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Product Name:

FirePro® Compound

Project No.:

4791365621.1

Report No.:

4791060918.1-01

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2

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1. Introduction

This classification report defines the classification assigned to the element FirePro® Compound, in accordance with the procedures given in BS EN 13501-2: 2023.

2. Details of classification product

2.1 General

The product FirePro® Compound is defined as a fire resisting penetration sealing system to be used to reinstate the performance of floors.

2.2 Product description

The element FirePro® Compound, is fully described in the test reports provided in support of Classification, detailed in clause 3.1.

3. Test reports in support of classification

3.1 Summary of test reports

Name of laboratory	Name of sponsor	Test reference	Test date	Test method
Warringtonfire Limited	Rockwool Limited	518794/R	22/06/2022	BS EN 1366-3: 2021
		526259/R	27/01/2023	BS EN 1366-3: 2021
		423091/R	26/02/2020	BS EN 1366-3: 2009
		546648/R	14/10/2024	BS EN 1366-3: 2021
		521534/R	22/01/2023	BS EN 1366-3: 2021
		518225/R	12/05/2022	BS EN 1366-3: 2021
		435014/R	05/12/2020	BS EN 1366-3: 2009
		436617/R	21/07/2021	BS EN 1366-3: 2009
		436613/R	22/02/2021	BS EN 1366-3: 2009
		514253/R	24/02/2022	BS EN 1366-3: 2021
		427399/R	19/03/2020	BS EN 1366-3: 2009
		435011/R	25/11/2020	BS EN 1366-3: 2009
		436619/R	31/03/2021	BS EN 1366-3: 2009
		416060	30/07/2019	BS EN 1366-3: 2009
		550322B	27/03/2025	BS EN 1366-3: 2021+A1:2024
		552021	15/07/2025	
		552022	17/07/2025	

Seal	Size (mm)	Seal details	Integrity (minutes)			Insulation (minutes)
			Cotton Pad	Sustained Flaming	Gap Gauge	
A	2000 x 2600	100mm thick FirePro® Compound. Steel reinforcement angle 40 x 60 x 1.5mm was fixed around the perimeter and at 250mm centres across the 2m width of the aperture. The angle was installed mid-depth of the compound. 50mm FirePro Batt was used as shuttering.	264*	264*	264*	264*
B	1100 x 2000	100mm thick FirePro® Compound. Steel reinforcement angle 40 x 60 x 1.5mm was fixed around the perimeter and at 250mm centres across the 2m width of the aperture. The angle was installed mid-depth of the compound. 50mm FirePro Batt was used as shuttering.	264*	264*	264*	264*

*Test was discontinued after a period of 264 minutes without a failure being observed.

Seal	Size (mm)	Seal details	Integrity (minutes)			Insulation (minutes)
			Cotton Pad	Sustained Flaming	Gap Gauge	
A	1120 x 2600	100mm thick FirePro® Compound was poured over a GRP grating that was installed flush with the top edge of the aperture. 2mm Cordex board was used as shuttering. The FirePro® Compound was poured into the aperture formed between the aerated concrete substrate and an upstand steel angle affixed to the top of the floor slab.	224	264*	264*	53
B	1100 x 2600	100mm thick FirePro® Compound. Steel reinforcement angle 40 x 60 x 1.5mm was fixed around the perimeter of the aperture. The angle was installed mid-depth of the compound. 50mm FirePro Batt was used as shuttering.	264*	264*	264*	264*
C	750 x 2600	100mm thick FirePro® Compound was poured over 50mm FirePro Batt, which was used as shuttering.	264*	264*	264*	264*

*Test was discontinued after a period of 264 minutes without a failure being observed.

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Summary of report No.: WF No. 423091/R

A fire resistance test in accordance with BS EN 1366-3: 2009, on 2 penetration seals installed within an aerated rigid floor supporting construction.

The section of floor had overall nominal dimensions 2260 mm long by 1750 mm wide by 150 mm thick. The floor was provided with a single aperture separated by a 203 X 102 X 23 mm steel beam. For the purpose of the test each side of the steel beam was treated as a separate aperture, referenced A and B. Each aperture measured 800 x 1100mm and was penetrated by a range of services. The FirePro® Compound was poured flush with the top of the floor slab on top of 50mm FirePro batt that was used as a shutter. The shuttering was removed on Aperture A and cut back around the pipe cluster of Aperture B.

Ref	Service type	Integrity (minutes)			Insulation (minutes)
		Cotton Pad	Sustained Flaming	Gap Gauge	
A	A1: 150x150x1.2mm steel trunking with 100mm bundle of F Cables. Void within was packed with 300mm (350mm uncompressed) long layer of RWA45 insulation, positioned centrally.	108	240*	240*	44
	A2: 450x300mm double layer of 50mm FirePro batt, which was installed before the compound was poured.	240*	240*	240*	240*
	Plasterboard	240*	240*	240*	-
	Compound	240*	240*	240*	240*
B	B3: 323.9x5mm steel pipe, C/U, with 40mm RockLap H&V Pipe Section, Case LS	215	240*	240*	191
	B4: 42x1mm Copper pipe, C/U, with 25mm RockLap H&V Pipe Section, Case LS	209	240*	240*	184
	B5: 159x1.2mm Copper pipe, C/U, with 25mm RockLap H&V Pipe Section, Case LS	209	240*	240*	57
	Steel angle	240*	240*	240*	104
	Timber	119	126#	126#	119
	Compound	240*	240*	240*	240*
Steel 'I' Beam		119	126	126#	112
*Test was discontinued after a period of 240 minutes without a failure being observed.					
#Specimen blanked off to allow the test to continue					

Seal	Size (mm)	Seal details	Integrity (minutes)			Insulation (minutes)
			Cotton Pad	Sustained Flaming	Gap Gauge	
A	1100 x 1200	100mm thick FirePro® Compound, poured over 50mm FirePro Batt, which was used as shuttering. Shuttering was kept in place for the test	264*	264*	264*	264*
*Test was discontinued after a period of 264 minutes without a failure being observed.						

Summary of report No.: WF No. 521534/R

A fire resistance test in accordance with BS EN 1366-3: 2021, on penetration seals installed within an aerated rigid floor supporting construction. The section of floor had overall nominal dimensions 2220mm long by 1720mm wide by 150 mm thick. The floor was provided with a single aperture 1600 x 1100mm that was sealed with 100mm FirePro® Compound over a 50mm shuttering batt. The seal was penetrated by a range of service ladders and cables. Within the aperture the seal was referenced A1, which incorporated a FirePro 50mm 'battbox' to protect the services above the compound seal and A2, which incorporated a FirePro® Compound upstand of 150mm around the service penetrations.

Ref	Service type	Integrity (minutes)			Insulation (minutes)
		Cotton Pad	Sustained Flaming	Gap Gauge	
A1	Batt A1	264*	264*	264*	264*
	D1 Cable	264*	264*	264*	245
	D3 Cable	264*	264*	264*	227
	Ø100mm bundle of F cables	264*	264*	264*	264*
	E Cable	264*	264*	264*	264*
Batt A2	A2	264*	264*	264*	264*
	D1 Cable	264*	264*	264*	264*
	D3 Cable	264*	264*	264*	264*
	E Cable	264*	264*	264*	264*
	345mm Ladders	264*	264*	264*	264*
	C3	264*	264*	264*	264*
	E	264*	264*	264*	264*
	C1	264*	264*	264*	264*
	345mm Ladders	264*	264*	264*	264*
	D3	264*	264*	264*	264*
	345mm Ladders	264*	264*	264*	264*
	B	264*	264*	264*	264*
	A3	264*	264*	264*	264*
	B	264*	264*	264*	264*
	A1	264*	264*	264*	264*
	F	264*	264*	264*	264*
	G2	264*	264*	264*	264*

*Test was discontinued after a period of 264 minutes without a failure being observed.

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Summary of report No.: WF No. 518225/R

A fire resistance test in accordance with BS EN 1366-3: 2021, on penetration seals installed within an aerated rigid floor supporting construction. The section of floor had overall nominal dimensions 2230mm long by 1730mm wide by 150 mm thick. The floor was provided with two rectangular apertures, 1100mm by 675mm, each penetrated by a range of services.

Specimen B. 100 mm thick layer of FirePro Compound was installed around the pipes, flush with the unexposed surface of the floor construction.

Specimen	Service type	Integrity (minutes)			Insulation (minutes)
		Cotton Pad	Sustained Flaming	Gap Gauge	
B2	Ø 108 mm by 1.85 mm wall thickness Copper pipe, C/U, which was insulated with 1000 x 25mm thick RockLap H&V pipe sections. LS	132*	132*	132*	132*
B3	Ø 76 mm by 1.63 mm wall thickness Copper pipe, C/U, which was insulated with 1000 x 25mm thick RockLap H&V pipe sections. LS	132*	132*	132*	132*
B4	Ø 42mm by 1.16 mm wall thickness Copper pipe, C/U, which was insulated with 1000 x 25mm thick RockLap H&V pipe sections. LS	132*	132*	132*	132*
*Test was discontinued after a period of 132 Minutes.					

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Summary of report No.: WF No. 435014/R

A fire resistance test in accordance with BS EN 1366-3: 2009, on 2 penetration seals installed within an aerated rigid floor supporting construction. The section of floor had overall nominal dimensions 2250mm long by 1750mm wide by 150mm thick. The floor was provided with two apertures, each 990mm by 670mm.

Specimen	Service type	Integrity (minutes)			Insulation (minutes)
		Cotton Pad	Sustained Flaming	Gap Gauge	
A	Blank 670 mm by 990 mm Aperture sealed with 50mm FirePro® Compound	247	248 [#]	248 [#]	221
B1	Ø 160 mm by 6.2 mm wall thickness uPVC pipe U/C, with FIREPRO Intumescent Pipe Wrap installed to the exposed face in one layer	116	116	117 [#]	81
B2	Ø 160 mm by 9.6 mm wall thickness uPVC pipe U/C, with FIREPRO Intumescent Pipe Wrap installed to the exposed face in one layer	98	98	99 [#]	97
B3	Ø 219mm by 5.0 mm wall thickness steel pipe, C/U, which was insulated with 480 x 25mm thick Fire Tube pipe section.	250	264*	264*	73
B4	Ø 42mm by 1.0 mm wall thickness Copper pipe, C/U, which was insulated with 480 x 25mm thick RockLap H&V pipe sections.	264*	264*	264*	196
B5	Ø 159mm by 2.0 mm wall thickness Copper pipe, C/U, which was insulated with 480 x 25mm thick RockLap H&V pipe sections.	229	229	264*	58
B Seal	670 mm by 990 mm Aperture sealed with 50mm FirePro® Compound	250	264*	264*	250
# Specimen blanked off to allow the test to continue.					
* Test was discontinued after a period of 264 Minutes.					

Summary of report No.: WF No. 436617/R

A fire resistance test in accordance with BS EN 1366-3: 2009, on a penetration seal installed within an aerated rigid floor supporting construction. The aperture was 1600 mm x 1100 mm and was sealed with 100 mm depth of FirePro Compound, which was poured around the services, on top of 50 mm shuttering batt.

Specimen A. 100 mm thick layer of FirePro Compound was installed around the services, flush with the unexposed surface of the floor construction. A single layer of 12.5 mm Fireline plasterboard was used on one side as upright shuttering.

Spec	Seal	Service type	Integrity (minutes)			Insulation (minutes)
			Cotton Pad	Sustained Flaming	Gap Gauge	
A	100 mm compound on top of 50 mm shuttering batt	Ø610 mm by 5 mm wall thickness mild Steel Pipe with 40 mm RockLap H&V Pipe Section C/U	231*	231*	231*	106
B		Ø159 mm by 1.8 mm wall thickness mild Copper Pipe with 40 mm RockLap H&V Pipe Section C/U	220	220	227#	85
C		Ø42 mm by 1.2 mm wall thickness mild Copper Pipe with 25 mm RockLap H&V Pipe Section C/U	223	223	227#	173
D	FirePro Intumescent Pipe Wrap CE fixed around the pipe to the bottom of the seal. 100 mm compound on top of 50 mm batt	Ø 40mm by 1.8 mm wall thickness PPH pipe, U/C	231*	231*	231*	231*
E		Ø 40mm by 1.5 mm wall thickness PPH pipe, U/C	231*	231*	231*	231*
F		Ø 40mm by 1.5 mm wall thickness PVC pipe, U/C	231*	231*	231*	231*
G		Ø 40mm by 3.0 mm wall thickness PVC pipe, U/C	231*	231*	231*	231*
H		Ø 40mm by 2.4 mm wall thickness PE pipe, U/C	231*	231*	231*	231*
I		Ø 40mm by 3.7 mm wall thickness PE pipe, U/C	231*	231*	231*	231*
J	100 mm compound on top of 50 mm shuttering batt. Trunking was packed with FirePro Intumescent pillows.	100 x 100 x 0.8 mm wall thickness galvanised steel trunking with Ø100 mm F bunch cables	231*	231*	231*	144
K		150 x 150 x 1.2 mm wall thickness galvanised steel trunking with Ø150 mm F bunch cables	231*	231*	231*	45
L		310 x 150 x 1.2 mm wall thickness galvanised steel trunking with 300 x 50 mm RWA45 insulation to the unexposed face	231*	231*	231*	231*
M	100 mm compound on top of 50 mm shuttering batt	135 x 105 mm Busbar with FirePro Ablative Coated Batt box section & RWA45 Insulation within the cavity	231*	231*	231*	231*

Specimen blanked off to allow the test to continue.

* Test was discontinued after a period of 231 Minutes.

Spec	Seal	Service type	Integrity (minutes)			Insulation (minutes)
			Cotton Pad	Sustained Flaming	Gap Gauge	
B1	50 mm FirePro Compound. B1 with 150 mm high x 200 mm wide upstand	450 mm perforated steel tray with 300 x 40 mm ROCKWOOL stone wool insulation to the UXF	120*	120*	120*	120*
		B1(1) = 1 x D1 and 1 x D3 cables	108	108	108#	104
		B1(2) = 1 E cable	120*	120*	120*	120*
		B1(3) = 20 x F cables	120*	120*	120*	120*
B2	B3 with 150 mm high by 250 mm wide upstand. A single layer of Fireline on one side as backstop.	41 x 41 x 2.5 mm Unistrut channel	120*	120*	120*	120*
B3		41 x 41 x 2.5 mm Unistrut channel	120*	120*	120*	120*
B4		41 x 41 x 2.5 mm Unistrut channel zero distance from the aperture edge	120*	120*	120*	120*

Specimen blanked off to allow the test to continue.
 * Test was discontinued after a period of 120 Minutes.

Spec	Seal	Service type	Integrity (minutes)			Insulation (minutes)
			Cotton Pad	Sustained Flaming	Gap Gauge	
A1	FIREPRO® 50mm Ablative Coated Batt positioned within the void flush with the exposed face and around the services A 25 mm depth of FirePro® Compound was poured on to the batt and allowed to set before the remaining 75mm was poured on top and trowelled flush with the unexposed face of the floor.	300 x 110 x 1.5 mm steel cable ladder supporting 1 x D3, 1 x D2 and 2 x E Cables	143	143	264*	135
A1.2		200 x 110 x 1.5 mm steel cable ladder supporting 1 x D3 cable	143	143	264*	123
A2		500 x 60 x 1.5 mm perforated steel cable tray supporting 10 x A1, 10 x A2, 10 x A3, 2 x B, 1 x C1, 1 x C2 and 1 x C3 Cables	264*	264*	264*	76
A3		500 x 60 x 1.5 mm unperforated steel cable tray supporting 1 x 100 mm Cable bundle of F telecom cables, 1 x G1, 1 x G2 cables, 3 x rigid PVC conduits and 3 x rigid copper conduits.	178	178	186#	36
B1		Ø160 mm by 2.0 mm wall thickness copper pipe with 40 mm RockLap H&V Pipe Section fixed on the UXF. C/U	217	217	264*	45
B2		Ø40 mm by 1.2 mm wall thickness copper pipe with 40 mm RockLap H&V Pipe Section fixed on the UXF. C/U	264*	264*	264*	215
B3		Ø220 mm by 4.5 mm wall thickness steel pipe with 40 mm RockLap H&V Pipe Section fixed on the UXF. C/U	264*	264*	264*	136
C		310 x 150 x 1.2 mm wall thickness galvanised steel trunking 300 mm long section of RWA45 insulation, positioned centrally within the seal.	264*	264*	264*	65
D		Ø63 mm by 4.6 mm wall thickness PE-X/AL/PE-X multi-layer composite pipe with FirePro insulated Fire Sleeve fixed centrally around the pipe. U/C	264*	264*	264*	180
E1		Ø325 mm by 4.5 mm wall thickness steel pipe sleeve / Ø220 mm by 4.5 mm wall thickness steel pipe C/U & RWA45 positioned centrally in the cavity of the sleeve with 25 mm FirePro AIS to the unexposed face.	140	148	148#	22
E2		Ø325 mm by 4.5 mm wall thickness steel pipe sleeve / Ø220 mm by 4.5 mm wall thickness steel pipe C/U with 40 mm thick RockLap H&V Pipe Section (Case CS) & RWA45 positioned centrally in the cavity of the sleeve with 25 mm FirePro AIS to the unexposed face.	170	264*	264*	138

Specimen blanked off to allow the test to continue.
 * Test was discontinued after a period of 264 Minutes.

