

## DECLARATION OF PERFORMANCE

No: DoP 2/2019

1. Unique identification code of product-type:  
**INTU FR COLLAR**
2. Intended uses:  
**Reinstate the fire resistance performance of flexible wall, rigid wall or rigid floor constructions, where they are penetrated by metal pipes or combustible pipes**
3. Manufacturer:  
**ALFASEAL GROUP Sp. z o.o.  
ul. Kineskopowa 1, 05-500 Piaseczno**
4. Authorized representative:  
**Not applicable**
5. System or systems of Assessment and Verification of Constancy of Performance (AVCP):  
**System 1**
- 6a. Harmonised standard: **Not applicable**  
Notified body or bodies: **Not applicable**
- 6b. European Assessment Document: **EAD 350454-00-1104**  
European Technical Assessment: **ETA-19/0844 of 22/12/2025**  
Technical Assessment Body: **ITB, ul. Filtrowa 1, 00-611 Warszawa**  
Notified body or bodies: **No. 1488**
7. Declared performance:

Basic requirements	Performance characteristics
<b>BWR 2 Safety in case to fire</b>	
Reaction to fire	Class E
Resistance to fire	Tables C1. ÷ C22.

**Table C1. Fire resistance class of PE-HD, PE, ABS or SAN + PVC pipes penetration seal in flexible or rigid wall thickness of:  $100 \text{ mm} \leq t < 125 \text{ mm}$ , made with use of INTU FR COLLAR**

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
$D \leq 32$	2,0	–	30 x 4,0	EI 120 – U/C EI 120 – C/C EI 120 – C/C
	2,1 – 6,8	–	30 x 6,0	EI 60 / E 90 – U/C EI 60 / E 90 – C/C EI 60 / E 90 – C/C
$32 < D \leq 40$	2,2 – 6,8	–	30 x 6,0	
$40 < D \leq 50$	2,5 – 6,8	–	30 x 6,0	
$50 < D \leq 55$	2,6 – 6,8	–	30 x 6,0	
$55 < D \leq 63$	2,8 – 6,8	–	30 x 6,0	
$63 < D \leq 75$	3,0 – 6,8	–	30 x 6,0	
$75 < D \leq 90$	3,6 – 8,2	–	30 x 8,0	EI 60 – U/C EI 60 – C/C EI 60 – C/C
$90 < D \leq 110$	4,2 – 10,0	–	30 x 10,0	
$110 < D \leq 125$	4,8 – 9,9	–	40 x 14,0	
$125 < D \leq 160$	6,2 – 9,5	–	40 x 18,0	

Classifications given above for specific intumescent material dimensions are also valid for pipes with smaller pipe diameter and the same pipe wall thickness range.

**Table C2. Fire resistance class of PP pipes penetration seal in flexible or rigid wall thickness of:  $100 \text{ mm} \leq t < 125 \text{ mm}$ , made with use of INTU FR COLLAR**

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
$D \leq 32$	1,8	–	30 x 4,0	EI 90 – U/C EI 90 – C/C
	1,9 – 12,5	–	30 x 6,0	EI 60 – U/C EI 60 – C/C
$32 < D \leq 40$	1,8	–	30 x 4,0	EI 90 – U/C EI 90 – C/C
	1,9 – 12,5	–	30 x 6,0	EI 60 – U/C EI 60 – C/C
$40 < D \leq 50$	1,8	–	30 x 4,0	EI 90 – U/C EI 90 – C/C
	1,9 – 12,5	–	30 x 6,0	EI 60 – U/C EI 60 – C/C
$50 < D \leq 55$	1,9 – 12,5	–	30 x 6,0	
$55 < D \leq 63$	1,9 – 12,5	–	30 x 6,0	
$63 < D \leq 75$	1,9 – 12,5	–	30 x 6,0	
$75 < D \leq 90$	2,3 – 15,1	–	30 x 8,0	
$90 < D \leq 110$	2,7 – 18,4	–	30 x 10,0	
$110 < D \leq 125$	4,1 – 15,1	–	40 x 14,0	
$125 < D \leq 160$	7,3	–	40 x 18,0	

Classifications given above for specific intumescent material dimensions are also valid for pipes with smaller pipe diameter and the same pipe wall thickness range.

