



→ PRODUCT DESCRIPTION

Fire resistant **INTU FR COLLAR L SLIM** is a universal pipe collar with a height of 30mm, consisting of an external stainless steel casing and an intumescent insert made of graphite based components, with an adhesive tape. Under the high temperature (about 140 °C), the insert expands and closes the opening, preventing the spread of fire. Steel casing of the collar has mounting brackets (segments). In order to obtain the desired diameter of the collar, the segments can be easily separated.

- fire resistance up to **EI120**,
- fire protection of combustible pipes up to Ø200mm,
- fire protection of non-combustible pipes in FEF insulation up to Ø168,3mm,
- SPLIT harness protection (air conditioning installation),

→ APPLICATION

The **INTU FR COLLAR L SLIM** collar is designed for sealing service penetrations of non-combustible pipes in synthetic rubber insulation (FEF), combustible pipes without insulation and bundles of copper pipes for air conditioning in PE or FEF insulation, that run through fire compartment walls and floors. **INTU FR COLLAR L SLIM** provides fire protection of installations running perpendicularly to the partition as well as at an angle.

Flexible walls:

The wall must be at least 100 mm thick, with a frame construction of steel or wooden sections covered on both sides with a minimum of 2 layers of panels with a thickness of min 12,5 mm.

Rigid walls:

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

Rigid floors:

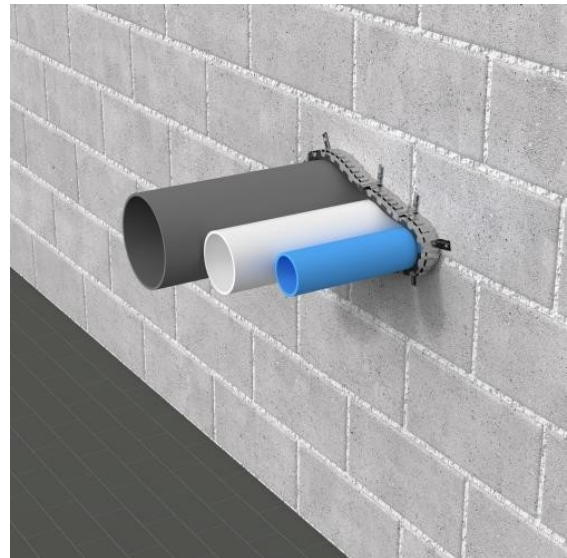
The floor must be at least 150 mm thick made of concrete, reinforced concrete or cellular concrete with a minimum density of 550 kg/m³.

→ INSTALLATION METHOD

1. Fill the gaps between the installation and the partition with **INTU FR MASTIC** fire resistant sealant.
2. Adjust and cut an appropriate length of the intumescent insert.
3. Wrap the intumescent insert on the pipe.
4. Adjust and cut an appropriate length of steel casing for the type of installation to be protected.
5. Put the casing on the intumescent insert.
6. Fix the collar to the partition with steel anchors.

→ TRANSPORT AND STORAGE

Store in dry and cool conditions at temperatures between +5°C to +25°C.



→ AVAILABILITY

Quantity of short fixings „S”	Length of steel casing	Length of intumescent insert	Art. No.*
20	2,52 m	12 m	INCOLS

* - does not include long fixings "L"

Fixing type	Quantity per package	Art. No.*
S	20 pcs.	INCOLSCS
L	20 pcs.	INCOLSCL

→ COMPLIANCE

- Reference standard: EN 1366-3 / ETAG 026-2 / EAD 350454-00-1104
- TDS



Technical data of INTU FR COLLAR L SLIM - universal collar, with steel casing								
pipe diameter (mm)	casing length (m)/ quantity of segments (pcs)	quantity of segments / casing length (cm)	quantity per roll (pcs.)	height of the casing (cm)	length of intumescent insert (cm)	quantity of layers of 2 mm thick insert	thickness of intumescent insert (mm)	quantity of fixing points
32	2,52/168	9/13,5	18,5	30	23,5	2	4	2 x S
40		11/16,5	15	30	28	2	4	2 x S
50		15/22,5	11	30	36	2	4	2 x S
63		17/25,5	9,5	30	66	2	4	3 x S
75		19/28,5	8,5	30	78	2	4	3 x S
82		22/33	7,5	30	113	4	8	3 x S
90		23/34,5	7	30	127	4	8	3 x S
110		28/42	6	30	193	5	10	3 x S
125		2 x 33/99	5	2 x 30	2 x 310,1	7	14	1 x S, 4 x L
160		2 x 42/126	2	2 x 30	2 x 508,9	9	18	1 x S, 4 x L
200		2 x 53 /159	1,5	2 x 30	2 x 697,4	10	20	1 x S, 4 x L