Spec	Seal	Service type	Integrity (minutes)			Insulation (minutes)
			Cotton Pad	Sustained Flaming	Gap Gauge	
B1	100 mm FirePro Compound and 50 mm shuttering batt. FirePro Intumescent Pipe Wraps were fitted flush with the exposed face of the fire compound on each pipe	Ø160 x 4.7 mm PVC-U pipe U/C.	240*	240*	240*	207
B2		Ø160 x 9.5 mm PE pipe U/C.	240*	240*	240*	240*
B3		Ø160 x 9.5 mm PVC-U pipe U/C.	240*	240*	240*	240*
B4	100 mm FirePro Compound and 50 mm shuttering batt	Ø42 mm by 1.5 mm wall thickness copper pipe C/U. With 500 mm long 25 mm RockLap H&V Pipe Section Case LS.	240*	240*	240*	122
B5		Ø159 mm by 1.8 mm wall thickness copper pipe C/U. With 500 mm long 25 mm RockLap H&V Pipe Section to the UXF.	228	228	240*	65

Specimen blanked off to allow the test to continue.
* Test was discontinued after a period of 240 Minutes.

Spec	Seal	Service type	Integrity (minutes)			Insulation (minutes)
			Cotton Pad	Sustained Flaming	Gap Gauge	
B1	50mm shuttering batt and 100mm depth of FirePro Compound flush with the unexposed face. 150mm long by 25mm thick FirePro Insulated Fire Sleeve fitted around each service protruding 10mm from the unexposed face	Ø160 x 9.5 mm HDPE pipe, U/C	132*	132*	132*	132*
B2		Ø160 x 4.9 mm HDPE pipe, U/C	132*	132*	132*	132*
B3		Ø160 x 6.2 mm UPVC pipe, U/C	132*	132*	132*	132*
B4	50mm shuttering batt and 100mm depth of FirePro Compound flush with the unexposed face. 4mm thick FirePro Intumescent Pipe Wrap fitted around each service protruding 5mm below the compound	Ø160 x 4.9 mm HDPE pipe, U/C	132*	132*	132*	132*
B5		Ø160 x 9.5 mm HDPE pipe, U/C	132*	132*	132*	132*
B6-1	50mm shuttering batt and 100mm depth of FirePro Compound flush with the unexposed face. 650mm wide by 800mm high layer of 12.5mm Type F plasterboard lined the aperture fitted flush with the exposed face. FirePro compound upstand around each cable position 50mm deep by 120mm high by 230mm wide (B6-1), 190mm wide (B6-2)	500 x 25 x 1.5 mm perforated steel cable tray supporting Ø100 mm Cable bundle of F telecom cables	132*	132*	132*	132*
B6-2		500 x 25 x 1.5 mm perforated steel cable tray supporting 1no. C1 cable, 1no. C2 cable and 1no. C3 cable	132*	132*	132*	132*
B7	50mm shuttering batt and 100mm depth of FirePro Compound flush with the unexposed face. 25mm thick FirePro Intumescent Pipe Wrap fitted around the service protruding 5mm from each face	Ø160 x 4.9 mm HDPE pipe, U/C	132*	132*	132*	132*
B8	50mm shuttering batt and 100mm depth of FirePro Compound flush with the unexposed face. 300mm long by 30mm thick FirePro Insulated Fire Sleeve fitted around the service protruding 100mm from the unexposed face	Ø160 x 1.7 mm PVC vent duct pipe, U/C	25	25	27#	3

Specimen blanked off to allow the test to continue.
* Test was discontinued after a period of 132 minutes.

* Test was discontinued after a period of 264 minutes.

Summary of report No.: WF No. 550322B

A fire resistance test in accordance with BS EN 1366-3: 2021+A1:2024, on 2 rectangular penetration seals installed within an aerated rigid floor supporting construction. Each aperture was nominally 1100 mm x 675 mm. The apertures were penetrated by a range of services.

Specimen C

Seal	Service type	Integrity (minutes)			Insulation (minutes)
		Cotton Pad	Sustained Flaming	Gap Gauge	
50 mm thick FirePro® CB50 batt was friction fit to the exposed face to act as a shuttering for the compound seal. 100 mm thick FirePro® Compound was poured onto the shuttering.	1100 mm by 675 mm Seal	241*	241*	241*	241*
C1 – 3. No. layers of 2 mm thick FirePro® PWRoll wrapped around the service.	C1 - 110 mm Ø by 6.6 mm wall thickness PVC pipe. U/C	241*	241*	241*	241*
C2 - 4. No. layers of 2 mm thick FirePro® PWRoll wrapped around the service.	C2 - 160 mm Ø by 4.9 mm wall thickness HDPE pipe. U/C	241*	241*	241*	241*
C3 - 4. No. layers of 2 mm thick FirePro® PWRoll wrapped around the service.	C3 - 160 mm Ø by 6.2 mm wall thickness PVC pipe. U/C	237	237	238#	208
C4 - 4. No. layers of 2 mm thick FirePro® PWRoll wrapped around the service.	C4 - 110 mm Ø by 10 mm wall thickness Uponor MLCP Pipe PE-RT pipe. U/C	241*	241*	241*	124*
C5 - 2. No. layers of 2 mm thick FirePro® PWRoll wrapped around the service.	C5 - 40 mm Ø by 4 mm wall thickness Uponor MLCP Pipe PE-RT pipe. U/C	241*	241*	241*	241*
# Specimen blanked off to allow the test to continue.					
* Test was discontinued after a period of 241 Minutes.					

Specimen D

Seal	Service type	Integrity (minutes)			Insulation (minutes)
		Cotton Pad	Sustained Flaming	Gap Gauge	
50 mm thick FirePro® CB50 batt was friction fit to the exposed face to act as a shuttering for the compound seal. 100 mm thick FirePro® Compound was poured onto the shuttering.	1100 mm by 675 mm Seal	241*	241*	241*	241*
D1 - 1. No. layer of 2 mm thick FirePro® PWRoll wrapped around the service.	D1 - 40 mm Ø by 1.9 mm wall thickness PVC pipe. U/C	241*	241*	241*	241*
D2 - 1. No. layer of 2 mm thick FirePro® PWRoll wrapped around the service.	D2 - 40 mm Ø by 3 mm wall thickness PVC pipe. U/C	241*	241*	241*	241*
D3 - 1. No. layer of 2 mm thick FirePro® PWRoll wrapped around the service.	D3 - 40 mm Ø by 2.4 mm wall thickness HDPE pipe. U/C	241*	241*	241*	241*
D4 - 1. No. layer of 2 mm thick FirePro® PWRoll wrapped around the service.	D4 - 40 mm Ø by 3.7 mm wall thickness HDPE pipe. U/C	241*	241*	241*	241*
D5 - 1. No. layer of 2 mm thick FirePro® PWRoll wrapped around the service.	D5 - 40 mm Ø by 1.8 mm wall thickness PP pipe. U/C	241*	241*	241*	241*
D6 - 1. No. layer of 2 mm thick FirePro® PWRoll wrapped around the service.	D6 - 40 mm Ø by 5.5 mm wall thickness PP pipe. U/C	241*	241*	241*	241*
D7 - 3. No. layer of 2 mm thick FirePro® PWRoll wrapped around the service.	D7 - 110 mm Ø by 4.2 mm wall thickness PVC pipe. U/C	241*	241*	241*	241*
D8 - 3. No. layer of 2 mm thick FirePro® PWRoll wrapped around the service.	D8 - 110 mm Ø by 10 mm wall thickness PP pipe. U/C	241*	241*	241*	241*
D9 - 3. No. layer of 2 mm thick FirePro® PWRoll wrapped around the service.	D9 - 110 mm Ø by 2.7 mm wall thickness PP pipe. U/C	241*	241*	241*	241*
D10 - 3. No. layer of 2 mm thick FirePro® PWRoll wrapped around the service.	D10 - 110 mm Ø by 10 mm wall thickness HDPE pipe. U/C	241*	241*	241*	241*
D11 - 3. No. layer of 2 mm thick FirePro® PWRoll wrapped around the service.	D11 - 110 mm Ø by 2.7 mm wall thickness HDPE pipe. U/C	241*	241*	241*	241*
D12 - 3. No. layer of 2 mm thick FirePro® PWRoll wrapped around the service.	D12 - 110 mm Ø by 6.6 mm wall thickness PVC pipe. U/C	241*	241*	241*	241*
* Test was discontinued after a period of 241 Minutes.					

4. Classification and field of application

4.1 Reference of classification

This classification has been carried out in accordance with Clause 7 of EN 13501-2: 2023.

4.2 Classification

The element, FirePro® Compound is classified according to the following combinations of performance parameters and classes as appropriate.

R	E	I	W		t	t	-	M	S	-	C	IncSlow	sn	ef	r
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Rigid Floors

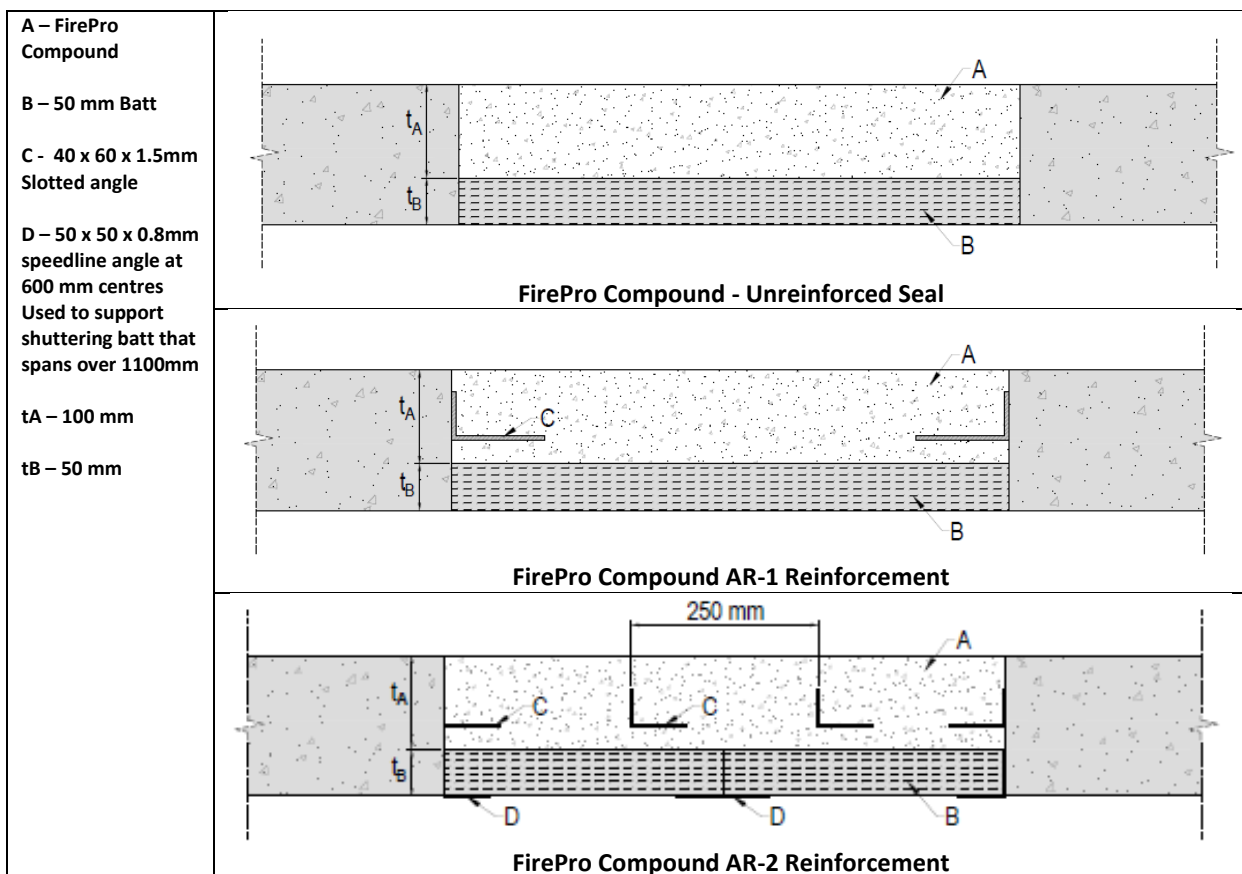
The following installation methods for FirePro® Compound are considered as part of this classification.

Type 1 – 100 mm FirePro® Compound

- Minimum thickness 150 mm concrete or aerated concrete, minimum density of 670 kg/m³.
- Aperture formed from concrete or aerated concrete on 4 sides.
- Rockwool FirePro CB50 coated batt used as permanent shuttering.
- Maximum aperture is restricted by the type of additional reinforcement (AR) used within the compound seal.

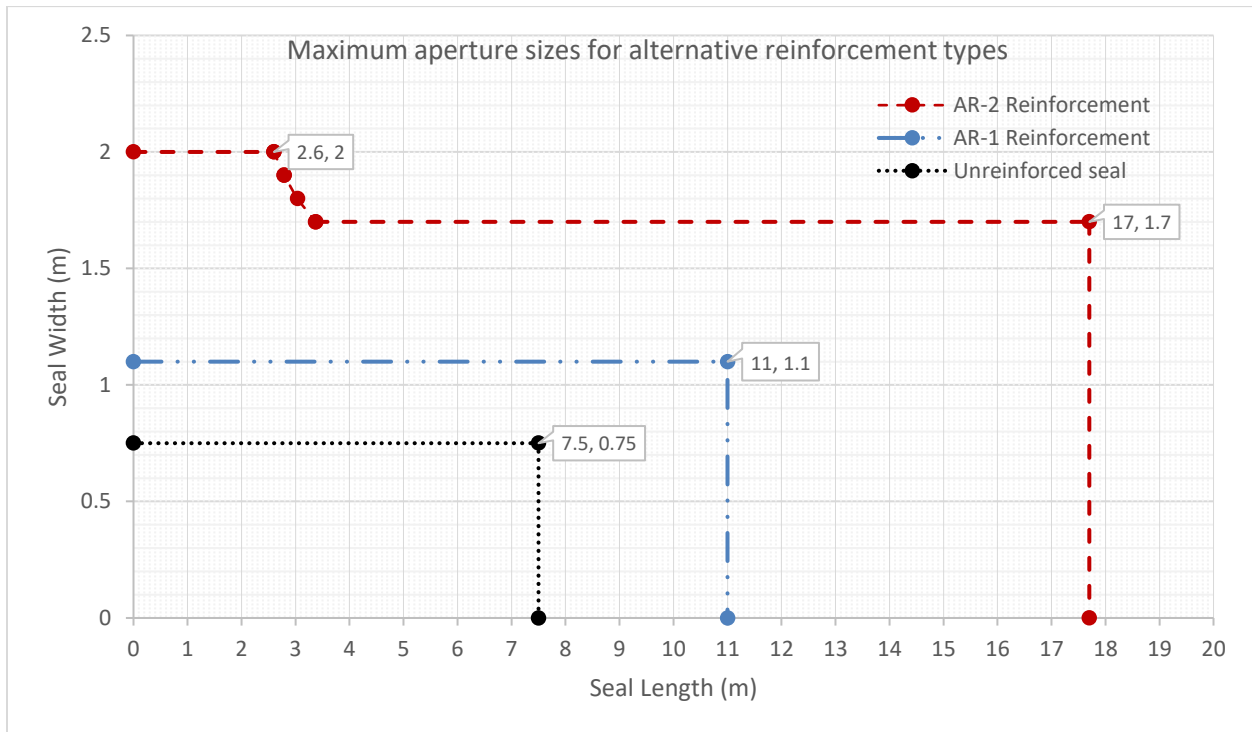
AR-1: Steel reinforcement angle 40 x 60 x 1.5mm, fixed around the perimeter of the aperture.