**Table C3. Fire resistance class of PVC-U or PVC-C pipes penetration seal in flexible or rigid wall thickness of:  $100 \text{ mm} \leq t < 125 \text{ mm}$ , made with use of INTU FR COLLAR:**

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
$D \leq 32$	1,8	–	30 x 4,0	EI 120 – U/C EI 120 – C/C
	1,9 – 3,6	–	30 x 6,0	
$32 < D \leq 40$	1,8	–	30 x 4,0	

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
40 < D ≤ 50	1,9 – 3,6	–	30 x 6,0	
	1,8	–	30 x 4,0	
	1,9 – 3,6	–	30 x 6,0	
50 < D ≤ 55	1,9 – 3,5	–	30 x 6,0	EI 90 – U/C EI 90 – C/C
	3,6	–	30 x 6,0	EI 120 – U/C EI 120 – C/C
55 < D ≤ 63	1,9 – 3,5	–	30 x 6,0	EI 90 – U/C EI 90 – C/C
	3,6	–	30 x 6,0	EI 120 – U/C EI 120 – C/C
63 < D ≤ 75	1,9 – 3,5	–	30 x 6,0	EI 90 – U/C EI 90 – C/C
	3,6	–	30 x 6,0	EI 120 – U/C EI 120 – C/C
75 < D ≤ 90	2,1 – 2,2	–	30 x 8,0	EI 90 – U/C EI 90 – C/C
	2,3 – 3,9	–	30 x 8,0	EI 60 – U/C EI 60 – C/C
90 < D ≤ 110	2,2	–	30 x 10,0	EI 90 – U/C EI 90 – C/C
	2,3 – 4,2	–	30 x 10,0	EI 60 – U/C EI 60 – C/C
110 < D ≤ 125	2,5 – 3,2	–	40 x 14,0	EI 90 – U/C
125 < D ≤ 160	3,2 – 6,2	–	40 x 18,0	EI 90 – C/C

Classifications given above for specific intumescent material dimensions are also valid for pipes with smaller pipe diameter and the same pipe wall thickness range.

**Table C4. Fire resistance class of PE-HD, PE, ABS or SAN + PVC pipes penetration seal in flexible or rigid wall thickness of: 125 mm ≤ t < 150 mm, made with use of INTU FR COLLAR**

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
D ≤ 32	2,0 – 4,6	–	30 x 4,0	EI 120 – U/C EI 120 – C/C
32 < D ≤ 40	2,2 – 6,8	–	30 x 6,0	EI 90 – U/C EI 90 – C/C
40 < D ≤ 50	2,5 – 6,8	–	30 x 6,0	
50 < D ≤ 55	2,6 – 6,8	–	30 x 6,0	
55 < D ≤ 63	2,8 – 6,8	–	30 x 6,0	
63 < D ≤ 75	3,0 – 6,8	–	30 x 6,0	
75 < D ≤ 90	3,6 – 4,2	–	30 x 8,0	
	4,3 – 8,2	–	30 x 8,0	EI 60 – U/C EI 60 – C/C
90 < D ≤ 110	4,2	–	30 x 10,0	EI 90 – U/C EI 90 – C/C
	4,3 – 10,0	–	30 x 10,0	EI 60 – U/C
110 < D ≤ 125	4,8 – 9,9	–	40 x 14,0	EI 60 – C/C
125 < D ≤ 160	6,2	–	40 x 18,0	EI 120 – U/C EI 120 – C/C
	6,3 – 9,5	–	40 x 18,0	EI 60 – U/C EI 60 – C/C

Classifications given above for specific intumescent material dimensions are also valid for pipes with smaller pipe diameter and the same pipe wall thickness range.

