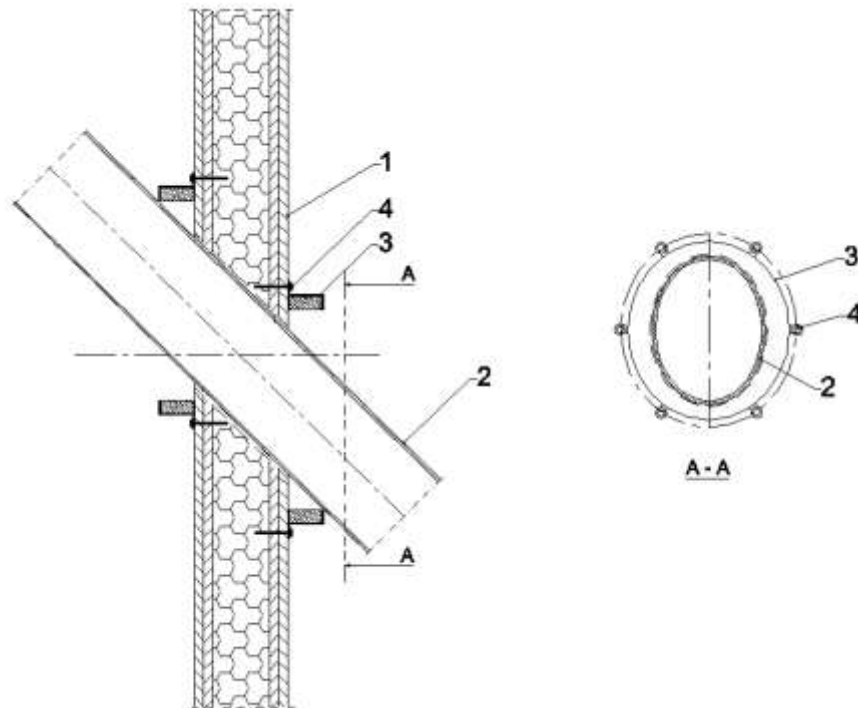


**Plastic pipe penetration seal in flexible or rigid wall, made with use of PS Collar, placed in angle between 0° and 89° to the wall.**



- 1 Flexible or rigid wall with thickness  $\geq 100$  mm
- 2 Plastic pipe
- 3 PS collar, fixed on both sides of the wall
- 4 Fastener M6x90, number of fasteners in accordance with Annex A

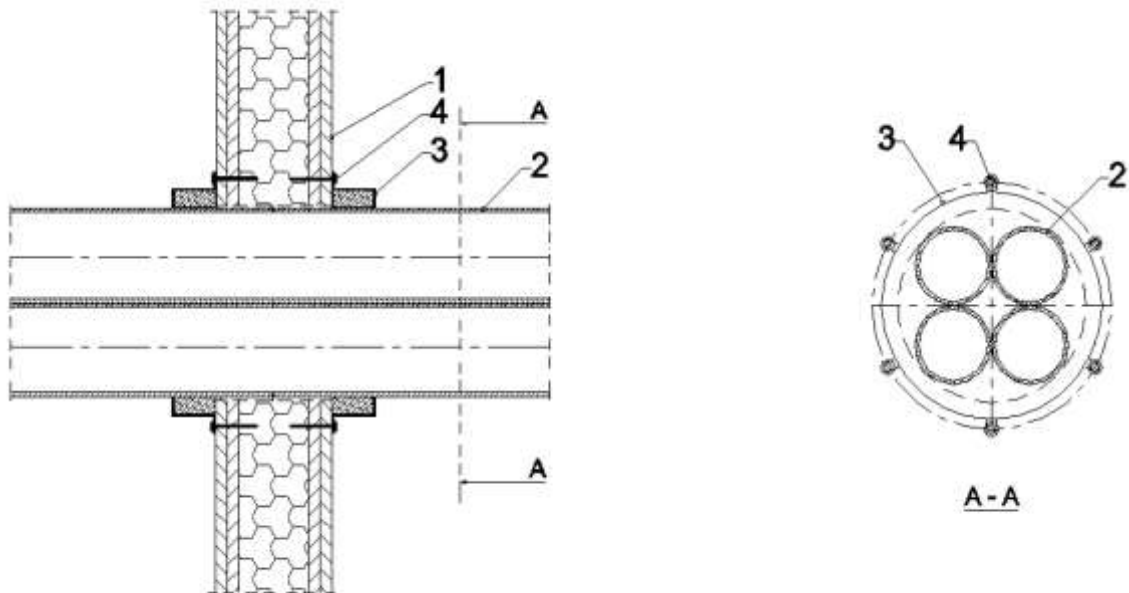
**Resistance to fire classification of plastic pipes penetration seals in flexible or rigid wall, made with use of PS Collar, placed in angle between 0° and 89° to the wall:**

