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Bautechnisches Prüfamt

An institution established by the Federal and Laender Governments

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European Technical Assessment ETA-19/0730 of 30 January 2020

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	HENSOTHERM RM30 HENSOTHERM RM50
Product family to which the construction product belongs	Pipe seal
Manufacturer	Rudolf Hensel GmbH Lauenburger Landstraße 11 21039 Börnsen DEUTSCHLAND
Manufacturing plant	H01[1]
This European Technical Assessment contains	8 pages including 4 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

[1] Address known at DIBt

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Specific Part

1 Technical description of the product

"HENSOTHERM RM30" and "HENSOTHERM RM50" are pipe collars consisting of a pipe collar enclosure and a fire-protective inlay.

The pipe collar enclosure is made of sheet steel and needs to be sufficiently protected against corrosion. The fire-protective inlay is made of a multi-layer fire-protective inlay made of an intumescent material, which expands under heat exposure.

The pipe collar has the dimensions given in Annex 2.

A detailed technical description of the fire safety related performance criteria for the construction products is given in Annexes 1 to 4. Detailed information on the construction products' components is deposited with Deutsches Institut für Bautechnik.

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 pipe collars "HENSOTHERM RM30" and "HENSOTHERM RM50" are intended for use as a component 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.

This ETA has served to verify the resistance to fire of pipe penetration seals containing two pipe collars (for wall installations) or one pipe collar (for floor installations). The pipe penetration seals also consisted of a seal between the penetrating pipe and the circular edge of the surrounding building component.
More detailed information and data on the verified penetration seals are given in annexes 3 and 4.
The construction products "HENSOTHERM RM30" and "HENSOTHERM RM50" may be used for penetration seals of use category X (outdoor use – rain, UV light, frost) provided that the other components of the penetration seal, which are not the subject of this ETA, meet the durability requirements. The resistance to fire of the penetration seals shall be verified on a case-by case basis.

The performances given in Section 3 apply exclusively to the penetration seals assessed as part of the ETA procedure (e.g. with respect to the design and arrangement of the penetration seals' components as well as the type and position of the services).

3 Performance of the product and references to the applied assessment methods

3.1 Intended use: use in penetration seals

3.2. Safety in case of fire (BWR 2)

3.2.1 Reaction to fire

Component	Performance
enclosure material: steel sheet	Class A1 in accordance with the Decision of the Commission N° 1996/603/EC (current version)

Component	Performance
Inlay material: intumescent building material acc. with ETA-16/0369	Class E in accordance with EN 13501-1[2]

3.2.2 Resistance to fire

Essential characteristic	Performance
Resistance to fire of a penetration seal containing the product	The resistance to fire depends on the design and installation of the penetration seal and on the other components that make up the penetration seal. More details on the tested penetration seals and the related fire resistance classes are given in Annexes 1 to 4.

3.3 Hygiene, Gesundheit und Umweltschutz (BWR 3)

The construction product does not contain any dangerous substances[3] in accordance with the regulation (EU) N° 1272/2008 of European Parliament and of the Council of 16 December 2008[4].

The chemical composition of the product has to accord with those deposited with DIBt.

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

In accordance with European Assessment Document (EAD) no. 350454-00-1104, 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 30 January 2020 by Deutsches Institut für Bautechnik

Maja Tiemann
Head of Department

beglaubigt:
Bisemeier

[2] EN 13501-1 Fire classification of construction products and building elements, Part 1 and A1:2009 Classification using test data from reaction to fire tests

[3] The chemical composition shall be identical to the composition deposited with DIBt.

[4] Official Journal of the EU N° L 353 of 31 December 2008, p. 1

The factory manufactured construction products pipe collar "HENSOTHERM RM30“ and „HENSOTHERM RM50“ consists of a pipe collar steel housing and an insert of a multi-layer intumescent building material which is incorporated in the pipe collar housing.

Properties and performance criteria of the components of the construction product "HENSOTHERM RM30“ and „HENSOTHERM RM50"

Component	Description
"Pipe collar housing"	Dimensions: see Annex 2 Material: sheet steel Classification of the fire behavior: Class A1 according to the commission decision 96/603/EC (current version)
"Inlay"	Dimensions: see Annexes 2 to 4 Material: Intumescent building material according to ETA-16/0369 Classification of the fire behavior according to EN 13501-1: Class E

The properties listed can be used 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.

