

Assembly Instruction

ROKU® System FSC 4 Fire Stop Collar

according to ETA-15/0907



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Assembly Instruction

ROKU® System FSC 4 Fire Stop Collar

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Target audience

This assembly instruction is addressed exclusively to trained experts on fire technology.

Usage of assembly instruction

- Please read through the lot of this assembly instruction carefully prior to work start. Regard in particular the following safety information.
- The holder of assessment assumes no liability for damages which are caused by disregard for this assembly instruction.
- Graphic depictions serve as examples only. Assembly results may vary visually.

Safety information

For processing of partition components, please regard the safety data sheets.



Protection and hygiene measures:

- Observe the usual precautions when handling chemicals. Wash hands before work breaks and immediately after handling the product. Avoid contact with skin, eyes and clothing. Take off stained or soaked clothes immediately.
Eye wash with clean water (EN 15154).
Wear closed work clothing.

	Respiratory protection - Dust mask When exposure limit is exceeded (e.g. possible when turning on), use particle-filtering half mask FFP 1 (white).
	Hand protection - Protective gloves Use waterproof, abrasion- and alkali-resistant nitrile gloves. Different requirements can result depending on application. Therefore observe additional recommendations by the protective gloves' manufacturer.
	Eye protection – Use safety goggles
	Body protection – Use protective work wear

Do not eat, drink or smoke during work. After work is finished, wash all uncovered body parts with water and soap thoroughly.

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Components

Rigid walls

The wall must have a minimum thickness of ≥ 100 mm and consist of concrete, aerated concrete or masonry. The wall shall be classified in accordance to EN 13501 - 2 for the required fire resistance period.

Lightweight partition walls

Lightweight partition walls must have a minimum thickness of ≥ 94 mm and consist of steel stands (U and C profiles; 0,5 - 1,5 mm thickness) which are to be coated on both sides with at least two layers of 12,5 mm thick panels of classification A2-s1, d0 oder A1 in accordance to EN 13501-1.

Additionally, wood stands can be used instead of steel stands. In this context, it should be noted that there must be a minimum distance of 100 mm between wood stands and partition. The insulation in between those stands must be at least comply with the building material class A1 or A2 (in accordance to EN 13501-1) and have a raw density of 5 - 115 kg/m³ (in accordance to EN 1363-1).

The soffit revetment must be built from steel stands with a minimum thickness of 0,6 mm and panels of the same specifications as of the wall.

The supporting structure must be classified for the necessary fire resistance duration in accordance to EN 13501-2.

Rigid floors

The floor must have a minimum thickness of ≥ 150 mm and consist of concrete or aerated concrete with a minimum raw density of 550 kg / m³. The rigid floor shall be classified in accordance with EN 13501 – 2 for the required fire resistance period.

Application field

Identifier	Wall	Lightweight partition wall	Floor
Thickness of the component	≥ 100 mm	≥ 94 mm	≥ 150 mm
Maximal size of isolated combustible pipelines	≤ 160 mm	≤ 160 mm	≤ 160 mm
Distance to other openings or installations	≥ 100 mm	≥ 100 mm	≥ 100 mm
Distance to other openings or installations when component reveal is not larger than 200 mm x 200 mm	≥ 100 mm	≥ 100 mm	≥ 100 mm

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Approved assignments and classifications

The pipe screening can be used on straight pipes arranged perpendicular to the wall or floor surface. The pipelines must be intended for non-combustible liquids or gases, for pneumatic conveying systems or vacuum lines only. Pneumatic conveying systems, compressed air lines or alike must be turned off through additional measures in the case of fire.

