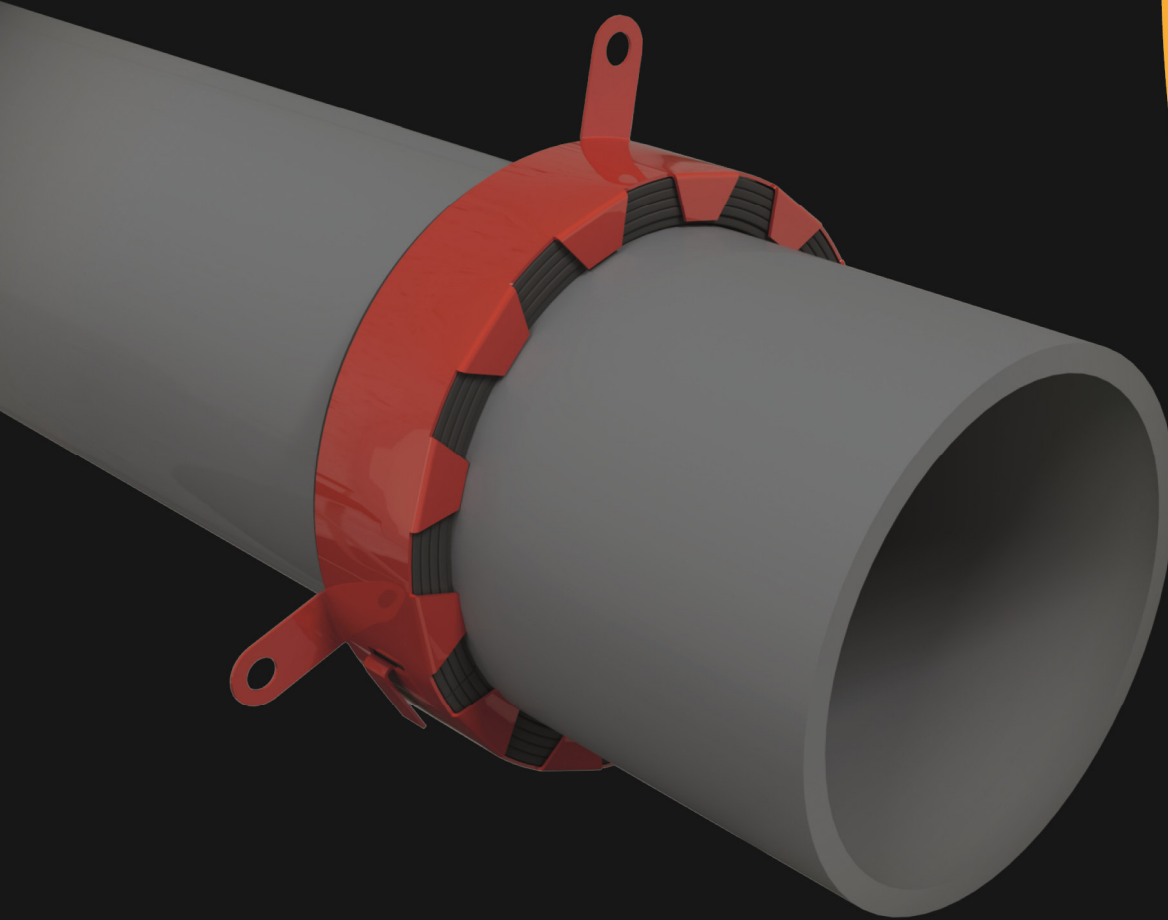


INTU FR COLLAR

Intumescent pipe collar

TDS Technical Data Sheet



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passive fire protection manufacturer