**Table C1.1 PVC-U / PVC-C pipes**

Pipe material	Pipe diameter, [mm]	Pipe wall thickness, [mm]	Intumescent material		Fire resistance class
			width, [mm]	thickness, [mm]	
PVC-U / PVC-C	$\varnothing \leq 32$	1,8 – 3,4	30	5,0	EI 60 – U/C EI 60 – C/C
	$32 < \varnothing \leq 51$	2,2 – 4,1	30	7,5	
	$51 < \varnothing \leq 71$	2,5 – 4,9	30	10,0	
	$71 < \varnothing \leq 90$	2,9 – 5,7	30	12,5	
	$90 < \varnothing \leq 110$	3,2 – 6,5	30	15,0	
	$110 < \varnothing \leq 135$	3,2 – 5,6	60	17,5	
	$135 < \varnothing \leq 160$	3,2 – 4,7	60	20,0	

<b>PS Collar and PS-25 Wrap</b>	<b>Annex C1</b> of European Technical Assessment ETA-17/0676
<b>Construction details and resistance to fire classification of penetration seals made with use of PS Collar</b> Plastic pipe penetration seal in flexible or rigid wall	

**Plastic pipes bundle penetration seal in flexible or rigid wall, made with use of PS Collar.**



- 1 Flexible or rigid wall with thickness  $\geq 100$  mm
- 2 Plastic pipe (maximum 4 pipes in bundle)
- 3 PS collar, fixed on both sides of the wall
- 4 Fastener M6x90, number of fasteners in accordance with Annex A

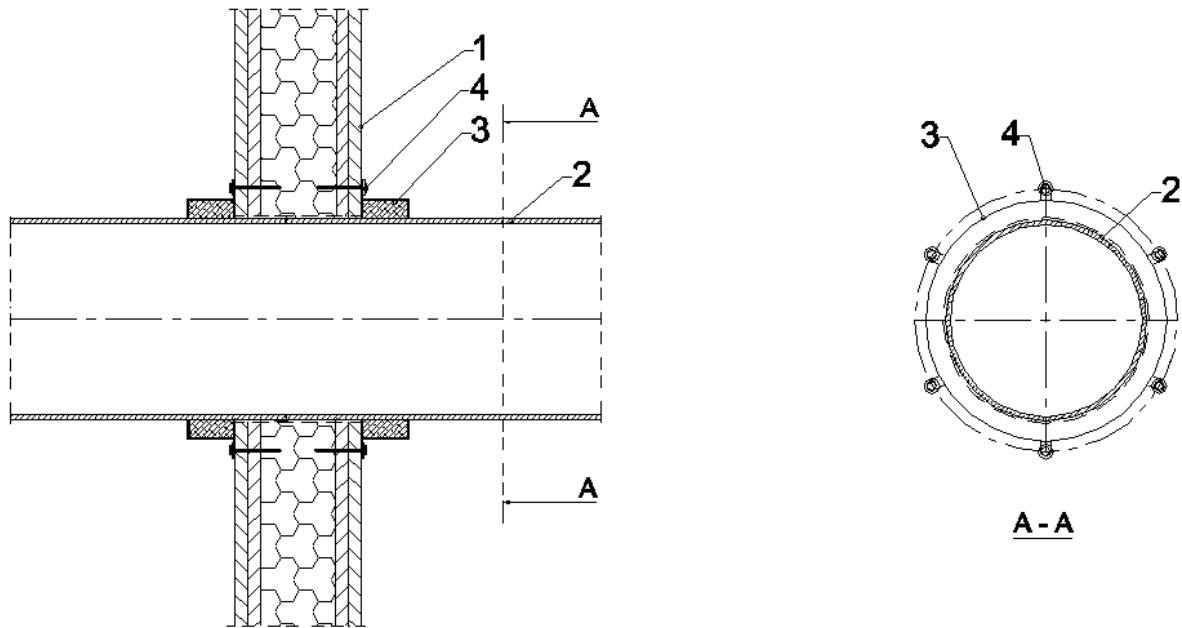
**Resistance to fire classification of plastic pipes bundle penetration seals in flexible or rigid wall, made with use of PS Collar:**

**Table C2.1 PP-R pipes (maximum 4 pipes in bundle)**

Pipe material	Single pipe diameter, [mm]	Pipe wall thickness, [mm]	Intumescent material		Fire resistance class
			width, [mm]	thickness, [mm]	
PP-R	$\varnothing \leq 32$	2,9 – 5,4	30	7,5	EI 60 – U/C EI 60 – C/C
	$32 < \varnothing \leq 40$	3,5 – 5,4	60	10,0	
	$40 < \varnothing \leq 49$	4,1 – 5,5	60	12,5	
	$49 < \varnothing \leq 57$	4,6 – 5,6	60	15,0	
	$57 < \varnothing \leq 66$	5,2 – 5,7	60	17,5	
	$66 < \varnothing \leq 75$	5,8	60	20,0	

<b>PS Collar and PS-25 Wrap</b>	<b>Annex C2</b> of European Technical Assessment ETA-17/0676
<b>Construction details and resistance to fire classification of penetration seals made with use of PS Collar</b> Plastic pipes bundle penetration seal in flexible or rigid wall	