Description of the additional components of the tested sealings

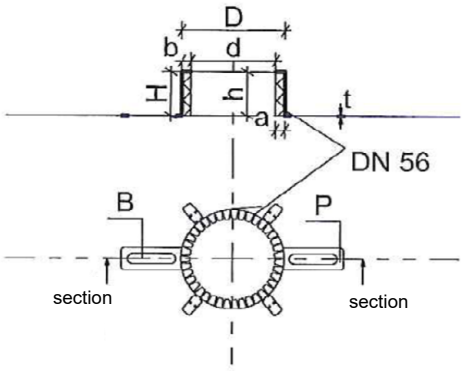
Sealing of the residual joint between pipe collar and soffit: Gypsum mortar	Classification of the fire behavior: Class A1 according to the commission decision 96/603/EC (in the current version)

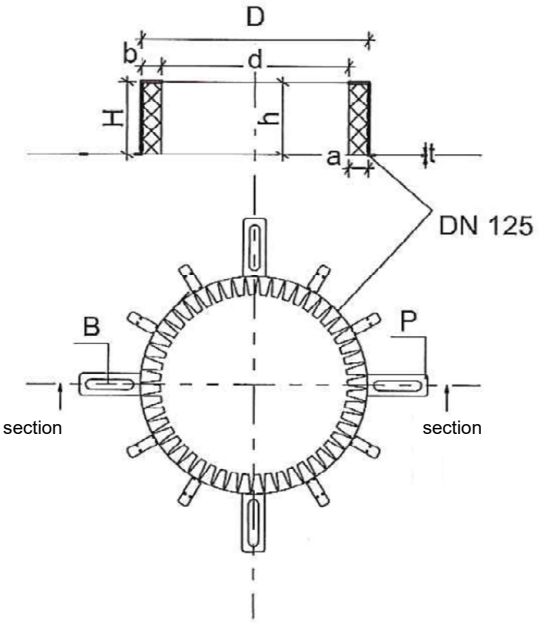
Performance of penetration seals, comprising the construction product "HENSOTHERM RM30“ and „HENSOTHERM RM50"

	Essential requirement	Test method	Construction of the sample	Performance
1	Resistance to fire	EN 1366-3	100 mm thick flexible wall; design and layout of the penetration seal according to Annex 3	s. Annex 3
2	Resistance to fire	EN 1366-3	150 mm thick rigid floor; design and layout of the penetration seal according to Annex 4	s. Annex 4

The tested/ illustrated seals are only examples for the use.
The illustrations on page 3 and 4 are without guarantee for completeness.
The use of the construction product "HENSOTHERM RM30“ and „HENSOTHERM RM50" in penetration seals shall be in accordance with national requirements for planning, design and execution and in accordance with the installation instruction of the manufacturer.

HENSOTHERM RM30 HENSOTHERM RM50	Annex 1
Description of the construction products, properties and performances	



