

# UL-EU CERTIFICATE

**Certificate No.**  
UL-EU-01360-EN

**Issue date**  
2025-11-20

**Issue No.**  
1

**Re-Issue date**  
-

**Expiry date**  
2035-11-19

**This is to acknowledge that:**  
ROCKWOOL Limited

**Address:**  
Wern Tarw, Pencoed, Bridgend, CF35 6NY

**Has had the product:**  
FirePro CB50

evaluated and meets the requirements of the standard(s):  
EAD 350454-00-1104, September 2017/EN 13501-2: 2023

**Places of production:**  
ROCKWOOL Limited, Unit 2, Hams Hall, Canton Lane  
B45 1GA, Birmingham  
A/025

Authorised Signatory:



Chris Johnson  
Issued by UL International (UK) Ltd



4705

This is to certify that representative samples of the Certified Product listed above have been investigated by Underwriters Laboratories to the Standard(s) indicated on this Certificate, in accordance with the UL Global Services Agreement and the UL-EU Mark Service Terms and Conditions ("Agreement"). The Certificate Holder is entitled to use the UL-EU Mark for the Certified Product listed on the certificate and manufactured at the production site(s) listed, in accordance with the terms of the Agreement. Only those products bearing the UL-EU Mark for Europe should be considered as being covered by UL's UL-EU Mark Service. This Certificate shall remain valid through the Expiration date, unless a Standard identified on this Certificate is amended or withdrawn prior to that date or there is a non-compliance with the Agreement.



# Appendix UL-EU CERTIFICATE UL-EU-01360-EN

This certificate relates to the use of FirePro CB50 for fire stopping of service penetrations through walls. The defined scope is provided in pages 10 to 140 of this certificate. This shows the thickness and acceptable dimensions, substrates and orientations required to provide fire resistance periods of up to 120 minutes for differing services and wall constructions.

The product is certificated on the basis of:

- i) Inspection and surveillance of factory production control by UL
- ii) Fire resistance test data in accordance with EN 1366-3: 2021 and EN 1366-3: 2021 + A1:2024
- iii) Classification in accordance with EN 13501-2:2023
- iv) Durability and Serviceability as defined in EAD 350454-00-1104

The durability class of FirePro CB50 is Type X: – intended for use in conditions exposed to weathering (includes all lower classes).

VOC test report – VOC content referenced – Eurofins 392-2025-00181008\_XG\_EN and VOC Emission Test Report Indoor Air Comfort GOLD – Eurofins 392-2025-00181003\_A\_EN are also available.

According to EN 1366-3: 2021+A1: 2024, Clause H.4.1.8.6.2, the following end uses are envisaged\* based upon the tested pipe end configuration:

Pipe material	Tested pipe end	Envisaged use scenario
Metal	C/U or C/C	Closed pipe systems (e.g. systems under pressure)
	U/U, U/C or C/U	Ventilated pipe systems (e.g. sewage pipes) and for closed pipe systems
Plastic	U/U or C/U	Ventilated pipe systems and for closed pipe systems
	U/U	Ventilated pipe systems, for rainwater systems and for closed pipe systems

\* In the case where a national prescription is in conflict with the content of the table above, the national prescriptions prevail.



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Product-Type: Coated Board	Intended Use: Penetration Seal	
Assessment Method	Essential Characteristics	Product Performance
<b>BWR 2 Safety in case of fire</b>		
EN 13501-1	Reaction to fire	No performance determined
EN 13501-2:2023	Resistance to fire	See pages 10 to 140
<b>BWR 3 Hygiene, health and the environment</b>		
Declaration of Manufacturer & EN 16516	Content, emission and/or release of dangerous substances	Use categories: IA1 Declaration of manufacturer
EN 1026:2016	Air Permeability (Material Property)	No performance determined
EN 1027:2016	Water Permeability (Material Property)	No performance determined
<b>BWR 4 Safety and accessibility in use</b>		
EAD 350141-00-1104, Clause 2.2.6	Mechanical resistance and stability	No performance determined
EAD 350141-00-1104, Clause 2.2.7	Resistance to impact/movement	No performance determined
EAD 350141-00-1104, Clause 2.2.8	Adhesion	No performance determined
EAD 350141-00-1104, Clause 2.2.9	Durability	Type X
<b>BWR 5 Protection against noise</b>		
EN 10140-2:2021	Airborne sound insulation	Minimum Rw(C; Ctr) 32 (-2;-3) See pages 5 - 9
<b>BWR 6 Energy economy and heat retention</b>		
EN 12664, EN 12667, EN 12939, EN ISO 8990, EN ISO 6946, EN ISO 10456	Thermal properties	No performance determined
EN ISO 12572, EN 12086, EN ISO 10456	Water vapour permeability	No performance determined



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FirePro CB50: Analytical VOC Results		
Density, g/mL	VOC content (less water), g/l	VOC limit g/l
1.49	2.6*	140**

Report Number: 392-2025-00181008\_XG\_EN

\* 2.6 g/L of unidentified substances, in addition to VOC content.

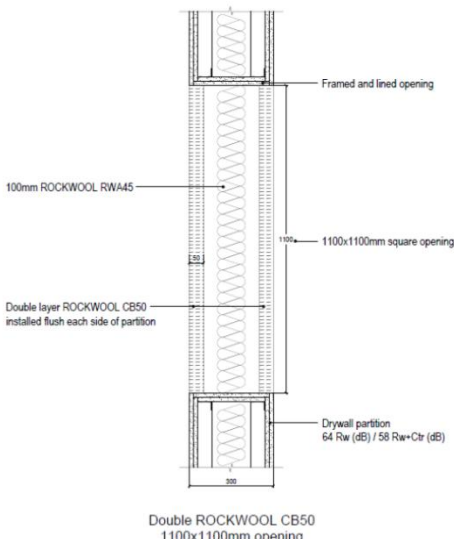
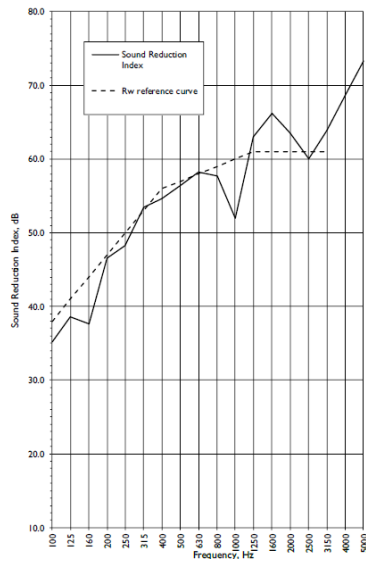
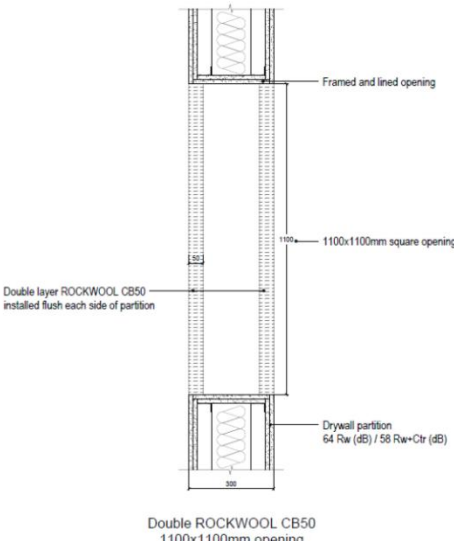
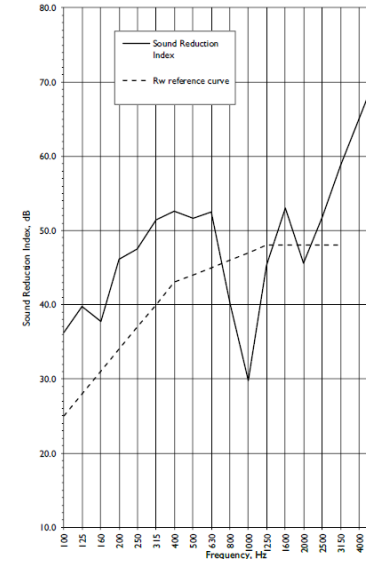
\*\* VOC limit for "Decopaint", Paints and Varnishes scope, Directive 2004/42/CE.



**Solutions**

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FirePro CB50: Acoustic performance according to BS EN ISO 10140-2:2021		
Configuration	Rw(C; Ctr) Partition & Specimen, 10.95m <sup>2</sup>	Test results
 <p>Double ROCKWOOL CB50 1100x1100mm opening</p>		57 (-2;-7)
 <p>Double ROCKWOOL CB50 1100x1100mm opening</p>		44 (-5;-7)



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<p>Framed and lined opening</p> <p>1100</p> <p>1100x1100mm square opening</p> <p>Double layer ROCKWOOL CB50 installed centrally to aperture</p> <p>Drywall partition 64 Rw (dB) / 58 Rw+Ctr (dB)</p> <p>Double ROCKWOOL CB50 1100x1100mm opening</p>	<p>Sound Reduction Index, dB</p> <p>Frequency, Hz</p> <p>Sound Reduction Index</p> <p>Rw reference curve</p>	<p>36 (-2;-4)</p>
<p>Framed and lined opening</p> <p>1100</p> <p>1100x1100mm square opening</p> <p>Single layer ROCKWOOL CB50 installed centrally to aperture</p> <p>Drywall partition 64 Rw (dB) / 58 Rw+Ctr (dB)</p> <p>Single ROCKWOOL CB50 300x300mm opening</p>	<p>Sound Reduction Index, dB</p> <p>Frequency, Hz</p> <p>Sound Reduction Index</p> <p>Rw reference curve</p>	<p>32 (-2;-3)</p>
<p>Framed and lined opening</p> <p>100mm ROCKWOOL RWA45</p> <p>1100</p> <p>1100x1100mm square opening</p> <p>Double layer ROCKWOOL CB50 installed as patch outside of opening</p> <p>Drywall partition 64 Rw (dB) / 58 Rw+Ctr (dB)</p> <p>Double ROCKWOOL CB50 1100x1100mm opening</p>	<p>Sound Reduction Index, dB</p> <p>Frequency, Hz</p> <p>Sound Reduction Index</p> <p>Rw reference curve</p>	<p>57 (-2;-6)</p>



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<p>Double layer ROCKWOOL CB50 installed as battens outside of opening</p> <p>Framed and lined opening</p> <p>1100x1100mm square opening</p> <p>Drywall partition 64 Rw (dB) / 58 Rw+Ctr (dB)</p> <p>Double ROCKWOOL CB50 1100x1100mm opening</p>	<p>Sound Reduction Index</p> <p>Rw reference curve</p>	<p>44 (-4;-6)</p>
<p>100mm ROCKWOOL RWA45</p> <p>Double layer ROCKWOOL CB50 installed flush each side of partition</p> <p>Framed and lined opening</p> <p>300x300mm square opening</p> <p>Drywall partition 64 Rw (dB) / 58 Rw+Ctr (dB)</p> <p>Double ROCKWOOL CB50 300x300mm opening</p>	<p>Sound Reduction Index</p> <p>Rw reference curve</p>	<p>59 (-1;-6)</p>
<p>Double layer ROCKWOOL CB50 installed flush each side of partition</p> <p>Framed and lined opening</p> <p>300x300mm square opening</p> <p>Drywall partition 64 Rw (dB) / 58 Rw+Ctr (dB)</p> <p>Double ROCKWOOL CB50 300x300mm opening</p>	<p>Sound Reduction Index</p> <p>Rw reference curve</p>	<p>57 (-3;-7)</p>



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<p>Double layer ROCKWOOL CB50 installed centrally to aperture</p> <p>Framed and lined opening</p> <p>300x300mm square opening</p> <p>Drywall partition 64 Rw (dB) / 58 Rw+Ctr (dB)</p> <p>Double ROCKWOOL CB50 300x300mm opening</p>	<p>Sound Reduction Index</p> <p>Rw reference curve</p>	<p>48 (-1;-3)</p>
<p>Single layer ROCKWOOL CB50 installed centrally to aperture</p> <p>Framed and lined opening</p> <p>300x300mm square opening</p> <p>Drywall partition 64 Rw (dB) / 58 Rw+Ctr (dB)</p> <p>Single ROCKWOOL CB50 300x300mm opening</p>	<p>Sound Reduction Index</p> <p>Rw reference curve</p>	<p>44 (-1;-3)</p>
<p>Double layer ROCKWOOL CB50 installed as patch outside of opening</p> <p>Framed and lined opening</p> <p>300x300mm square opening</p> <p>Drywall partition 64 Rw (dB) / 58 Rw+Ctr (dB)</p> <p>Double ROCKWOOL CB50 300x300mm opening</p>	<p>Sound Reduction Index</p> <p>Rw reference curve</p>	<p>55 (-3;-6)</p>

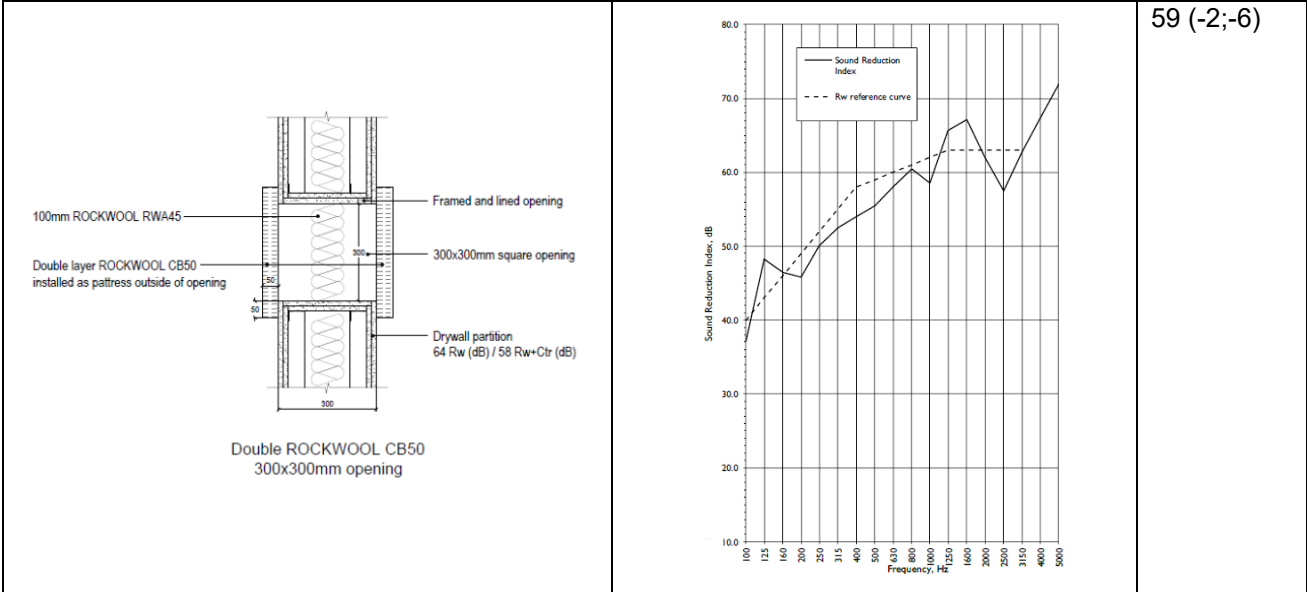


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59 (-2;-6)