*- S - short fixing, L- long fixing

Fire classification for low-noise pipes in flexible/rigid walls of min 100mm thickness					
pipe type	configuration	diameter (mm)	pipe wall thickness (mm)	thickness of intumescent insert (mm)	EI class
Geberit Silent DB 20	U/C	Ø160	7	2 x 18	120
Wavin SiTech+	U/C	Ø160	4,9	2 x 18	120

Fire classification for steel pipes in FEF in flexible/rigid walls of min 100mm thickness									
pipe type	configuration	diameter (mm)	pipe wall thickness (mm)	FEF insulation thickness (mm)/ thickness of intumescent insert (mm)			EI class		
				9/4	25/6	-	120	120	-
steel / cast iron	C/U	≤ Ø18	1,2 ÷ 14,2	9/4	25/6	-	120	120	-
steel / cast iron	C/U	≤ Ø28	1,5 ÷ 14,2	9/4	25/6	-	120	120	-
steel / cast iron	C/U	≤ Ø66,7	1,5 ÷ 14,2	9/4	32/6	-	90	120	-
steel / cast iron	C/U	≤ Ø108	2,0 ÷ 14,2	-	32/6	50/8	-	60, E120	60, E120

Fire classification for combustible pipes in penetration at an angle of 45° in rigid walls of min 100mm thickness					
pipe type	configuration	diameter (mm)	pipe wall thickness (mm)	thickness of intumescent insert (mm)	EI class
PVC-U	U/C	Ø110	3,2	10	120
HDPE	U/C	Ø110	4,2	10	60



Fire classification for combustible pipes in flexible/rigid walls with a minimum thickness of 100mm							
pipe type	configuration	diameter (mm)	pipe wall thickness (mm)		thickness of intumescent insert (mm)	EI class	
PP	U/C	50	1,8	8,3	4	120	120
PP	U/C	75	1,9	12,5	4	120	120
PP	U/C	110	2,7	18,3	10	120	120
PP	U/C	160	4	14,6	2 x 18	120	120
PP-HT	U/C	Ø110	2,7		10	60	
PP-HT	U/C	Ø160	3,9		18*	60	
PVC-U	U/C	50	1,2	5,6	4	120	120
PVC-U	U/C	75	1,8	5,6	4	120	120
PVC-U	U/C	110	2	8,1	10	120	120
HDPE	U/C	32	2		4	120	
HDPE	U/C	50	2,4	4,6	4	120	120
HDPE	U/C	75	3	6,8	4	120	120
HDPE	U/C	110	4,2	10	10	120	120
HDPE	U/C	160	4,9	9,5	2 x 18	120	120
PP-R	U/C	Ø20	2,3	3,4	2	120	120
PP-R	U/C	Ø75	6,8	12,5	4	90	60
PP-R	U/C	Ø110	10	18,3	10	60	90
PP-R/Al/PP-R	U/C	Ø20	2,8	3,4	4	120	120
PP-R/Al/PP-R	U/C	Ø75	8,4	12,5	4	120	120
PP-R/Al/PP-R	U/C	Ø110	12,3	18,3	10	120	120
PP-R/PP-RGF/PP-R	U/C	Ø20	2,8	3,4	4	120	120
PP-R/PP-RGF/PP-R	U/C	Ø75	10,3	12,5	4	90	60
PP-R/PP-RGF/PP-R	U/C	Ø110	15,1	18,3	10	90	90
PE-X / Al / PE-X	U/C	Ø20	2		4	120	
PE-X / Al / PE-X	U/C	Ø63	6		4	EI 30, E120	
PE-RT/Al/PE-RT	U/C	Ø20	2		4	120	
PE-RT/Al/PE-RT	U/C	Ø63	6		4	EI 30, E120	
PE-RT/Al/PE-RT	U/C	Ø75	7,5		4	EI 30, E120	
PE-Xα	U/C	Ø20	2		4	120	
PE-Xα	U/C	Ø63	5,8		4	120	