**Plastic pipe penetration seal in flexible or rigid wall, made with use of PS Collar.**



- 1 Flexible or rigid wall with thickness  $\geq 100$  mm
- 2 Plastic pipe
- 3 PS collar, fixed on both sides of the wall
- 4 Fastener M6x90, number of fasteners in accordance with Annex A

**PS Collar and PS-25 Wrap**

**Construction details of penetration seals  
made with use of PS Collar**  
Plastic pipe penetration seal in flexible or rigid wall

**Annex C3**  
of European  
Technical Assessment  
ETA-17/0676

**Resistance to fire classification of plastic pipes penetration seals in flexible or rigid wall, made with use of PS Collar, in accordance with Annex C3:**

**Table C4.1 PE-HD pipes**

Pipe material	Pipe diameter, [mm]	Pipe wall thickness, [mm]	Intumescent material		Fire resistance class
			width, [mm]	thickness, [mm]	
PE-HD	$\varnothing \leq 63$	3,0 – 5,8	30	5,0	EI 60 – U/C EI 60 – C/C
	$63 < \varnothing \leq 87$	3,8 – 7,9	30	7,5	
	$87 < \varnothing \leq 111$	4,6 – 10,1	30	10,0	
	$111 < \varnothing \leq 135$	5,4 – 12,3	30	12,5	
	$135 < \varnothing \leq 160$	6,2 – 14,6	30	15,0	
	$160 < \varnothing \leq 205$	7,9 – 14,6	60	17,5	
	$205 < \varnothing \leq 250$	9,6 – 14,6	60	20,0	

**Table C4.2 PP-R pipes**

Pipe material	Pipe diameter, [mm]	Pipe wall thickness, [mm]	Intumescent material		Fire resistance class
			width, [mm]	thickness, [mm]	
PP-R	$\varnothing \leq 63$	5,8	30	5,0	EI 60 – U/C EI 60 – C/C
		5,9 – 7,9	30	7,5	
	$63 < \varnothing \leq 87$	5,8 – 7,9	30	7,5	
	$87 < \varnothing \leq 111$	5,8 – 10,1	30	10,0	
	$111 < \varnothing \leq 135$	5,7 – 12,3	30	12,5	
	$135 < \varnothing \leq 160$	5,6 – 14,6	30	15,0	

**Table C4.3 PVC-U / PVC-C pipes**

Pipe material	Pipe diameter, [mm]	Pipe wall thickness, [mm]	Intumescent material		Fire resistance class
			width, [mm]	thickness, [mm]	
PVC-U / PVC-C	$\varnothing \leq 63$	2,0 – 5,1	30	5,0	EI 60 – U/C EI 60 – C/C
	$63 < \varnothing \leq 87$	2,3 – 5,0	30	7,5	
	$87 < \varnothing \leq 111$	2,6 – 4,9	30	10,0	
	$111 < \varnothing \leq 135$	2,9 – 4,8	30	12,5	
	$135 < \varnothing \leq 160$	3,2 – 4,7	30	15,0	
	$160 < \varnothing \leq 205$	4,7 – 8,5	60	17,5	
	$205 < \varnothing \leq 250$	6,2 – 9,6	60	20,0	

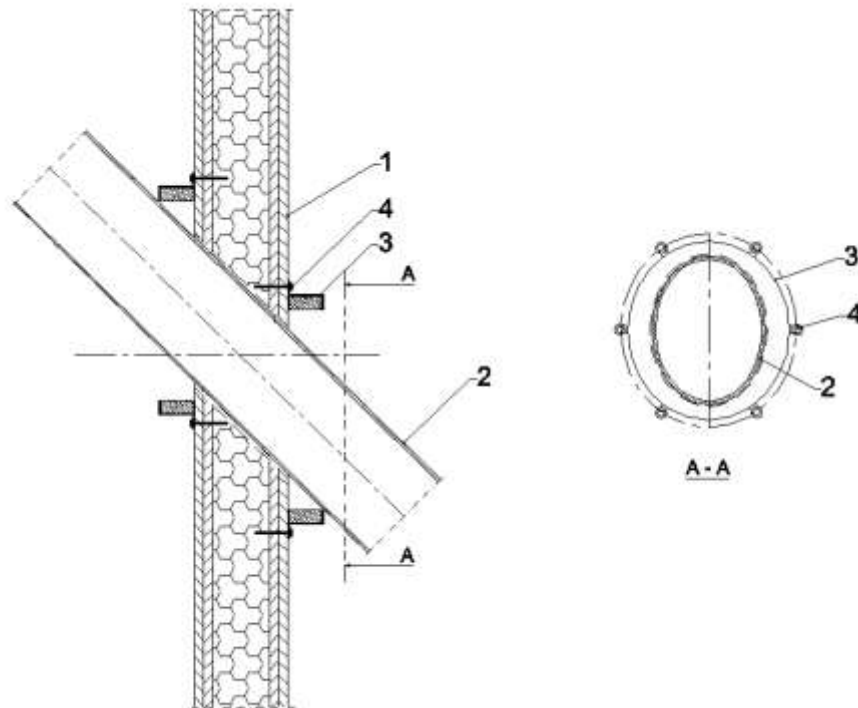
**PS Collar and PS-25 Wrap**

**Resistance to fire classification of penetration seals made with use of PS Collar**

Plastic pipe penetration seal in flexible or rigid wall

**Annex C4**  
of European  
Technical Assessment  
ETA-17/0676

**Plastic pipe penetration seal in flexible or rigid wall, made with use of PS Collar, placed in angle between 0° and 89° to the wall.**