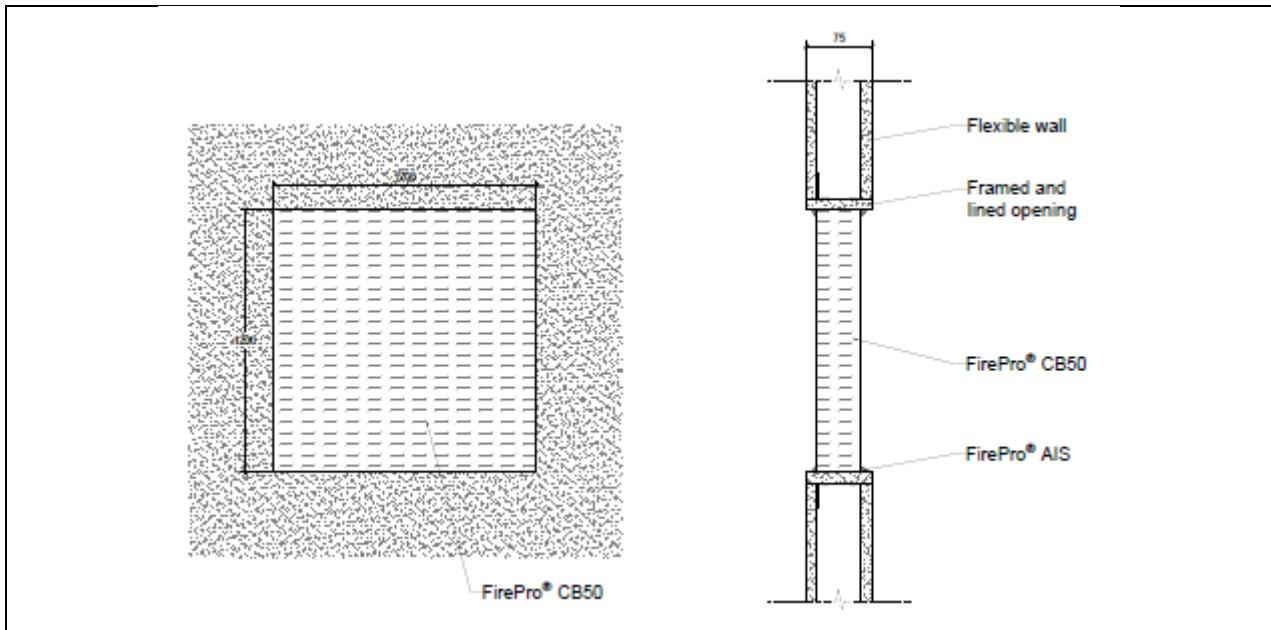
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Single Skin Flexible walls  $\geq 75\text{mm}$

## Single Batt Seal Installation Methods

The following installation methods for FirePro® CB50 are considered as part of this classification.

### Blank Seal – framed and lined openings

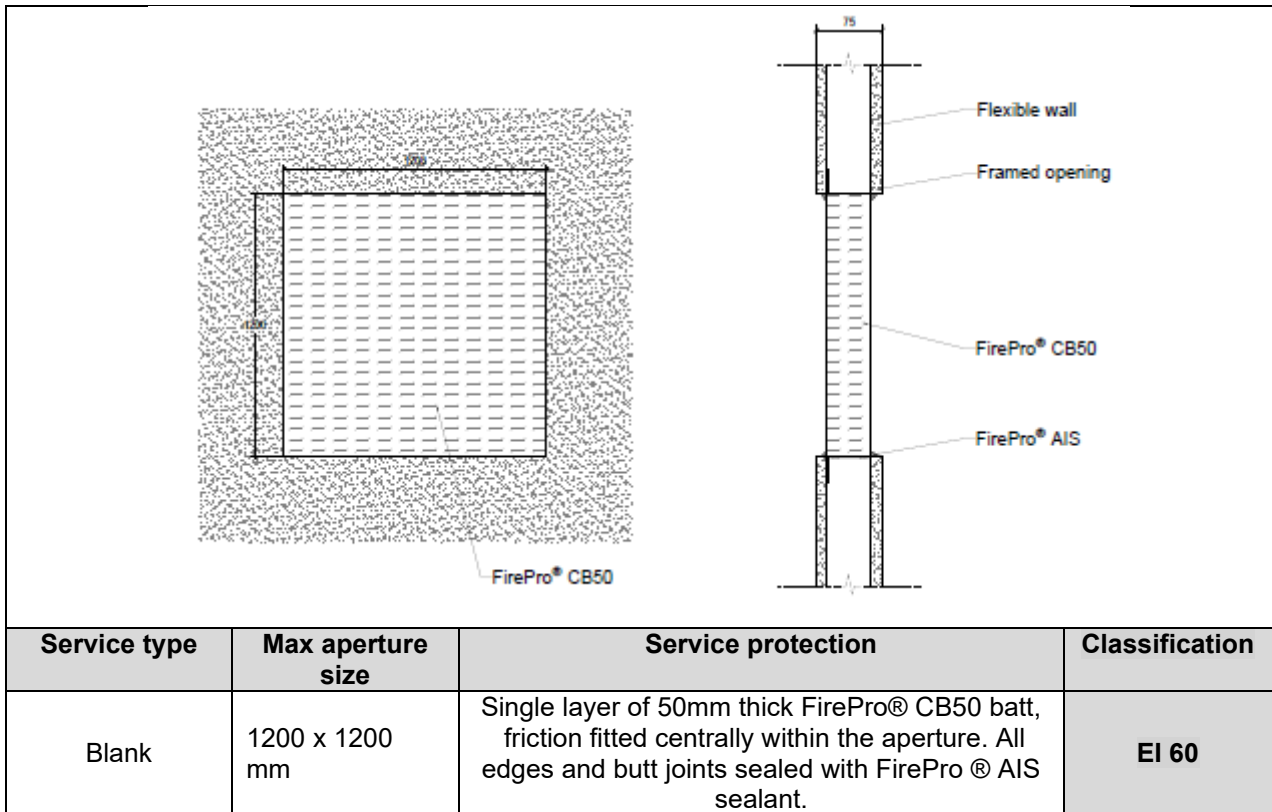


Service type	Max aperture size	Service protection	Classification
Blank	1200 x 1200 mm	Single layer of 50mm thick FirePro® CB50 batt, friction fitted centrally within the aperture. All edges and butt joints sealed with FirePro® AIS sealant.	<b>EI 60</b>



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## Blank Seal – framed openings



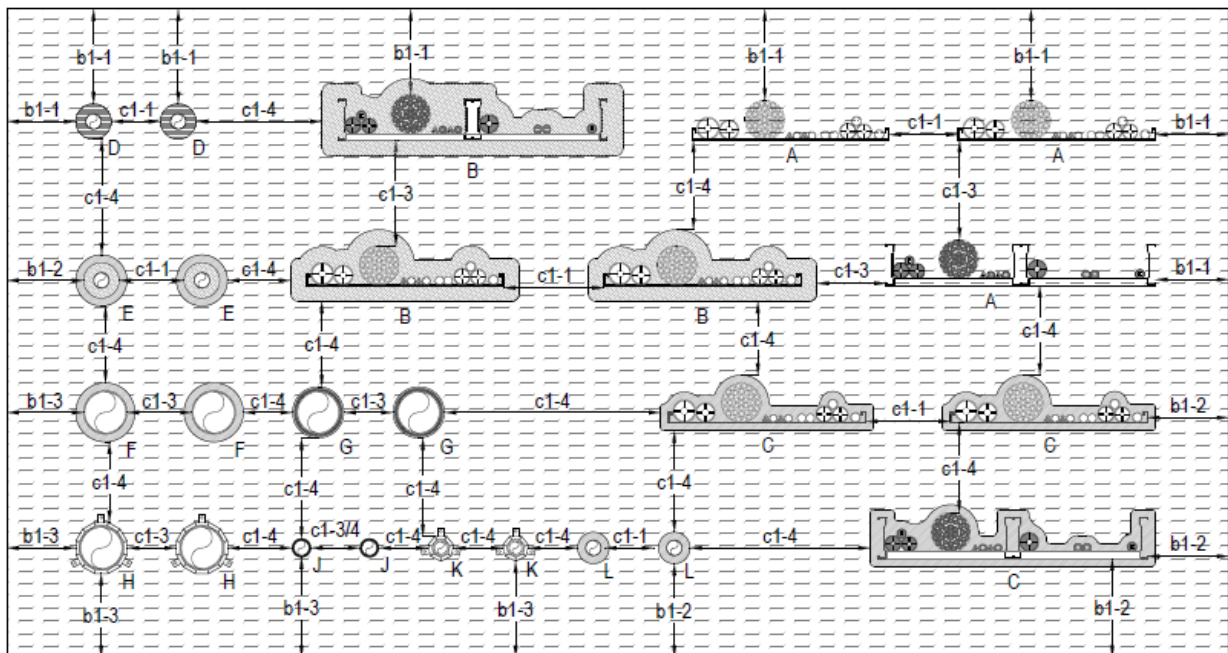
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## Service Penetrations

FirePro® CB50 is approved for use with the following service items. Installation of FirePro® CB50 must be completed in accordance with one of the installation methods specified in the blank seal section and must adhere to the size limitations outlined for each methodology. Certain service items may require additional protection depending on the type of service and/or the performance requirements of the seal and service. Details of any required additional protection are provided, as appropriate, in the following performance tables.

**Service arrangement (spacings)–** distances as defined by 1366-3: 2021+2024

Single Skin Flexible walls ≥75mm - Single CB50



Service Type	
A	Unlagged cables & cable carriers
B	Lagged cables & cable carriers
C	HES cables & cable carriers
D	H&V lagged metallic pipes (L/S)
E	Combustible insulation on metallic pipes - HES
F	HES- combustible pipes
G	PWRoll - combustible pipes
H	Collar - combustible pipes
J	PWRoll - MLC pipes (Uponor)
K	Collar - MLC pipes (Uponor)
L	HES- Insulated MLC pipe

Aperture Edge Distance	
b1-1	0mm
b1-2	20mm
b1-3	50mm
b1-4	100mm

Service Separation	
c1-1	0mm
c1-2	25mm
c1-3	50mm
c1-4	100mm
c1-5	30mm

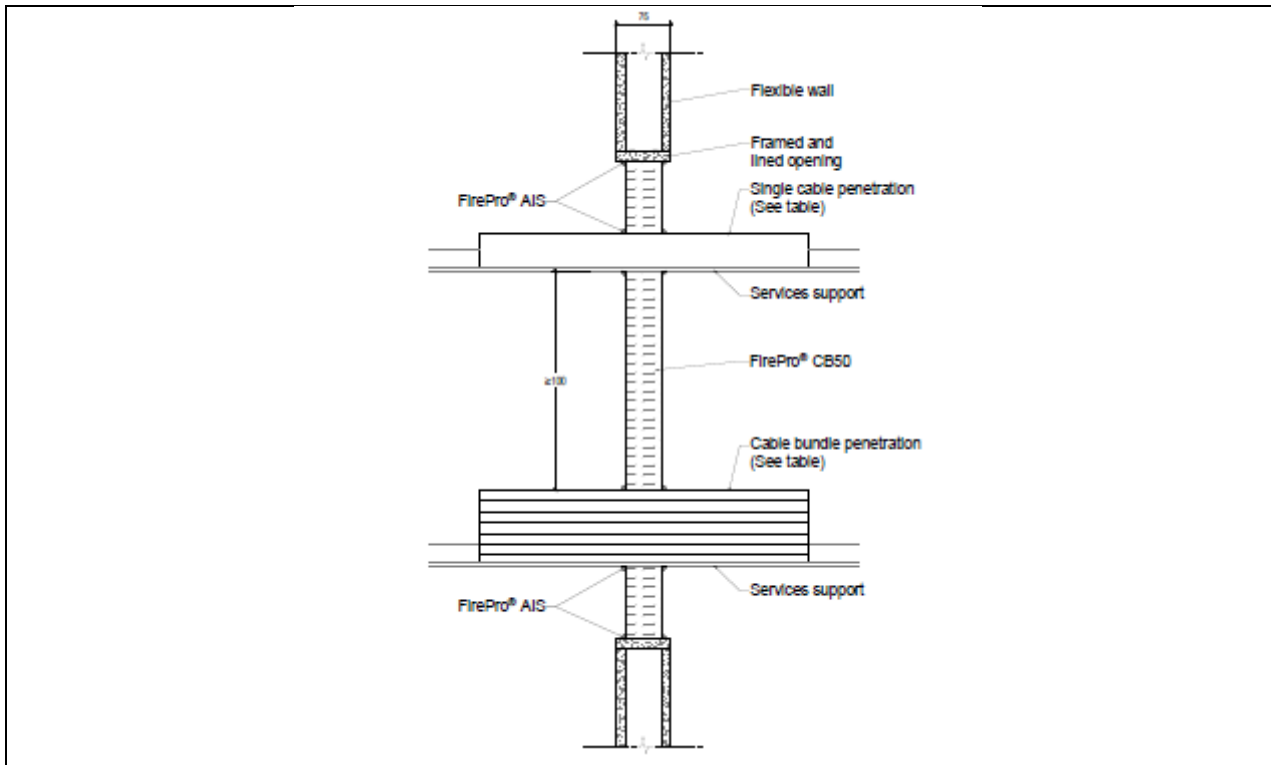


**Solutions**

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## Cable Penetrations with cable carrier separation $\geq 100$ mm