*- height of the collar - 30mm (1 row)



Fire classification for low-noise pipes in lightweight floors of min 150mm thickness

pipe type	configuration	diameter (mm)	pipe wall thickness (mm)	thickness of intumescent insert (mm)	EI class
Geberit Silent DB 20	U/C	Ø160	7	18 *	60
Raupiano Plus	U/C	Ø50	1,8	4	120
Raupiano Plus	U/C	Ø75	1,9	4	120
Raupiano Plus	U/C	Ø110	2,7	10	120
Magnaplast Ultra dB	U/C	Ø50	2	4	120
Magnaplast Ultra dB	U/C	Ø75	2,3	4	120
Magnaplast Ultra dB	U/C	Ø110	3,4	10	120

*- height of the collar - 30mm (1 row)

Fire classification of copper pipes / bundles of copper pipes in lightweight floors of min 150mm thickness

copper pipes / air conditioning pipes bundle	insulation	thickness of intumescent insert (mm)	EI class
Cu Ø12,7 x 0,8mm and Ø22,23 x 1mm, PVC Ø25mm + cable 4 x 1,5mm ²	FEF 9mm	4	120
Cu Ø12,7 x 0,8mm and Ø22,23 x 1mm, PVC Ø25mm + cable 4 x 1,5mm ²	PE 9mm	4	120

Fire classification for steel, cast iron pipes in FEF insulation in lightweight floors min 150mm thickness

pipe type	configuration	diameter (mm)	pipe wall thickness (mm)	FEF insulation thickness (mm)/ thickness of intumescent insert (mm)			EI class		
steel / cast iron	C/U	≤ Ø18	1,2 ÷ 14,2	9/4	25/6	-	120	120	-
steel / cast iron	C/U	≤ Ø28	1,5 ÷ 14,2	9/4	25/6	-	120	120	-
steel / cast iron	C/U	≤ Ø66,7	1,5 ÷ 14,2	9/4	32/6	-	120	120	-
steel / cast iron	C/U	≤ Ø108	2,0 ÷ 14,2	-	32/6	50/8	-	120	90
steel / cast iron	C/U	≤ Ø114,3	3,6 ÷ 14,2	-	32/6	50/8	-	120	120
steel / cast iron	C/U	≤ Ø168,3	4 ÷ 14,2	-	32/6	50/8	-	120	120



Fire classification for combustible pipes in lightweight floors of min 150mm thickness

pipe type	configuration	diameter (mm)	pipe wall thickness (mm)		thickness of intumescent insert (mm)	EI class	
PP	U/C	50	1,8	8,3	4	120	120
PP	U/C	75	1,9	12,5	4	120	120
PP	U/C	110	2,7	18,3	10	120	120
PP	U/C	160	3,9	9,5	2 x 18	120	120
PP-HT	U/C	Ø50	1,8		4	120	
PP-HT	U/C	Ø75	1,9		4	120	
PP-HT	U/C	Ø110	2,7		10	120	
PP-HT	U/C	Ø160	3,9		2 x 18	120	
PVC-U	U/C	50	1,2	5,6	4	120	120
PVC-U	U/U	50	1,2	5,6	4	120	120
PVC-U	U/C	75	1,8	5,6	4	120	120
PVC-U	U/C	110	2	8,1	10	120	120
PVC-U	U/C	160	3,2	9,5	2 x 18	120	120
HDPE	U/C	32	1,9		4	120	
HDPE	U/C	50	2,4	4,6	4	120	120
HDPE	U/C	75	3	6,8	4	120	120
HDPE	U/C	110	4,2	10	10	120	120
HDPE	U/C	160	4,9	9,5	2 x 18	120	120
PP-R	U/C	Ø20	2,3	3,4	2	120	120
PP-R	U/C	Ø75	6,8	12,5	4	120	120
PP-R	U/C	Ø110	10	18,3	10	120	120
PP-R/AI/PP-R	U/C	Ø20	2,8	3,4	4	120	120
PP-R/AI/PP-R	U/C	Ø75	8,4	12,5	4	120	120
PP-R/AI/PP-R	U/C	Ø110	12,3	18,3	10	120	120
PP-R/PP-RGF/PP-R	U/C	Ø20	2,8	3,4	4	120	120
PP-R/PP-RGF/PP-R	U/C	Ø75	10,3	12,5	4	120	120
PP-R/PP-RGF/PP-R	U/C	Ø110	15,1	18,3	10	120	120
PE-X / AI / PE-X	U/C	Ø20	2		4	120	
PE-X / AI / PE-X	U/C	Ø63	6		4	120	
PE-RT/AI/PE-RT	U/C	Ø20	2		4	120	
PE-RT/AI/PE-RT	U/C	Ø63	6		4	120	
PE-RT/AI/PE-RT	U/C	Ø75	7,5		4	120	
PE-Xα	U/C	Ø20	2		4	120	
PE-Xα	U/C	Ø63	5,8		4	120	