No ventilation systems

PVC-U pipes in accordance to EN 1452-1 without insulation - wall -					
Outer diameter [mm]	wall thickness [mm]	Additional fire protection measures - ROKU® Strip EM -	E	I	Pipe end configuration
≤ 50	1.8 to 5.6	2 x 2	120	120	U/C
≤ 50 to ≤ 75	1.8 to 8.4	2 x 3			
> 75 to ≤ 110	1.8 to 12.3	2 x 4			
> 110 to ≤ 125	2.2 to 12.2	2 x 5			
≤ 160	3.2 to 11.9	2 x 6			

The classification of PVC-U pipes according to EN 1453-1, EN 1329-1 or EN 1452-1 also applies for PVC-C pipes according to EN 1566-1.

PE-HD pipes in accordance to EN 1452-1 without insulation - wall -					
Outer diameter [mm]	wall thickness [mm]	Additional fire protection measures - ROKU® Strip EM -	E	I	Pipe end configuration
≤ 50	1.8 to 4.6	2 x 2	120	120	U/C
≤ 50 to ≤ 75	1.8 to 8.4	2 x 3			
> 75 to ≤ 110	2.7 to 10.0	2 x 4			

The classification of PE-HD pipes according to EN 1519-1 and EN 12666-1 also applies for PE pipes according to EN 12201-2, EN 1519-1 and EN 12666-1 as well as for ABS pipes according to EN 1455-1 and SAN+PVC pipes according to EN 1565-1.

PP pipes according to EN 1452-1 without insulation - wall -					
Outer diameter [mm]	wall thickness [mm]	Additional fire protection measures - ROKU® Strip EM -	E	I	Pipe end configuration
≤ 50	1.8 to 5.6	2 x 2	120	120	U/C
≤ 50 to ≤ 75	1.8 to 8.4	2 x 3			
> 75 to ≤ 110	2.7 to 10.0	2 x 4			
≤ 125	3.9 to 12.2	2 x 5	90	90	
≤ 160	> 4.0 to 14.6	2 x 6			

BLUE Power pipes without insulation - wall -					
Outer diameter [mm]	wall thickness [mm]	Additional fire protection measures - ROKU® Strip EM -	E	I	Pipe end configuration
≤ 50	1.8	2 x 2	120	120	U/C
≤ 75	2.5	2 x 3			
≤ 110	3.4	2 x 4			

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Wawin SITECH pipes without insulation - wall -					
Outer diameter [mm]	wall thickness [mm]	Additional fire protection measures - ROKU® Strip EM -	E	I	Pipe end configuration
≤ 50	2.0	2 x 2	120	120	U/C
≤ 75	2.6	2 x 3		90	
≤ 110	3.6	2 x 4			

aquatherm green pipe MS pipes without insulation - wall -					
Outer diameter [mm]	wall thickness [mm]	Additional fire protection measures - ROKU® Strip EM -	E	I	Pipe end configuration
≤ 16	2.2	2 x 2	120	120	U/C
≤ 50	6.9	2 x 2			
≤ 75	10.4	2 x 3			
≤ 110	15.2	2 x 4			

20-2.8 / 25-3.5 / 32-4.5 / 40-5.6 / 63-8.7 / 90-12.5 , with covered pipe diameter (mm) / pipe wall thickness (mm)

Geberit Silent PP pipes without insulation - wall -					
Outer diameter [mm]	wall thickness [mm]	Additional fire protection measures - ROKU® Strip EM -	E	I	Pipe end configuration
≤ 50	2.0	2 x 2	120	120	U/C
≤ 75	2.6	2 x 3		90	
≤ 110	3.6	2 x 4			

POLO-KAL NG pipes without insulation - wall -					
Outer diameter [mm]	wall thickness [mm]	Additional fire protection measures - ROKU® Strip EM -	E	I	Pipe end configuration
≤ 50	2.0	2 x 2	120	120	U/C
≤ 75	2.6	2 x 3		90	
≤ 110	3.4	2 x 4		120	
≤ 125	3.9	2 x 5			
≤ 160	4.9	2 x 6			