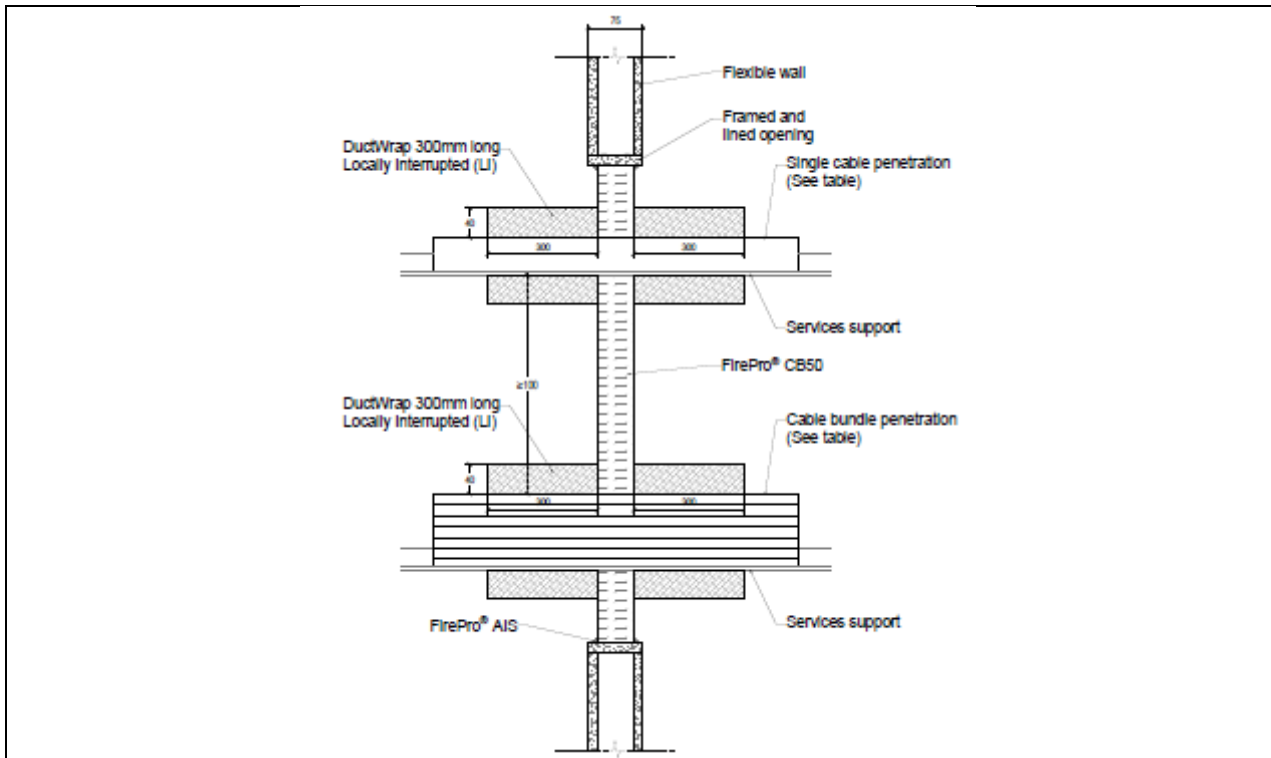


Service type		Service size (mm)	Service protection	Classification
Sheathed cables	S	$\leq 21$	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services.	E 60 / EI 45
	M	$\leq 50$		E 60 / EI 45
	L	$\leq 80$		E 60 / EI 45
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables		E 60 / EI 30
Unsheathed cables		$\leq 24$		E 60 / EI 45
Perforated cable tray, ladder or basket		Unrestricted		E 60 / EI 45



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## Cable Penetrations with cable carrier separation $\geq 100$ mm - Lagged

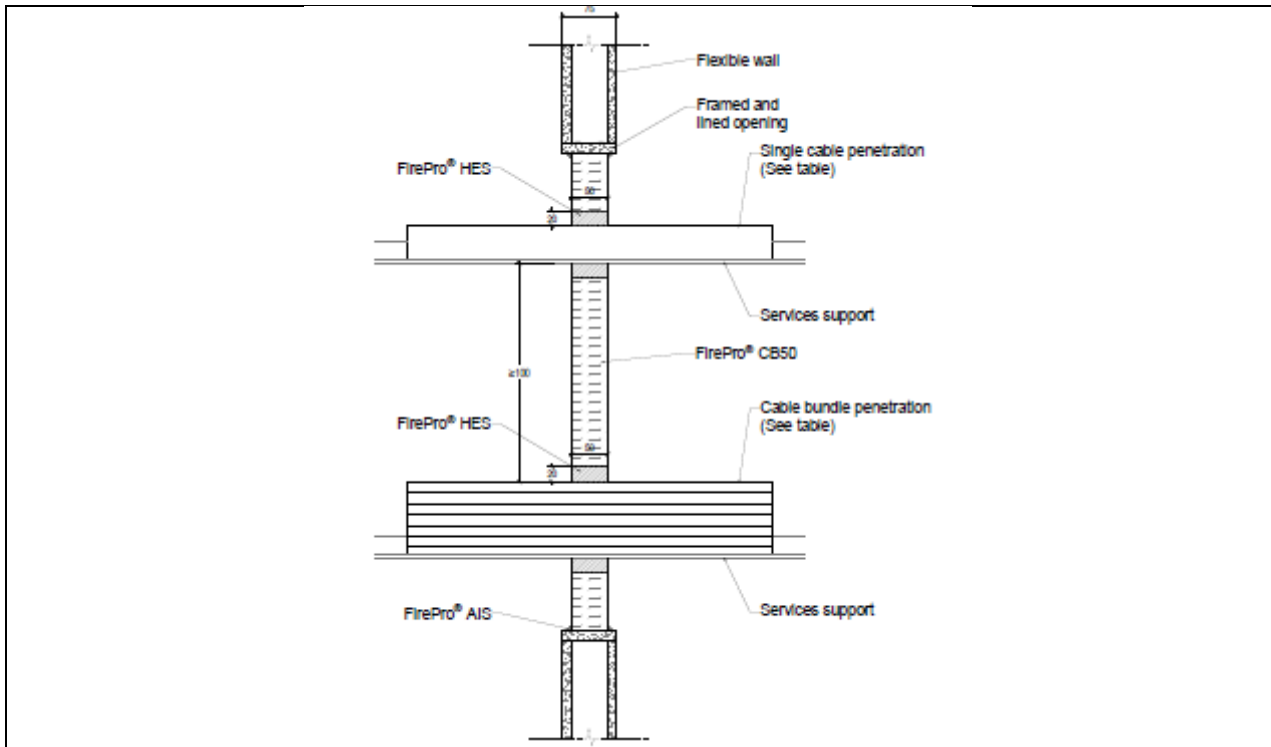


Service type		Service size (mm)	Service Protection	Classification
Sheathed cables	S	$\leq 21$	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services.  40 mm ROCKWOOL® DuctWrap, cut to size and wrapped around the service item in a LI/CI configuration 300 mm to both faces and secured to service with steel wire.	EI 60
	M	$\leq 50$		E 60 / EI 45
	L	$\leq 80$		E 60 / EI 45
Cable bundle		$\leq \varnothing 100$ cable bundle of $\leq \varnothing 21$ cables		E 60 / EI 45
Unsheathed cables		$\leq 24$		EI 60
Perforated cable steel tray, or basket		Unrestricted		E 60 / EI 45
Cable ladder		Unrestricted		EI 60



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## Cable Penetrations with cable carrier separation $\geq 100$ mm – FirePro HES

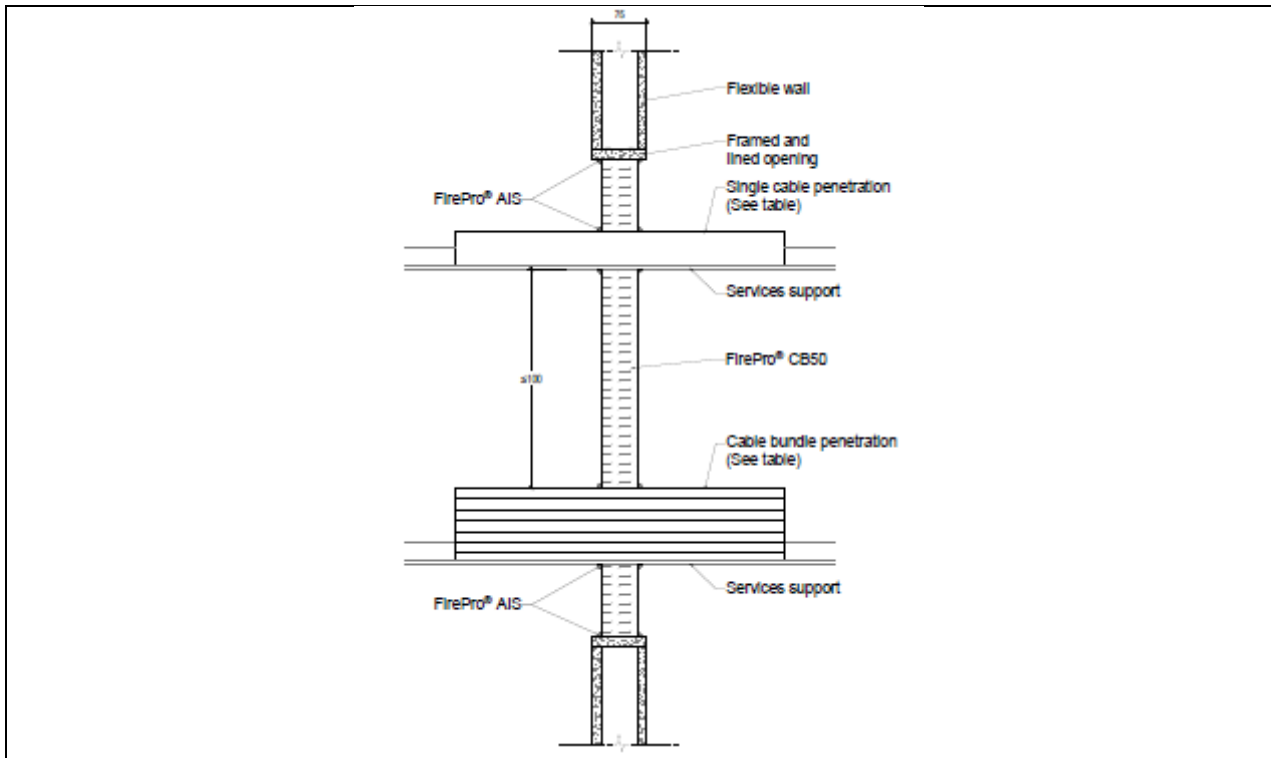


Service type		Service size (mm)	Service protection	Classification
Sheathed cables	S	$\leq 21$	Single layer of 50mm thick FirePro® CB50. FirePro AIS used on all batt edges to seal joints.	E 60 / EI 45
	M	$\leq 50$		E 60 / EI 45
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables	20 mm annulus of FirePro® HES cartridge gunned to a depth of 50 mm around the service.	E 60 / EI 45
Perforated cable steel tray, or basket		Unrestricted		EI 60



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## Cable Penetrations with cable carrier separation $\leq 100$ mm\*



Service type		Service size (mm)	Service protection	Classification
Sheathed cables	S	$\leq 21$	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used with a nominal bead around all batt edges to seal joints and services.	E 60 / EI 45
	M	$\leq 50$		E 60 / EI 45
	L	$\leq 80$		E 60 / EI 45
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables		E 60 / EI 45
Unsheathed cables		$\leq 24$		E 60 / EI 30
Steel tray, perforated cable tray, ladder or basket		Unrestricted		E 60 / EI 45

\* For cable carriers spacing details, please consult 4.3.1.1 service penetrations section on page 3

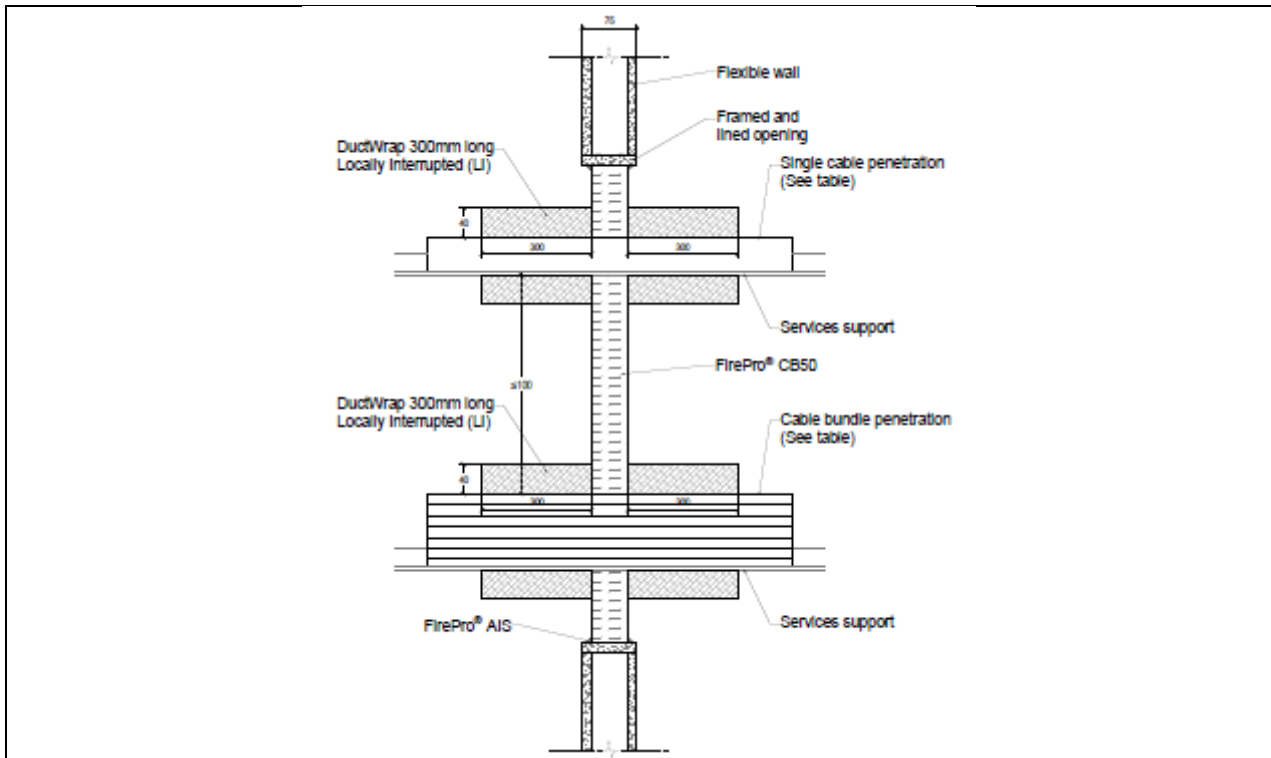


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## Cable Penetrations with cable carrier separation $\leq 100$ mm - Lagged\*