- 1 Flexible or rigid wall with thickness  $\geq 100$  mm
- 2 Plastic pipe
- 3 PS collar, fixed on both sides of the wall
- 4 Fastener M6x90, number of fasteners in accordance with Annex A

**Resistance to fire classification of plastic pipes penetration seals in flexible or rigid wall, made with use of PS Collar, placed in angle between 0° and 89° to the wall:**

**Table C5.1 PVC-U / PVC-C pipes**

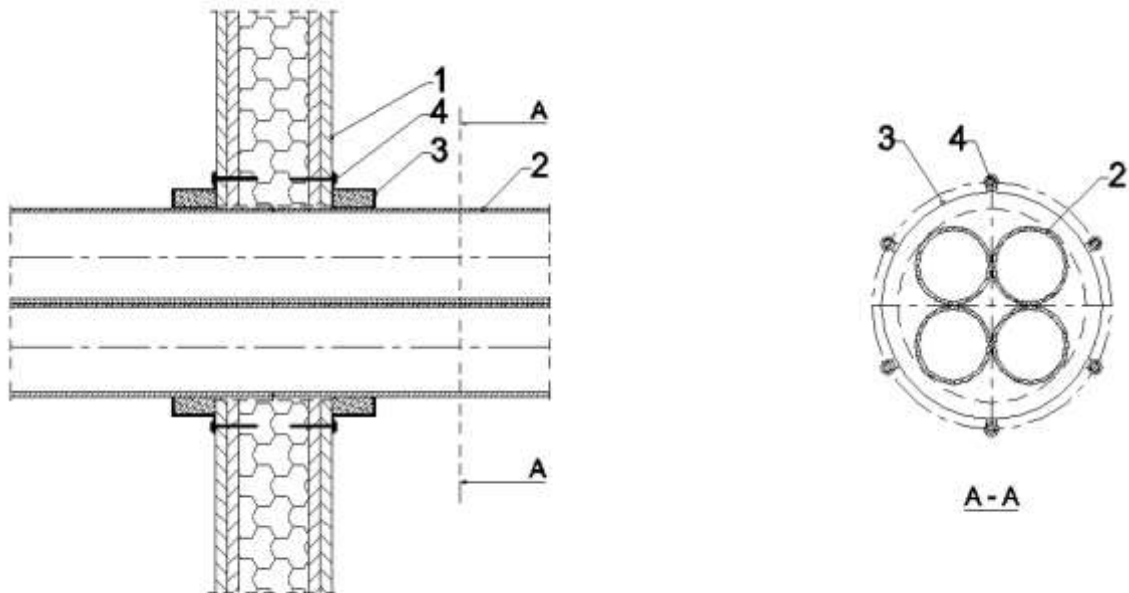
Pipe material	Pipe diameter, [mm]	Pipe wall thickness, [mm]	Intumescent material		Fire resistance class
			width, [mm]	thickness, [mm]	
PVC-U / PVC-C	$\varnothing \leq 32$	3,4	30	5,0	EI 90 – U/C EI 90 – C/C
	$32 < \varnothing \leq 51$	3,4 – 4,1	30	7,5	
	$51 < \varnothing \leq 71$	3,3 – 4,9	30	10,0	
	$71 < \varnothing \leq 90$	3,3 – 5,7	30	12,5	
	$90 < \varnothing \leq 110$	3,2 – 6,5	30	15,0	
	$110 < \varnothing \leq 135$	3,2 – 5,6	60	17,5	
	$135 < \varnothing \leq 160$	3,2 – 4,7	60	20,0	

**PS Collar and PS-25 Wrap**

**Construction details and resistance to fire classification of penetration seals made with use of PS Collar**  
Plastic pipe penetration seal in flexible or rigid wall

**Annex C5**  
of European  
Technical Assessment  
ETA-17/0676

**Plastic pipes bundle penetration seal in flexible or rigid wall, made with use of PS Collar.**



- 1 Flexible or rigid wall with thickness  $\geq 100$  mm
- 2 Plastic pipe (maximum 4 pipes in bundle)
- 3 PS collar, fixed on both sides of the wall
- 4 Fastener M6x90, number of fasteners in accordance with Annex A