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INTU FR COLLAR

Intumescent pipe collar

TDS Technical Data Sheet

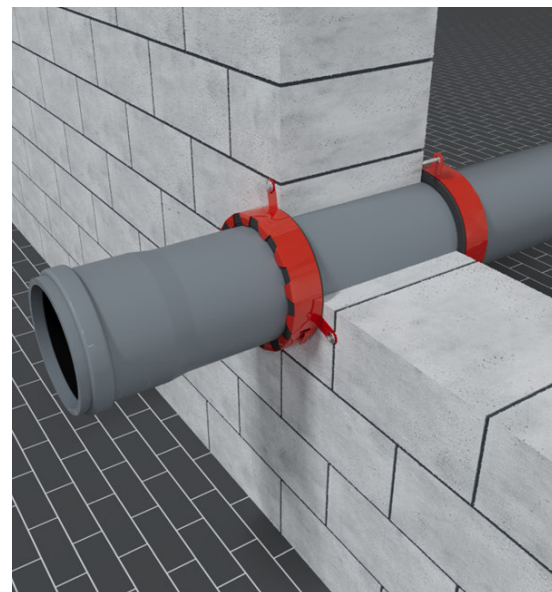
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→ PRODUCT DESCRIPTION

The firestop collar **INTU FR COLLAR** is composed of a flexible insert made of graphite-based material and an external casing made of 1,0 mm steel sheet protected against corrosion by a red paint coating. The steel collar casing is equipped with a lock used for strapping the ends and stabilizing it on the pipe, as well as mounting brackets fixing the collar to the partition. The collars ensure fire resistance class up to max EI 240.

→ APPLICATION

The **INTU FR COLLAR** is used for fire protection of penetrations with plastic pipes (PVC, PP, PE, HDPE, PE-RT, PE-X, PP-R/Al/PP-R, PP-R/PP-R-GF/PP-R, PE-RT/Al/PE-RT, PE-X/Al/PE-X) and plastic pipe bundles running through fire partitions.



Flexible walls:

The wall must be minimum thickness 100 mm. Must have frame structure of steel or wooden sections covered on both sides with minimum 2 layers of panels with minimum thickness 12,5 mm.

Rigid walls:

The wall must be minimum thickness 100 mm. Must be made of concrete, reinforced concrete, concrete blocks, cellular concrete, ceramic brick (solid, hollow or lattice) or silicate brick (solid or hollow) with min. density 600 kg/m³.

Rigid floors:

The floor must be minimum thickness 150 mm. Must be made of concrete, reinforced concrete or cellular concrete with minimum density 1700 kg/m³.

→ AVAILABILITY

Product	Type	Box	Article number
INTU FR COLLAR	32 mm	50	INCO32
	40 mm	50	INCO40
	55 mm	30	INCO55
	63 mm	30	INCO63
	75 mm	30	INCO75
	82 mm	30	INCO82
	90 mm	30	INCO90
	110 mm	2	INCO110
	125 mm	15	INCO125
	160 mm	10	INCO160
	200 mm	10	INCO200
	250 mm	1	INCO250
	315 mm	1	INCO315

→ COMPLIANCE:

- Test standard:
EN 1366-3 / EAD 350454-00-1104
- European Technical Assessment:
ETA 19/0844 of 05/08/2020
- Declaration of Performance:
DoP 2/2019
- Certificate of Constancy of Performance
1488-CPR-0825/W



→ TRANSPORT AND STORAGE

Store in dry and cool conditions;
at a temperature from + 5°C to + 35°C.

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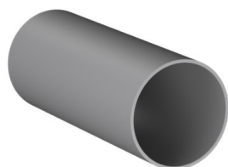
→ INSTALLATION METHOD



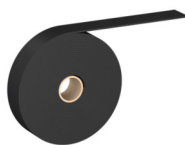
Clean the hole and installations from dust, dirt and grease. The gaps between the hole and the edge of the pipe should be filled with mass **INTU FR MASTIC**.

1. Install **INTU FR COLLAR** on the pipe.
2. Secure **INTU FR COLLAR** using the lock.
3. Use steel wedge anchors for installation in the partition.
4. Fill any gaps with mass **INTU FR MASTIC**.