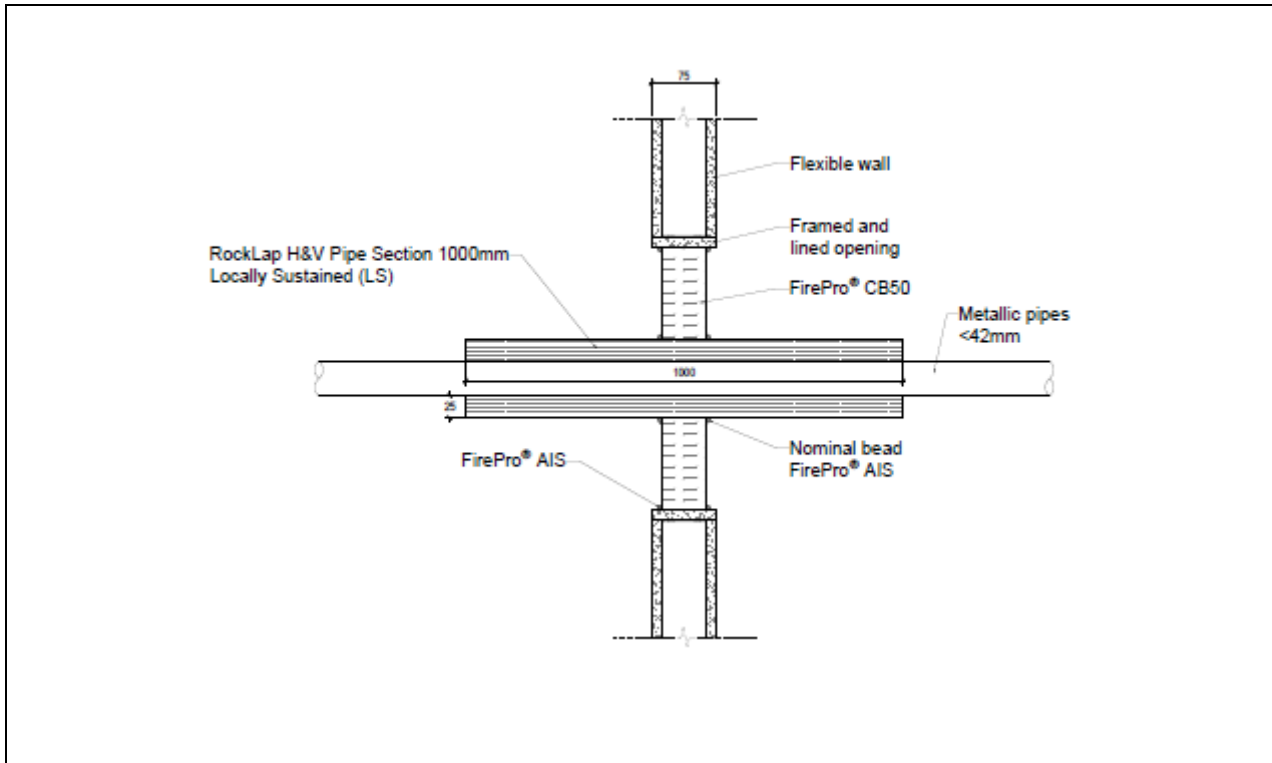
Service type		Service size (mm)	Service protection	Classification
Sheathed cables	S	$\leq 21$	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used with a nominal bead around all batt edges to seal joints and services. 40 mm ROCKWOOL® DuctWrap, cut to size and wrapped around the service item in a local interrupted configuration 300 mm to both faces and secured to service with steel wire.	E 60 / EI 45
	M	$\leq 50$		E 60 / EI 45
	L	$\leq 80$		E 60 / EI 45
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables		E 60 / EI 45
Unsheathed cables		$\leq 24$		E 60 / EI 45
Steel tray, perforated tray, ladder or basket		Unrestricted		E 60 / EI 45

\* For cable carriers spacing details, please consult 4.3.1.1 service penetrations section on page 3



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

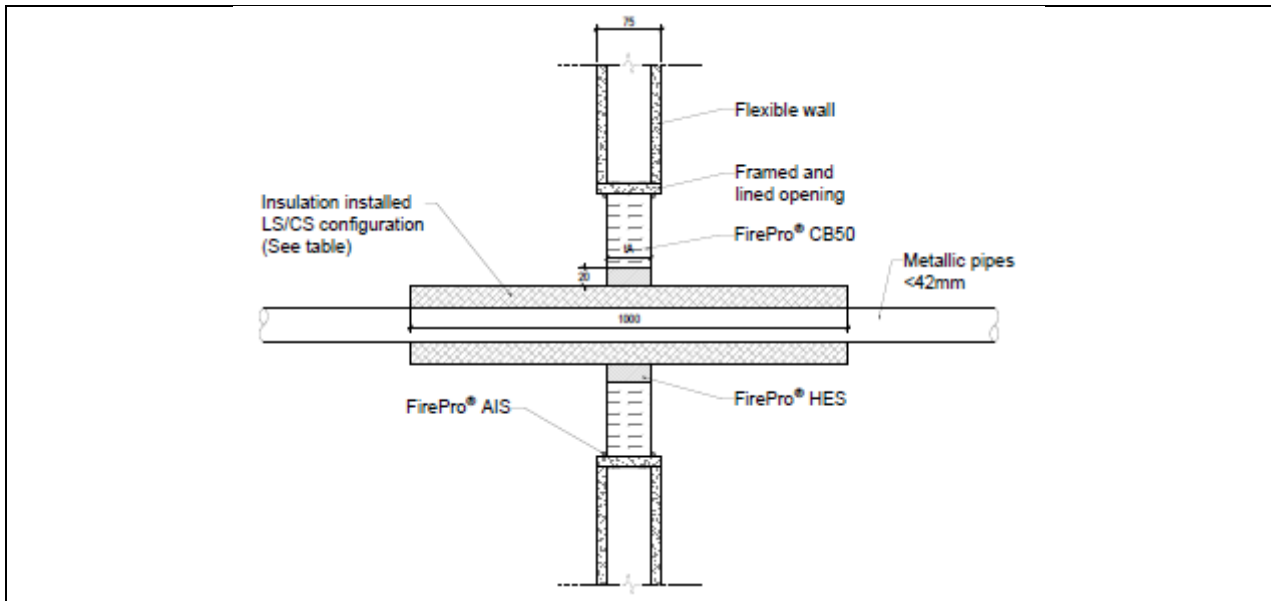


Service type	Service Size (mm)	Wall thickness (mm)	Service protection	Insulation sleeve type	Insulation sleeve details	Classification
Copper and steel pipes  Linear (0 mm)	≤42 Ø	≥1.2	Single layer of 50mm thick FirePro® CB50, friction fitted into the aperture, with FirePro® AIS used on all batt edges to seal joints and around services.	RockLap H&V Pipe Section® in an LS configuration, fixed around the metallic pipes.	1000 mm long x 25 mm thick.	<b>E 60 / EI 45 C/U</b>



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## Metallic pipes: Insulated with combustible insulation – FirePro HES.

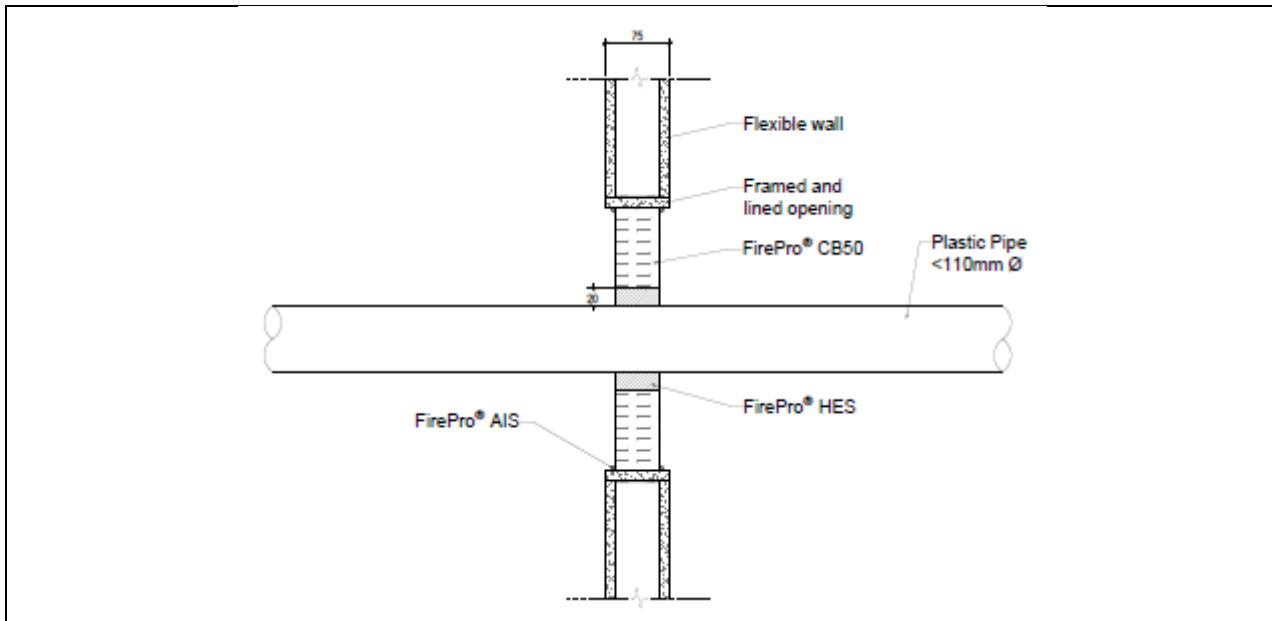


Service type	Pipe Size (mm)	Wall thickness (mm)	Seal depth tA (mm)	Annular gap (mm)	Insulation type / thickness (mm)	Service protection	Classification
Copper and steel pipes Linear (0 mm)	≤42 Ø	≥1.2	50	20	Kingspan Kooltherm installed in a CS config/ 15-30	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal all joints	<b>EI 30 C/U</b>
Copper and steel pipes Linear (0 mm)					Armacell Armaflex installed in a CS config/ 9-32	20 mm annulus of FirePro® HES cartridge gunned to a depth of 50 mm around the services	<b>E 30 / EI 15 C/U</b>