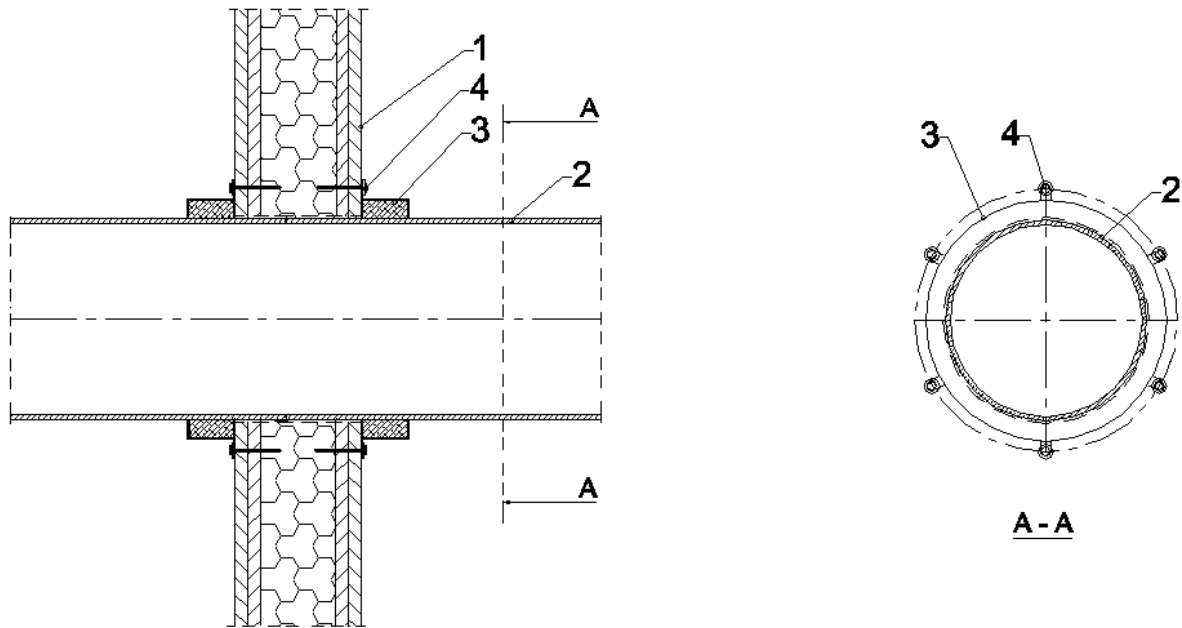
**Resistance to fire classification of plastic pipes bundle penetration seals in flexible or rigid wall, made with use of PS Collar:**

**Table C6.1 PP-R pipes (maximum 4 pipes in bundle)**

Pipe material	Single pipe diameter, [mm]	Pipe wall thickness, [mm]	Intumescent material		Fire resistance class
			width, [mm]	thickness, [mm]	
PP-R	$\varnothing \leq 32$	2,9 – 5,4	30	7,5	EI 90 – U/C EI 90 – C/C
	$32 < \varnothing \leq 40$	3,5 – 5,4	60	10,0	
	$40 < \varnothing \leq 49$	4,1 – 5,5	60	12,5	
	$49 < \varnothing \leq 57$	4,6 – 5,6	60	15,0	
	$57 < \varnothing \leq 66$	5,2 – 5,7	60	17,5	
	$66 < \varnothing \leq 75$	5,8	60	20,0	

<b>PS Collar and PS-25 Wrap</b>	<b>Annex C6</b> of European Technical Assessment ETA-17/0676
<b>Construction details and resistance to fire classification of penetration seals made with use of PS Collar</b> Plastic pipes bundle penetration seal in flexible or rigid wall	

**Plastic pipe penetration seal in flexible or rigid wall, made with use of PS Collar.**



- 1 Flexible or rigid wall with thickness  $\geq 100$  mm
- 2 Plastic pipe
- 3 PS collar, fixed on both sides of the wall
- 4 Fastener M6x90, number of fasteners in accordance with Annex A

**PS Collar and PS-25 Wrap**

**Construction details of penetration seals  
made with use of PS Collar**  
Plastic pipe penetration seal in flexible or rigid wall

**Annex C7**  
of European  
Technical Assessment  
ETA-17/0676

**Resistance to fire classification of plastic pipes penetration seals in flexible or rigid wall, made with use of PS Collar, in accordance with Annex C7:**

**Table C8.1 PE-HD pipes**

Pipe material	Pipe diameter, [mm]	Pipe wall thickness, [mm]	Intumescent material		Fire resistance class
			width, [mm]	thickness, [mm]	
PE-HD	$\varnothing \leq 63$	3,0 – 5,8	30	5,0	EI 90 – U/C EI 90 – C/C
	$63 < \varnothing \leq 87$	3,8 – 7,9	30	7,5	
	$87 < \varnothing \leq 111$	4,6 – 10,1	30	10,0	
	$111 < \varnothing \leq 135$	5,4 – 12,3	30	12,5	
	$135 < \varnothing \leq 160$	6,2 – 14,6	30	15,0	
	$160 < \varnothing \leq 205$	7,9 – 14,6	60	17,5	
	$205 < \varnothing \leq 250$	9,6 – 14,6	60	20,0	