**Table C5. Fire resistance class of PP pipes penetration seal in flexible or rigid wall thickness of:  $125 \text{ mm} \leq t < 150 \text{ mm}$ , made with use of INTU FR COLLAR**

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
$D \leq 32$	1,8 – 8,3	–	30 x 4,0	EI 120 – U/C EI 120 – C/C
$32 < D \leq 40$	1,8 – 8,3	–	30 x 4,0	
$40 < D \leq 50$	1,8 – 8,3	–	30 x 4,0	
$50 < D \leq 55$	1,9 – 12,5	–	30 x 6,0	
$55 < D \leq 63$	1,9 – 12,5	–	30 x 6,0	
$63 < D \leq 75$	1,9 – 12,5	–	30 x 6,0	
$75 < D \leq 90$	2,3 – 8,3	–	30 x 8,0	EI 90 / E 120 – U/C EI 90 / E 120 – C/C
	8,4 – 15,1	–	30 x 8,0	
$90 < D \leq 110$	2,7	–	30 x 10,0	EI 120 – U/C EI 120 – C/C
	2,8 – 18,4	–	30 x 10,0	EI 90 / E 120 – U/C EI 90 / E 120 – C/C
$110 < D \leq 125$	4,1 – 15,1	–	40 x 14,0	EI 60 / E 90 – U/C EI 60 / E 90 – C/C
$125 < D \leq 160$	7,3	–	40 x 18,0	

Classifications given above for specific intumescent material dimensions are also valid for pipes with smaller pipe diameter and the same pipe wall thickness range

**Table C6. Fire resistance class of PVC-U or PVC-C pipes penetration seal in flexible or rigid wall thickness of:  $125 \text{ mm} \leq t < 150 \text{ mm}$ , made with use of INTU FR COLLAR**

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
$D \leq 32$	1,8 – 3,6	–	30 x 4,0	EI 120 – U/C EI 120 – C/C
$32 < D \leq 40$	1,8 – 3,6	–	30 x 4,0	
$40 < D \leq 50$	1,8 – 3,6	–	30 x 4,0	
$50 < D \leq 55$	1,9 – 3,6	–	30 x 6,0	
$55 < D \leq 63$	1,9 – 3,6	–	30 x 6,0	
$63 < D \leq 75$	1,9 – 3,6	–	30 x 6,0	
$75 < D \leq 90$	2,1 – 3,9	–	30 x 8,0	
$90 < D \leq 110$	2,2 – 4,2	–	30 x 10,0	
$110 < D \leq 125$	2,5 – 3,9	–	40 x 14,0	EI 90 / E 120 – U/C EI 90 / E 120 – C/C
	4,0 – 4,8	–	40 x 14,0	
$125 < D \leq 160$	3,2	–	40 x 18,0	EI 120 – U/C EI 120 – C/C
	3,3 – 6,2	–	40 x 18,0	EI 90 / E 120 – U/C EI 90 / E 120 – C/C

Classifications given above for specific intumescent material dimensions are also valid for pipes with smaller pipe diameter and the same pipe wall thickness range.

**Table C7. Fire resistance class of PE-HD, PE, ABS or SAN + PVC pipes penetration seal in rigid wall thickness of:  $t \geq 150 \text{ mm}$ , made with use of INTU FR COLLAR**

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
$D \leq 32$	2,0	–	30 x 4,0	EI 240 – U/C EI 240 – C/C
	2,1 – 4,8	–	30 x 4,0	EI 120 – U/C EI 120 – C/C
$32 < D \leq 40$	2,5 – 4,8	–	30 x 4,0	
$40 < D \leq 50$	3,0 – 4,8	–	30 x 4,0	

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
50 < D ≤ 55	3,0 – 3,5	–	30 x 6,0	EI 90 – U/C EI 90 – C/C
	3,6	–	30 x 6,0	EI 240 – U/C EI 240 – C/C
	3,7 – 6,8	–	30 x 6,0	EI 120 – U/C EI 120 – C/C
55 < D ≤ 63	3,0 – 3,5	–	30 x 6,0	EI 90 – U/C EI 90 – C/C
	3,6	–	30 x 6,0	EI 240 – U/C EI 240 – C/C
	3,7 – 6,8	–	30 x 6,0	EI 120 – U/C EI 120 – C/C
63 < D ≤ 75	3,0 – 3,5	–	30 x 6,0	EI 90 – U/C EI 90 – C/C
	3,6	–	30 x 6,0	EI 240 – U/C EI 240 – C/C
	3,7 – 6,8	–	30 x 6,0	EI 120 – U/C EI 120 – C/C
75 < D ≤ 90	3,6 – 3,8	–	30 x 8,0	EI 90 – U/C EI 90 – C/C
	3,9 – 8,2	–	30 x 8,0	EI 120 – U/C EI 120 – C/C
90 < D ≤ 110	4,2 – 9,9	–	30 x 10,0	EI 240 – U/C EI 240 – C/C
	10,0	–	30 x 10,0	EI 240 – U/C EI 240 – C/C
110 < D ≤ 125	4,8 – 6,1	–	40 x 14,0	EI 90 – U/C EI 90 – C/C
	6,2 – 9,0	–	40 x 14,0	EI 120 – U/C EI 120 – C/C
125 < D ≤ 160	6,2 – 9,4	–	40 x 18,0	EI 180 – U/C EI 180 – C/C
	9,5	–	40 x 18,0	EI 180 – U/C EI 180 – C/C
160 < D ≤ 170	6,6 – 9,1	–	50 x 20,0	EI 60 – U/C EI 60 – C/C
170 < D ≤ 185	7,2 – 8,4	–	50 x 20,0	
185 < D ≤ 200	7,7	–	50 x 20,0	