Rehau Raupiano Plus pipes without insulation- wall -					
Outer diameter [mm]	wall thickness [mm]	Additional fire protection measures - ROKU® Strip EM -	E	I	Pipe end configuration
≤ 50	1.8	2 x 2	120	120	U/C
≤ 75	1.9	2 x 3			
≤ 110	2.7	2 x 4			
≤ 125	3.1	2 x 5			
≤ 160	3.6	2 x 6			

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Triplus 3 layer sound insulation pipes without insulation - wall -					
Outer diameter [mm]	wall thickness [mm]	Additional fire protection measures - ROKU® Strip EM -	E	I	Pipe end configuration
≤ 50	1.8	2 x 2	120	120	U/C
≤ 75	2.5	2 x 3			
≤ 90	3.1	2 x 4			

PVC-U pipes in accordance to EN 1452-1 without insulation - floor -					
Outer diameter [mm]	wall thickness [mm]	Additional fire protection measures - ROKU® Strip EM -	E	I	Pipe end configuration
≤ 50	1.8 to 5,6	2	240	240	U/C
≤ 50 to ≤ 75	1.8 to 8,4	3			
>75 to ≤ 110	1.8 to 12,3	4			
>110 to ≤ 125	2.2 to 12,1	5	120	120	
≤ 125	12,1	5	240	240	
≤ 160	3.2 to 11.9	6	120	120	
≤ 160	11.9	6	240	240	

The classification of PVC-U pipes according to EN 1453-1, EN 1329-1 oder EN 1452-1 also applies for PVC-C-pipes according to EN 1566-1.

PE-HD pipes according to EN 1452-1 without insulation - floor -					
Outer diameter [mm]	wall thickness [mm]	Additional fire protection measures - ROKU® Strip EM -	E	I	Pipe end configuration
≤ 50	1.8 to 4.6	2	240	240	U/C
≤ 50 to ≤ 75	1.8 to 8.4	3			
>75 to ≤ 110	2.7	4		180	
>75 to ≤ 110	> 2.7 to 10,0	4			
≤ 125	3.1	5		240	
≤ 125	> 3.1 to 11,4	5		120	
≤ 160	4.0	6		240	
≤ 160	> 4.0 to 14.6	6		120	

The classification of PE-HD pipes according to EN 1519-1 and EN 12666-1 also applies for PE pipes according to EN 12201-2, EN 1519-1 and EN 12666-1 as well as ABS pipes according to EN 1455-1 and SAN+PVC pipes according to EN 1565-1.

Rehau Raupiano Plus pipes without insulation - floor -					
Outer diameter [mm]	wall thickness [mm]	Additional fire protection measures - ROKU® Strip EM -	E	I	Pipe end configuration
≤ 50	1.8 to 4.6	2	240	240	U/C
≤ 50 to ≤ 75	1.8 to 8.4	3			
>75 to ≤ 110	2,7	4			
>75 to ≤ 110	> 2.7 to 10.0	4	180	180	

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Uponor MLC pipes „white“ without insulation - floor -					
Outer diameter [mm]	wall thickness [mm]	Additional fire protection measures - ROKU® Strip EM -	E	I	Pipe end configuration
≤ 50	4.5	2	120	120	U/C
≤ 75	7.5	3	90	90	
≤ 110	10	4			

(14-18) x 2.0 / 20 x 2.25 / 25 x 2.5 / 32 x 3.0 / 40 x 4.0 / 63 x 6.0 / 90 x 8.5, with covered pipe diameter (mm) / pipe wall thickness (mm)

aquatherm green pipe MS Rohre without insulation- floor -					
Outer diameter [mm]	wall thickness [mm]	Additional fire protection measures - ROKU® Strip EM -	E	I	Pipe end configuration
≤ 16	2.2	2	120	120	U/C
≤ 50	6.9	2			
≤ 75	10.4	3			
≤ 110	15.2	4			

20-2.8 / 25-3.5 / 32-4.5 / 40-5.6 / 63-8.7 / 90-12.5, with covered pipe diameter (mm) / pipe wall thickness (mm)