**Table C8.2 PP-R pipes**

Pipe material	Pipe diameter, [mm]	Pipe wall thickness, [mm]	Intumescent material		Fire resistance class
			width, [mm]	thickness, [mm]	
PP-R	$\varnothing \leq 63$	5,8	30	5,0	EI 90 – U/C EI 90 – C/C
		5,9 – 7,9	30	7,5	
	$63 < \varnothing \leq 87$	5,8 – 7,9	30	7,5	
	$87 < \varnothing \leq 111$	5,8 – 10,1	30	10,0	
	$111 < \varnothing \leq 135$	5,7 – 12,3	30	12,5	
	$135 < \varnothing \leq 160$	5,6 – 14,6	30	15,0	

**Table C8.3 PVC-U / PVC-C pipes**

Pipe material	Pipe diameter, [mm]	Pipe wall thickness, [mm]	Intumescent material		Fire resistance class
			width, [mm]	thickness, [mm]	
PVC-U / PVC-C	$\varnothing \leq 63$	2,0 – 5,1	30	5,0	EI 90 – U/C EI 90 – C/C
	$63 < \varnothing \leq 87$	2,3 – 5,0	30	7,5	
	$87 < \varnothing \leq 111$	2,6 – 4,9	30	10,0	
	$111 < \varnothing \leq 135$	2,9 – 4,8	30	12,5	
	$135 < \varnothing \leq 160$	3,2 – 4,7	30	15,0	
	$160 < \varnothing \leq 205$	4,7 – 8,5	60	17,5	
	$205 < \varnothing \leq 250$	6,2 – 9,6	60	20,0	

**PS Collar and PS-25 Wrap**

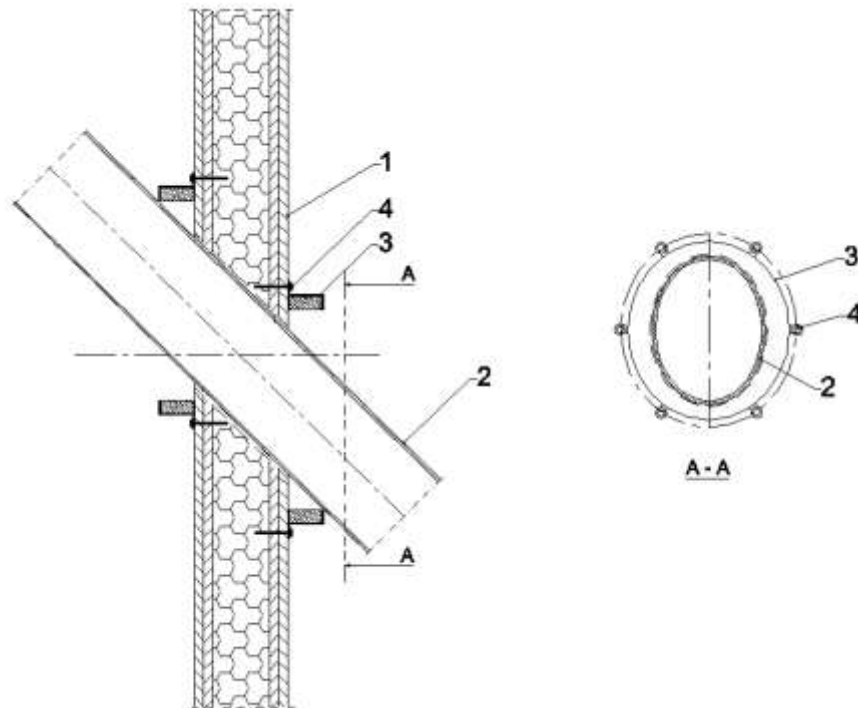
**Resistance to fire classification of penetration seals made with use of PS Collar**

Plastic pipe penetration seal in flexible or rigid wall

**Annex C8**  
of European  
Technical Assessment  
ETA-17/0676



**Plastic pipe penetration seal in flexible or rigid wall, made with use of PS Collar, placed in angle between 0° and 89° to the wall.**



- 1 Flexible or rigid wall with thickness  $\geq 100$  mm
- 2 Plastic pipe
- 3 PS collar, fixed on both sides of the wall
- 4 Fastener M6x90, number of fasteners in accordance with Annex A

