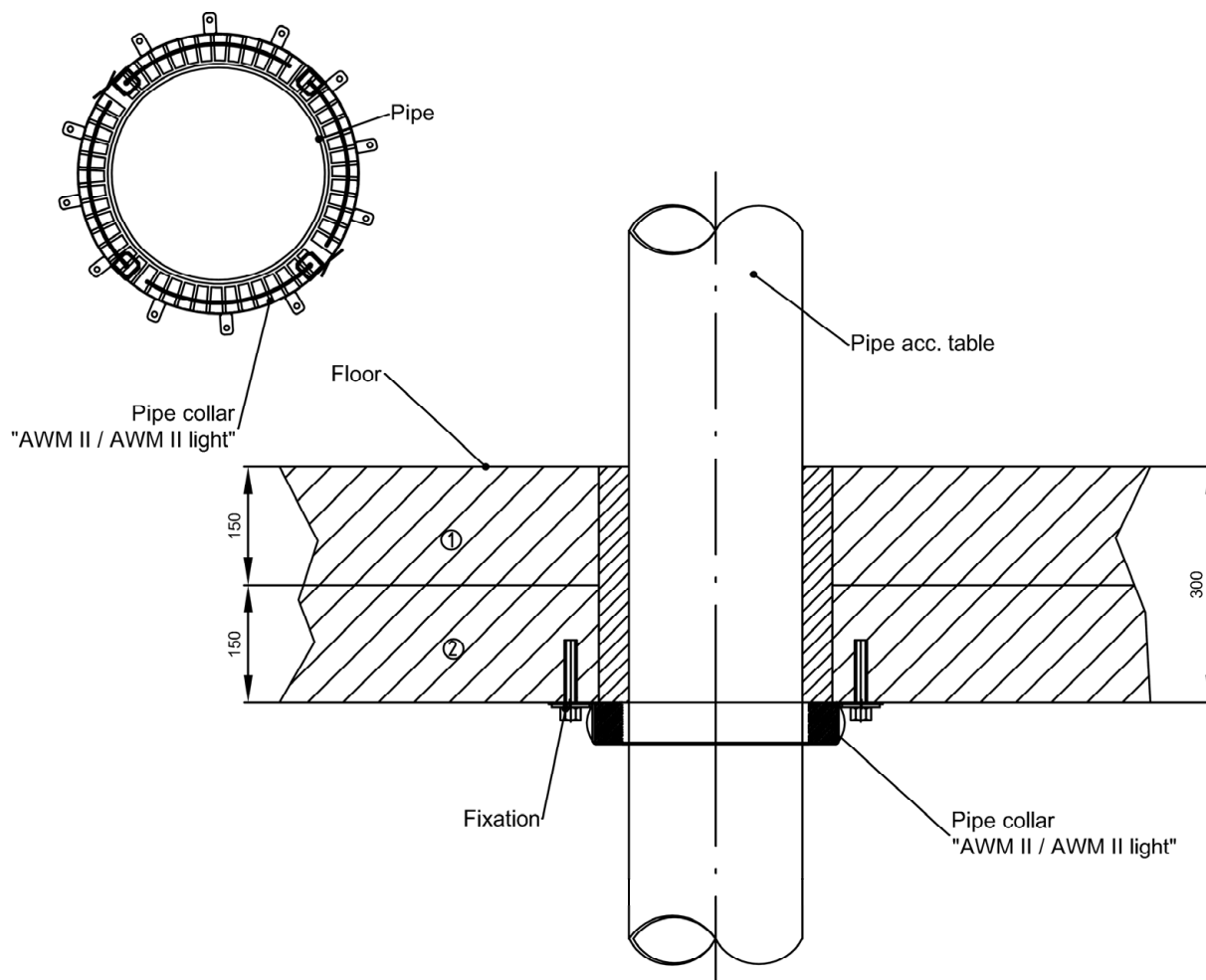
2 x 12,5 mm gypsum board type F / EN 520-G25/2,5 acc. to EN 520 two layers on both sides 40 mm mineral wool, ρ 100kg/m³, melting point $\geq 1000^\circ$ C, A1 acc. to EN 13501-1

Pipe			
Type of pipe	Ø [mm]	s [mm]	Pipe collar size
Coolfit	180	/	AWM II 180

AWM II / AWM II light

Example for a pipe sealing of fire resistance class EI 120-U/C, using pipe collar AWM II / AWM II light", in the size AWM II, Ø 180

Annex 6



Floor:

- 1 Aerated concrete blocks d = 150 mm; 600 - 650 kg/m³
- 2 Aerated concrete panels d = 150 mm; 450 - 500 kg/m³