AR-2: Steel reinforcement angle 40 x 60 x 1.5mm, fixed around the perimeter and at 250mm centres across the width of the aperture.



Seal Type	Classification
Blank Seal	EI 240

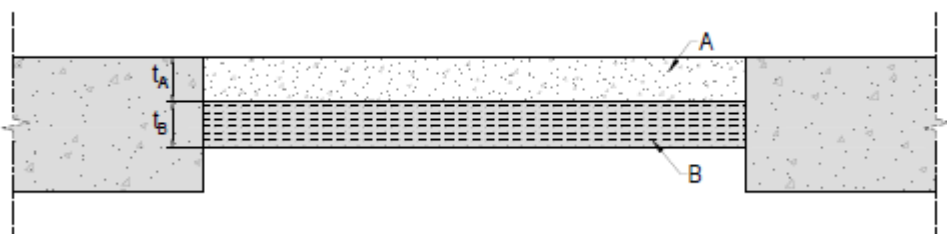
Aperture sizes as defined within 1366-3: 2021, Annex H.8.8. The area below the individual curve(s):
Length to width area covered by rule 13.6.4.



Type 1 – 50 mm FirePro® Compound

- Minimum thickness 150 mm concrete or aerated concrete, minimum density of 670 kg/m³.
- Aperture formed from concrete or aerated concrete on 4 sides.
- Maximum aperture of 670 mm x 990 mm.
- Rockwool FirePro CB50 coated batt used as permanent shuttering, unless stated otherwise.

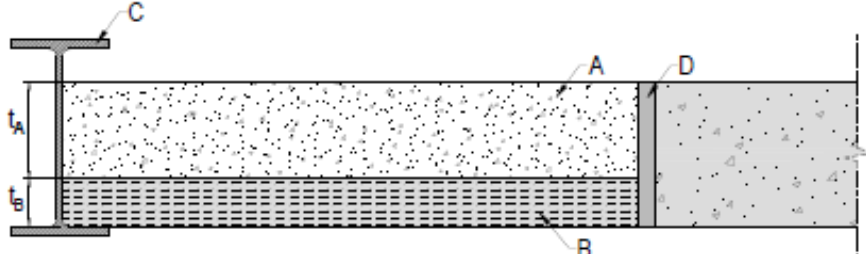
Aperture sizes as defined within 1366-3: 2021, Annex H.8.8. The area below the individual curve(s):
Length to width area covered by rule 13.6.4.

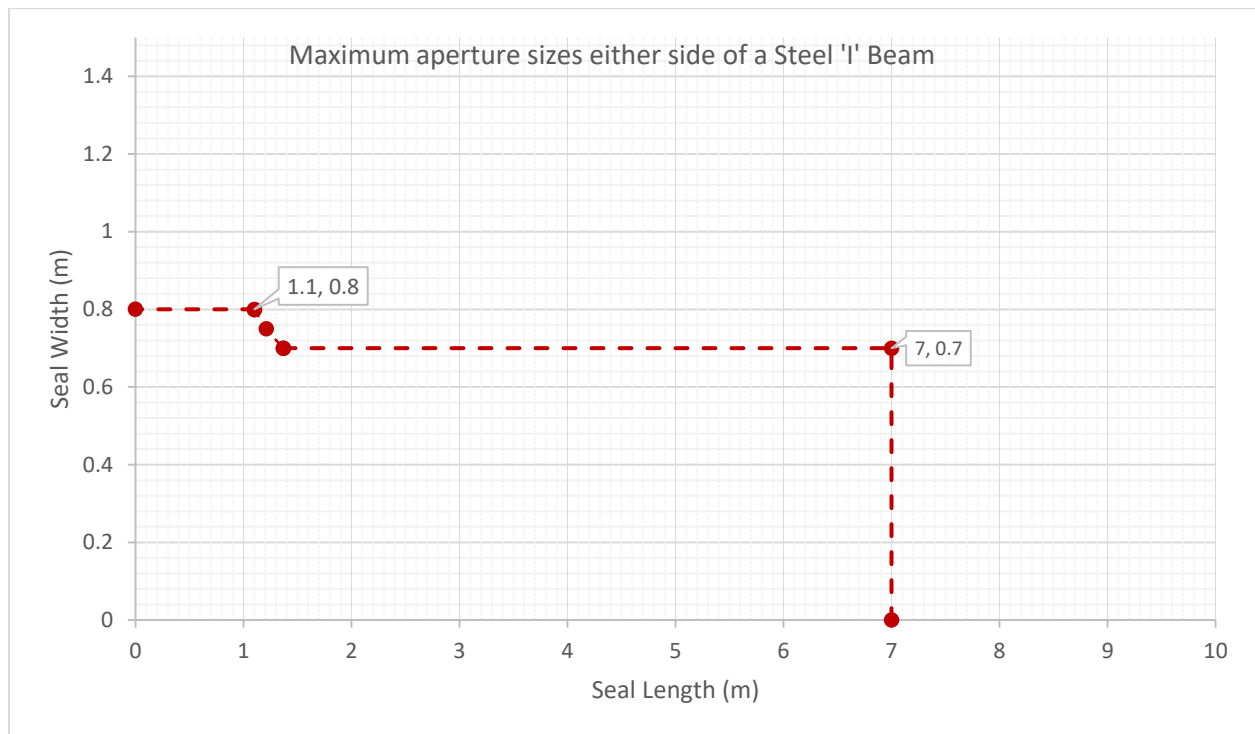
A – FirePro Compound B – 50 mm tA – 50 mm tB – 50 mm		
Seal Type		Classification
Blank Seal		E 240 EI 180

Type 2

- Minimum thickness 150 mm concrete or aerated concrete, minimum density of 670 kg/m³.
- Aperture formed from concrete or aerated concrete on 3 sides. The fourth side is formed using a steel 'I' Beam.
- The following aperture surface materials may be used in line with the below Classification performances. Plasterboard subface, Timber (OSB) subface or Steel subface.

Aperture sizes as defined within 1366-3: 2021, Annex H.8.8.

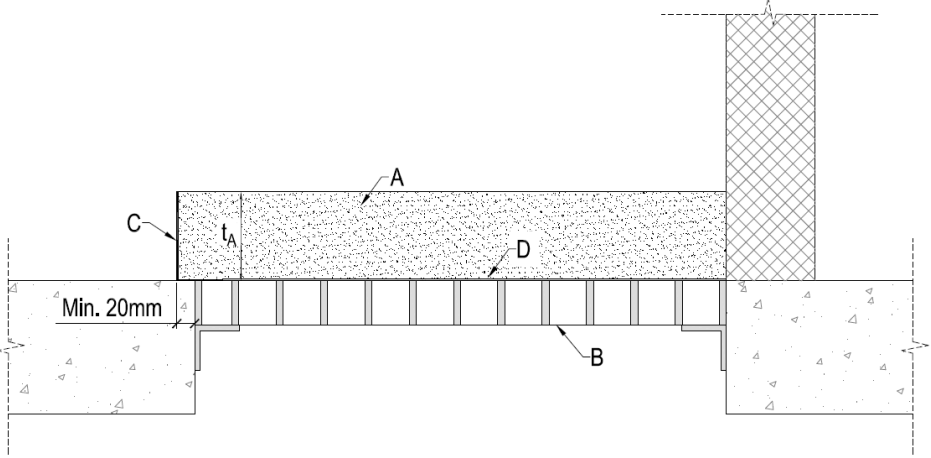
A – FirePro Compound B – 50 mm Batt C - Steel Beam D – aperture subfacing tA – 100 mm tB – 50 mm			
Seal Type	Aperture subface	Classification	
Blank Seal	Steel Beam (UB203x102x23 or heavier section) / AAC Concrete	EI 90	
	Min 12.5mm thick, Type A Plasterboard	E 240	
	Timber – Softwood maximum 18 mm thick	EI 90	
	Steel Angle	E 240 EI 90	

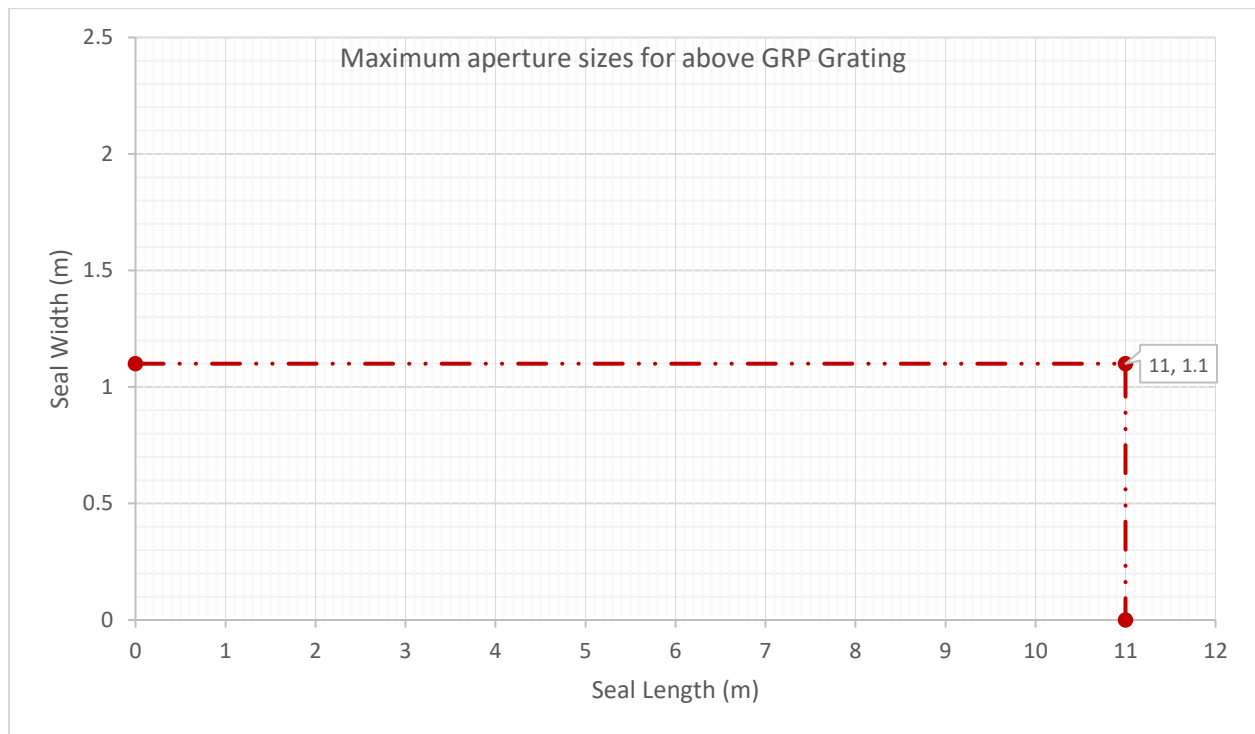


Type 3

- Minimum thickness 150 mm concrete or aerated concrete, minimum density of 670 kg/m³.
- Aperture formed from concrete or aerated concrete on 3 sides, which extends beyond the seal height. The fourth side is formed using 100 x 52 x 1.5mm steel angle.
- GRP grating is affixed within the aperture and a 2mm Cordex board is used as shuttering such that the compound is installed above the grating and floor slab.

Aperture sizes as defined within 1366-3: 2021, Annex H.8.8.

A – FirePro Compound B – GRP Grating C - 100 x 52 x 1.5 mm steel angle D – 2 mm Cordex Board t_A – 100 mm	
Seal Type	Classification
Blank Seal	E 180 EI 30

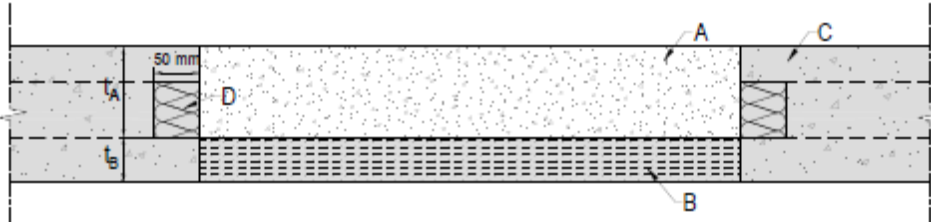


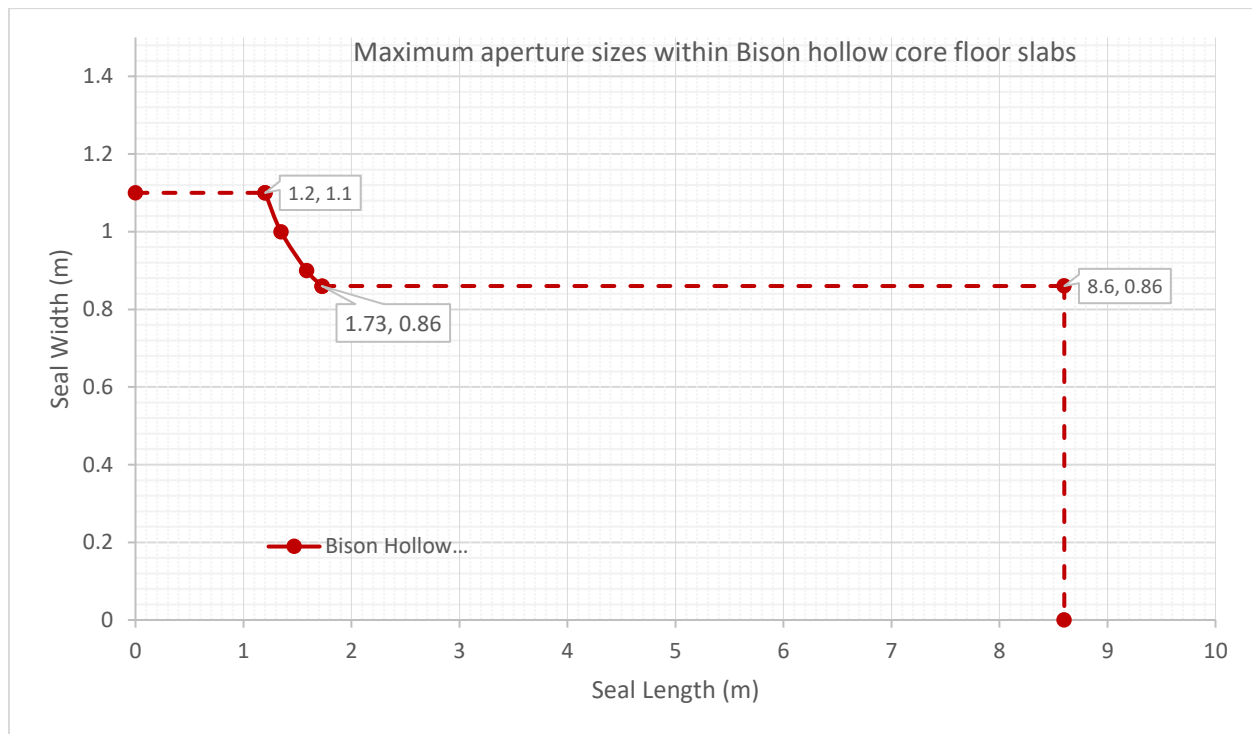
Type 4

Bison Hollow Core Floor

- Minimum thickness 150 mm Bison Hollow Core Floor Slab, minimum density of 2450 kg/m³.
- The Ø65 mm hollow cores were infilled with RWA45 insulation to a depth of 50mm.
- Rockwool FirePro CB50 coated batt used as permanent shuttering.
- The below aperture sizes are defined within 1366-3: 2021, Annex H.8.8, however, the maximum allowable aperture size, as determined by the hollow floor manufacturer, shall be adhered to.