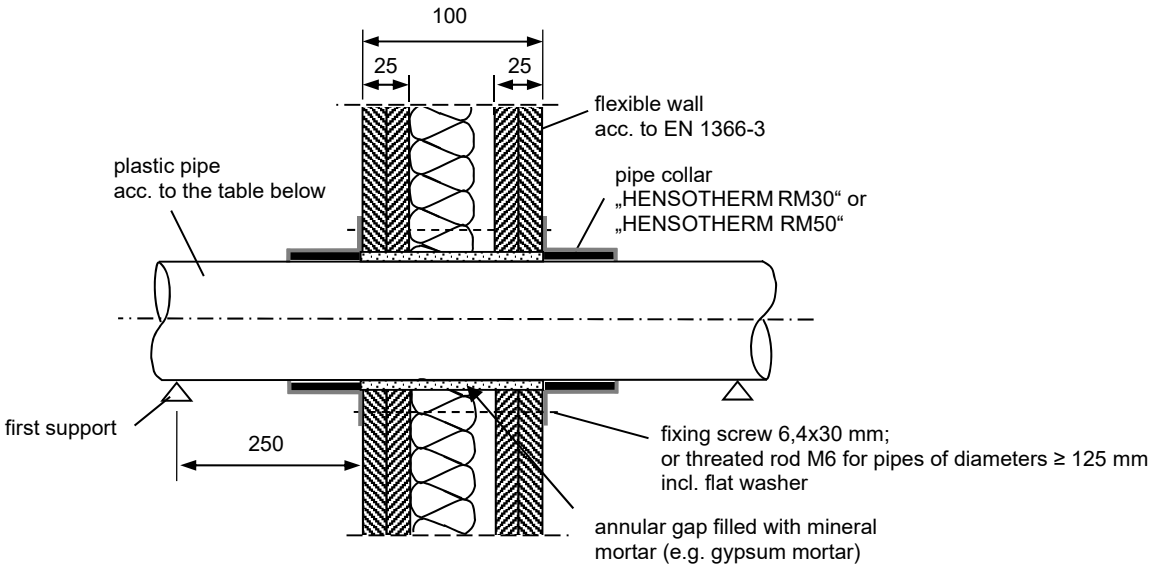


HENSOTHERM RM30 and HENSOTHERM RM50

dA [mm]	d [mm]	D [mm]	b [mm]	t [mm]	H [mm]	P number	h [mm]	a [mm]	B [mm]	Inlay, total thickness (mm)	number of layers	d1 [mm]	d2 [mm]	d3 [mm]
40	40,7	52,7	6,5	0,5	30	2	28	6	7 x 32 (R3,5)	6	2	42,6	44,2	45,8
56	56,4	68,4	6,5	0,5	30	2	28	6	7 x 32 (R3,5)	6	2	58,3	59,9	61,5
63	66,0	84,0	9,5	0,5	30	2	28	9	7 x 32 (R3,5)	9	3	73,9	75,5	77,1
75	76,9	94,9	9,5	0,5	30	3	28	9	7 x 32 (R3,5)	9	3	84,8	86,4	87,9
90	93,1	111,1	9,5	0,5	30	3	28	9	7 x 32 (R3,5)	9	3	101,0	102,6	104,2
110	113,8	131,8	9,5	0,5	30	4	28	9	7 x 32 (R3,5)	9	3	121,7	123,3	124,9
125	125,6	149,6	12,5	0,5	30	4	28	12	7 x 32 (R3,5)	12	4	139,5	141,1	142,7
40	40,7	52,7	6,5	0,5	50	2	48	6	7 x 32 (R3,5)	6	2	42,6	44,2	45,8
56	56,4	68,4	6,5	0,5	50	2	48	6	7 x 32 (R3,5)	6	2	58,3	59,9	61,5
63	66,0	84,0	9,5	0,5	50	2	48	9	7 x 32 (R3,5)	9	3	73,9	75,5	77,1
75	76,9	94,9	9,5	0,5	50	3	48	9	7 x 32 (R3,5)	9	3	84,8	86,4	87,9
90	93,1	111,1	9,5	0,5	50	3	48	9	7 x 32 (R3,5)	9	3	101,0	102,6	104,2
110	113,8	131,8	9,5	0,5	50	4	48	9	7 x 32 (R3,5)	9	3	121,7	123,3	124,9
125	125,6	149,6	12,5	0,5	50	4	48	12	7 x 32 (R3,5)	12	4	139,5	141,1	142,7
140	143,9	167,9	12,8	0,8	50	4	48	12	7 x 32 (R3,5)	12	4	157,8	159,4	161,0
160	162,1	192,1	15,8	0,8	50	5	48	15	7 x 32 (R3,5)	15	5	182,0	183,6	185,2