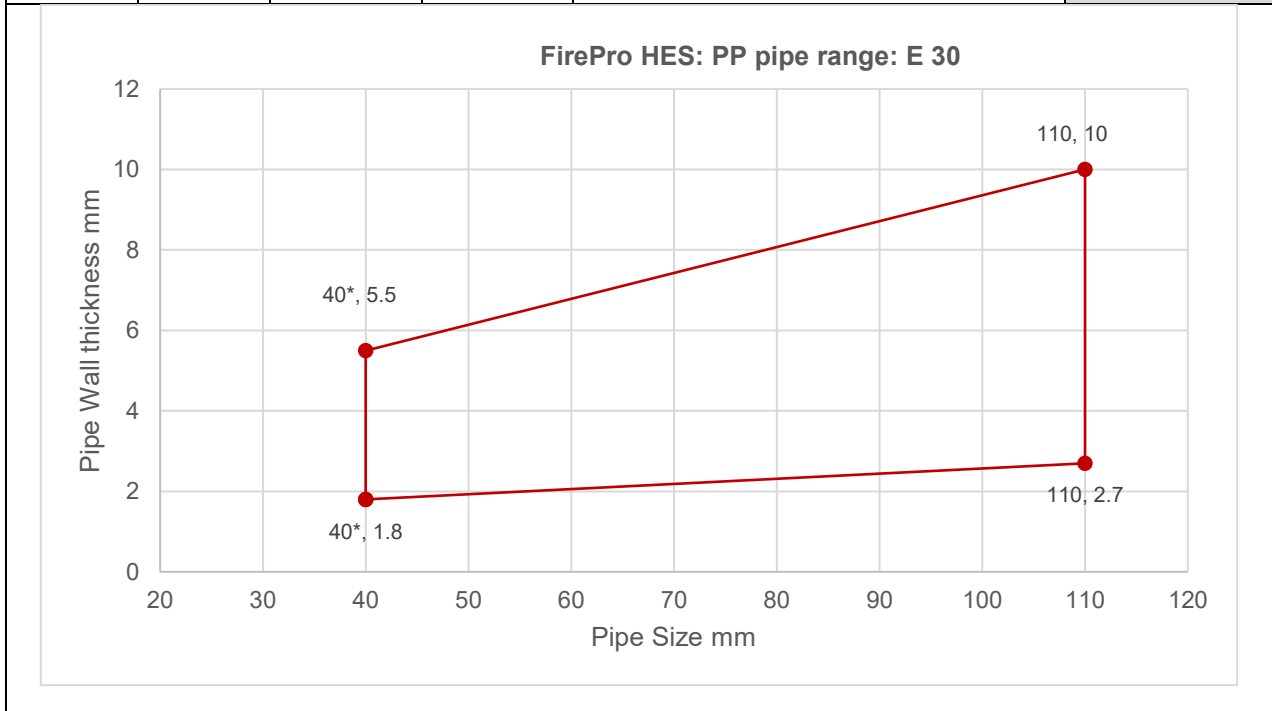


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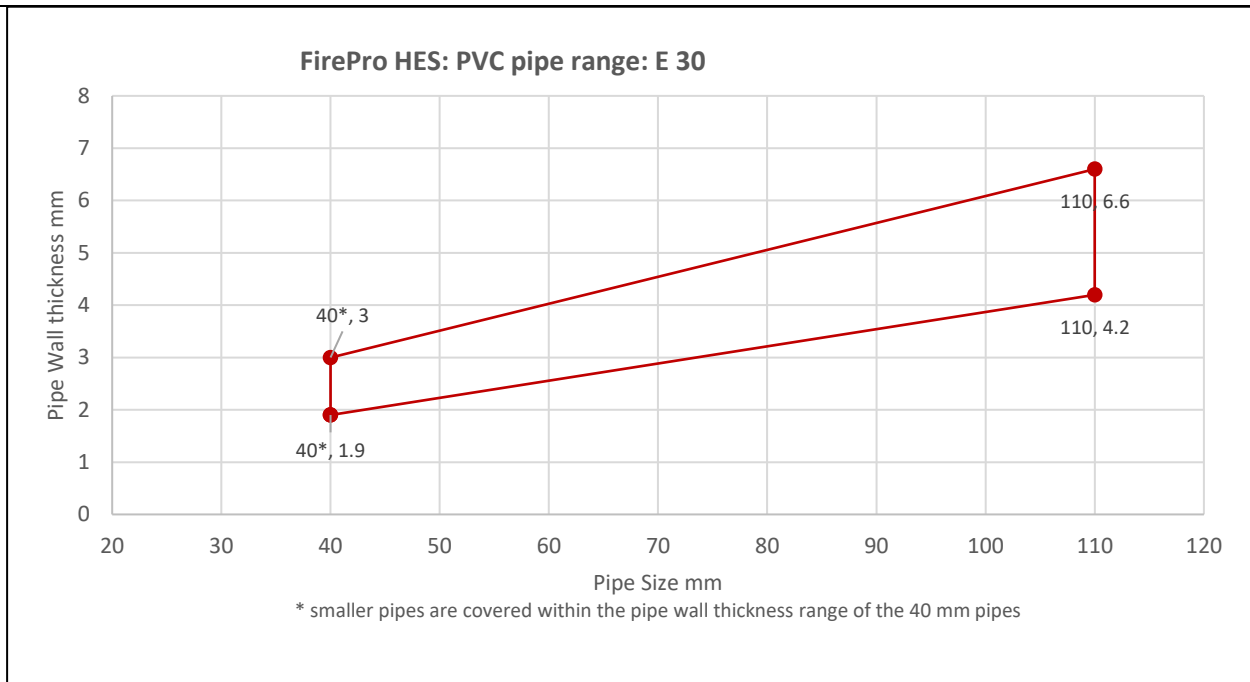
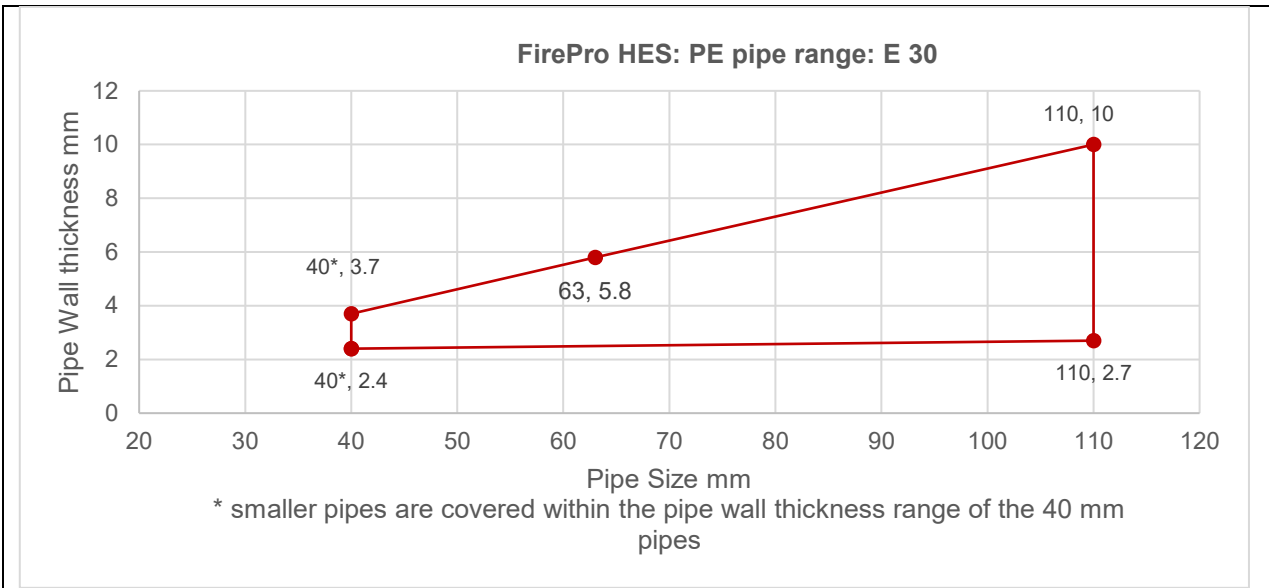
## Plastic Pipe Penetrations – FirePro HES



Pipe material	Pipe size (mm)	HES depth (mm)	Annular gap (mm)	Service Protection	Classification
PP	40 - 110	50	20	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal all joints. 20 mm annulus sealed with FirePro HES to the full depth of the batt.	E 30 U/C
PE	40 - 110				
PVC	40 - 110				

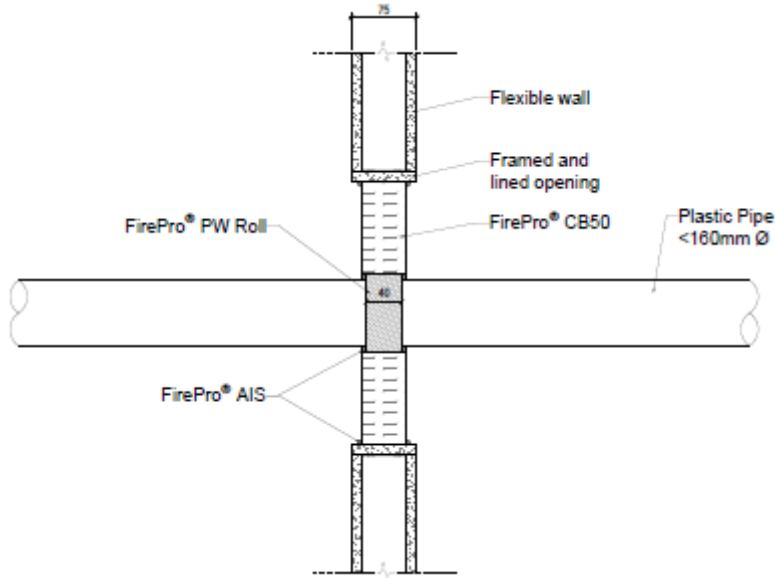


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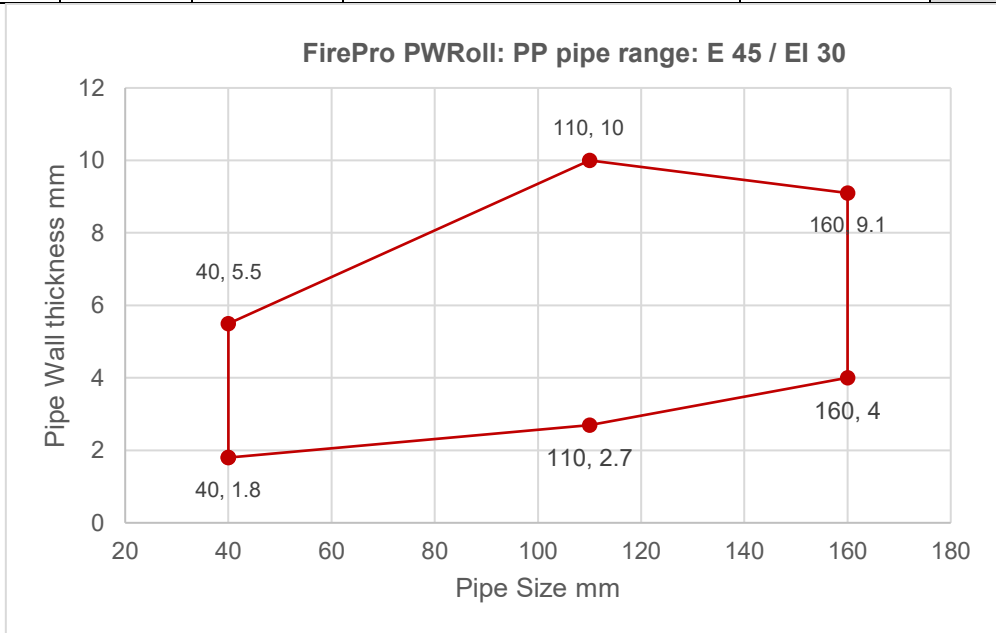


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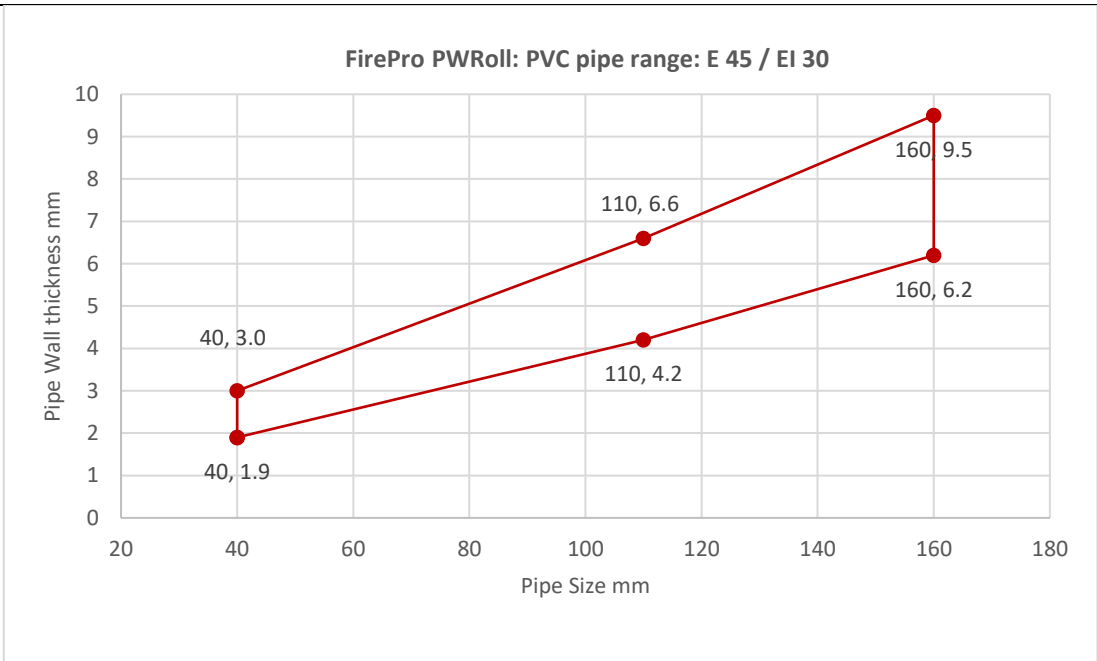
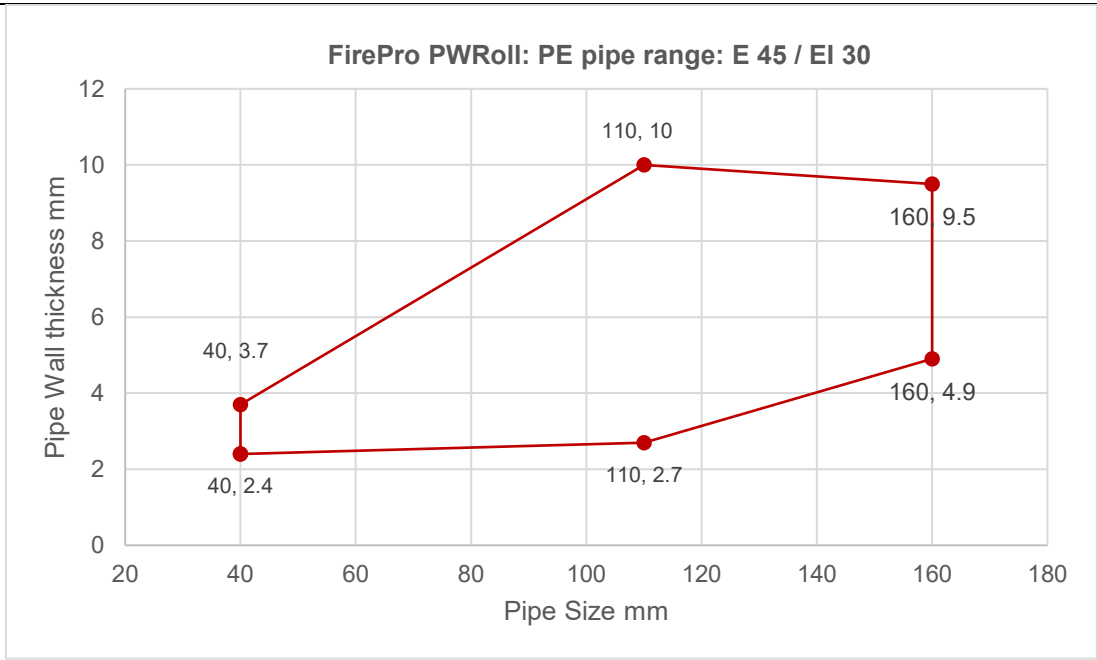
## Plastic Pipe Penetrations – FirePro PWRoll



Pipe material	Pipe size (mm)	Pipe Wrap layers (2mm)	Service Protection	Annular gap (mm)	Classification
PP/PE/PVC	≤40	1	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® PWRoll installed centrally around the service.	≤10	<b>E 45 / EI 30 U/C</b>
	41-79	2			
	80-120	3			
	121-160	4			



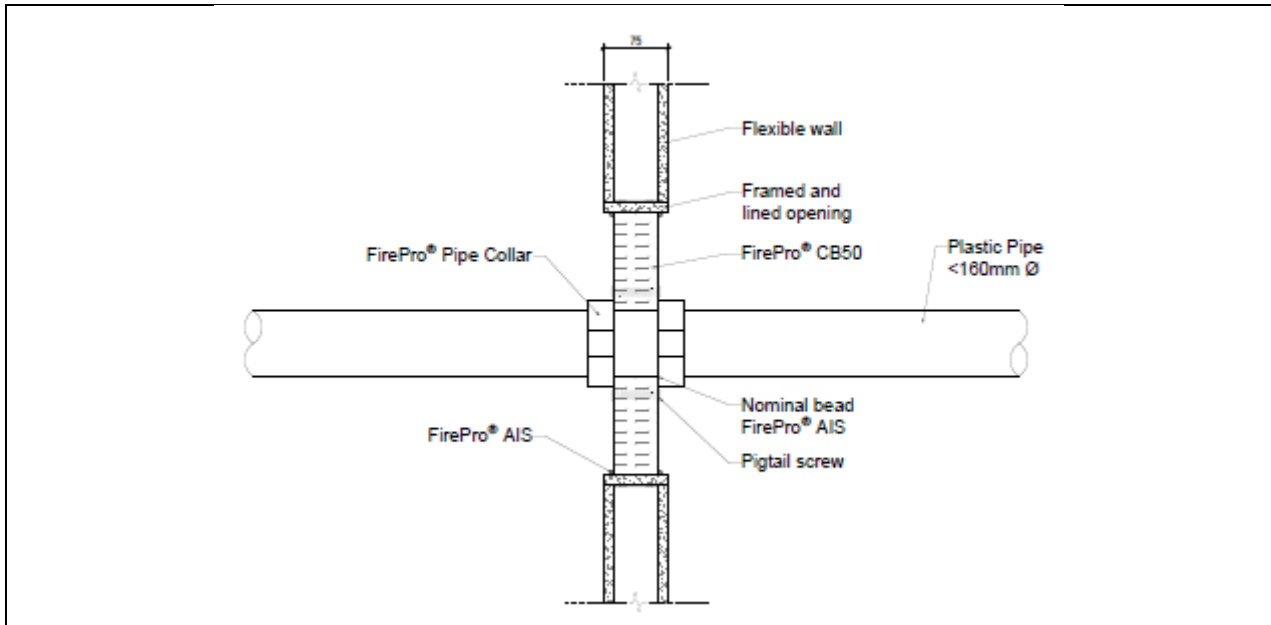
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## Plastic Pipe Penetrations – FirePro Pipe Collar

### PP Pipes



Pipe Collar Size (mm)	Pipe size (mm)	Pipe wall thickness range (mm)	Service Protection	Classification
40	40	1.8 – 5.5	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® Pipe Collar fixed around the service flush with both faces of the wall using pigtail screws	EI 60 U/C
55	55	2.0 – 5.6		
63	63	2.1 – 5.8		
75	75	2.2 – 5.9		
82	82	2.4 – 6.0		
90	90	2.6 – 6.2		
110	110	2.7 – 6.3		
125	125	3.1 – 7.2		
140	140	3.5 – 8.1		
160	160	4.0 – 9.1		