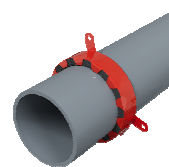
→ TECHNICAL DATA



Pipe diameter Ø [mm]



Intumescent insert



Flange

Pipe diameter Ø [mm]	Width [mm]	Number of layers	Number of fixing brackets	Collar height [mm]
Ø ≤ 50	30	2	2	31
50 < Ø ≤ 75	30	3	2	31
75 < Ø ≤ 90	30	4	3	31
90 < Ø ≤ 110	30	5	3	31
110 < Ø ≤ 125	40	7	4	41
125 < Ø ≤ 160	40	9	4	41
160 < Ø ≤ 200	60	10	4	61
200 < Ø ≤ 315	2 x 75	2 x 15	5	220
315 < Ø ≤ 355	2 x 75	2 x 15	6	220

→ FIRE RESISTANCE CLASSIFICATION

RIGID WALL/FLOOR (thickness ≥ 150mm)				
Pipe material	Diameter Ø [mm]	Collar height [mm]	Pipe wall thick. [mm]	Configuration C/C and U/C
PE-RT	Ø ≤ 20	31	2,0	EI 240
PE-X	Ø ≤ 20	31	2,0	EI 240
		31	2,1 – 7,5	EI 120 / E 240
PP-R/Al/PP-R	Ø ≤ 20	31	7,5	EI 120 / E 240
		31	3,4	EI 180 / E 240
	20 < Ø ≤ 110	31	3,5 – 18,3	EI 90 / E 180
PP-R/PP-R-GF/PP-R	Ø ≤ 20	31	18,3	EI 90 / E 180
		31	3,4	EI 240
	20 < Ø ≤ 110	31	3,5 – 18,3	EI 90 / E 120
		31	18,3	EI 90 / E 120

RIGID FLOOR (thickness ≥ 150mm)				
Pipe material	Diameter Ø [mm]	Collar height [mm]	Pipe wall thickness [mm]	Configuration C/C and U/C
PE – RT/Al/PE-RT	Ø ≤ 20	31	2,0	EI 240
PE-X/Al/PE-X	Ø ≤ 20	31	2,0	EI 240
PP-R/Al/PP-R	Ø ≤ 20	31	3,4	EI 240
		31	3,5 – 18,3	EI 120
	20 < Ø ≤ 110	31	18,3	EI 120

Pipe material: PVC					
Diameter Ø [mm]	Collar height [mm]	RIGID WALL		RIGID FLOOR	
		Pipe wall thickness [mm]	Configuration C/C and U/C	Pipe wall thickness [mm]	Configuration C/C and U/C
Ø ≤ 32	31	1,8 – 3,6	EI 240	1,8 – 2,5	EI 240
32 < Ø ≤ 40		1,8 – 3,6		1,8 – 2,5	
40 < Ø ≤ 50		1,8 – 3,6		1,8 – 2,5	
50 < Ø ≤ 55		1,9 – 3,6	EI 180	1,9	EI 180
55 < Ø ≤ 63		1,9 – 3,6		2,0 – 3,6	
63 < Ø ≤ 75		1,9 – 3,6		1,9	
75 < Ø ≤ 90		2,1 – 3,9		2,0 – 3,6	
90 < Ø ≤ 110		2,2		1,9	
110 < Ø ≤ 125		2,3 – 4,2		2,0 – 3,6	
125 < Ø ≤ 160		3,3 – 6,2		2,1 – 3,1	
	41	2,5 – 4,8	EI 120	3,2 – 4,2	EI 120
		3,2	EI 240	2,5 – 3,1	EI 120
				3,2 – 7,7	EI 240
				3,4 – 7,7	EI 120