Wawin SITECH pipes without insulation - floor -					
Outer diameter [mm]	wall thickness [mm]	Additional fire protection measures - ROKU® Strip EM -	E	I	Pipe end configuration
≤ 50	2.0	2	120	120	U/C
≤ 75	2.6	3			
≤ 110	3.6	4			
≤ 125	4.2	5	60	60	
≤ 160	5.3	6			

Geberit Silent PP pipes without insulation - floor -					
Outer diameter [mm]	wall thickness [mm]	Additional fire protection measures - ROKU® Strip EM -	E	I	Pipe end configuration
≤ 50	2.0	2	120	120	U/C
≤ 75	2.6	3			
≤ 110	3.6	4			

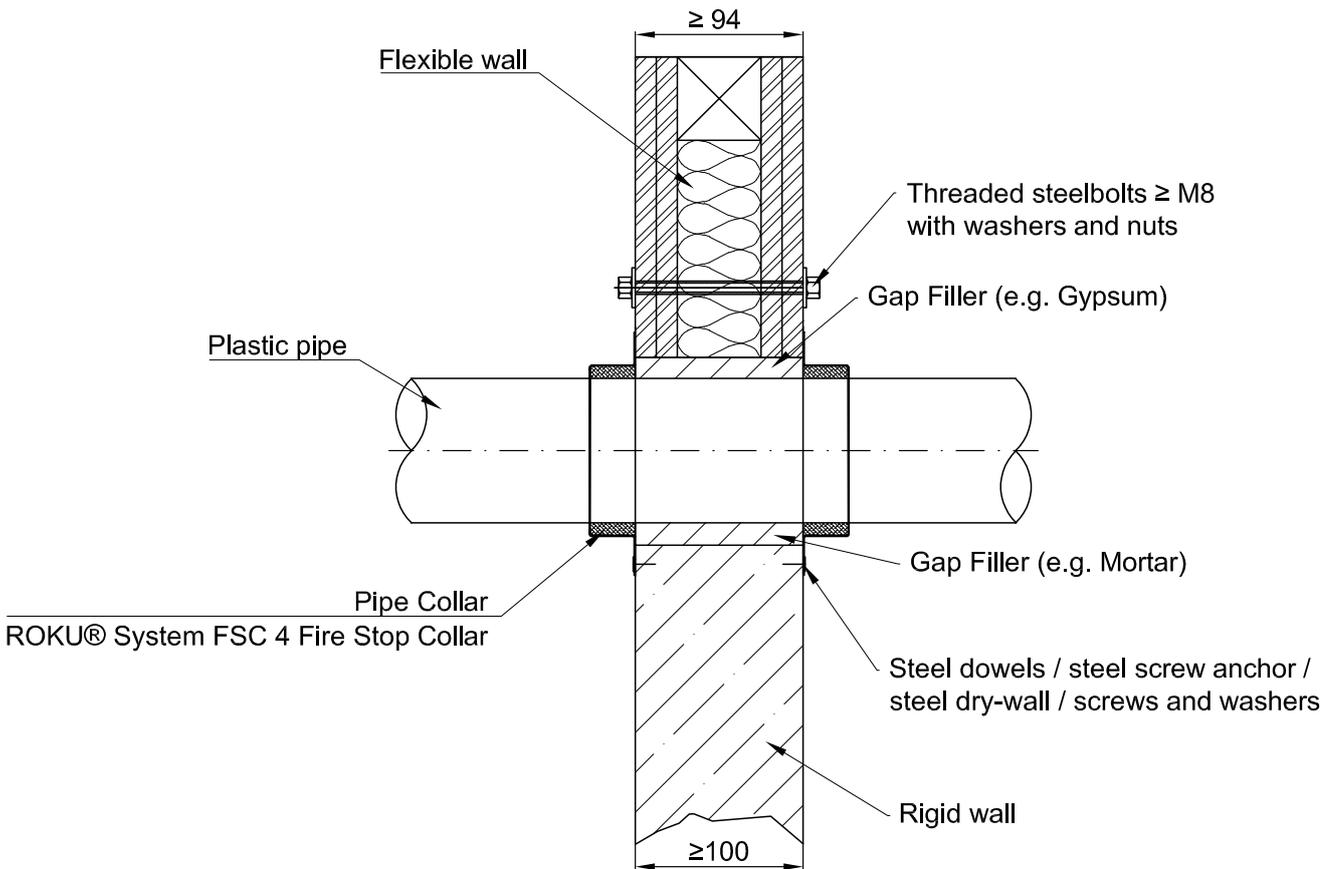
POLO-KAL NG pipes without insulation - floor -					
Outer diameter [mm]	wall thickness [mm]	Additional fire protection measures - ROKU® Strip EM -	E	I	Pipe end configuration
≤ 50	2.0	2	120	90	U/C
≤ 75	2.6	3		120	
≤ 110	3.6	4		120	