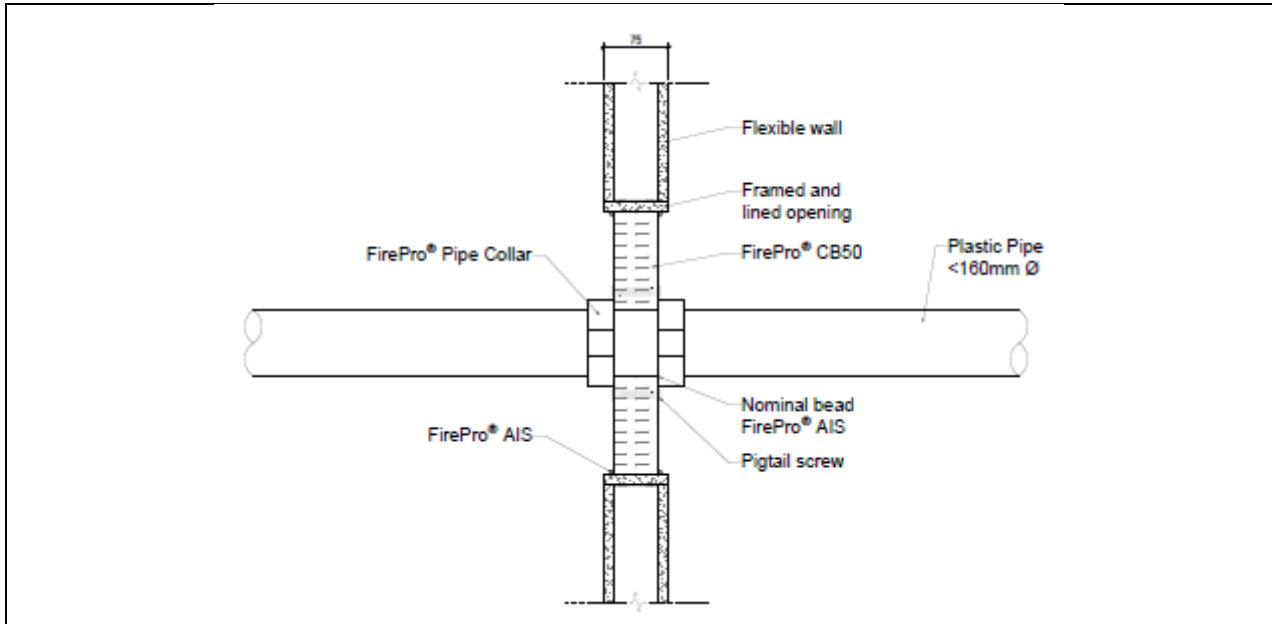


**Solutions**

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## PE Pipes

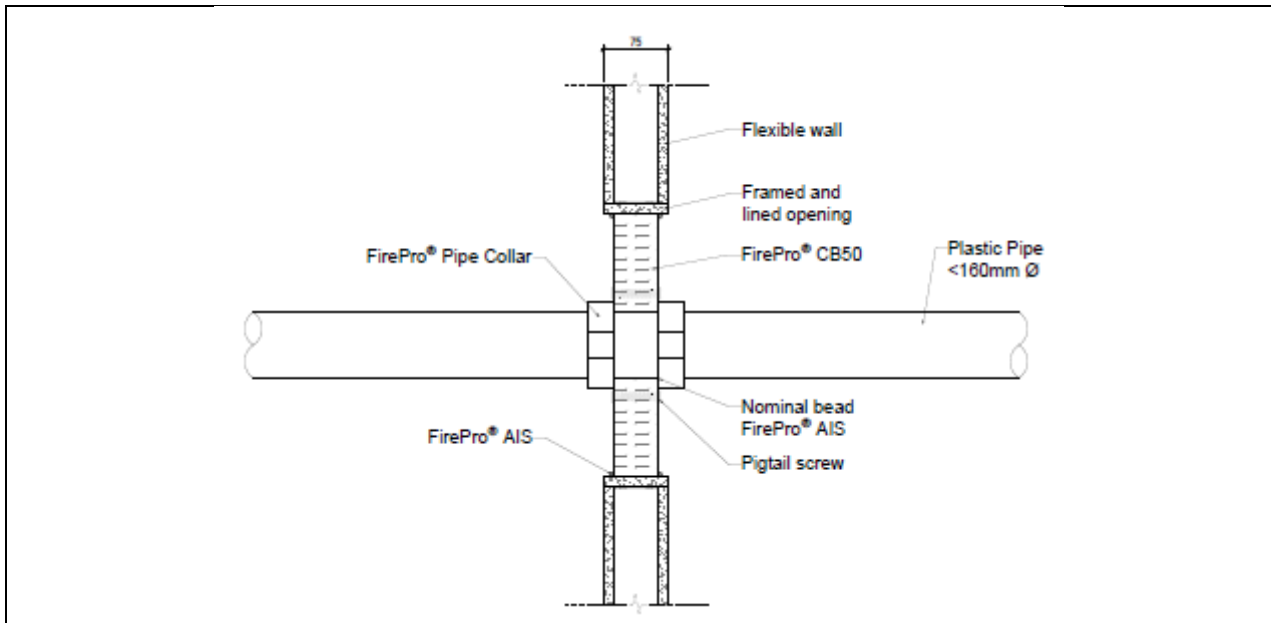


Pipe Collar Size (mm)	Pipe size (mm)	Pipe wall thickness range (mm)	Service Protection	Classification
40	40	2.4 – 3.7	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® Pipe Collar fixed around the service flush with both faces of the wall, using pigtail screws	<b>EI 60 U/C</b>
55	55	2.5 – 5.0		
63	63	2.5 – 5.8		
75	75	2.5 – 6.9		
82	82	2.6 – 7.6		
90	90	2.6 – 8.3		
110	110	2.7 - 10		
125	125	3.4 – 9.8		
140	140	4.1 – 9.7		
160	160	4.9 – 9.5		



# Appendix UL-EU CERTIFICATE UL-EU-01360-EN

## PVC Pipes

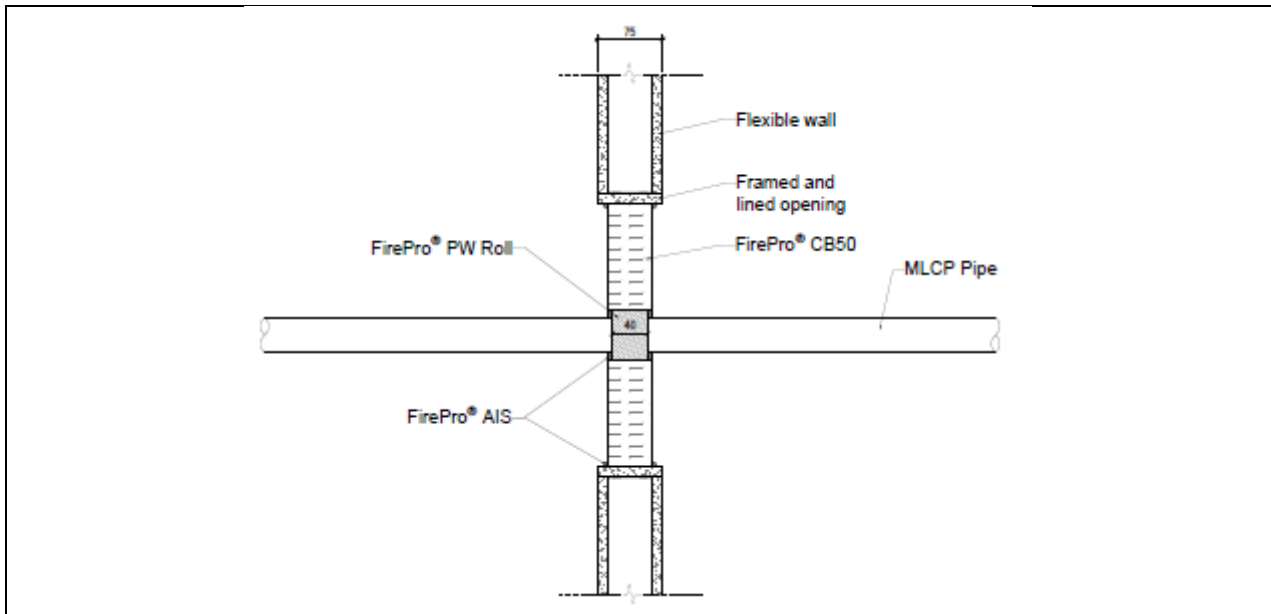


Pipe Collar Size (mm)	Pipe size (mm)	Pipe wall thickness range (mm)	Service Protection	Classification
40	40	1.9 – 3.0	Single layer of 50mm thick FirePro® CB50, friction fitted into the aperture, with FirePro® AIS used on all batt edges to seal joints and around services. FirePro® Pipe Collar fixed around the service flush with both faces of the wall, using pigtail screws	<b>EI 60 U/C</b>
55	55	2.4 – 3.7		
63	63	2.6 – 4.1		
75	75	3.0 – 4.8		
82	82	3.2 – 5.1		
90	90	3.5 – 5.6		
110	110	4.2 – 6.6		
125	125	4.8 – 7.6		
140	140	5.5 – 8.4		
160	160	6.2 – 9.5		



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## MLCP Pipes – FirePro PWRoll



### Single pipes

Pipe material	Pipe size (mm)	Pipe wall thickness (mm)	Pipe Wrap layers (2mm)	Service Protection	Classification
UPONOR PP-RT / AL / PP-RT	110	10	3	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® PWROLL installed centrally around the pipe	E 60 / EI 45 U/C
UPONOR PP-RT / AL / PP-RT	40	2	1		E 60 / EI 45 U/C

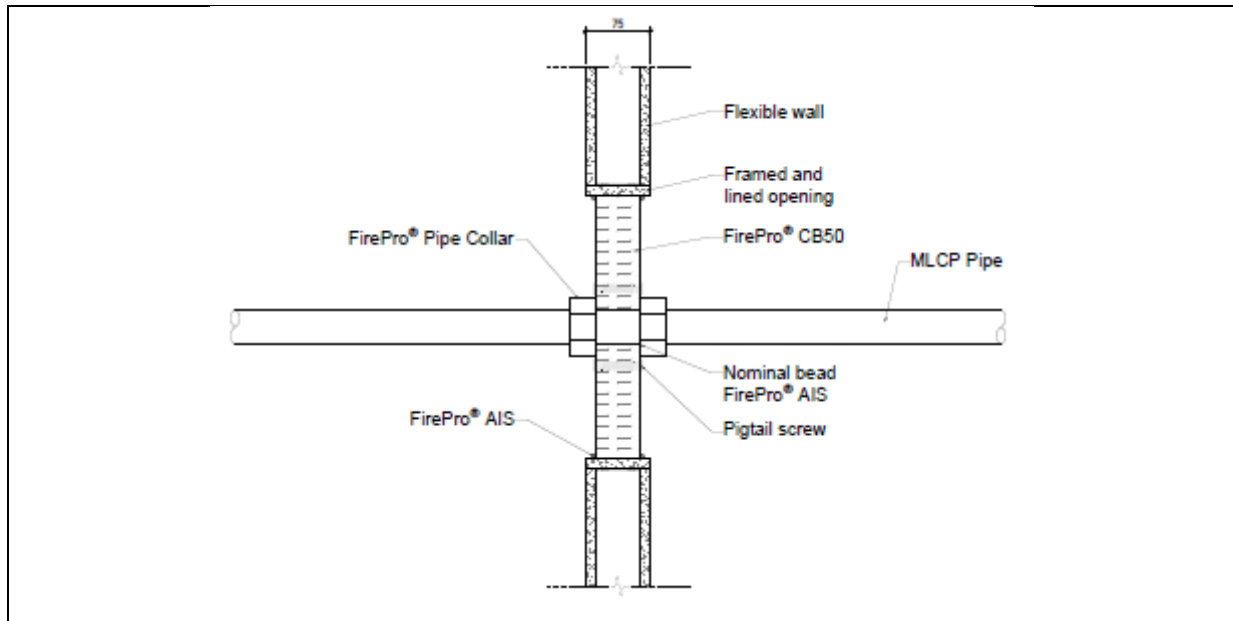
### Multiple pipes – Linear Configuration

UPONOR PP-RT / AL / PP-RT	63	6	3	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® PWROLL installed centrally around the pipe	E 60 / EI 30 U/C
UPONOR PP-RT / AL / PP-RT	40	2	1		E 60 / EI 30 U/C



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## MLCP Pipes – FirePro Pipe Collar

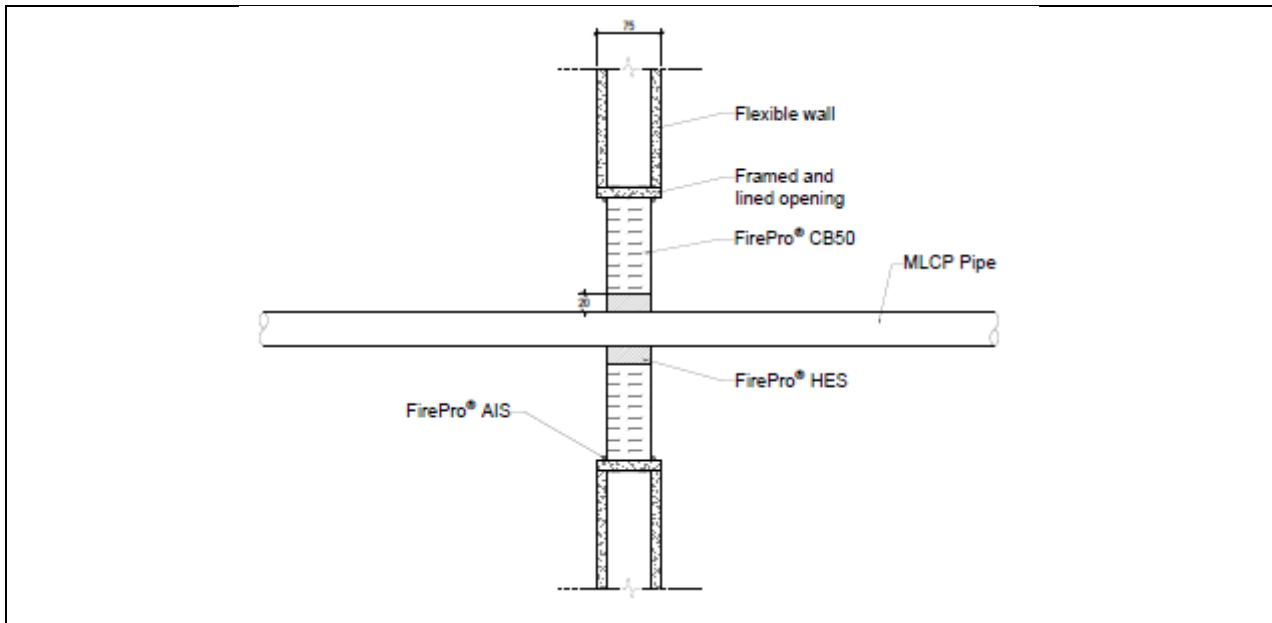


Pipe Collar Size (mm)	Pipe size (mm)	Pipe Type	Pipe wall thickness range (mm)	Service protection	Classification
110	110	UPONO R PP- RT / AL / PP-RT	10	Single layer of 50mm thick FirePro® CB50, friction fitted into the aperture, with FirePro® AIS used on all batt edges to seal joints and around services. FirePro® Pipe Collar fixed around the service on both sides of the batt using pigtail screws	<b>E 60 / EI 30 U/C</b>
40	40	UPONO R PP- RT / AL/ PP-RT	2		<b>E 60 / EI 30 U/C</b>