Pipe material: PVC					
Diameter Ø [mm]	Collar height [mm]	FLEXIBLE / RIGID WALL			
		Wall thickness: 100 ≤ A < 125 mm		Wall thickness: 125 ≤ A < 150 mm	
		Pipe wall thickness [mm]	Configuration C/C and U/C	Pipe wall thickness [mm]	Configuration C/C and U/C
Ø ≤ 32	31	1,8 - 3,6	EI 120	1,8 - 3,6	EI 120
32 < Ø ≤ 40		1,8 - 3,6		1,8 - 3,6	
40 < Ø ≤ 50		1,8 - 3,6		1,8 - 3,6	
50 < Ø ≤ 55		1,9 - 3,5	EI 90	1,9 - 3,5	
55 < Ø ≤ 63		3,6	EI 120	1,9 - 3,5	
63 < Ø ≤ 75		1,9 - 3,5	EI 90	1,9 - 3,5	
75 < Ø ≤ 90		3,6	EI 120	1,9 - 3,5	
90 < Ø ≤ 110		2,1 - 2,2	EI 90	2,1 - 3,9	
110 < Ø ≤ 125		2,3 - 3,9	EI 60	2,2 - 4,2	
125 < Ø ≤ 160		2,2	EI 90	2,5 - 3,9	
	41	2,3 - 4,2	EI 60	4,0 - 4,8	EI 90
		2,5 - 3,2	EI 90	3,2	EI 120
		3,2 - 6,2	EI 90		EI 90
				3,3 - 6,2	EI 120

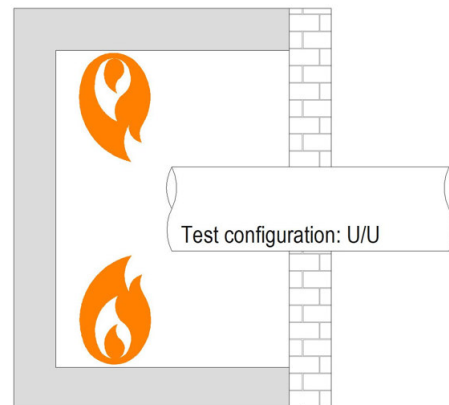
Pipe material: PP					
Diameter Ø [mm]	Collar height [mm]	RIGID WALL		RIGID FLOOR	
		Pipe wall thickness [mm]	Configuration C/C and U/C	Pipe wall thickness [mm]	Configuration C/C and U/C
Ø ≤ 32	31	1,8	EI 240	1,8 - 8,3	EI 240
32 < Ø ≤ 40		1,9 - 8,3	EI 120		
		1,8	EI 240	1,8 - 8,3	
40 < Ø ≤ 50		1,9 - 8,3	EI 120		
		1,8	EI 240	1,8 - 8,3	
50 < Ø ≤ 55		1,9 - 8,3	EI 120		
		1,9 -12,5	EI 120	1,9	EI 180
55 < Ø ≤ 63		1,9 -12,5 -		2,0 -12,5	
		63 < Ø ≤ 75	EI 120	1,9	EI 120
2,0 -12,5				EI 180	
75 < Ø ≤ 90		EI 120	1,9	EI 120	
90 < Ø ≤ 110			2,0 -12,5	EI 180	
			2,3 -15,1	EI 120	
2,7 -18,3			2,7		
	18,4	EI 240	2,8 -18,4	EI 180	
110 < Ø ≤ 125	41	3,8 -14,8	EI 120	3,8 -15,1	EI 120
		14,9-15,2	EI 60		
125 < Ø ≤ 160		6,2	EI 180	6,2 - 7,3	EI 120
		6,3 - 7,7	EI 60		
160 < Ø ≤ 170	61	6,6 - 7,6	EI 60	6,3 - 6,5	EI 60
		7,7	EI 180	6,6 - 7,4	EI 120
7,2 - 7,6		EI 60	6,3 - 7,1	EI 60	
7,7		EI 180	7,2 - 7,6	EI 120	
7,7			6,3 - 7,6	EI 60	
		7,7	EI 180	7,7	EI 120