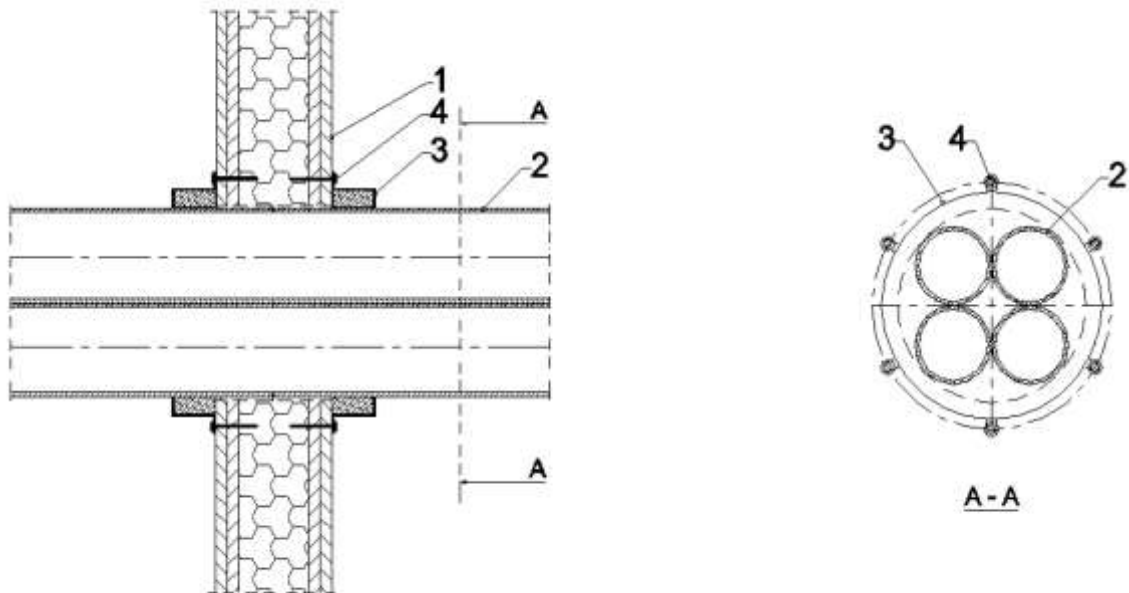
**Resistance to fire classification of plastic pipes penetration seals in flexible or rigid wall, made with use of PS Collar, placed in angle between 0° and 89° to the wall:**

**Table C9.1 PVC-U / PVC-C pipes**

Pipe material	Pipe diameter, [mm]	Pipe wall thickness, [mm]	Intumescent material		Fire resistance class
			width, [mm]	thickness, [mm]	
PVC-U / PVC-C	$\varnothing \leq 32$	3,4	30	5,0	EI 120 – U/C EI 120 – C/C
	$32 < \varnothing \leq 51$	3,4 – 4,1	30	7,5	
	$51 < \varnothing \leq 71$	3,3 – 4,9	30	10,0	
	$71 < \varnothing \leq 90$	3,3 – 5,7	30	12,5	
	$90 < \varnothing \leq 110$	3,2 – 6,5	30	15,0	
	$110 < \varnothing \leq 135$	3,2 – 5,6	60	17,5	
	$135 < \varnothing \leq 160$	3,2 – 4,7	60	20,0	

<b>PS Collar and PS-25 Wrap</b>	<b>Annex C9</b> of European Technical Assessment ETA-17/0676
<b>Construction details and resistance to fire classification of penetration seals made with use of PS Collar</b> Plastic pipe penetration seal in flexible or rigid wall	

**Plastic pipes bundle penetration seal in flexible or rigid wall, made with use of PS Collar.**



- 1 Flexible or rigid wall with thickness  $\geq 100$  mm
- 2 Plastic pipe (maximum 4 pipes in bundle)
- 3 PS collar, fixed on both sides of the wall
- 4 Fastener M6x90, number of fasteners in accordance with Annex A

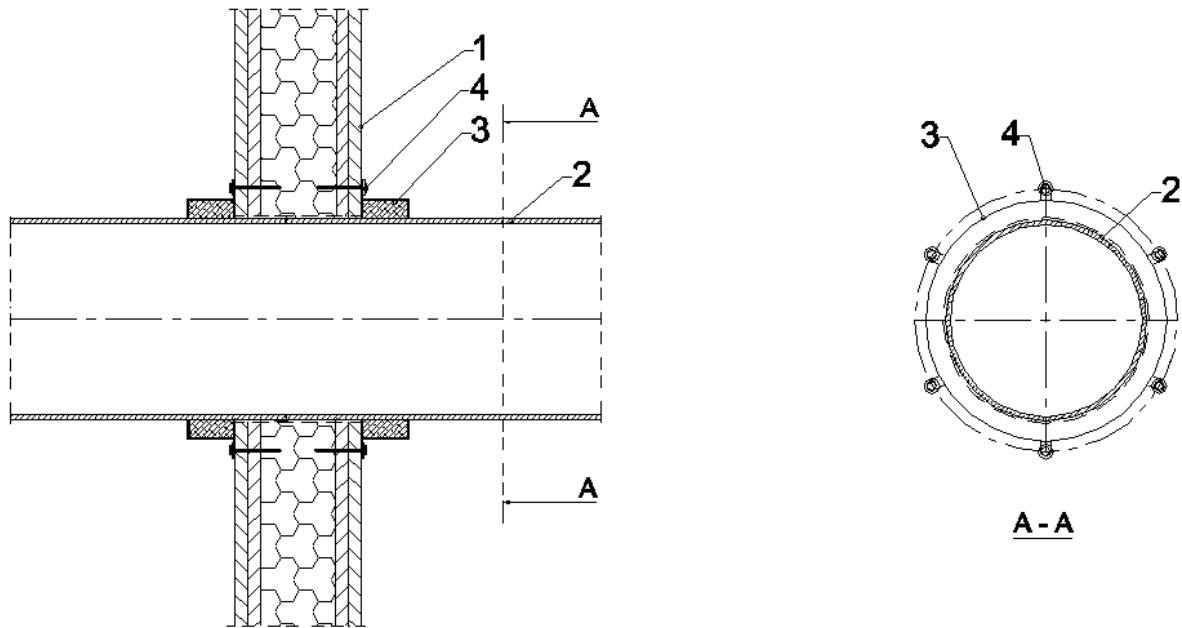
**Resistance to fire classification of plastic pipes bundle penetration seals in flexible or rigid wall, made with use of PS Collar:**