Aperture sizes as defined within 1366-3: 2021, Annex H.8.8.

A – FirePro Compound B – 50 mm Batt C - Bison Slab D – RWA45 Infill tA – 100 mm tB – 50 mm			
Seal Type		Classification	
Blank Seal		EI 240	

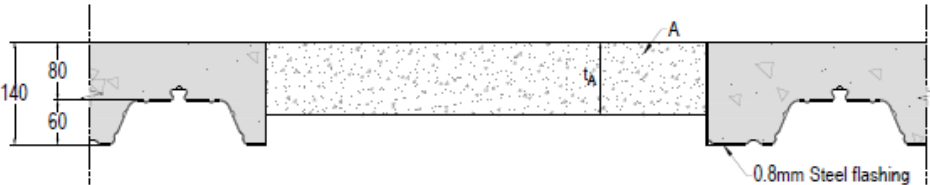


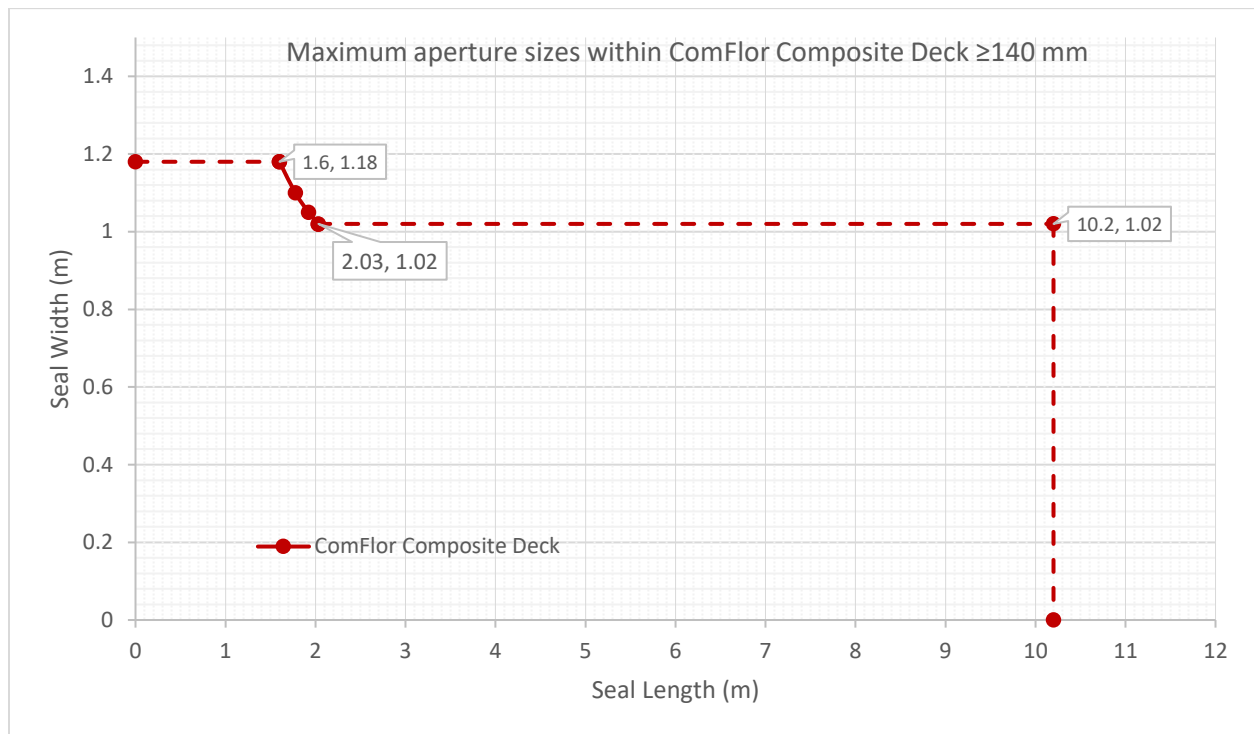
Type 5

Tata Steel ComFlor Composite Deck

- Minimum concrete depth 80 mm with an additional 60 mm depth within the valley of the deck (total 140 mm at its deepest thickness)
- Apertures may be lined or unlined with 0.8 mm steel flashing depending upon performance requirement.
- The below aperture sizes are defined within BS EN 1366-3: 2021+A1:2024, Annex H.8.8, however, the maximum allowable aperture size, as determined by the composite floor manufacturer, shall be adhered to.

Aperture sizes as defined within 1366-3: 2021, Annex H.8.8.

A – FirePro Compound tA – 100 mm	
Seal Type	Classification
Blank Seal – Unlined aperture	E 240 / EI 120
Blank Seal – Aperture lined with 0.8 mm steel flashing	E 240 / EI 180

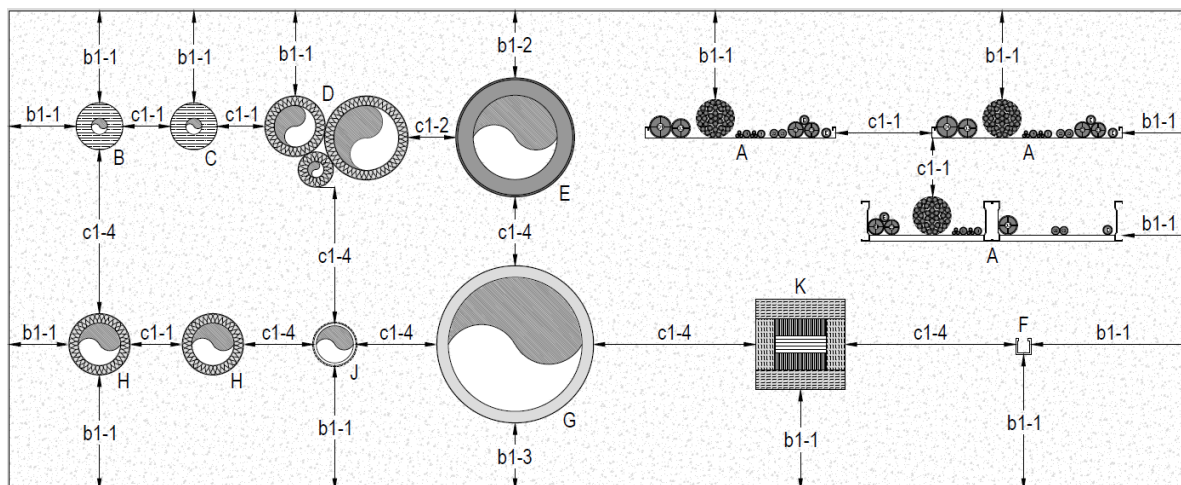


Service Penetrations

The following Classified performances are based upon 100mm thick FirePro® Compound, installed with a permanent 50mm FirePro® CB50 shuttering batt, unless stated otherwise. Additional service protection is applied to the service penetrations, depending upon the performance requirement of the seal.

Service arrangement (spacings)– distances as defined by 1366-3: 2021

Distance type	Distance reference	Spacing distance
Penetration seal to penetration seal	a1	200 mm
Services to aperture edges	b1-1	0 mm
	b1-2	25 mm
	b1-3	50 mm
	b1-4	100 mm
Services in multi-service penetration seal	c1-1	0 mm
	c1-2	25 mm
	c1-3	50 mm
	c1-4	100 mm



Service Ref	Service type
A	Cables/Cable carrier
B	RockLap H&V pipe section Lagged metallic pipes CS/LS
C	RockLap H&V pipe section metallic pipes CI/LI
D	RockLap H&V pipe section 'Clustered' metallic pipes
E	RockLap H&V pipe section metallic pipes in a sleeved aperture
F	Steel channel (Unistrut)
G	Steel Flue
H	FirePro® Insulated Fire Sleeve
J	PWRoll
K	Steel busbar

Service support

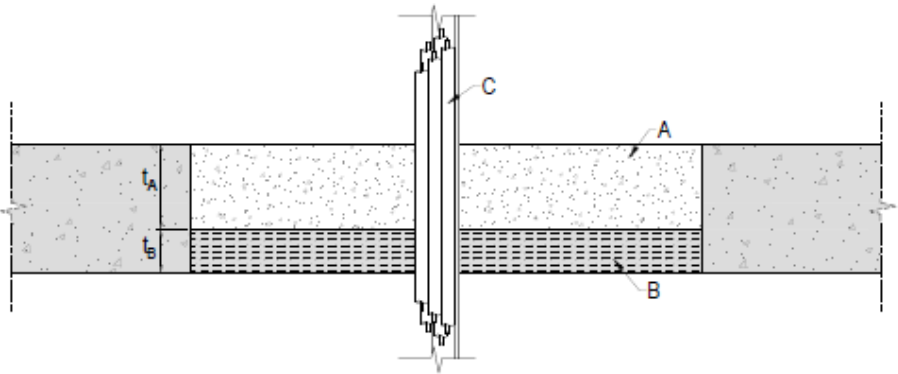
Maximum distance from the top of the seal to the first service support shall be 500 mm unless specified otherwise within a specific detail:

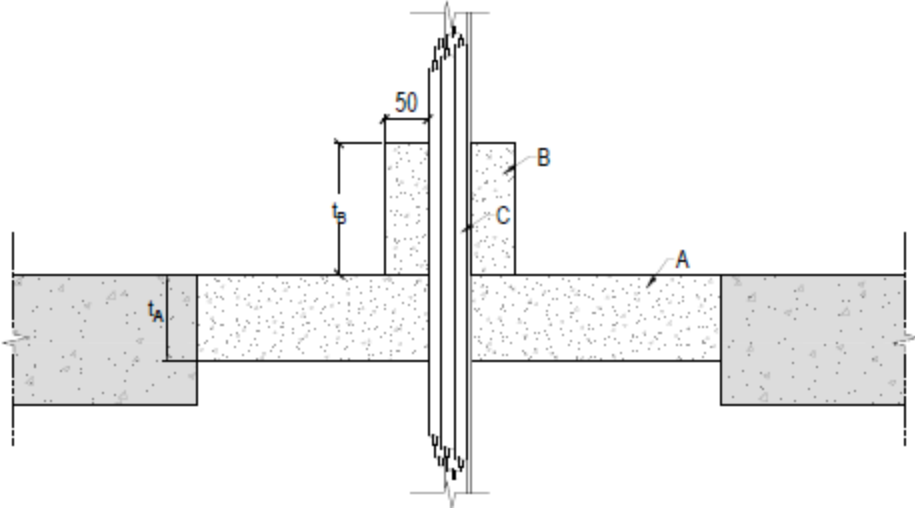
Metallic services:	500 mm
Plastic pipes:	500 mm
Cable carriers:	500 mm
Stainless steel Flue	250 mm

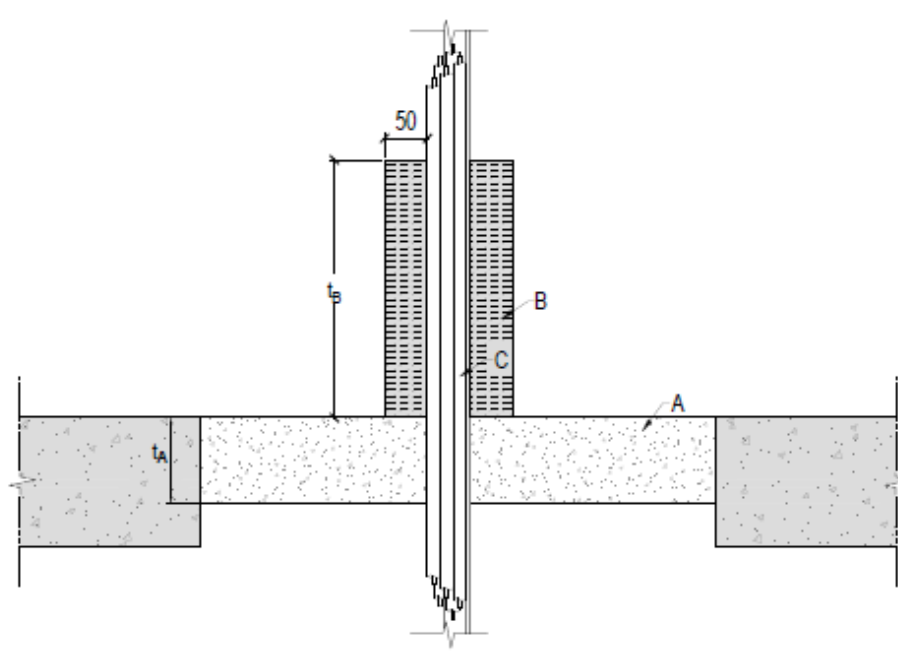
Pipe end configuration for pipe penetrations

Non-Combustible pipes:	C/U
Combustible pipes:	U/C
Stainless steel Flue:	C/C

Cable Penetrations

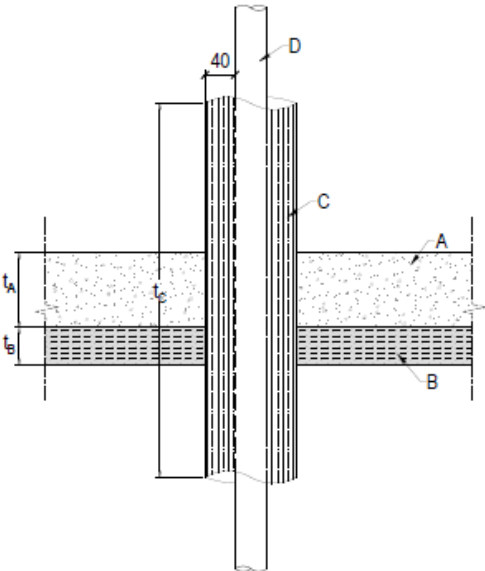
A – FirePro Compound B – 50 mm Batt C - Cable/Cable carrier tA – 100 mm tB – 50 mm 				
Service Type	Service Size	Additional Service Protection	Tested Seal Size	Classification
Cables	≤80 mm	100mm of FirePro® compound above 50 mm shuttering batt.	1610 mm x 1110 mm	E 120 EI 60
Cable bundle	≤Ø100 mm cable bundle ≤Ø21 mm			E 120 EI 30
Unsheathed cables	≤24 mm			E 120 EI 30
Perforated tray, ladder or basket	Unrestricted			E 120 EI 60