Pipe material: PP					
Diameter Ø [mm]	Collar height [mm]	FLEXIBLE / RIGID WALL			
		Wall thickness: 100 ≤ A < 125 mm		Wall thickness: 125 ≤ A < 150 mm	
		Pipe wall thickness [mm]	Configuration C/C and U/C	Pipe wall thickness [mm]	Configuration C/C and U/C
Ø ≤ 32	31	1,8	EI 90	1,8 – 8,3	EI 120
32 < Ø ≤ 40		1,9 -12,5	EI 60		
		1,8	EI 90	1,8 – 8,3	
40 < Ø ≤ 50		1,9 -12,5	EI 60		
		1,8	EI 90	1,8 – 8,3	
50 < Ø ≤ 55		1,9 - 12,5	EI 60		
		1,9 - 12,5		1,9 – 12,5	
55 < Ø ≤ 63		1,9 - 12,5		1,9 – 12,5	
63 < Ø ≤ 75		1,9 - 12,5		1,9 – 12,5	
75 < Ø ≤ 90		2,3 - 15,1		2,3 – 8,3	EI 90
	8,4 – 15,1				
90 < Ø ≤ 110	2,7 - 18,4	2,7		EI 120	
		2,8 – 18,4		EI 90	
110 < Ø ≤ 125	41	4,1 - 15,1		4,1 – 15,1	EI 60
125 < Ø ≤ 160		7,3	7,3		

Pipe material: PE-HD, PE, ABS, SAN+PVC							
Diameter Ø [mm]	Collar height [mm]	RIGID WALL		RIGID FLOOR			
		Pipe wall thickness [mm]	Configuration C/C and U/C	Pipe wall thickness [mm]	Configuration C/C and U/C		
Ø ≤ 32	31	2,0	EI 120	1,8 - 4,8	EI 240		
32 < Ø ≤ 40		2,1 - 4,8		2,4 - 4,8			
40 < Ø ≤ 50		2,5 - 4,8		3,0 - 4,8			
50 < Ø ≤ 55		3,0 - 4,8		2,8 - 3,5	EI 180		
		3,0 - 3,5	EI 90	EI 240			
		3,6	3,7 - 6,8	EI 180			
55 < Ø ≤ 63		3,0 - 3,5	EI 90		3,1 - 3,5		
		3,6 - 6,8	EI 240	3,6	EI 240		
		63 < Ø ≤ 75	3,0 - 3,5	EI 90		3,6	
3,6			EI 240	3,7 - 6,8		EI 180	
75 < Ø ≤ 90			3,6 - 3,8	EI 90	3,9 - 8,2	EI 120	
		3,9 - 8,2	EI 120	4,2- 10,0			
		4,2 - 9,9					
90 < Ø ≤ 110		10,0	EI 240	4,8 - 9,9			
110 < Ø ≤ 125		4,8 - 6,1		EI 120	6,2 - 9,4		
125 < Ø ≤ 160	6,2 - 9,0	EI 180	9,5		EI 180		
	6,2 - 9,4						
160 < Ø ≤ 170	61	6,6 - 9,1	EI 60	6,6 - 9,1	EI 120		
				9,2 - 11,0	EI 90		
				11,1 - 11,3	EI 60		
170 < Ø ≤ 185		7,2 - 8,4		7,2 - 8,4	EI 120		
				8,5 - 11,0	EI 90		
				11,1 - 11,3	EI 60		
185 < Ø ≤ 200		7,7		7,7	EI 120		
				7,8 - 11,0	EI 90		
				11,1 - 11,3	EI 60		
Diameter Ø [mm]	Collar height [mm]	FLEXIBLE / RIGID WALL					
		Wall thickness: 100 ≤ A < 125 mm		Wall thickness: 100 ≤ A < 125 mm			
		Pipe wall thickness [mm]	Configuration C/C and U/C	Pipe wall thickness [mm]	Configuration C/C and U/C		
Ø ≤ 32	31	2,0	EI 120	2,0 – 4,6	EI 120		
32 < Ø ≤ 40		2,1 – 6,8	EI 60	2,2 – 6,8	EI 90		
40 < Ø ≤ 50		2,2 – 6,8		2,5 – 6,8			
50 < Ø ≤ 55		2,5 – 6,8		2,6 – 6,8			
55 < Ø ≤ 63		2,6 – 6,8		2,8 – 6,8			
63 < Ø ≤ 75		2,8 – 6,8		3,0 – 6,8			
75 < Ø ≤ 90		3,0 – 6,8		3,6 – 4,2	EI 60		
		3,6 – 8,2		4,3 – 8,2			
		90 < Ø ≤ 110		4,2 – 10,0	4,2	EI 90	
110 < Ø ≤ 125		41		4,8 – 9,9	EI 120	4,3 – 10,0	EI 60
125 < Ø ≤ 160				6,2 – 9,5		4,8 – 9,9	
				6,2	EI 120		
				6,3 – 9,5	EI 60		