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Approved assignment - wall



Annular Gap

The annular gap between the inserted plastic pipes and the wall must be filled completely with mineral building materials.

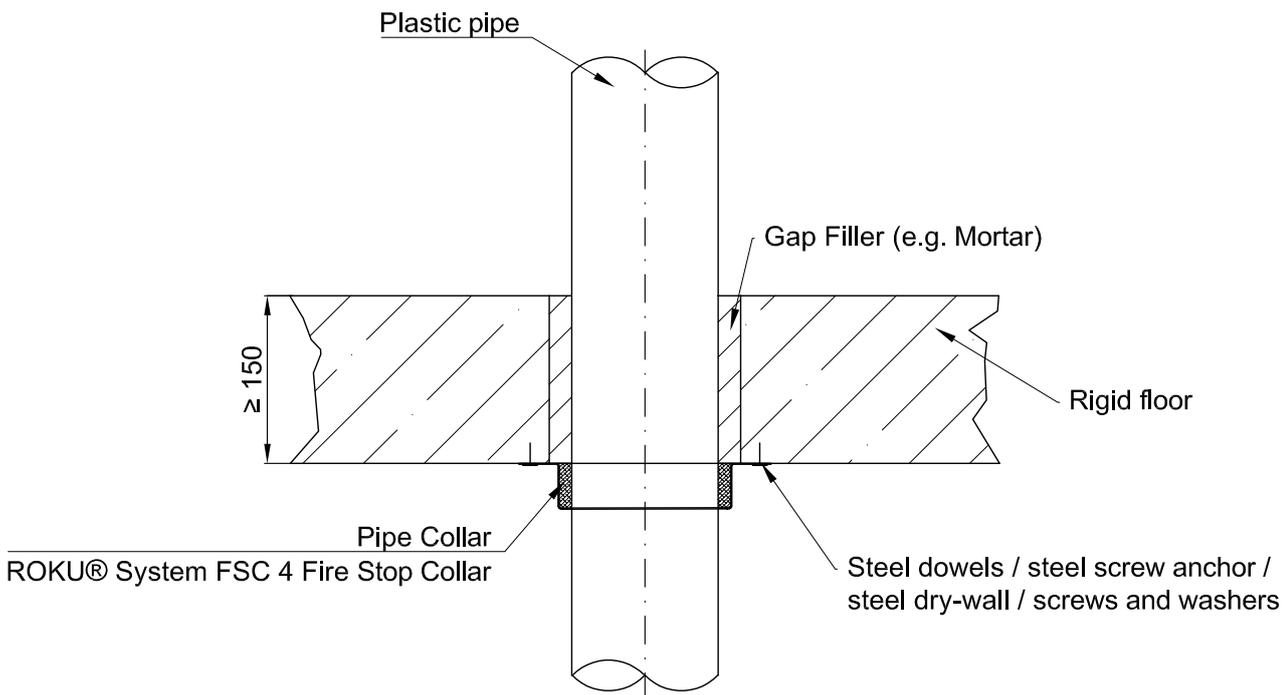
Wall installation: Gap width 1 – 3 cm, sealing of annular gap with gypsum / gypsum filling compound (lightweight partition walls), for rigid walls. Cement mortar is possible as well.