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## Insulated MLCP Pipes – Uponor Uni Pipe Plus – FirePro HES



### Single, linear or clustered configuration

Pipe Type	Pipe size (mm)	Insulation thickness (mm)	HES depth (mm)	Annular gap (mm)	Service Protection	Classification
PP-RT/AL/PP-RT with PE Insulation (clustered 0mm)	16 - 25	5 - 13	50	20	Single layer of 50mm thick FirePro® CB50 FirePro® AIS used on all batt edges to seal all joints. 20 mm annulus sealed with FirePro HES to the full depth of the batt.	<b>E 60 / EI 30 U/C</b>



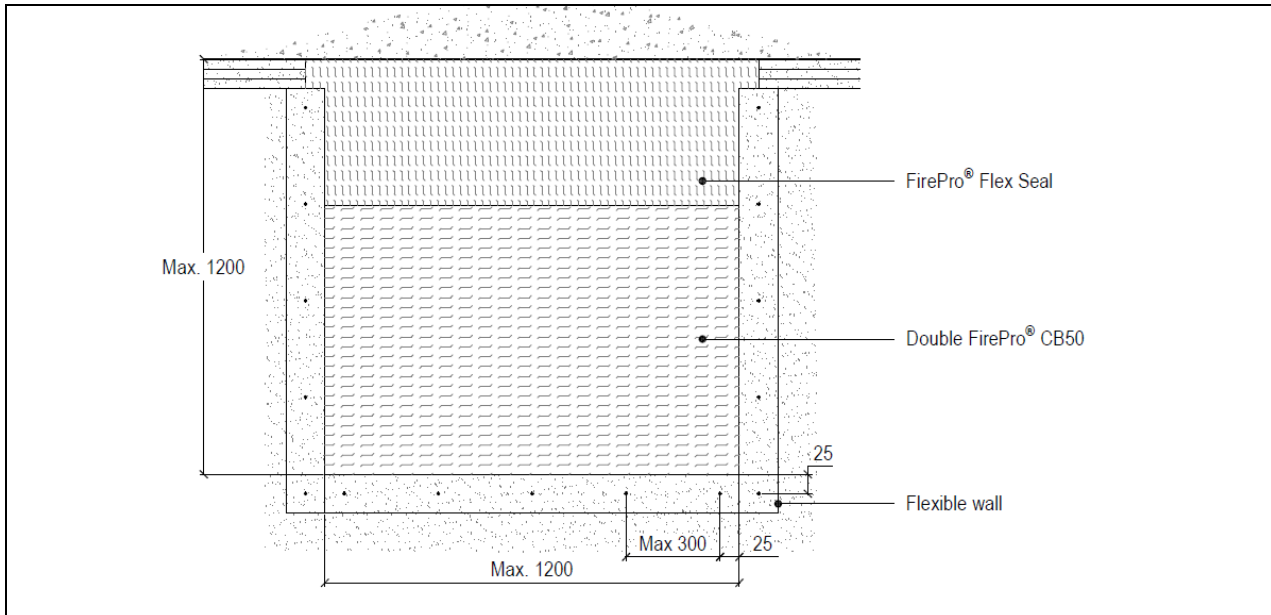
# Appendix UL-EU CERTIFICATE UL-EU-01360-EN

## Double Batt Seals

The following installation methods for FirePro® CB50 are considered as part of this classification.

### Double Batt Seal Installation Methods

#### Framed and lined openings

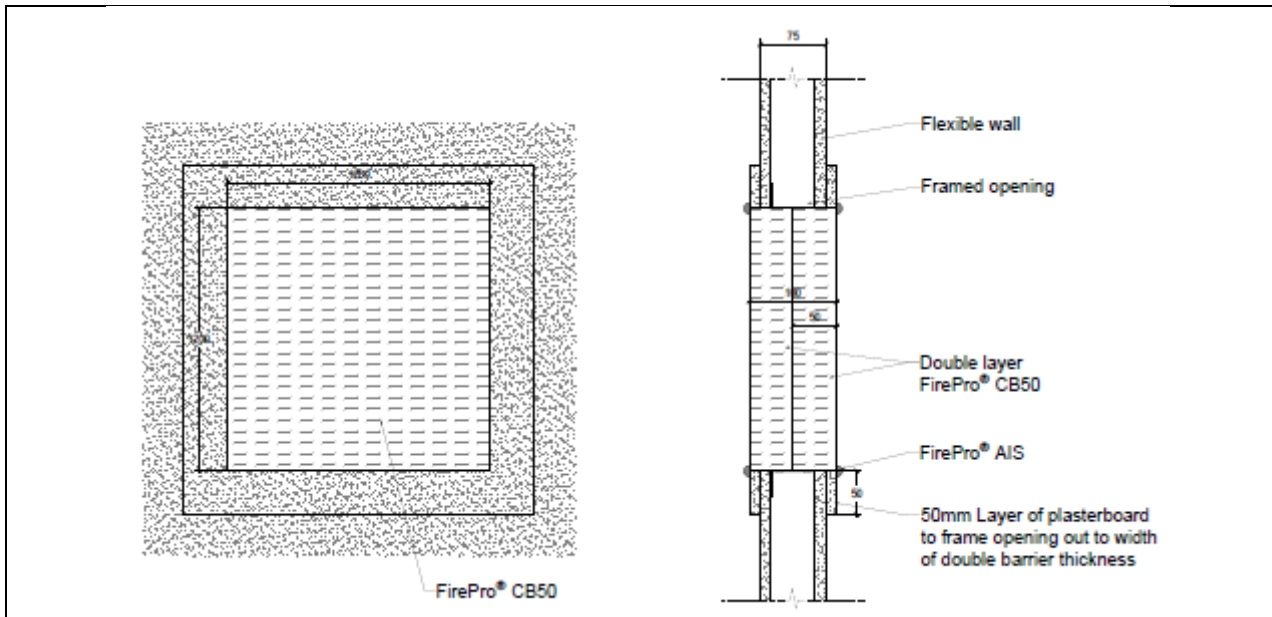


Service type	Max aperture details	Service protection	Classification
Blank	1210 mm x 1200 mm	1010 mm high double layer of 50mm thick FIREPRO® CB50 batt was friction fitted into the aperture. 200 mm high by 100 mm thick FirePro® Flex Seal Coated Strip was compression fitted into the top of the aperture with 10 mm compression to the width and length. All edges sealed with a nominal bead and all cuts and butt joints sealed with "FirePro® AIS". FirePro Flex Seal Coated Strip was brush coated with FirePro® Flex Seal Coating.	<b>EI 90</b>



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## Blank Seal – framed openings



Service type	Max aperture size	Service protection	Classification
Blank	1200 x 1200 mm	Double layer of 50mm thick FirePro® CB50 batt, friction fitted within the aperture. All edges and butt joints sealed with FirePro® AIS sealant.	<b>EI 60</b>



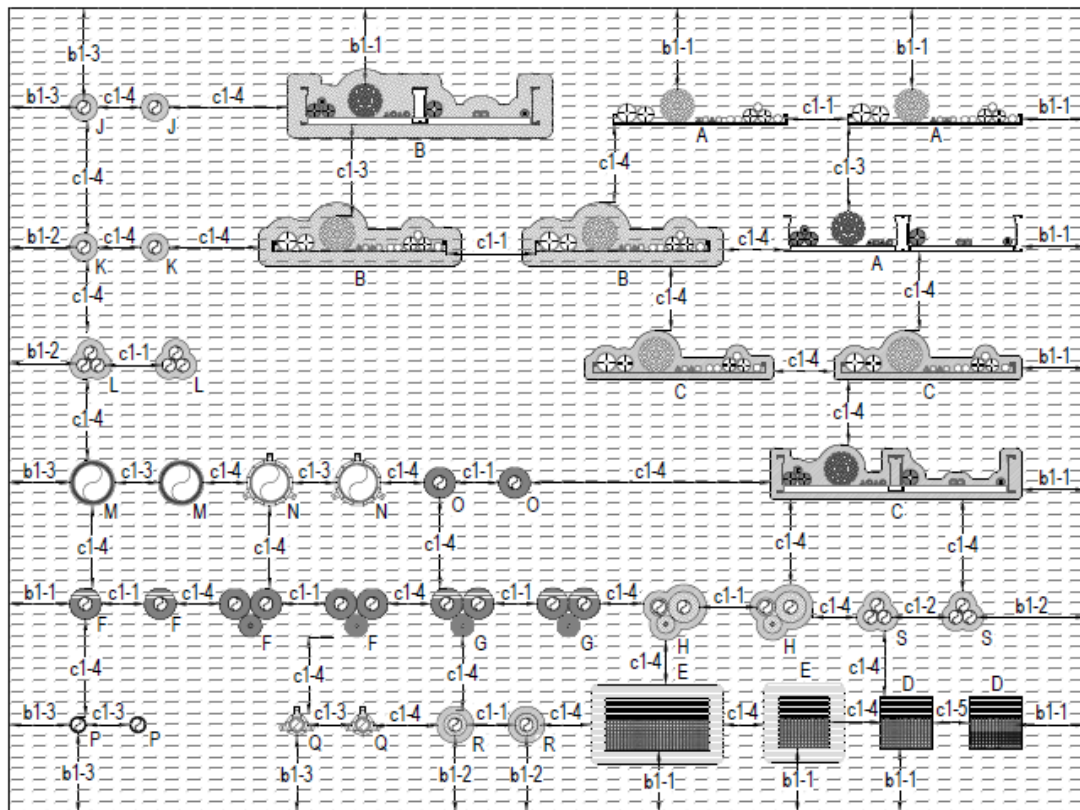
# Appendix UL-EU CERTIFICATE UL-EU-01360-EN

## Service Penetrations

FirePro® CB50 is approved for use with the following service items. Installation of FirePro® CB50 must be completed in accordance with one of the installation methods specified in the blank seal section and must adhere to the size limitations outlined for each methodology. Certain service items may require additional protection depending on the type of service and/or the performance requirements of the seal and service. Details of any required additional protection are provided, as appropriate, in the following performance tables.

Service arrangement (spacings)– distances as defined by 1366-3: 2021+2024

Single Skin Flexible walls ≥75mm - Double CB50



Service Type	
A	Unlagged cables & cable carriers
B	Lagged cables & cable carriers
C	HES cables & cable carriers
D	Trunking
E	Lagged trunking
F	H&V lagged metallic pipes (L/S)
G	DuctWrap lagged metallic pipes (L/I)
H	Combustible insulation on metallic pipes - HES
J	HES - combustible pipes
K	HES - CPVC
L	HES - PB
M	PWRoll - combustible pipes
N	Collar - combustible pipes
O	IFS - combustible pipes
P	PWRoll - MLC pipes (Uponor)
Q	Collar - MLC pipes (Uponor)
R	HES - Insulated MLC pipe
S	HES - TracPipe

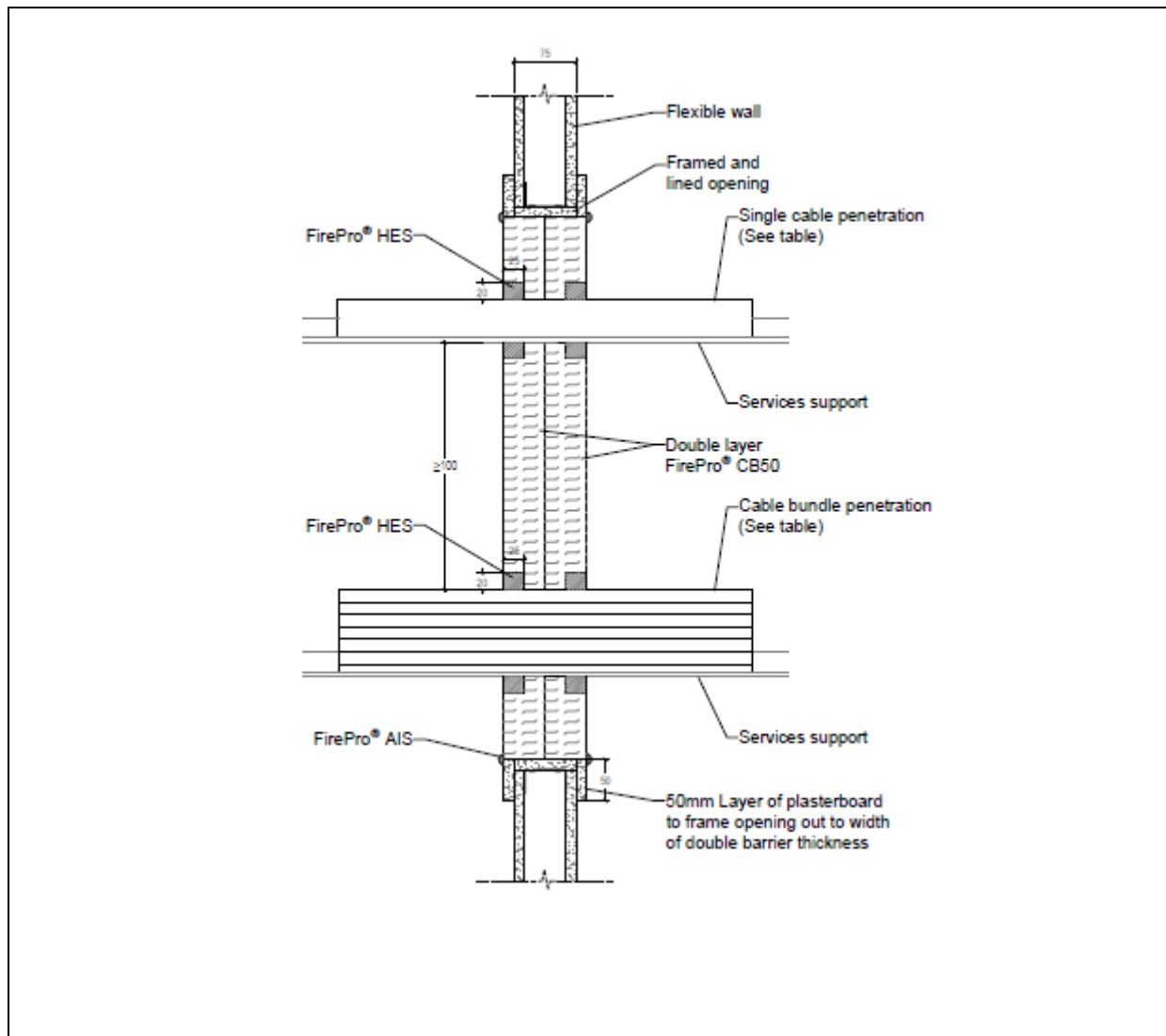
Aperture Edge Distance	
b1-1	0mm
b1-2	20mm
b1-3	50mm
b1-4	100mm