Classifications given above for specific intumescent material dimensions are also valid for pipes with smaller pipe diameter and the same pipe wall thickness range

**Table C8. Fire resistance class of PP pipes penetration seal in rigid wall thickness of:  $t \geq 150$  mm, made with use of INTU FR COLLAR**

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
D ≤ 32	1,8	–	30 x 4,0	EI 240 – U/C EI 240 – C/C
	1,9 – 8,3	–	30 x 4,0	EI 120 – U/C EI 120 – C/C
32 < D ≤ 40	1,8	–	30 x 4,0	EI 240 – U/C EI 240 – C/C
	1,9 – 8,3	–	30 x 4,0	EI 120 – U/C EI 120 – C/C
40 < D ≤ 50	1,8	–	30 x 4,0	EI 240 – U/C EI 240 – C/C
	1,9 – 8,3	–	30 x 4,0	EI 120 – U/C EI 120 – C/C
50 < D ≤ 55	1,9 – 12,5	–	30 x 6,0	EI 120 – U/C EI 120 – C/C
55 < D ≤ 63	1,9 – 12,5	–	30 x 6,0	

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
63 < D ≤ 75	1,9 – 12,5	–	30 x 6,0	
75 < D ≤ 90	2,3 – 15,1	–	30 x 8,0	
90 < D ≤ 110	2,7 – 18,3	–	30 x 10,0	
	18,4	–	30 x 10,0	EI 240 – U/C EI 240 – C/C
110 < D ≤ 125	3,8 – 14,8	–	40 x 14,0	EI 120 – U/C EI 120 – C/C
	14,9 – 15,2	–	40 x 14,0	EI 60 – U/C EI 60 – C/C
125 < D ≤ 160	6,2	–	40 x 18,0	EI 180 – U/C EI 180 – C/C
	6,3 – 7,7	–	40 x 18,0	EI 60 – U/C EI 60 – C/C
160 < D ≤ 170	6,6 – 7,6	–	60 x 20,0	EI 180 – U/C EI 180 – C/C
	7,7	–	60 x 20,0	EI 180 – U/C EI 180 – C/C
170 < D ≤ 185	7,2 – 7,6	–	60 x 20,0	EI 60 – U/C EI 60 – C/C
	7,7	–	60 x 20,0	EI 180 – U/C EI 180 – C/C
185 < D ≤ 200	7,7	–	60 x 20,0	EI 180 – C/C

Classifications given above for specific intumescent material dimensions are also valid for pipes with smaller pipe diameter and the same pipe wall thickness range.

**Table C9. Fire resistance class of PVC-U or PVC-C pipes penetration seal in rigid wall thickness of:  $t \geq 150$  mm, made with use of INTU FR COLLAR**