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Approved assignment - floor



Annular Gap

The annular gap between the inserted plastic pipes and the wall must be filled completely with mineral building materials.

Floor installation: Gap width 1 – 5 cm, ealing of annular gap with gypsum / gypsum filling compound / cement mortar

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Applied products

Image	Article Identifier	Art-No.	
FSC 4 Fire protection collar			
	Diameter [mm]		
	50	0708000500	
	63	0708000630	
	75	0708000750	
	90	0708000900	
	110	0708001100	
	125	0708001250	
	140	0708001400	
	160	0708001600	
Accessory			
	Mounting kit	Ø 32 – 50 mm	0707002000
		Ø 63 – 125 mm	0707002020
		Ø 140 – 160 mm	0707002030
	Identification sign	0750050060	

Assembly Instruction

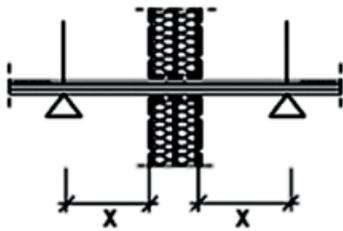
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Arrangement of the first support (backings)

Supports/Backings of the installations in front of the wall insulation must consist of essentially non-combustible components and be arranged with a distance according to the following overview.

non-combustible pipes	≤ 650 mm on both sides	not defined
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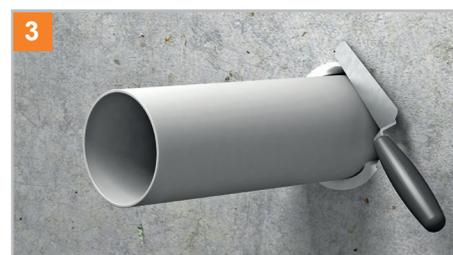
Assembly steps



Before the installation of the pipe seal, it is to be checked if all boundary conditions (e.g. type and thickness of wall or floor, type and size of pipes and insulations as well as environmental conditions) comply with the regulations.



The fire protection collar Kuhn FSC 4 can be applied for uninsulated pipes only.



Before assembling the fire protection mortar, the remaining gaps between wall or floor and the inserted pipe are to be filled completely with dimensionally stable, non-combustible building materials, e.g. concrete, cement or gypsum mortar (class A1 or A2-s1,d0 according to EN 13501-1).

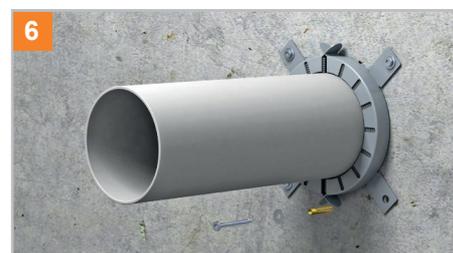


A suitable fire protection collar must be utilised. For pipe penetrations through floors, there must be a fire protection collar arranged to the bottom side of the floor. For pipe penetration through walls, there must be a fire protection collar arranged on each side of the wall.

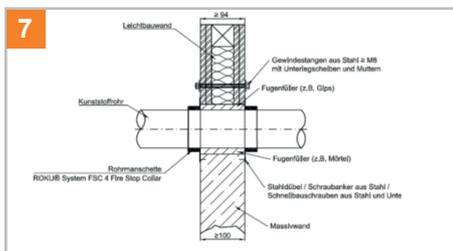


The pipe collars must be mounted to the rigid walls or floors through the fastening clip with appropriate dowels and steel screws M6 or M8.