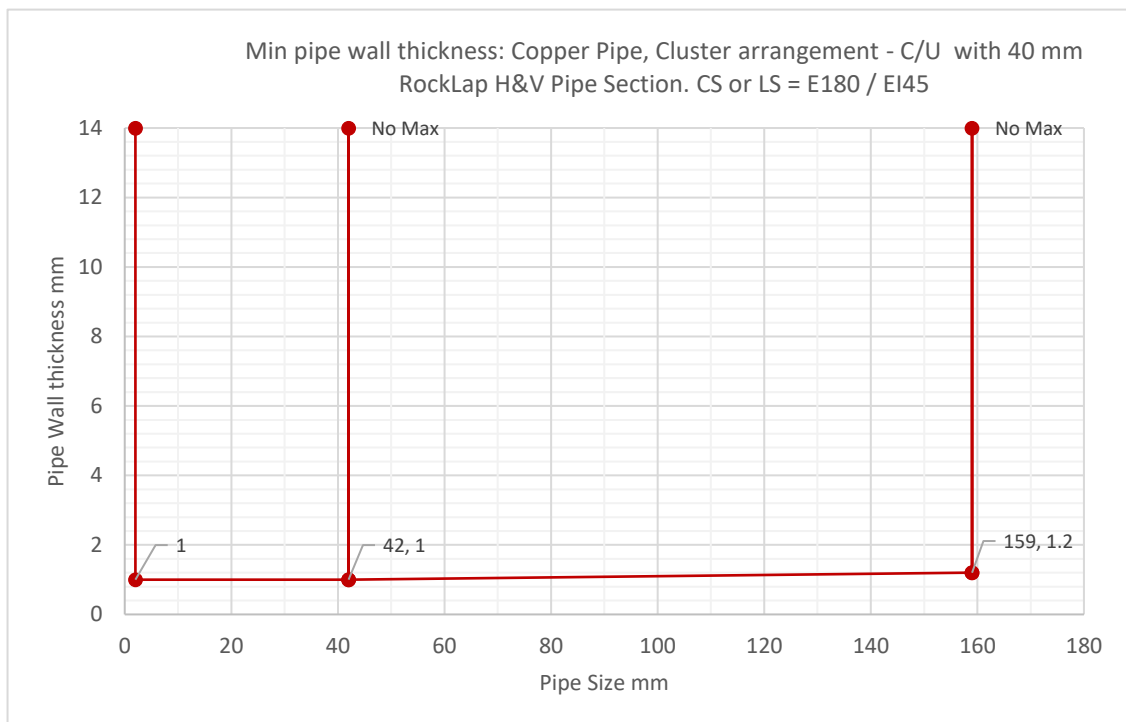
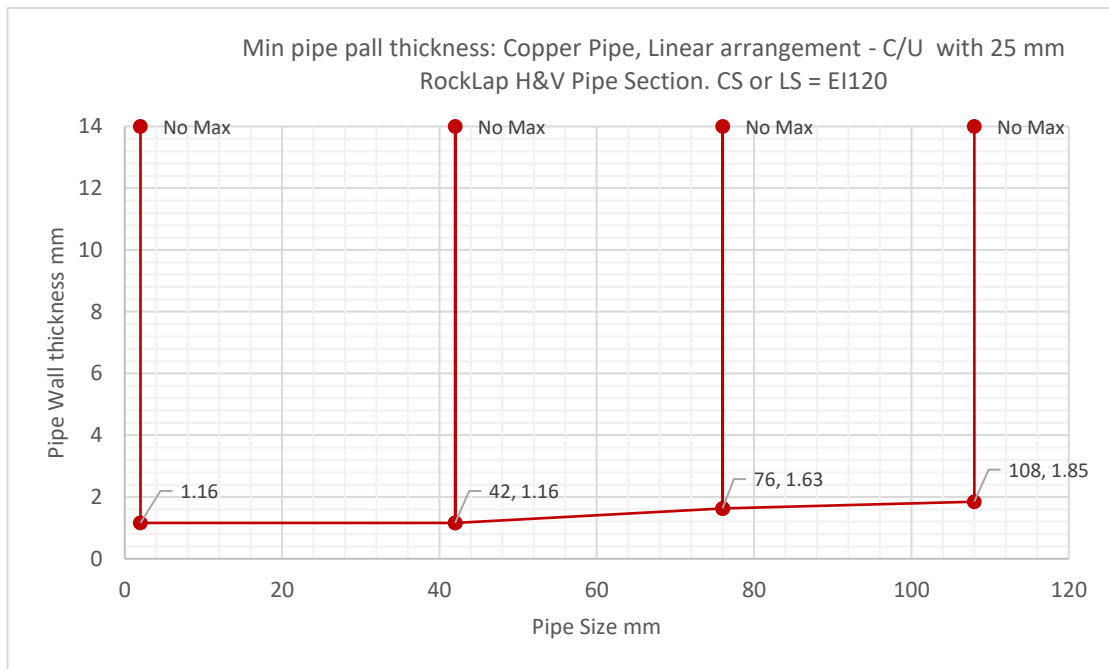
A – FirePro Compound B – 50 mm Batt C - Cable/Cable carrier tA – 100 mm tB – 150 mm				
Service Type	Service Size	Additional Service Protection	Tested Seal Size	Classification
Cables	≤80 mm	150mm of FirePro® Compound locally applied around the cable services, above the installed 100mm thick compound seal.	1100 mm x 1100 mm	EI 240
Cable bundle	≤Ø100 mm cable bundle ≤Ø21 mm			EI 240
Unsheathed cables	≤24 mm			EI 240
Cable tray, ladder or basket	Unrestricted			EI 240

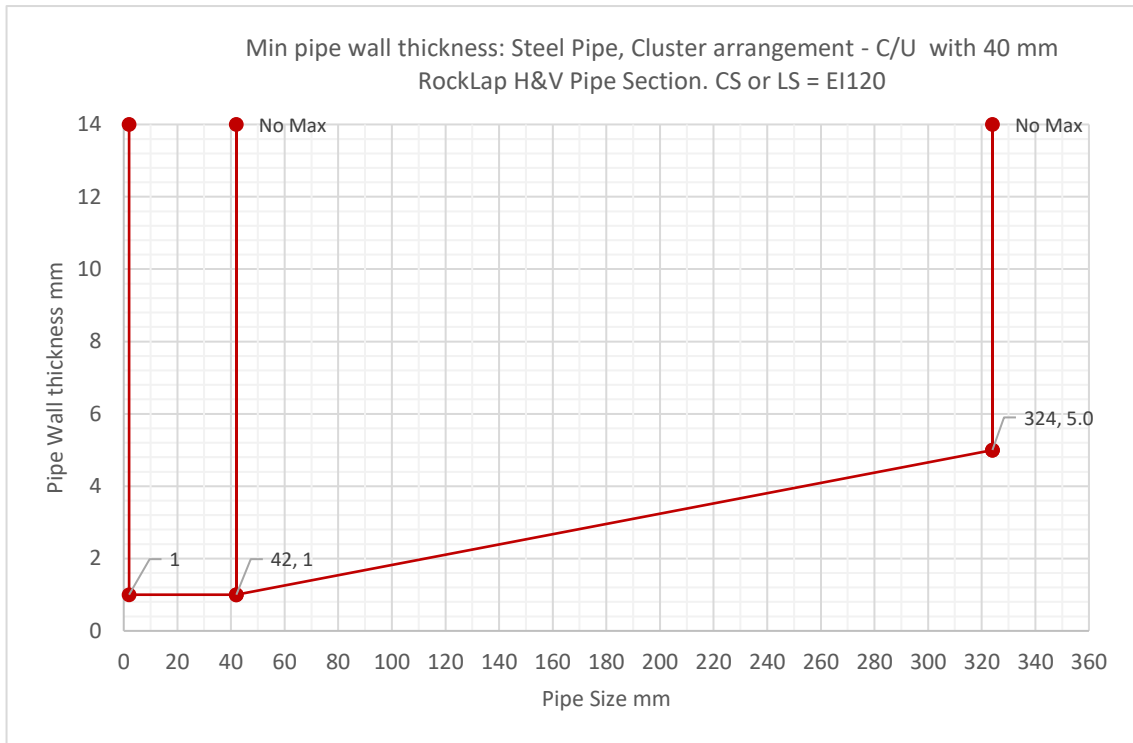
A – FirePro Compound B – 50 mm Batt C - Cable/Cable carrier tA – 100 mm tB – 300 mm				
Service Type	Service Size	Additional Service Protection	Tested Seal Size	Classification
Cables	21 - 80 mm	300 mm box of FirePro® 50 mm batt built up around the cable services, above the installed 100 mm thick FirePro® Compound.	1100 mm x 1100 mm	E 240 EI 180
Cable bundle	≤Ø100 mm telecommunication cable bundle ≤Ø21 mm			EI 240
Cable tray	Unrestricted			EI 240

Metallic Pipe Penetrations

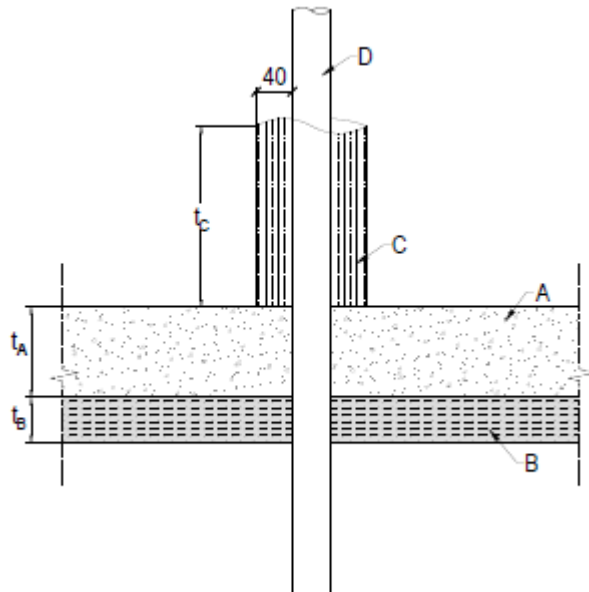
Metallic pipes: Insulated with RockLap H&V Pipe section – CS & LS installation.

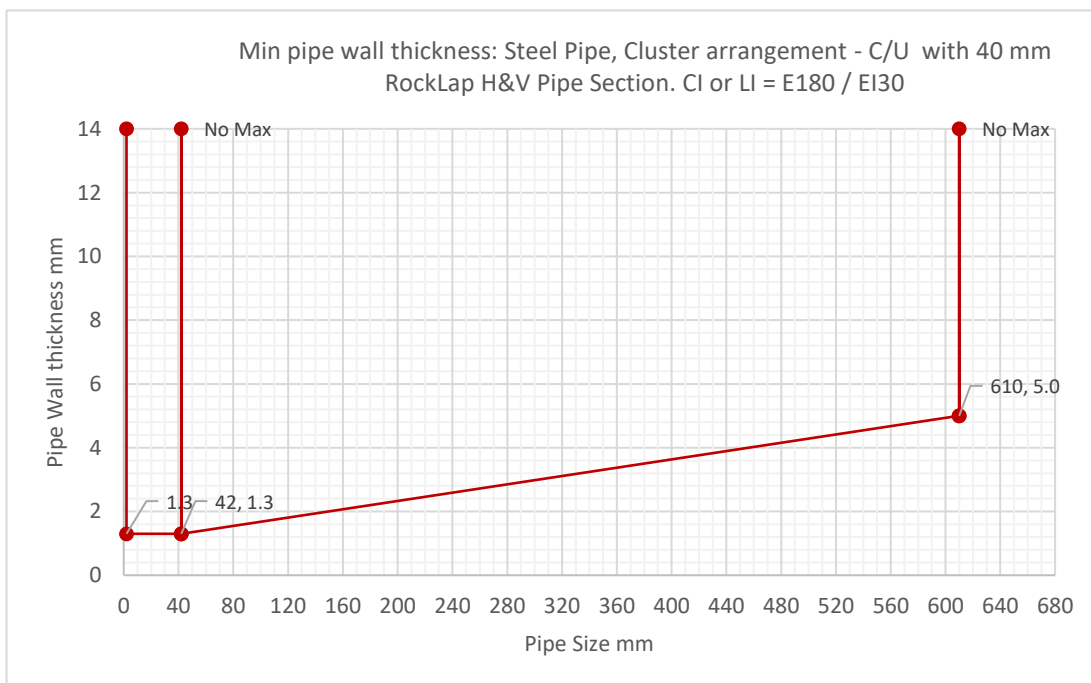
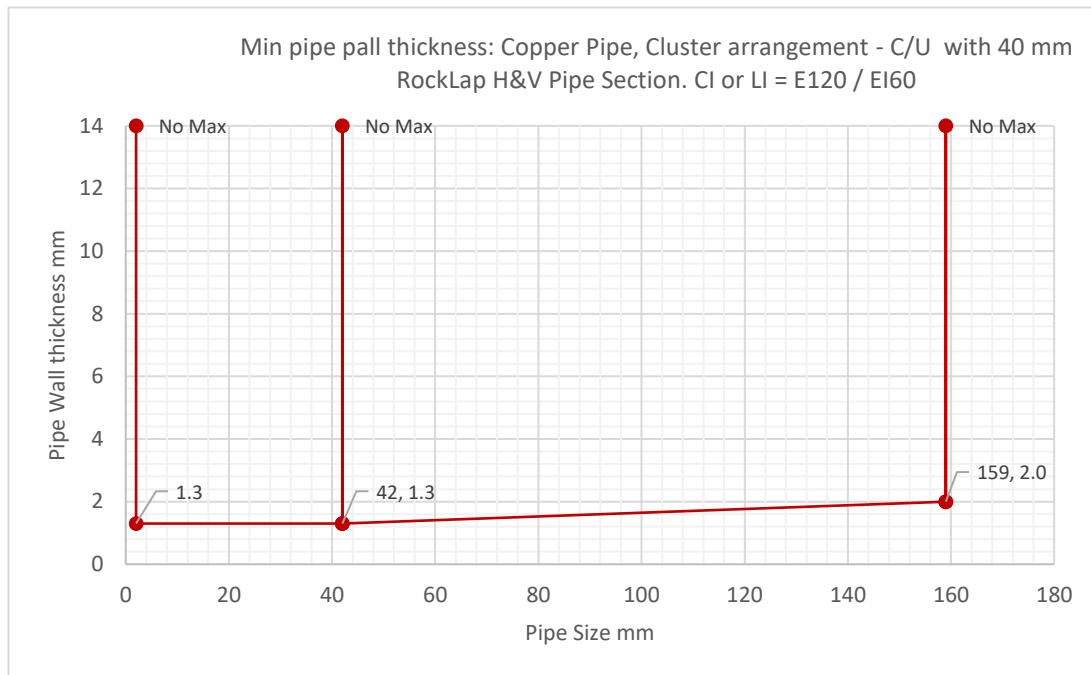
A – FirePro Compound B – 50 mm Batt* C – RockLap H&V Pipe Section D – Metallic Pipe tA – 100 mm tB – 50 mm tC – 1000 mm or continuous * Batt can be removed						
Service Type	Service Size	Wall thickness	Pipe arrangement	Service protection	Tested Seal Size	Classification
Copper pipes	≤108 Ø mm	See below table	Linear (0 mm)	1000 mm long x 25 mm thick RockLap H&V Pipe Section in a LS (or CS) configuration. 100 mm FirePro® Compound	1100 mm x 675 mm	EI 120
Copper pipes	≤42 Ø mm	≥1.0 mm	Cluster (0 mm)	1000 mm x 25 mm thick RockLap H&V Pipe Section in a LS (or CS) configuration positioned centrally within the seal. 100 mm FirePro® Compound & 50mm batt	1100 mm x 800 mm	EI 180
Copper pipes	≤159 Ø mm	≥1.2 mm	Cluster (0 mm)	1000 mm x 40 mm thick RockLap H&V Pipe Section in a LS (or CS) configuration positioned centrally within the seal. 100 mm FirePro® Compound & 50mm batt		E 180 EI 45
Steel pipes	≤324 Ø mm	≥5 mm	Cluster (0 mm)	1000 mm x 40 mm thick RockLap H&V Pipe Section in a LS (or CS) configuration positioned centrally within the seal. 100 mm FirePro® Compound & 50mm batt		EI 180



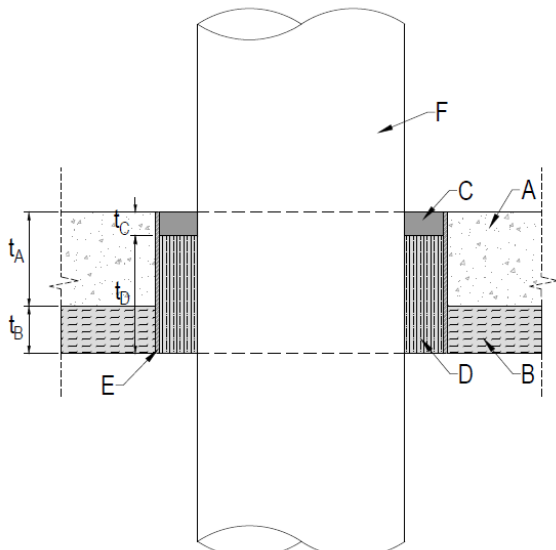


Metallic pipes: Insulated with RockLap H&V Pipe section – CI & LI installation.