➔ FIRE RESISTANCE CLASSIFICATION for plastic pipes in U/U configuration

Test setup	Pipe end		Permitted use			
	Inside furnace	Outside furnace	U/U	C/U	U/C	C/C
U/U	Uncapped	Uncapped	Yes	Yes	Yes	Yes



Based on: Classification of fire resistance FIRES-CR-241-19-AUPE of 31/10/2019

FLEXIBLE / RIGID WALL (thickness ≥ 100 mm)				
Pipe material	Diameter $\varnothing$ [mm]	Collar height [mm]	Pipe wall thick. [mm]	Configuration U/U
PP	$\varnothing \leq 50$	31	1,8 mm	EI 60 – U/U
			8,3 mm	EI 30 – U/U
	$\varnothing \leq 75$	31	1,9 mm	EI 60 – U/U
			2,2 mm	EI 45 – U/U
PVC	$\varnothing \leq 50$	31	1,8 mm	EI 60 – U/U
			3,7 mm	EI 90 – U/U
	$\varnothing \leq 75$	31	1,9 mm	EI 60 – U/U
			5,6 mm	EI 45 – U/U
	$\varnothing \leq 110$	31	2,2 mm	EI 60 – U/U
			4,2 mm	EI 30 – U/U
PE-HD	$\varnothing \leq 50$	31	3,0 mm	EI 60 – U/U
			4,6 mm	EI 30 – U/U
	$\varnothing \leq 75$	31	3,0 mm	EI 60 – U/U
			6,8 mm	EI 30 – U/U

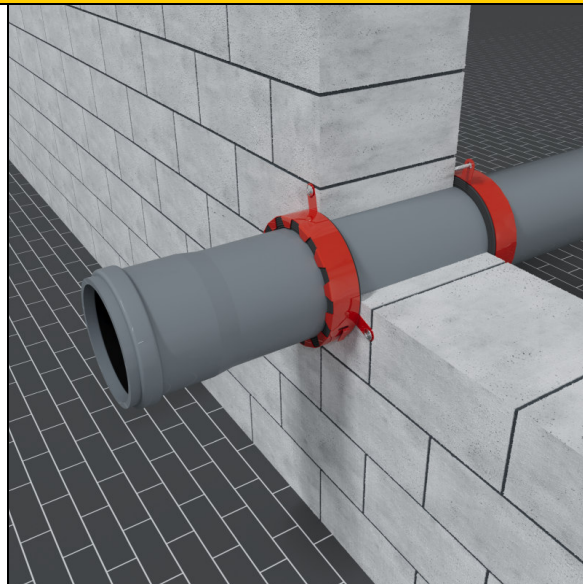
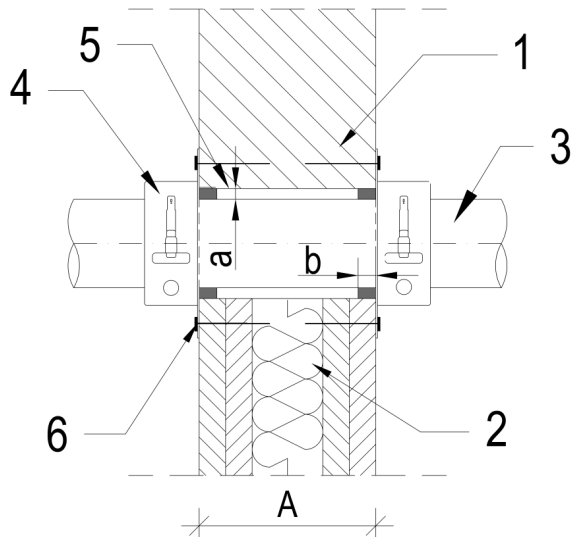
➔ FIRE RESISTANCE CLASSIFICATION for bundle of plastic pipes