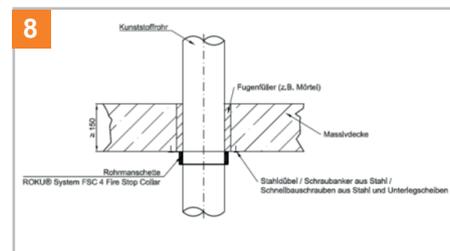
Available fixing points should be used.



The pipe collars must be mounted to lightweight partition walls with threaded rods M6 or M8.



Wall installation



Floor installation



Finally apply the identification sign to the penetration seal. The identification must be placed next to the penetration seal to the building component and is available at Kuhn.

DECLARATION OF PERFORMANCE

according to Annex III of the Regulation (EU) No. 305/2011

for the construction product **ROKU® System FSC 4 Fire Stop Collar**

Le/DoP No. 506/01/1604

1. Unique identification code of the product-type: **ETA-15/0907 - ROKU® System FSC 4 Fire Stop Collar**

2. Type, batch or serial number or any other element allowing identification of the construction product as required pursuant to Article 11 (4): **Batch number, see product packaging**

3. Inteded use or uses of the construction product, in accordance with the the applicable harmonized technical specification, as forseen by the manufacturer: **pipe penetration seal**

4. Name, registered trade name or registered trade mark and contact address of the manufacturer as required pursuant to Article 11 (5): **Rolf Kuhn GmbH
Jägersgrund 10
D-57339 Erndtebrück**

5. If applicable, name and contact address of the authorized representative whose mandate covers the tasks specified in Article 12 (2): **not relevant**

6. System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V: **System 1**

7. In case of the declaration of performance concerning a construction product covered by a harmonized standard: **not relevant**

8. In case of the declaration of performance concerning a construction product for which an European Technical Assessment has been issued: **The notified body MPA Braunschweig, No. 0761 has performed the initial inspection of the factory production control and performs the continuous surveillance, assessment and approval of the factory production on a regular basis according System 1 and issued the following:

Certificate of constancy of performance:
0761 – CPD – 0498**

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Directors

Harald Kuhn

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HRB 52516

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Bank details

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IBAN: DE14 7002 0000 133555

BIC: HYVEDEMMXXX

Postbank München

IBAN: DE44 7001 0080 0046 2618 04

BIC: PBNKDEFF

9. Declared performance

Essential characteristics	Performance	Harmonized technical specification
Fire resistance as a pipe penetration seal for combustible pipes by means of the fire protection collar type ROKU® System FSC 4 ≤ 160 mm on flexible walls ≤ 94 mm, rigid walls ≥ 100 mm or rigid walls ≥ 150 mm	≤ EI 240 - U/C	ETA-15/0907
Reaction to fire of the steel housing	A1	
Reaction to fire to the intumescent inlay ROKU® Strip EM	E	
Durability and serviceability	Use category type Y ₁	
Release of dangerous substances	none	
For more details please see ETA-15/0907		

10. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 9. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

Signed for and on behalf of the manufacturer by:

p.p. Markus Quast, Application Engineering Kuhn Systeme
(name and function)

Erndtebrück, 06.04.2016
(place and date of issue)



.....
(signature)

p.p. Andreas Lutters, Head of engineering / R&D Rolf Kuhn GmbH
(name and function))

Erndtebrück, 06.04.2016
(place and date of issue)



.....
(signature)

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ROKU® System FSC 4 Fire Stop Collar



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Le/DoP Nr. 506/01/1604

0761

pipe penetration seal

ETA-15/0907 - ROKU® System FSC 4 Fire Stop Collar

Fire resistance as a pipe penetration seal for combustible pipes by means of the fire protection collar type ROKU® System FSC 4 ≤ 160 mm on flexible walls ≤ 94 mm, rigid walls ≥ 100 mm or rigid walls ≥ 150 mm	≤ EI 240 - U/C
Reaction to fire of the steel housing	A1
Reaction to fire to the intumescent inlay ROKU® Strip EM	E
Durability and serviceability	Use category type Y ₁
Release of dangerous substances	none
For more details please see ETA-15/0907	

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