A – FirePro Compound B – 50 mm Batt C - RockLap H&V Pipe Section D – Metallic Pipe tA – 100 mm tB – 50 mm tC – 480 mm or 1000 mm 						
Service Type	Service Size	Wall thickness	Pipe arrangement	Service protection	Tested Seal Size	Classification
Copper pipes	≤42 Ø mm	≥1.3 mm	Cluster (0 mm)	480 mm long x 25 mm thick RockLap H&V Pipe Section in a LI (or CI) configuration. 100 mm FirePro® Compound	1590 mm x 1000 mm	E 180 EI 120
Copper pipes	≤159 Ø mm	≥2.0 mm	Cluster (0 mm)	480 mm long x 40 mm thick RockLap H&V Pipe Section in a LI (or CI) configuration. 100 mm FirePro® Compound		E 120 EI 60
Steel pipes	≤610 Ø mm	≥5 mm	Cluster (0 mm)	480 mm long x 40 mm thick RockLap H&V Pipe Section in a LI (or CI) configuration. 100 mm FirePro® Compound		E 240 EI 30

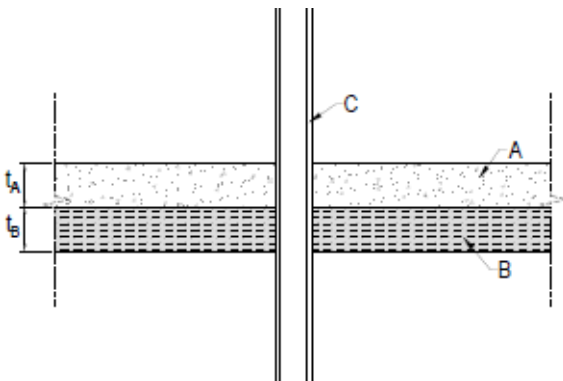


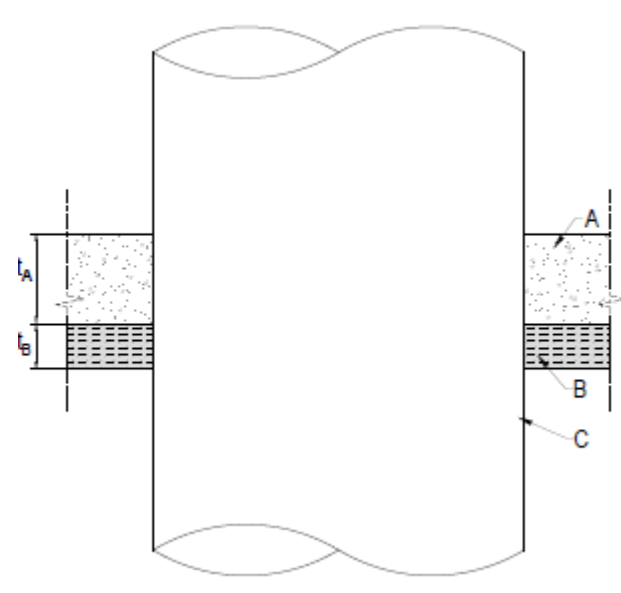
Metallic pipes: Installed within a steel sleeve

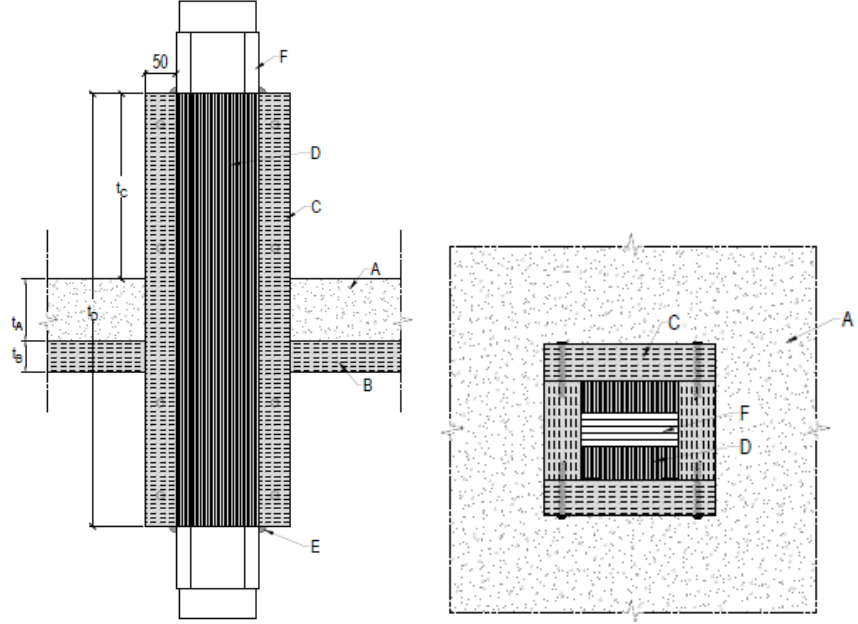
A – FirePro Compound B – 50 mm Batt C - FirePro Acoustic Intumescent Sealant D – RWA45 E – Steel sleeve F – Metallic Pipe tA – 100 mm tB – 50 mm tC – 25 mm tD – 125 mm	
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Service Type	Service Size	Wall thickness	Annular space	Sleeve size	Service protection	Tested Seal Size	Classification
Steel pipes	$\leq 220 \text{ } \varnothing \text{ mm}$	$\geq 4.5 \text{ mm}$	8 - 48 mm	$\varnothing 325 \text{ mm by } 4.5 \text{ mm}$	Max 220 mm steel Pipe sealed within a steel sleeve. Annular space between sleeve and pipe is sealed 25 mm deep FirePro® AIS sealant and RWA45 insulation. Sleeve set within 100 mm FirePro® Compound & 50 mm shuttering batt.	1610 mm x 1110 mm	E 120 EI 15
Steel pipes	$\leq 220 \text{ } \varnothing \text{ mm}$	$\geq 4.55 \text{ mm}$	8 - 48 mm	$\varnothing 325 \text{ mm by } 4.5 \text{ mm}$	Max 220 mm steel Pipe with 1000 mm x 40 mm thick RockLap H&V Pipe Section in a CS configuration positioned centrally within the seal, sealed within a steel sleeve. Annular space between sleeve and pipe is sealed 25 mm deep FirePro® AIS sealant and RWA45 insulation. Sleeve set within 100 mm FirePro® Compound & 50 mm shuttering batt.		EI 120

Metallic services

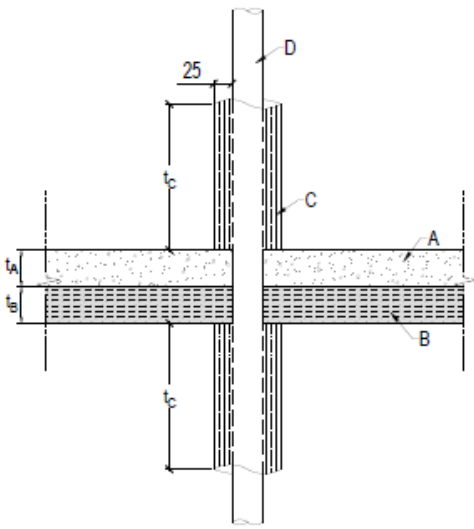
A – FirePro Compound B – 50 mm Batt C - Unistrut Channel tA – 50 mm tB – 50 mm				
Service Type	Service Size	Service protection	Tested Seal Size	Classification
Steel Channel (Unistrut)	≤41 x 41 x 2.5 mm	50 mm of FirePro® Compound	1100 mm x 675 mm	EI 120

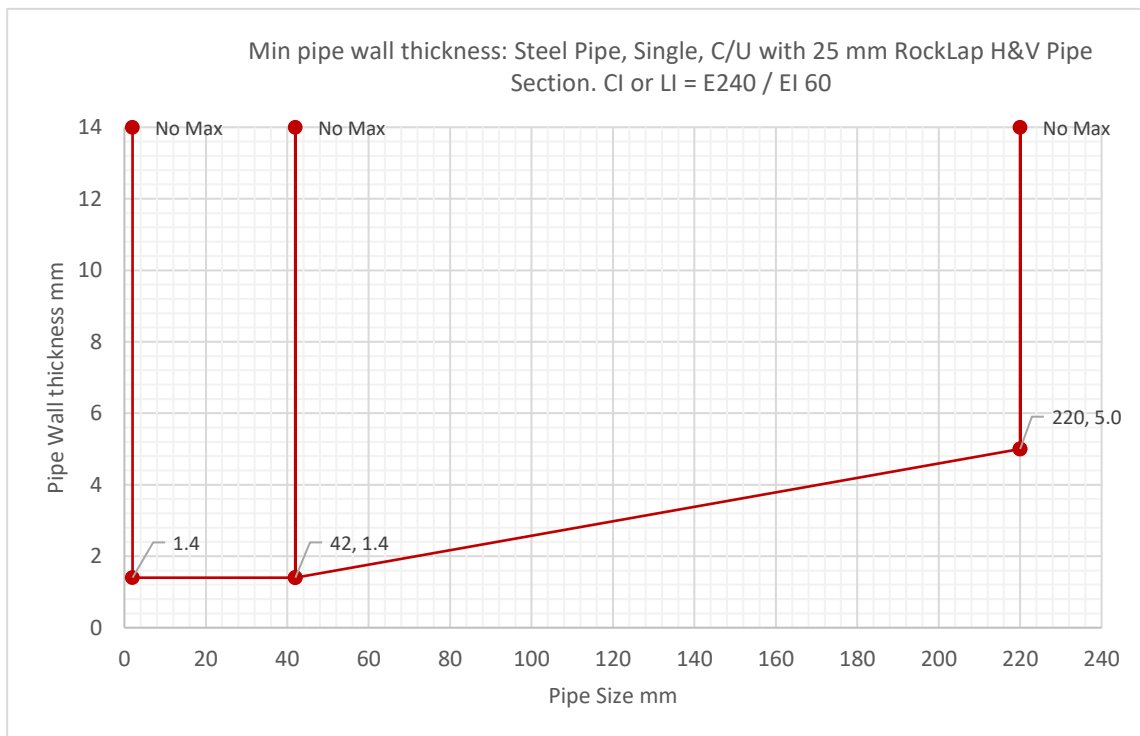
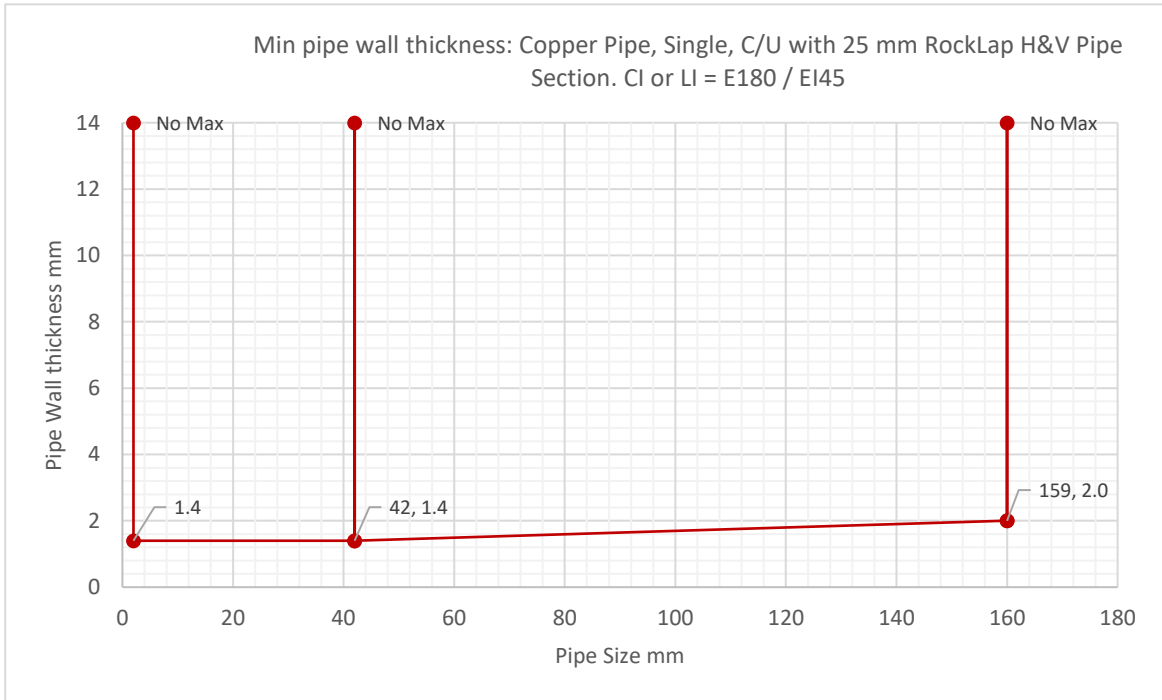
A - FirePro Compound B - 50 mm Batt C - Stainless steel twin wall flue tA – 100 mm tB – 50 mm				
Service Type	Service Size	Service protection	Tested Seal Size	Classification
Stainless steel twin wall flue	≤410 mm outer diameter / ≤350 mm inner diameter 30mm thick stone wool insulation to be maintained between flues	100 mm FirePro® Compound	1100 mm x 675 mm	E 90 C/C EI 45 C/C

A - FirePro Compound B - 50 mm Batt C - 50 mm Batt D - RWA45 Packing E - Acoustic Intumescent Sealant F - Steel Busbar tA - 100 mm tB - 50 mm tC - 300 mm tD - 700 mm				
Service Type	Service Size	Service protection	Tested Seal Size	Classification
Steel Busbar	135 x 105 mm	FirePro® CB50 Coated Batt, boxed around the busbar. Length of boxing is 700 mm long and projects 300 mm above and below the 100 mm FirePro® Compound. RWA45 stone wool insulation fitted into the voids between the electrical busbar and the service enclosure	1600 mm x 1100 mm	EI 180

50 mm depth of compound above FirePro CB50 coated batt

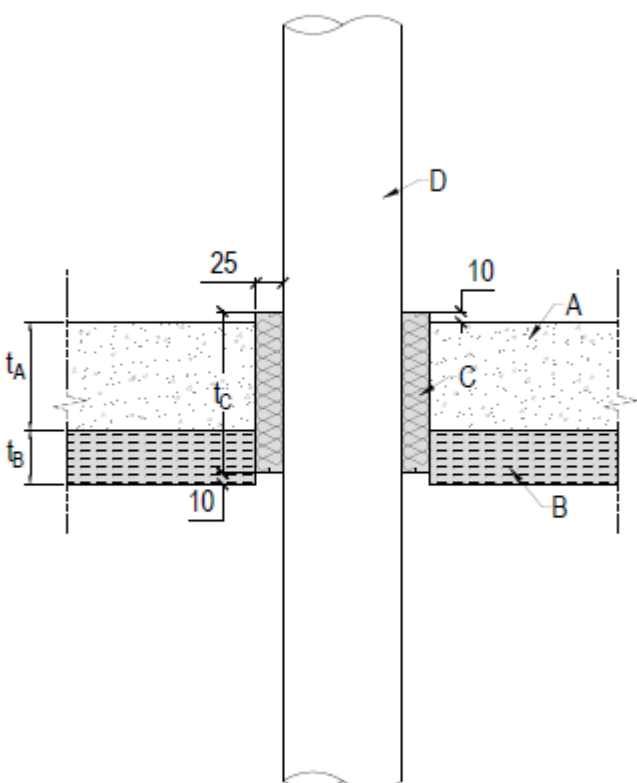
Metallic pipes: Insulated with RockLap H&V Pipe section or Fire Tube – CI & LI installation.