➔ SOLUTION DETAILS

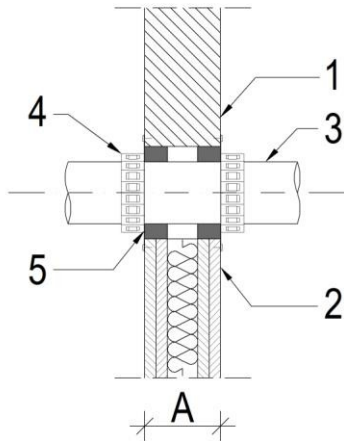


Fig. 1. Penetration in the wall

- 1 – rigid wall with thickness $A \geq 100$ mm
- 2 – flexible wall with thickness $A \geq 100$ mm
- 3 – combustible pipe $\varnothing \leq 110$ mm
- 4 – firestop collar **INTU FR COLLAR L SLIM** installed on both sides of the wall
- 5 – the gap around the pipe on both sides of the partition filled with **INTU FR MASTIC** fire resistant acrylic sealant

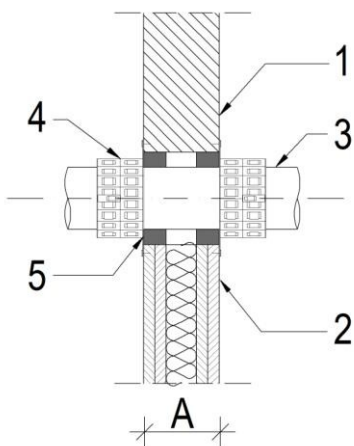


Fig. 2. Penetration in the wall

- 1 – rigid wall with thickness $A \geq 100$ mm
- 2 – flexible wall with thickness $A \geq 100$ mm
- 3 – combustible pipe $110\text{mm} < \varnothing \leq 160$ mm
- 4 – firestop collar **INTU FR COLLAR L SLIM** (2 rows) installed on both sides of the wall
- 5 – the gap around the pipe on both sides of the partition filled with **INTU FR MASTIC** fire resistant acrylic sealant