d1 put into lug 1
d2 put into lug 2
d3 put into lug 3

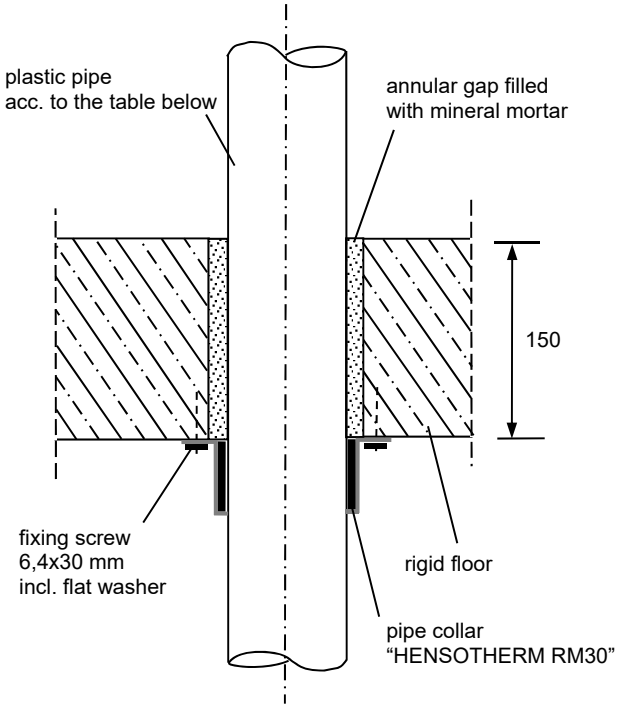
HENSOTHERM RM30 HENSOTHERM RM50	Annex 2
Design and dimensions of the pipe collars	



dimensions in mm

test	Pipe N	type of pipe	dimensions	Pipe collar	class
R000283	11	PVC-U	50 x 1,8	RM 30	EI 180-U/U
	12	PVC-U	50 x 5,6	RM 30	EI 120-U/U
	13	PVC-U	110 x 2,2	RM 30	EI 90-U/U
	14	PVC-U	110 x 8,1	RM 30	EI 90-U/C
	15	PVC-U	125 x 2,5	RM 30	EI 120-U/U
	16	PVC-U	125 x 9,3	RM 30	EI 90-U/C
R002353	4	"Geberit Silent PP"	50 x 1,8	RM 30	EI 180-U/U
	5	"Geberit Silent PP"	110 x 3,6	RM 30	EI 120-U/U
	6	"Geberit Silent PP"	125 x4,2	RM 30	EI 180-U/U
	7	"Geberit Silent PP"	160 x 5,2	RM 50	EI 180-U/U
R002353	21	"Pipelife Master 3"	50 x 1,8	RM 30	EI 180-U/U
	22	"Pipelife Master 3"	110 x 3,6	RM 30	EI 120-U/U
	23	"Pipelife Master 3"	125 x4,2	RM 30	EI 120-U/U

HENSOTHERM RM30 HENSOTHERM RM50	Annex 3
Example for a pipe sealing of a fire resistance (integrity and thermal insulation) for 90 resp. 120 resp. 180 minutes using pipe collar “HENSOTHERM RM30” or “HENSOTHERM RM50”	



dimensions in mm

test	pipe N°.	pipe type	dimensions	pipe collar	class
R000256	20	PVC-U	50 x 1,8	RM 30	EI 120-U/U
	21	PVC-U	50 x 5,6	RM 30	EI 60-U/U
	22	PVC-U	110 x 2,2	RM 30	EI 120-U/U
	23	PVC-U	110 x 8,1	RM 30	EI 120-U/C
	24	PVC-U	125 x 2,5	RM 30	EI 120-U/U
	25	PVC-U	125 x 9,3	RM 30	EI 120-U/C
	4	"Geberit Silent PP"	110 x 3,6	RM 30	EI 90-U/U
	5	"Geberit Silent PP"	125 x 4,2	RM 30	EI 120-U/U
	15	"Pipelife Master 3"	50 x 1,8	RM 30	EI 120-U/U
	16	"Pipelife Master 3"	110 x 3,6	RM 30	EI 120-U/U
	17	"Pipelife Master 3"	125 x4,2	RM 30	EI 120-U/U

HENSOTHERM RM30 HENSOTHERM RM50	Annex 4
Example for a pipe sealing of a fire resistance (integrity and thermal insulation) for 60 resp. 90 resp. 120 minutes using pipe collar “HENSOTHERM RM30”	