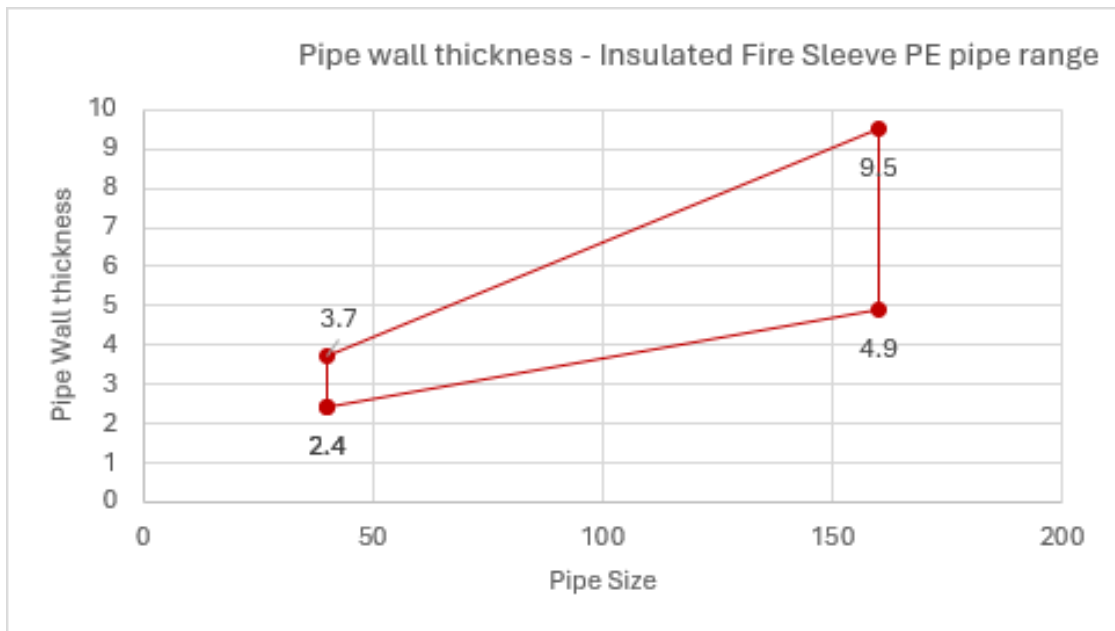
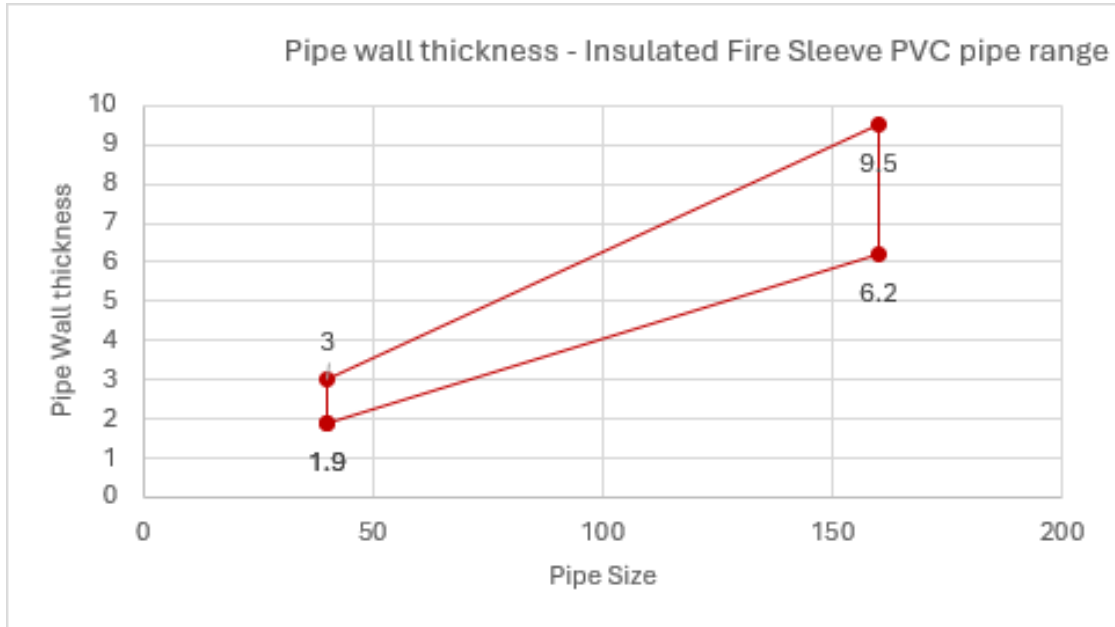
A – FirePro Compound B – 50 mm Batt C - RockLap H&V Pipe Section or FirePro Fire Tube (see below) D – Metallic Pipe tA – 50 mm tB – 50 mm tC – 480 mm or continuous						
Service Type	Service Size	Wall thickness	Pipe arrangement	Service protection	Tested Seal Size	Classification
Steel pipes	$\leq 220 \text{ } \phi \text{ mm}$	$\geq 5 \text{ mm}$	Single	480 mm long x 25 mm thick FirePro Fire Tube Pipe Section in a LI (or CI) configuration. 50 mm FirePro® Compound	990 mm x 670 mm	E 240 EI 60
Copper pipes	$\leq 159 \text{ } \phi \text{ mm}$	$\geq 2 \text{ mm}$	Single	480 mm long x 25 mm thick RockLap H&V Pipe Section in a LI (or CI) configuration. 50 mm FirePro® Compound		E 180 EI 45
Copper pipes	$\leq 42 \text{ } \phi \text{ mm}$	$\geq 1.4 \text{ mm}$	Single	480 mm long x 25 mm thick RockLap H&V Pipe Section in a LI (or CI) configuration. 50 mm FirePro® Compound		E 240 EI 180



Plastic Pipe Penetrations

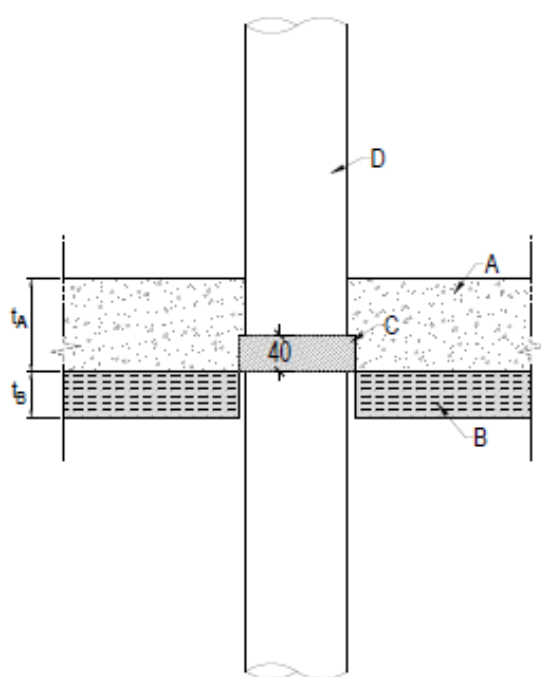
Plastic Pipes: Protected with FirePro® Insulated Fire Sleeve

A – FirePro Compound B – 50 mm Batt C – FirePro Insulated Fire Sleeve D – Plastic Pipe tA – 100 mm tB – 50 mm tC – 150 mm 						
Service Type	Service Size	Wall thickness	Pipe arrangement	Service protection	Tested Seal Size	Classification
PVC, HDPE	≤Ø 160 mm	See graphs	Linear (0 mm)	The Plastic pipes were protected with 150 mm long x 25 mm thick FirePro® Insulated Fire Sleeve and 100 mm FirePro® Compound poured on top of 50 mm shuttering batt.	1600 mm x 1100 mm	EI 120



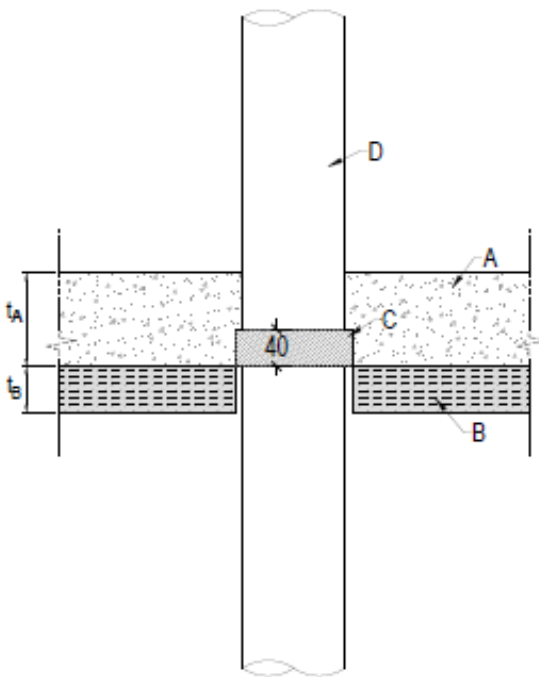
Plastic Pipes: Protected with FirePro® PWRoll installed flush with the base of the compound seal.

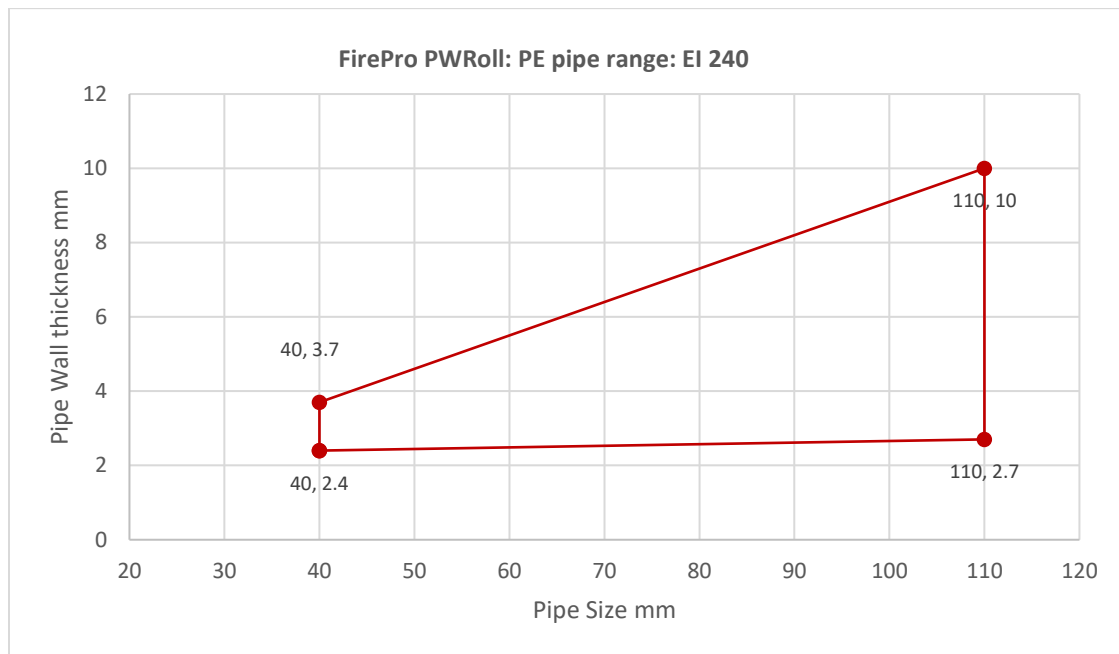
PP Pipes

A – FirePro Compound B – 50 mm Batt C - FirePro PWRoll D – Plastic Pipe tA – 100 mm tB – 50 mm					
Pipe Size (mm)	Pipe Wrap layers (2mm)	Intumescent thickness (mm)	Service Protection	Classification	
≤40	1	2	The Plastic pipes were protected with FirePro® PWRoll mounted flush with the underside of the compound seal. 100 mm FirePro® Compound was installed around the pipe.	EI 240 U/C	
41-75	2	4			
76-110	3	6			



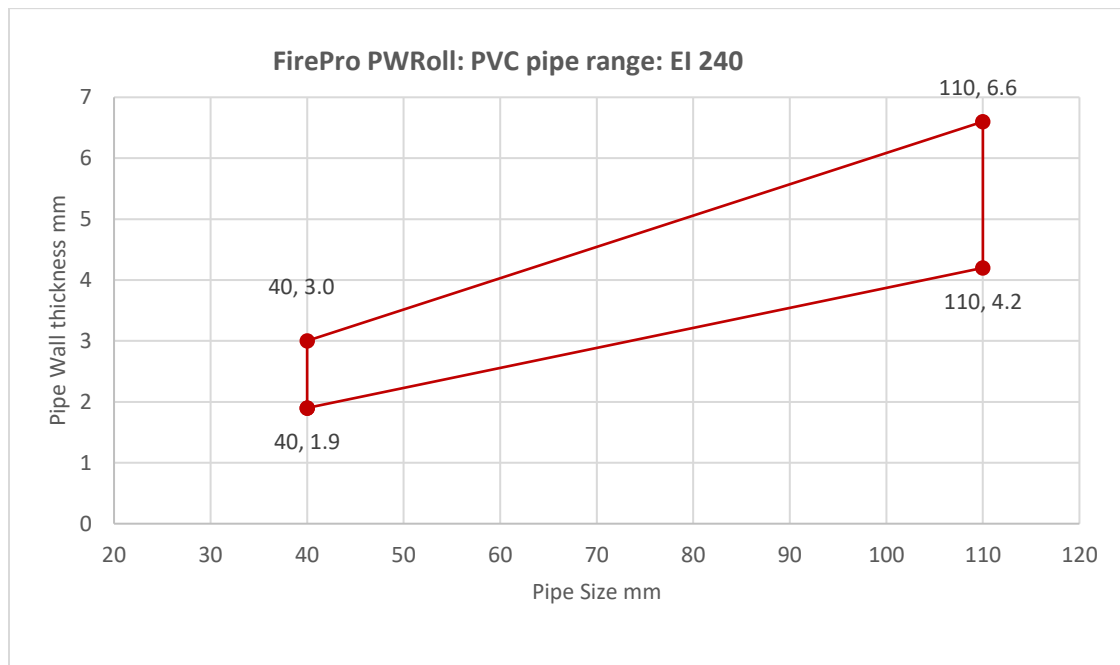
PE Pipes

A – FirePro Compound B – 50 mm Batt C - FirePro PWRoll D – Plastic Pipe tA – 100 mm tB – 50 mm					
Pipe Size (mm)	Pipe Wrap layers (2mm)	Intumescent thickness (mm)	Service Protection	Classification	
≤40	1	2	The Plastic pipes were protected with FirePro® PWRoll mounted flush with the underside of the compound seal. 100 mm FirePro® Compound was installed around the pipe.	EI 240 U/C	
41-75	2	4			
76-110	3	6			