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
D ≤ 32	1,8 – 3,6	–	30 x 4,0	EI 240 – U/C EI 240 – C/C
32 < D ≤ 40	1,8 – 3,6	–	30 x 4,0	
40 < D ≤ 50	1,8 – 3,6	–	30 x 4,0	
50 < D ≤ 55	1,9 – 3,6	–	30 x 6,0	EI 180 – U/C EI 180 – C/C
55 < D ≤ 63	1,9 – 3,6	–	30 x 6,0	
63 < D ≤ 75	1,9 – 3,6	–	30 x 6,0	
75 < D ≤ 90	2,1 – 3,9	–	30 x 8,0	
90 < D ≤ 110	2,2	–	30 x 10,0	EI 240 – U/C EI 240 – C/C
	2,3 – 4,2	–	30 x 10,0	EI 180 – U/C EI 180 – C/C
110 < D ≤ 125	2,5 – 4,8	–	40 x 14,0	EI 120 – U/C EI 120 – C/C
125 < D ≤ 160	3,2	–	40 x 18,0	EI 240 – U/C EI 240 – C/C
	3,3 – 6,2	–	40 x 18,0	EI 120 / E 180 – U/C EI 120 / E 180 – C/C
160 < D ≤ 170	3,4 – 5,4	–	50 x 20,0	EI 90 – U/C EI 90 – C/C
	5,5	–	50 x 20,0	EI 180 / E 240 – U/C EI 180 / E 240 – C/C
	5,6 – 7,7	–	60 x 20,0	EI 180 – U/C EI 180 – C/C
170 < D ≤ 185	3,7 – 5,4	–	50 x 20,0	EI 90 – U/C EI 90 – C/C
	5,5	–	50 x 20,0	EI 180 / E 240 – U/C EI 180 / E 240 – C/C

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
	5,6 – 7,7	–	60 x 20,0	EI 180 – U/C EI 180 – C/C
185 < D ≤ 200	3,9 – 5,4	–	50 x 20,0	EI 90 – U/C EI 90 – C/C
	5,5	–	50 x 20,0	EI 180 / E 240 – U/C EI 180 / E 240 – C/C
	5,6 – 7,7	–	60 x 20,0	EI 180 – U/C EI 180 – C/C
200 < D ≤ 225	4,8 – 8,0	–	(2 x 75) x 30,0	EI 120 – U/C EI 120 – C/C
225 < D ≤ 250	5,7 – 8,0	–	(2 x 75) x 30,0	
250 < D ≤ 275	6,6 – 8,0	–	(2 x 75) x 30,0	
275 < D ≤ 300	7,5 – 8,0	–	(2 x 75) x 30,0	
300 < D ≤ 315	8,0	–	(2 x 75) x 30,0	

Classifications given above for specific intumescent material dimensions are also valid for pipes with smaller pipe diameter and the same pipe wall thickness range.

**Table C10. Fire resistance class of PE-RT pipes penetration seal in rigid wall thickness of:  $t \geq 150$  mm, made with use of INTU FR COLLAR**

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
D ≤ 20	2,0	–	30 x 4,0	EI 240 – U/C EI 240 – C/C

**Table C11. Fire resistance class of PE-X pipes penetration seal in rigid wall thickness of:  $t \geq 150$  mm, made with use of INTU FR COLLAR**

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
D ≤ 20	2,0	–	30 x 4,0	EI 240 – U/C EI 240 – C/C
D ≤ 20	2,1 – 7,5	–	30 x 6,0	EI 120 / E 240 – U/C EI 120 / E 240 – C/C
20 < D ≤ 75	7,5	–	30 x 6,0	

**Table C12. Fire resistance class of PP-R/Al/PP-R pipes penetration seal in rigid wall thickness of:  $t \geq 150$  mm, made with use of INTU FR COLLAR**

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
D ≤ 20	3,4	–	30 x 4,0	EI 180 / E 240 – U/C EI 180 / E 240 – C/C
	3,5 – 18,3	–	30 x 10,0	EI 90 / E 180 – U/C EI 90 / E 180 – C/C
20 < D ≤ 110	18,3	–	30 x 10,0	EI 90 / E 180 – C/C

**Table C13. Fire resistance class of PP-R/PP-R-GF/PP-R pipes penetration seal in rigid wall thickness of:  $t \geq 150$  mm, made with use of INTU FR COLLAR**

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
D ≤ 20	3,4	–	30 x 4,0	EI 240 – U/C EI 240 – C/C
	3,5 – 18,3	–	30 x 10,0	EI 90 / E 120 – U/C EI 90 / E 120 – C/C
20 < D ≤ 110	18,3	–	30 x 10,0	EI 90 / E 120 – C/C



Classifications given above for specific intumescent material dimensions are also valid for pipes with smaller pipe diameter and the same pipe wall thickness range.