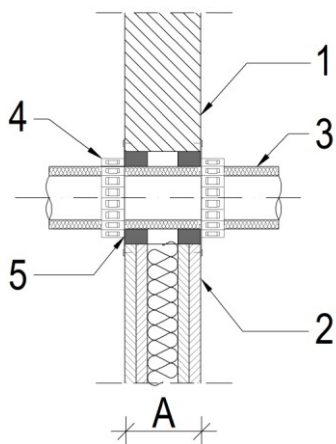
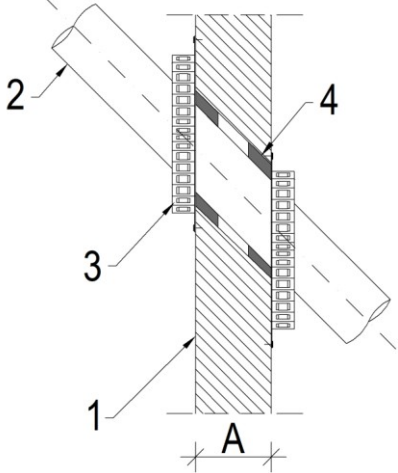
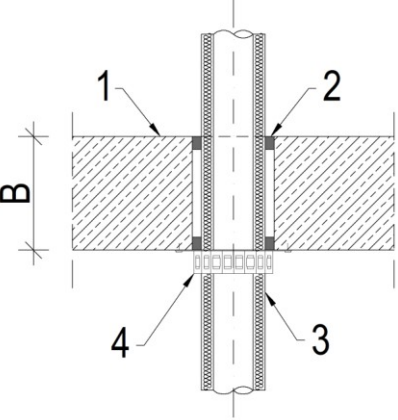
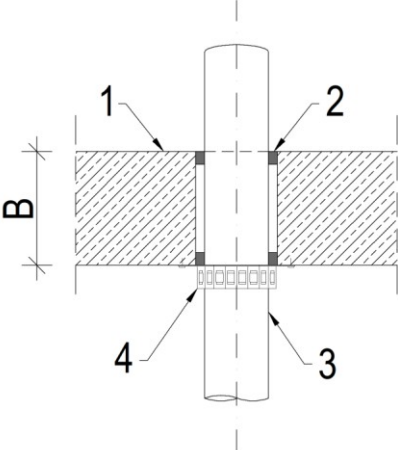


Fig. 3. Penetration in the wall

- 1 – rigid wall with thickness $A \geq 100$ mm
- 2 – flexible wall with thickness $A \geq 100$ mm
- 3 – steel or cast iron pipe $\varnothing \leq 168,3$ mm in FEF insulation of 9 ± 50 mm thickness
- 4 – firestop collar **INTU FR COLLAR L SLIM** installed on both sides of the wall
- 5 – the gap around the pipe on both sides of the partition filled with **INTU FR MASTIC** fire resistant acrylic sealant

	<p style="text-align: center;">Fig. 4. Penetration in the wall</p> <p>1 – rigid wall with thickness $A \geq 100$ mm 2 – combustible pipe $\varnothing \leq 110$ mm 3 – firestop collar INTU FR COLLAR L SLIM installed on both sides of the wall 4 – the gap around the pipe on both sides of the prone partition filled with INTU FR MASTIC fire resistant acrylic sealant</p>
	<p style="text-align: center;">Fig. 5. Penetration in the floor</p> <p>1 – rigid floor with a thickness of $B \geq 150$ mm 2 – the gap around the pipe filled with fire resistant INTU FR MASTIC acrylic sealant 3 – steel / cast iron pipe in FEF insulated 4 – firestop collar INTU FR COLLAR L SLIM installed from the bottom of the floor</p>
	<p style="text-align: center;">Fig. 6. Penetration in the floor</p> <p>1 – rigid floor with a thickness of $B \geq 150$ mm 2 – the gap around the pipe filled with fire resistant INTU FR MASTIC acrylic sealant 3 – combustible pipe $\varnothing \leq 110$ mm 4 – firestop collar INTU FR COLLAR L SLIM installed from the bottom of the floor</p>

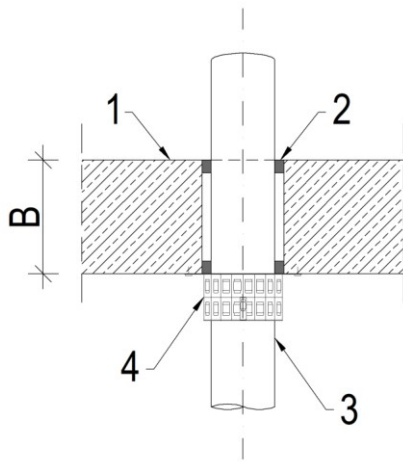


Fig. 7. Penetration in the floor

- 1** – rigid floor with a thickness of $B \geq 150$ mm
- 2** – the gap around the pipe filled with fire resistant **INTU FR MASTIC** acrylic sealant
- 3** – combustible pipe $110 < \varnothing \leq 160$ mm
- 4** firestop collar **INTU FR COLLAR L SLIM** installed from the bottom of the floor (2 rows)