Diameter $\varnothing$ [mm]	Bundle characteristics	RIGID WALL (thickness ≥ 150 mm)		
		Pipe material	Pipe wall thickness [mm]	EI classification
				Configuration C/C and U/C
1) $\varnothing \leq 32$ mm	Maximum in one bundle (3 plastic pipes)	PE	2,0	EI 240
1) $\varnothing \leq 32$ mm		PE	2,0	
3) $\varnothing \leq 32$ mm		PE	2,0	
1) $\varnothing \leq 32$ mm	Maximum in one bundle (3 plastic pipes)	PE - HD	2,0	EI 120 / E 180
1) $\varnothing \leq 32$ mm		PE	2,0	
3) $\varnothing \leq 32$ mm		ABS or SAN + PVC	2,0	
1) $\varnothing \leq 32$ mm	Maximum in one bundle (3 plastic pipes)	PE - HD	2,0	EI 120
2) $\varnothing \leq 32$ mm		PE or PE-HD	2,0	
3) $\varnothing \leq 32$ mm		ABS or SAN + PVC	2,0	

➔ SOLUTION DETAILS

PLASTIC PIPE pipe penetration seal in RIGID/FLEXIBLE WALL

Fig. 1. Penetration seal in rigid/flexible wall $A \geq 100$ mm



1 – rigid wall with thickness $A \geq 100$ mm

2 – flexible wall with thick. $A \geq 100$ mm

3 – plastic pipe

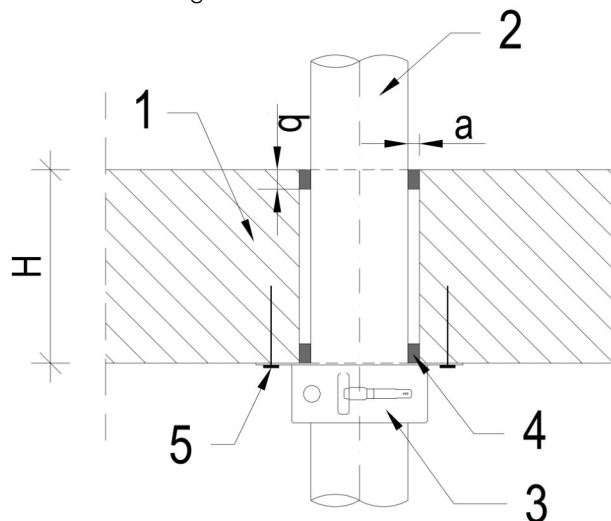
4 – **INTU FR COLLAR** fire protection collar installed on both sides of wall

5 – gap around collar filled with **INTU FR MASTIC** intumescent acrylic sealant: width $25 \text{ mm} \geq a \geq 0 \text{ mm}$, depth $b \geq 10 \text{ mm}$

6 – screw $\varnothing 6 \times 40$ mm

PLASTIC PIPE pipe penetration seal in RIGID FLOOR

Fig. 2. Penetration seal in rigid floor $H \geq 150$ mm



1 – rigid floor with thickness $H \geq 150$ mm

2 – plastic pipe

3 – **INTU FR COLLAR** fire protection collar installed below of the floor

4 – gap filled with **INTU FR MASTIC** acrylic sealant on both sides of partition: width $25 \text{ mm} \geq a \geq 0 \text{ mm}$, depth $b \geq 10 \text{ mm}$

5 – screw $\varnothing 6 \times 40$ mm