**Table C14. Fire resistance class of bundle of max. 3 plastic pipes (max. 3 x PE,  $D \leq 32$  mm x  $t = 2,0$  mm) penetration seal in rigid wall thickness of:  $t \geq 150$  mm, made with use of INTU FR COLLAR with intumescent material width x thickness 30 x 4,0 mm**

<b>Fire resistance class:</b> <b>EI 240 – C/U</b> <b>EI 240 – C/C</b>
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**Table C15. Fire resistance class of bundle of max. 3 plastic pipes (max. 3 x PE-HD, PE, ABS or SAN + PVC,  $D \leq 32$  mm x  $t = 2,0$  mm) penetration seal in rigid wall thickness of:  $t \geq 150$  mm, made with use of INTU FR COLLAR with intumescent material width x thickness 30 x 4,0 mm**

<b>Fire resistance class:</b> <b>EI 120 / E 180 – C/U</b> <b>EI 120 / E 180 – C/C</b>
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**Table C16. Fire resistance class of bundle of max. 3 plastic pipes (max. 2 x PE-HD, PE, ABS or SAN + PVC,  $D \leq 32$  mm x  $t = 2,0$  mm + max. 1 x PVC-U or PVC-C,  $D \leq 50$  mm x  $t = 1,8$  mm) penetration seal in rigid wall thickness of:  $t \geq 150$  mm, made with use of INTU FR COLLAR with intumescent material width x thickness 30 x 4,0 mm**

<b>Fire resistance class:</b> <b>EI 120 – C/U</b> <b>EI 120 – C/C</b>
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**Table C17. Fire resistance class of PE-HD, PE, ABS or SAN + PVC pipes penetration seal in rigid floor thickness of:  $t \geq 150$  mm, made with use of INTU FR COLLAR**

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
$D \leq 32$	1,8 – 4,8	–	30 x 4,0	<b>EI 240 – U/C</b> <b>EI 240 – C/C</b>
$32 < D \leq 40$	2,4 – 4,8	–	30 x 4,0	
$40 < D \leq 50$	3,0 – 4,8	–	30 x 4,0	
$50 < D \leq 55$	2,8 – 3,5	–	30 x 6,0	<b>EI 180 – U/C</b> <b>EI 180 – C/C</b>
	3,6	–	30 x 6,0	<b>EI 240 – U/C</b> <b>EI 240 – C/C</b>
	3,7 – 6,8	–	30 x 6,0	<b>EI 180 – U/C</b> <b>EI 180 – C/C</b>
$55 < D \leq 63$	3,1 – 3,5	–	30 x 6,0	<b>EI 180 – U/C</b> <b>EI 180 – C/C</b>
	3,6	–	30 x 6,0	<b>EI 240 – U/C</b> <b>EI 240 – C/C</b>
	3,7 – 6,8	–	30 x 6,0	<b>EI 180 – U/C</b> <b>EI 180 – C/C</b>
$63 < D \leq 75$	3,6	–	30 x 6,0	<b>EI 240 – U/C</b> <b>EI 240 – C/C</b>
	3,7 – 6,8	–	30 x 6,0	<b>EI 180 – U/C</b> <b>EI 180 – C/C</b>
$75 < D \leq 90$	3,9 – 8,2	–	30 x 8,0	<b>EI 120 – U/C</b> <b>EI 120 – C/C</b>
$90 < D \leq 110$	4,2 – 10,0	–	30 x 10,0	
$110 < D \leq 125$	4,8 – 9,9	–	40 x 14,0	
$125 < D \leq 160$	6,2 – 9,4	–	40 x 18,0	
	9,5	–	40 x 18,0	<b>EI 180 / E 240 – U/C</b> <b>EI 180 / E 240 – C/C</b>

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
160 < D ≤ 170	6,6 – 9,1	–	60 x 20,0	EI 120 – U/C EI 120 – C/C
	9,2 – 11,0	–	60 x 20,0	EI 90 – U/C EI 90 – C/C
	11,1 – 11,3	–	60 x 20,0	EI 60 – U/C EI 60 – C/C
170 < D ≤ 185	7,2 – 8,4	–	60 x 20,0	EI 120 – U/C EI 120 – C/C
	8,5 – 11,0	–	60 x 20,0	EI 90 – U/C EI 90 – C/C
	11,1 – 11,3	–	60 x 20,0	EI 60 – U/C EI 60 – C/C
185 < D ≤ 200	7,7	–	60 x 20,0	EI 120 – U/C EI 120 – C/C
	7,8 – 11,0	–	60 x 20,0	EI 90 – U/C EI 90 – C/C
	11,1 – 11,3	–	60 x 20,0	EI 60 – U/C EI 60 – C/C

Classifications given above for specific intumescent material dimensions are also valid for pipes with smaller pipe diameter and the same pipe wall thickness range.