Pipe			
Type of pipe	Ø [mm]	s [mm]	Pipe collar size
PVC	400	11,7	AWM II 400

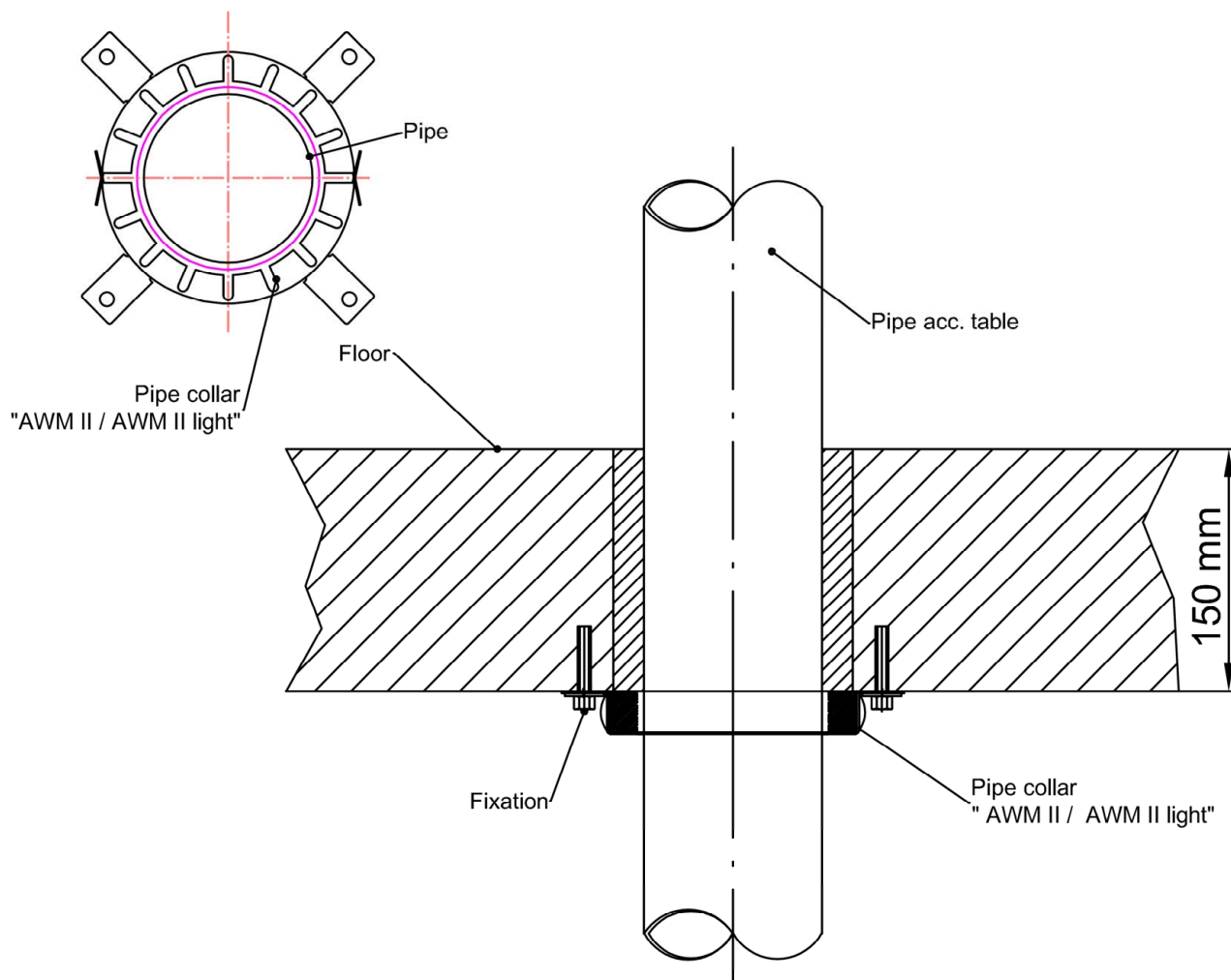
Fixation:

- Screws MMS-P 7,5 x 45
- and
- metal multipurpose anchors 8 x 38

AWM II / AWM II light

Example for a pipe sealing of fire resistance class EI 180-U/C or E 240-U/C, using pipe collar "AWM II/ AWM II light", in the size AWM II, Ø 400

Annex 7



Floor
Aerated concrete acc. to EN 1366-3

Type of pipe	Pipe		
	Ø [mm]	s [mm]	Pipe collar size
PP	110	2,7	AWM II light 110

Fixation:
Screws MMS-P 7,5 x 45
and
metal multipurpose anchorsl 8 x 38

AWM II / AWM II light

Example for a pipe sealing of fire resistance class EI 120-U/U, using pipe collar "AWM II/ AWM II light", in the size AWM II light, Ø 110

Annex 8