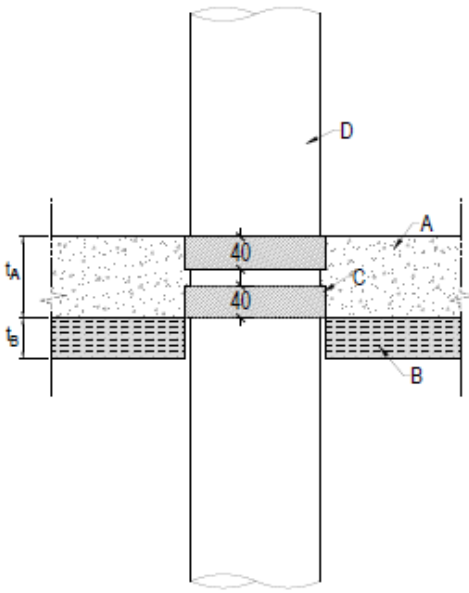
PVC Pipes

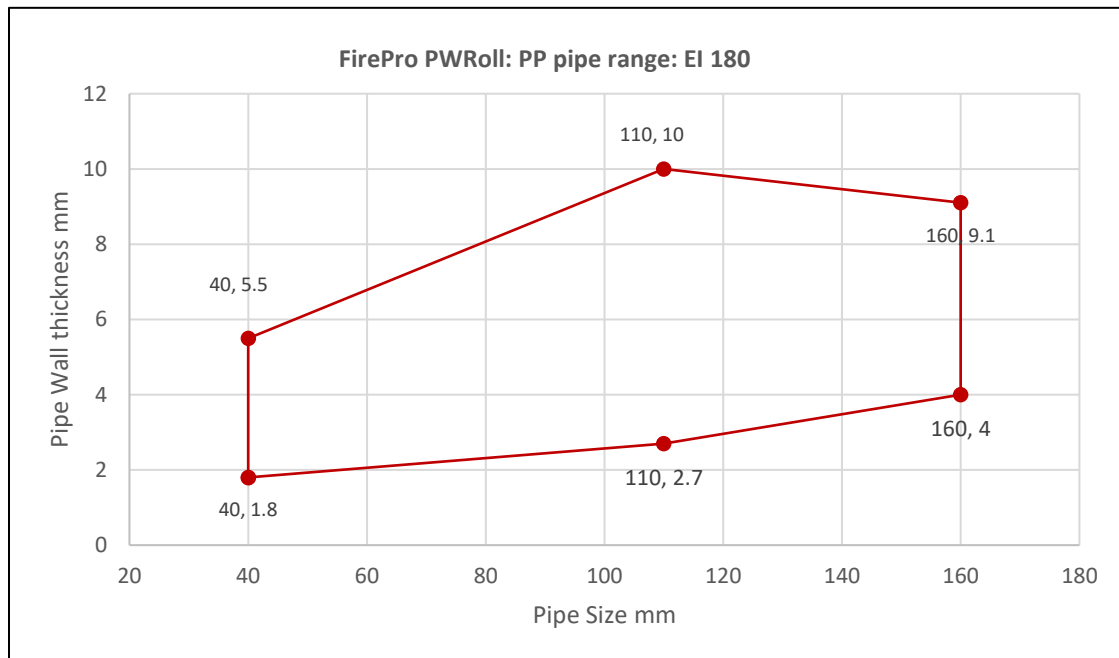
A – FirePro Compound B – 50 mm Batt C - FirePro PWRoll D – Plastic Pipe tA – 100 mm tB – 50 mm				
Pipe Size (mm)	Pipe Wrap layers (2mm)	Intumescent thickness (mm)	Service Protection	Classification
≤40	1	2	The Plastic pipes were protected with FirePro® PWRoll mounted flush with the underside of the compound seal. 100 mm FirePro® Compound was installed around the pipe.	EI 240 U/C
41-75	2	4		
76-110	3	6		



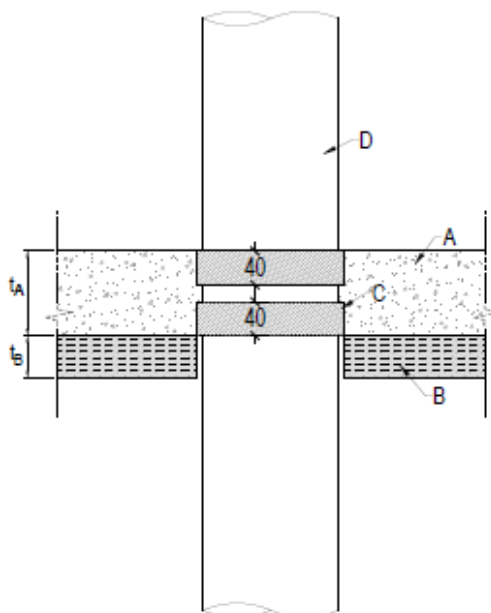
Plastic Pipes: Protected with FirePro® PWRoll installed top and bottom of the compound seal.

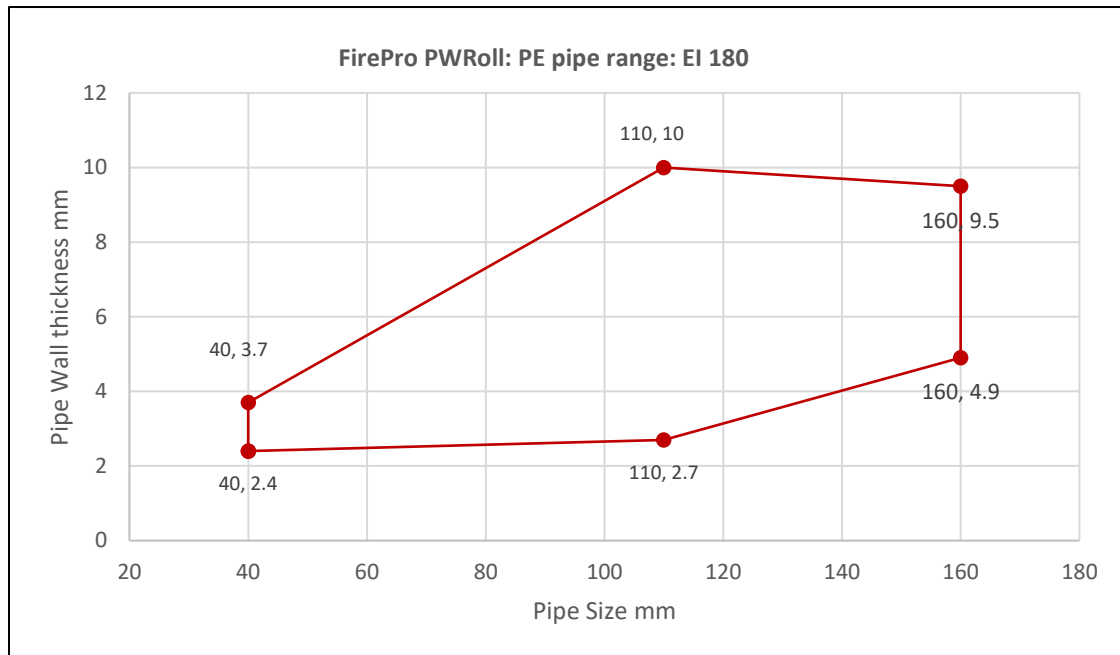
PP Pipes

A – FirePro Compound B – 50 mm Batt C - FirePro PWRoll D – Plastic Pipe tA – 100 mm tB – 50 mm				
Pipe Size (mm)	Pipe Wrap layers (2mm)	Intumescent thickness (mm)	Service Protection	Classification
≤40	1	2	The Plastic pipes were protected with FirePro® PWRoll mounted flush with the underside and another application mounted flush with the top side of the compound seal. 100 mm FirePro® Compound was installed around the pipe.	EI 180 U/C
41-75	2	4		
76-110	3	6		
111-160	4	8		

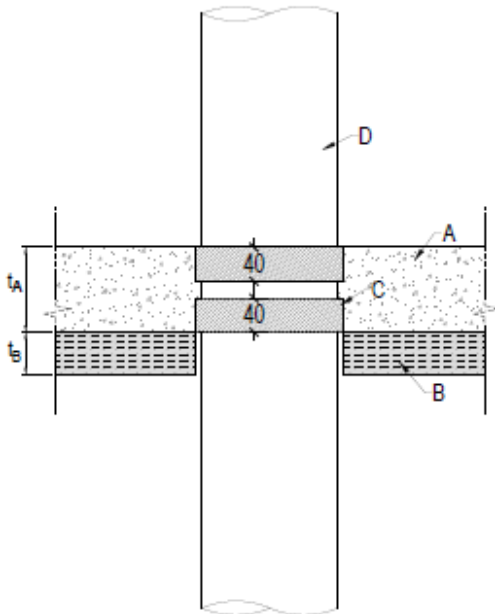


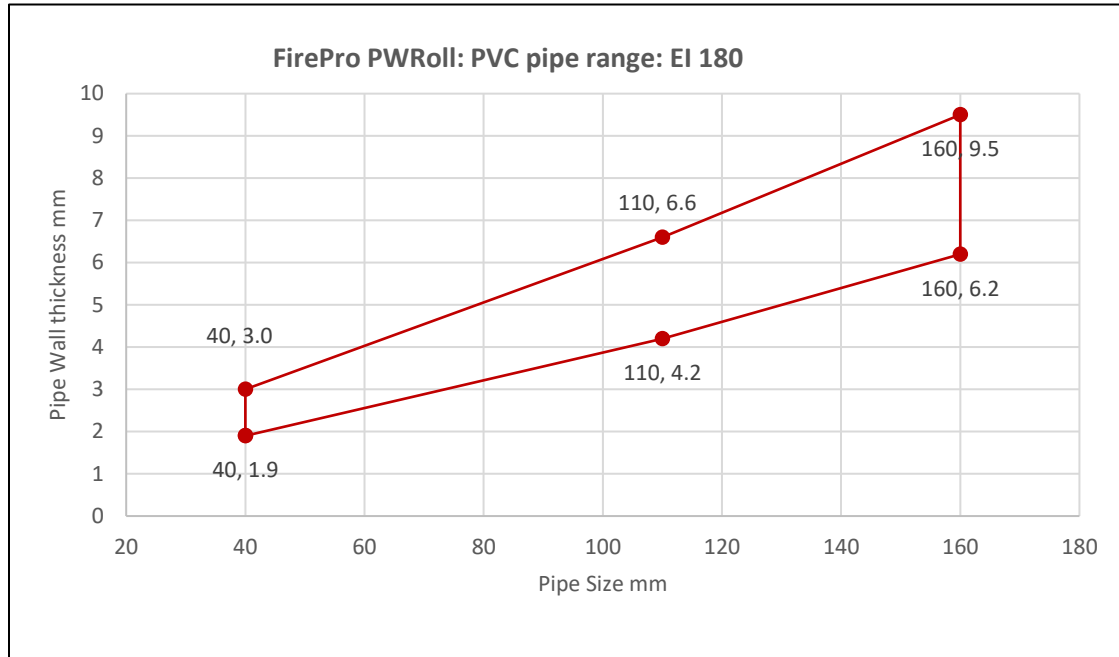
PE Pipes

A – FirePro Compound B – 50 mm Batt C - FirePro PWRoll D – Plastic Pipe tA – 100 mm tB – 50 mm				
Pipe Size (mm)	Pipe Wrap layers (2mm)	Intumescent thickness (mm)	Service Protection	Classification
≤40	1	2	The Plastic pipes were protected with FirePro® PWRoll mounted flush with the underside and another application mounted flush with the top side of the compound seal. 100 mm FirePro® Compound was installed around the pipe.	EI 180 U/C
41-75	2	4		
76-110	3	6		
111-160	4	8		



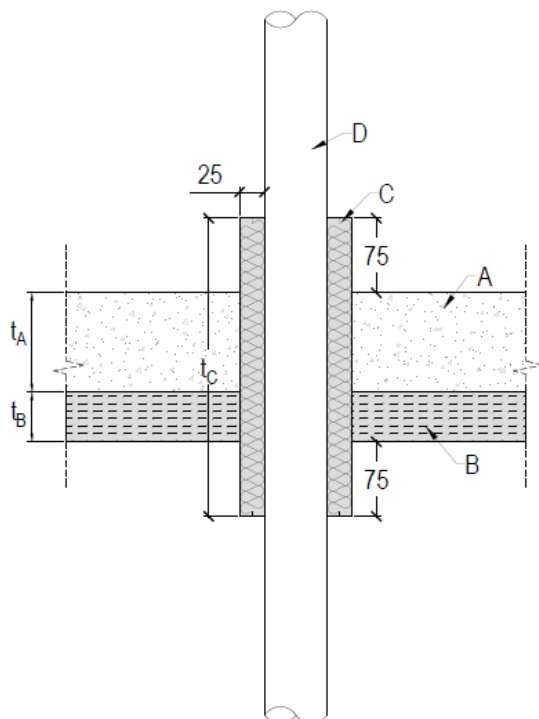
PVC Pipes

A – FirePro Compound B – 50 mm Batt C - FirePro PWRoll D – Plastic Pipe tA – 100 mm tB – 50 mm				
				
Pipe Size (mm)	Pipe Wrap layers (2mm)	Intumescent thickness (mm)	Service Protection	Classification
≤40	1	2	The Plastic pipes were protected with FirePro® PWRoll mounted flush with the underside and another application mounted flush with the top side of the compound seal. 100 mm FirePro® Compound was installed around the pipe.	EI 180 U/C
41-75	2	4		
76-110	3	6		
111-160	4	8		

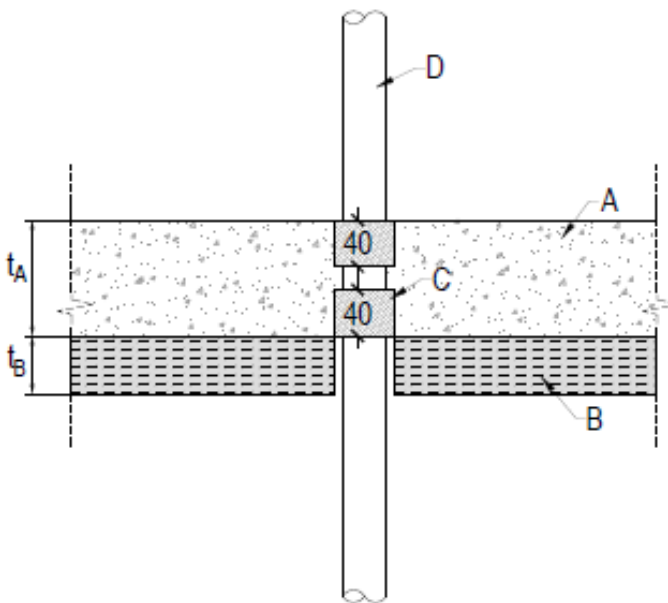


Composite Pipe Penetrations

Composite Pipes Protected with FirePro® Insulated Fire Sleeve

A – FirePro Compound B – 50 mm Batt C - FirePro Insulated Fire Sleeve D – MLC Pipe tA – 100 mm tB – 50 mm tC – 300 mm 						
Service Type	Service Size	Wall thickness	Pipe arrangement	Service protection	Tested Seal Size	Classification
Aquatechnik PE-X/AL/PE-X	≤Ø 63 mm	4.6 mm	Single	Protected with 300 mm long x 25 mm thick FirePro® Insulated Fire Sleeve within 100 mm FirePro® Compound poured on top of 50 mm shuttering batt.	1610 mm x 1110 mm	E 240 EI 180

Composite Pipes Protected with FirePro® PWRoll

A – FirePro Compound B – 50 mm Batt C - FirePro PWRoll D – MLC Pipe tA – 100 mm tB – 50 mm						
Single pipes						
Pipe material	Pipe size (mm)	Pipe wall thickness (mm)	Pipe Wrap layers (2mm)	Service Protection	Pipe end configuration	Classification
UPONOR PE-RT / AL / PE-RT	110	10	4	The MLCP pipes were protected with FirePro® PWRoll mounted flush with the underside and another wrap mounted flush with the top side of the compound seal. 100 mm FirePro® Compound was installed around the pipe.	U/C	E 240 / EI 120
UPONOR PE-RT / AL / PE-RT	40	4	2			EI 240

4.3 Field of Application – Penetrations

This classification is valid for the following end use applications (as defined in EN 1366-3: 2021, referencing the following appropriate clauses and annexes of EN 1366-3: 2021.

13.1 - General

13.2 - Orientation

13.3 - Supporting Construction

13.4 - Services

13.5 - Service Support Construction

13.6 - Penetration seal size

13.7 - Distances

Annex A – Configuration and field of direct application for cable penetration seals

Annex D – Test specimen design and field of direct application for bus bars / bus bar trunking units

Annex E – Test specimen design, test procedure and field of direct application for pipe penetration seals

Annex F - Test specimen design, test procedure and field of direct application for mixed penetration seals

Annex G – Critical service approach

5. Limitations

This classification report does not represent type approval or certification of the product.

6. Signatories

Report by:

A handwritten signature in blue ink, appearing to read 'C. Sweeney'.

C. Sweeney
Senior Project Engineer
Built Environment

Reviewed by:

A handwritten signature in blue ink, appearing to read 'C. Johnson'.

C. Johnson
Senior Staff Engineer
Built Environment

For and on behalf of UL International (UK) Ltd.