**Table C18. Fire resistance class of PP pipes penetration seal in rigid floor thickness of:  $t \geq 150$  mm, made with use of INTU FR COLLAR**

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
D ≤ 32	1,8 – 8,3	–	30 x 4,0	EI 240 – U/C EI 240 – C/C
32 < D ≤ 40	1,8 – 8,3	–	30 x 4,0	
40 < D ≤ 50	1,8 – 8,3	–	30 x 4,0	
50 < D ≤ 55	1,9	–	30 x 6,0	EI 180 – U/C EI 180 – C/C
	2,0 – 12,5	–	30 x 6,0	EI 120 – U/C EI 120 – C/C
55 < D ≤ 63	1,9	–	30 x 6,0	EI 180 – U/C EI 180 – C/C
	2,0 – 12,5	–	30 x 6,0	EI 120 – U/C EI 120 – C/C
63 < D ≤ 75	1,9	–	30 x 6,0	EI 180 – U/C EI 180 – C/C
	2,0 – 12,5	–	30 x 6,0	EI 120 – U/C EI 120 – C/C
75 < D ≤ 90	2,3 – 15,1	–	30 x 8,0	EI 120 – U/C EI 120 – C/C
90 < D ≤ 110	2,7	–	30 x 10,0	EI 180 – U/C EI 180 – C/C
	2,8 – 18,4	–	30 x 10,0	EI 120 – U/C EI 120 – C/C
110 < D ≤ 125	3,8 – 15,1	–	40 x 14,0	
125 < D ≤ 160	6,2 – 7,3	–	40 x 18,0	
160 < D ≤ 170	6,3 – 6,5	–	60 x 20,0	EI 60 – U/C EI 60 – C/C
	6,6 – 7,4	–	60 x 20,0	EI 120 – U/C EI 120 – C/C
170 < D ≤ 185	6,3 – 7,1	–	60 x 20,0	EI 60 – U/C EI 60 – C/C
	7,2 – 7,6	–	60 x 20,0	EI 120 – U/C EI 120 – C/C

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
185 < D ≤ 200	6,3 – 7,6	–	60 x 20,0	EI 60 – U/C EI 60 – C/C
	7,7	–	60 x 20,0	EI 120 – U/C EI 120 – C/C

Classifications given above for specific intumescent material dimensions are also valid for pipes with smaller pipe diameter and the same pipe wall thickness range.

**Table C19. Fire resistance class of PVC-U or PVC-C pipes penetration seal in rigid floor thickness of:  $t \geq 150$  mm, made with use of INTU FR COLLAR**