**Table C10.1 PP-R pipes (maximum 4 pipes in bundle)**

Pipe material	Single pipe diameter, [mm]	Pipe wall thickness, [mm]	Intumescent material		Fire resistance class
			width, [mm]	thickness, [mm]	
PP-R	$\varnothing \leq 32$	2,9 – 5,4	30	7,5	EI 120 – U/C EI 120 – C/C
	$32 < \varnothing \leq 40$	3,5 – 5,4	60	10,0	
	$40 < \varnothing \leq 49$	4,1 – 5,5	60	12,5	
	$49 < \varnothing \leq 57$	4,6 – 5,6	60	15,0	
	$57 < \varnothing \leq 66$	5,2 – 5,7	60	17,5	
	$66 < \varnothing \leq 75$	5,8	60	20,0	

<b>PS Collar and PS-25 Wrap</b>	<b>Annex C10</b> of European Technical Assessment ETA-17/0676
<b>Construction details and resistance to fire classification of penetration seals made with use of PS Collar</b> Plastic pipes bundle penetration seal in flexible or rigid wall	

**Plastic pipe penetration seal in flexible or rigid wall, made with use of PS Collar.**



- 1 Flexible or rigid wall with thickness  $\geq 100$  mm
- 2 Plastic pipe
- 3 PS collar, fixed on both sides of the wall
- 4 Fastener M6x90, number of fasteners in accordance with Annex A

<b>PS Collar and PS-25 Wrap</b>	<b>Annex C11</b> of European Technical Assessment ETA-17/0676
<b>Construction details of penetration seals made with use of PS Collar</b> Plastic pipe penetration seal in flexible or rigid wall	

**Resistance to fire classification of plastic pipes penetration seals in flexible or rigid wall, made with use of PS Collar, in accordance with Annex C11:**

**Table C12.1 PE-HD pipes**

Pipe material	Pipe diameter, [mm]	Pipe wall thickness, [mm]	Intumescent material		Fire resistance class
			width, [mm]	thickness, [mm]	
PE-HD	$\varnothing \leq 63$	3,0 – 5,8	30	5,0	EI 120 – U/C EI 120 – C/C
	$63 < \varnothing \leq 87$	3,8 – 5,9	30	7,5	
	$87 < \varnothing \leq 111$	4,6 – 6,0	30	10,0	
	$111 < \varnothing \leq 135$	5,4 – 6,1	30	12,5	
	$135 < \varnothing \leq 160$	6,2	30	15,0	

**Table C12.2 PP-R pipes**

Pipe material	Pipe diameter, [mm]	Pipe wall thickness, [mm]	Intumescent material		Fire resistance class
			width, [mm]	thickness, [mm]	
PP-R	$\varnothing \leq 63$	5,8	30	5,0	EI 120 – U/C EI 120 – C/C
		5,9 – 7,9	30	7,5	
	$63 < \varnothing \leq 87$	5,8 – 7,9	30	7,5	
	$87 < \varnothing \leq 111$	5,8 – 10,1	30	10,0	
	$111 < \varnothing \leq 135$	5,7 – 12,3	30	12,5	
	$135 < \varnothing \leq 160$	5,6 – 14,6	30	15,0	

**Table C12.3 PVC-U / PVC-C pipes**

Pipe material	Pipe diameter, [mm]	Pipe wall thickness, [mm]	Intumescent material		Fire resistance class
			width, [mm]	thickness, [mm]	
PVC-U / PVC-C	$\varnothing \leq 63$	2,0 – 5,1	30	5,0	EI 120 – U/C EI 120 – C/C
	$63 < \varnothing \leq 87$	2,3 – 5,0	30	7,5	
	$87 < \varnothing \leq 111$	2,6 – 4,9	30	10,0	
	$111 < \varnothing \leq 135$	2,9 – 4,8	30	12,5	
	$135 < \varnothing \leq 160$	3,2 – 4,7	30	15,0	
	$160 < \varnothing \leq 205$	4,7 – 8,5	60	17,5	
	$205 < \varnothing \leq 250$	6,2 – 9,6	60	20,0	

**PS Collar and PS-25 Wrap**

**Resistance to fire classification of penetration seals made with use of PS Collar**

Plastic pipe penetration seal in flexible or rigid wall

**Annex C12**  
of European  
Technical Assessment  
ETA-17/0676