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
D ≤ 32	1,8 – 2,5	–	30 x 4,0	EI 240 – U/C EI 240 – C/C
32 < D ≤ 40	1,8 – 2,5	–	30 x 4,0	
40 < D ≤ 50	1,8 – 2,5	–	30 x 4,0	
50 < D ≤ 55	1,9	–	30 x 6,0	EI 180 – U/C EI 180 – C/C
	2,0 – 3,6	–	30 x 6,0	
55 < D ≤ 63	1,9	–	30 x 6,0	EI 240 – U/C EI 240 – C/C
	2,0 – 3,6	–	30 x 6,0	EI 180 – U/C EI 180 – C/C
63 < D ≤ 75	1,9	–	30 x 6,0	EI 240 – U/C EI 240 – C/C
	2,0 – 3,6	–	30 x 6,0	EI 180 – U/C EI 180 – C/C
75 < D ≤ 90	2,1 – 3,1	–	30 x 8,0	EI 120 – U/C EI 120 – C/C
	3,2 – 4,2	–	30 x 8,0	EI 180 – U/C EI 180 – C/C
90 < D ≤ 110	2,1 – 3,1	–	30 x 10,0	EI 120 – U/C EI 120 – C/C
	3,2 – 4,2	–	30 x 10,0	EI 180 – U/C EI 180 – C/C
110 < D ≤ 125	2,5 – 3,1	–	40 x 14,0	EI 120 – U/C EI 120 – C/C
	3,2 – 7,7	–	40 x 14,0	EI 240 – U/C EI 240 – C/C
125 < D ≤ 160	3,2 – 7,7	–	40 x 18,0	EI 120 – U/C EI 120 – C/C
160 < D ≤ 170	3,4 – 7,7	–	60 x 20,0	
170 < D ≤ 185	3,7 – 7,7	–	60 x 20,0	
185 < D ≤ 200	3,9 – 7,7	–	60 x 20,0	
200 < D ≤ 225	4,8 – 8,0	–	(2 x 75) x 30,0	
	8,1 – 12,1	–	(2 x 75) x 30,0	
225 < D ≤ 250	5,7 – 8,0	–	(2 x 75) x 30,0	EI 120 – U/C EI 120 – C/C
	8,1 – 12,1	–	(2 x 75) x 30,0	EI 90 – U/C EI 90 – C/C
250 < D ≤ 275	6,6 – 8,0	–	(2 x 75) x 30,0	EI 120 – U/C EI 120 – C/C
	8,1 – 12,1	–	(2 x 75) x 30,0	EI 90 – U/C EI 90 – C/C
275 < D ≤ 300	7,5 – 8,0	–	(2 x 75) x 30,0	EI 120 – U/C EI 120 – C/C
	8,1 – 12,1	–	(2 x 75) x 30,0	EI 90 – U/C EI 90 – C/C

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
300 < D ≤ 315	8,0	–	(2 x 75) x 30,0	EI 120 – U/C EI 120 – C/C
	8,1 – 12,1	–	(2 x 75) x 30,0	EI 90 – U/C EI 90 – C/C
315 < D ≤ 325	9,1 – 12,1	–	(2 x 75) x 30,0	
325 < D ≤ 355	12,1	–	(2 x 75) x 30,0	

Classifications given above for specific intumescent material dimensions are also valid for pipes with smaller pipe diameter and the same pipe wall thickness range.

**Table C20. Fire resistance class of PE-RT/Al/PE-RT pipes penetration seal in rigid floor thickness of:  $t \geq 150$  mm, made with use of INTU FR COLLAR**

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
D ≤ 20	2,0	–	30 x 4,0	EI 240 – U/C EI 240 – C/C

**Table C21. Fire resistance class of PE-X/Al/PE-X pipes penetration seal in rigid floor thickness of:  $t \geq 150$  mm, made with use of INTU FR COLLAR**

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
D ≤ 20	2,0	–	30 x 4,0	EI 240 – U/C EI 240 – C/C

**Table C22. Fire resistance class of PP-R/Al/PP-R pipes penetration seal in rigid floor thickness of:  $t \geq 150$  mm, made with use of INTU FR COLLAR**

Pipe diameter [mm]	Pipe wall thickness [mm]	Insulation thickness [mm]	Intumescent material width x thickness [mm]	Fire resistance class
D ≤ 20	3,4	–	30 x 4,0	EI 240 – U/C EI 240 – C/C
	3,5 – 18,3	–	30 x 10,0	EI 120 – U/C
20 < D ≤ 110	18,3	–	30 x 10,0	EI 120 – C/C

Classifications given above for specific intumescent material dimensions are also valid for pipes with smaller pipe diameter and the same pipe wall thickness range.

<b>BWR 3 Hygiene, health and the environment</b>	
Air permeability	NPD
Water permeability	NPD
Content, emission, release of dangerous substances	NPD
<b>BWR 4 Safety and accessibility in use</b>	
Mechanical resistance and stability	NPD
Resistance to impact/movement	NPD
Adhesion	NPD
Durability	Z <sub>2</sub>
<b>BWR 5 Protection against noise</b>	
Aireborne sound insulation	NPD
<b>BWR 6 Energy economy and heat retention</b>	
Thermal properties	NPD
Water vapour permeability	NPD

8. Appropriate technical documentation or special technical documentation:

**Not applicable**

The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.


Signed for and on behalf of the manufacturer by:

Name: Michał Szykowski

Position: President of the Management Board

Piaseczno, 06.02.2026

Place, date



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Signature

Edition 2