Service Separation	
c1-1	0mm
c1-2	25mm
c1-3	50mm
c1-4	100mm
c1-5	30mm



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## Cable Penetrations with cable carrier separation $\geq 100$ mm – FirePro HES



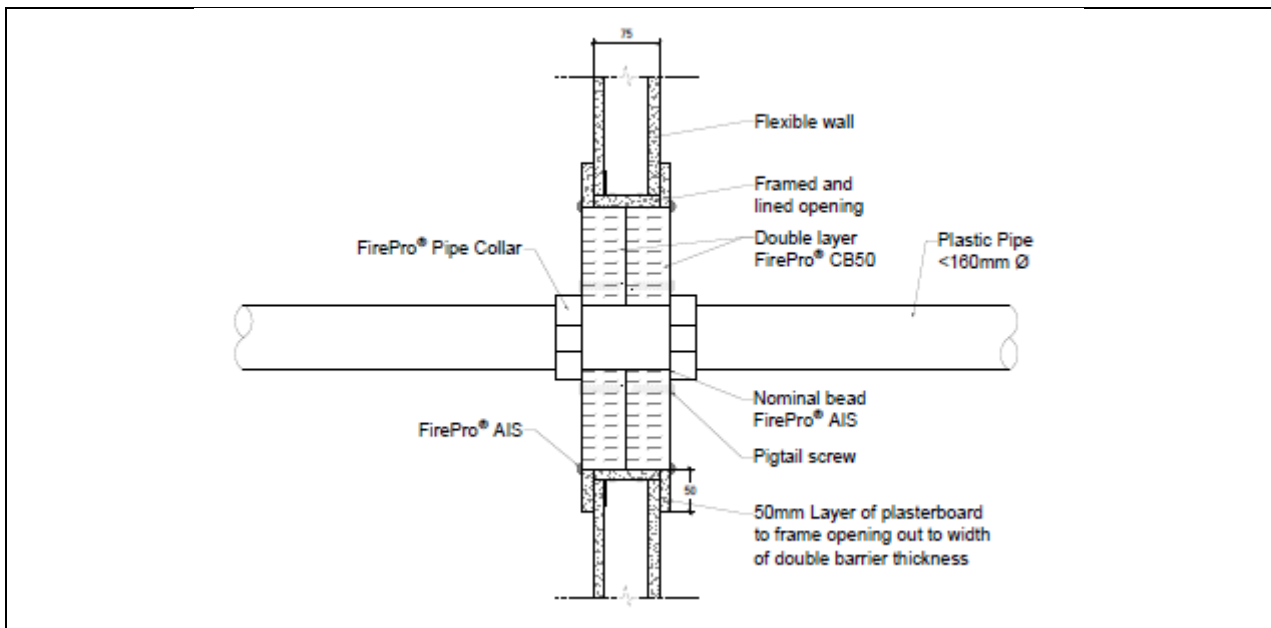
Service type		Service size (mm)	Service protection	Classification
Sheathed cables	S	$\leq 21$	Double layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints. 20 mm annulus of FirePro® HES cartridge gunned to a depth of 25 mm around the service on each side of the seal.	E 60 / EI 45
	M	$\leq 50$		E 60 / EI 45
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables		E 60 / EI 45
Perforated steel cable tray, or basket		Unrestricted		EI 60



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## Plastic Pipe Penetrations – FirePro Pipe Collar

### PP Pipes

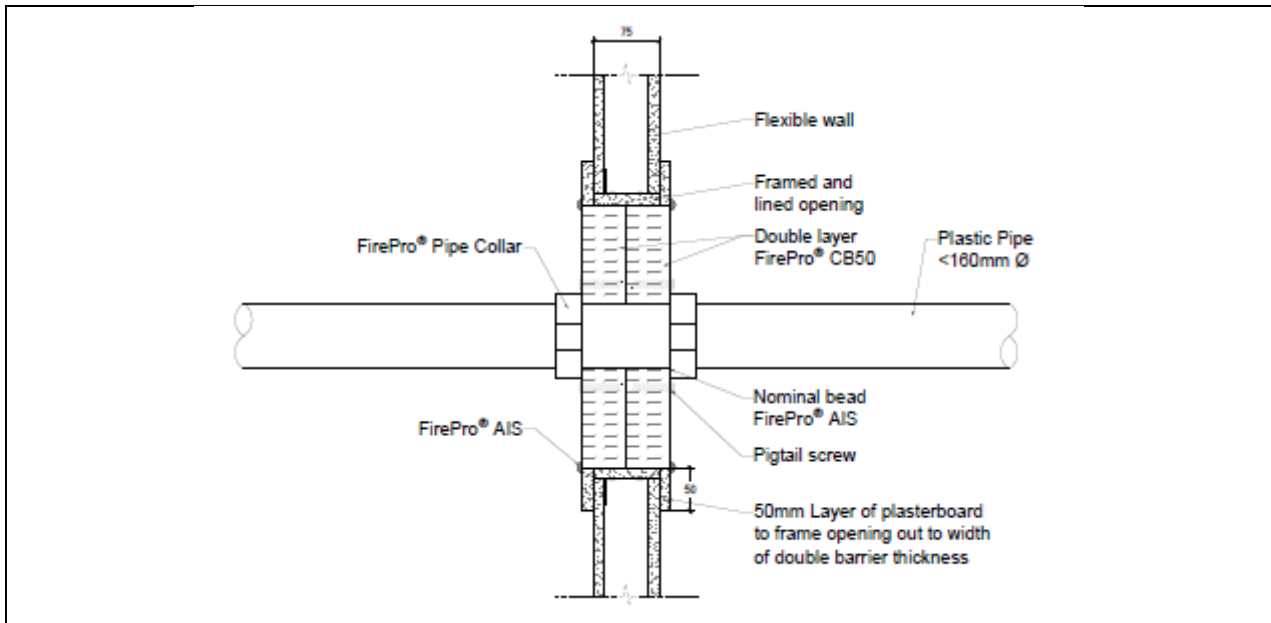


Pipe Collar Size (mm)	Pipe size (mm)	Pipe wall thickness range (mm)	Service Protection	Classification
40	40	1.8 – 5.5	Double layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® Pipe Collar fixed around the service on both sides of the batt using pigtail screws	<b>E 60 / EI 45 U/C</b>
55	55	2.0 – 5.6		
63	63	2.1 – 5.8		
75	75	2.2 – 5.9		
82	82	2.4 – 6.0		
90	90	2.6 – 6.2		
110	110	2.7 – 6.3		
125	125	3.1 – 7.2		
140	140	3.5 – 8.1		
160	160	4.0 – 9.1		



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## PE Pipes



Pipe Collar Size (mm)	Pipe size (mm)	Pipe wall thickness range (mm)	Service Protection	Classification
40	40	2.4 – 3.7	Double layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® Pipe Collar fixed around the service on both sides of the batt using pigtail screws	<b>E 60 / EI 45 U/C</b>
55	55	2.5 – 5.0		
63	63	2.5 – 5.8		
75	75	2.5 – 6.9		
82	82	2.6 – 7.6		
90	90	2.6 – 8.3		
110	110	2.7 - 10		
125	125	3.4 – 9.8		
140	140	4.1 – 9.7		
160	160	4.9 – 9.5		

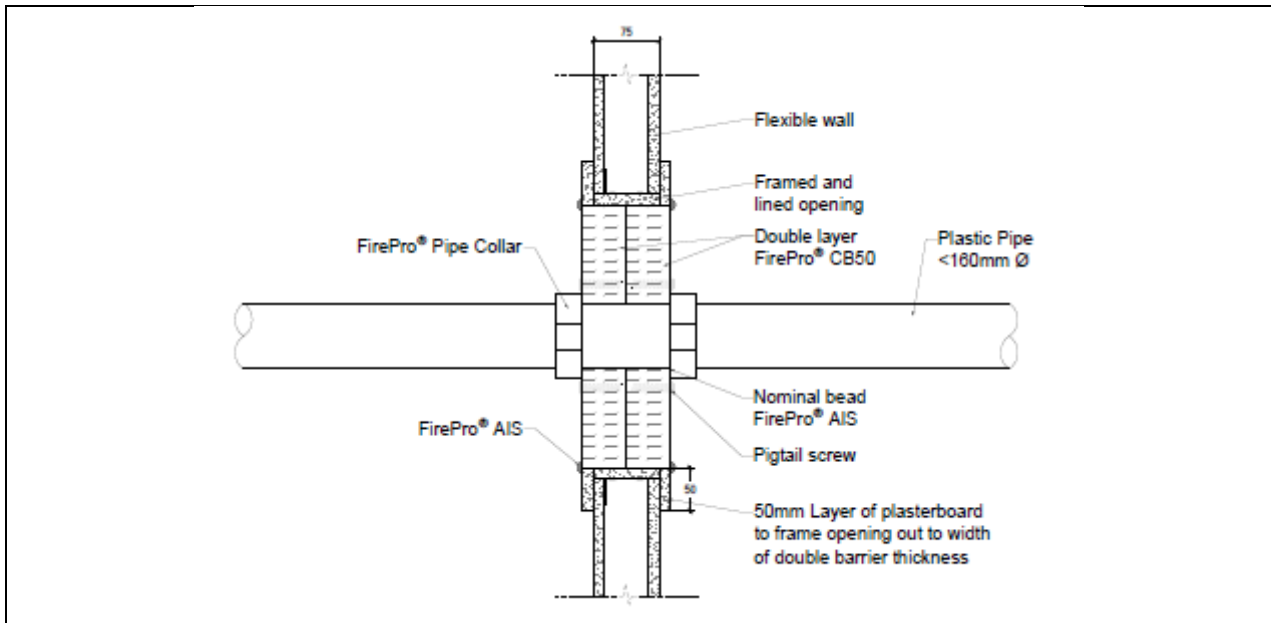


**Solutions**

Form-ULID-006104 V9.0

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## PVC Pipes



Pipe Collar Size (mm)	Pipe size (mm)	Pipe wall thickness range (mm)	Service Protection	Classification
40	40	1.9 – 3.0	Double layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® Pipe Collar fixed around the service on both sides of the batt using pigtail screws	<b>E 60 / EI 45 U/C</b>
55	55	2.4 – 3.7		
63	63	2.6 – 4.1		
75	75	3.0 – 4.8		
82	82	3.2 – 5.1		
90	90	3.5 – 5.6		
110	110	4.2 – 6.6		
125	125	4.8 – 7.6		
140	140	5.5 – 8.4		
160	160	6.2 – 9.5		

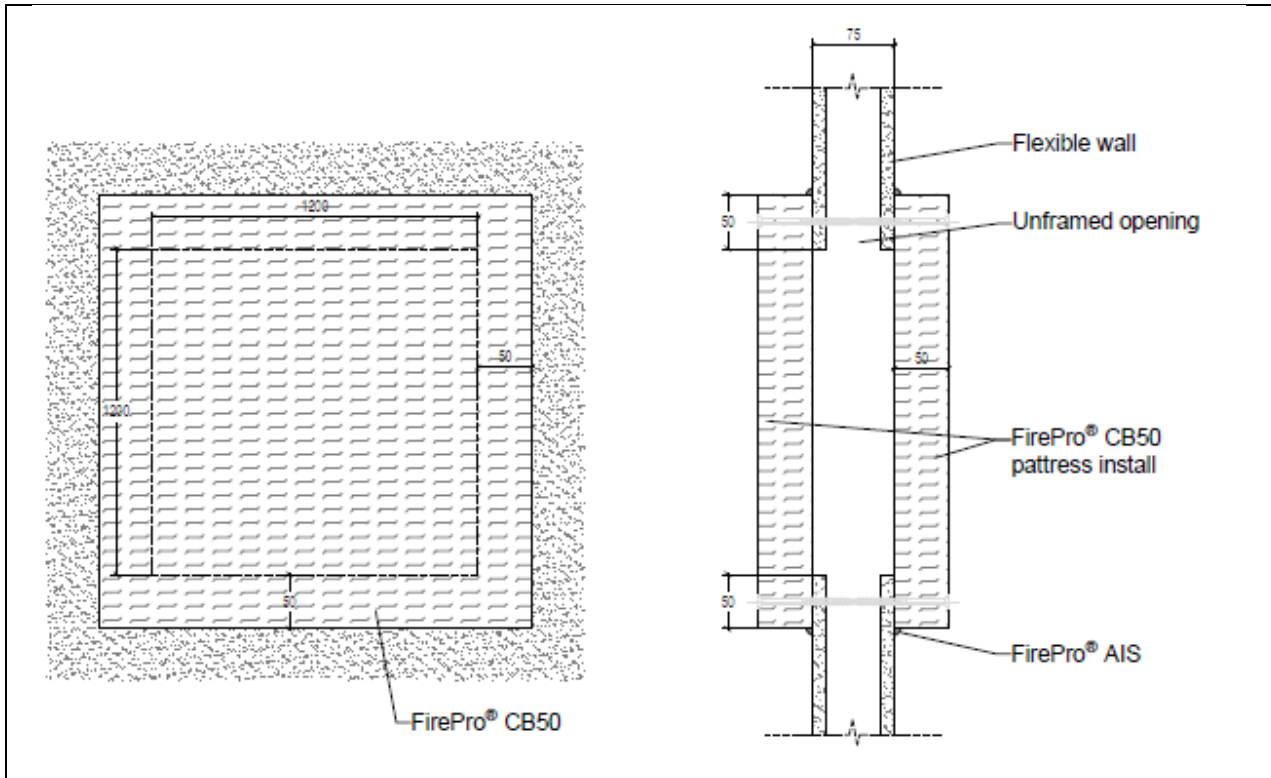


# Appendix UL-EU CERTIFICATE UL-EU-01360-EN

## Pattress Batt Seals

The following installation methods for FirePro® CB50 are considered as part of this classification.

### Blank Seal – Unframed openings

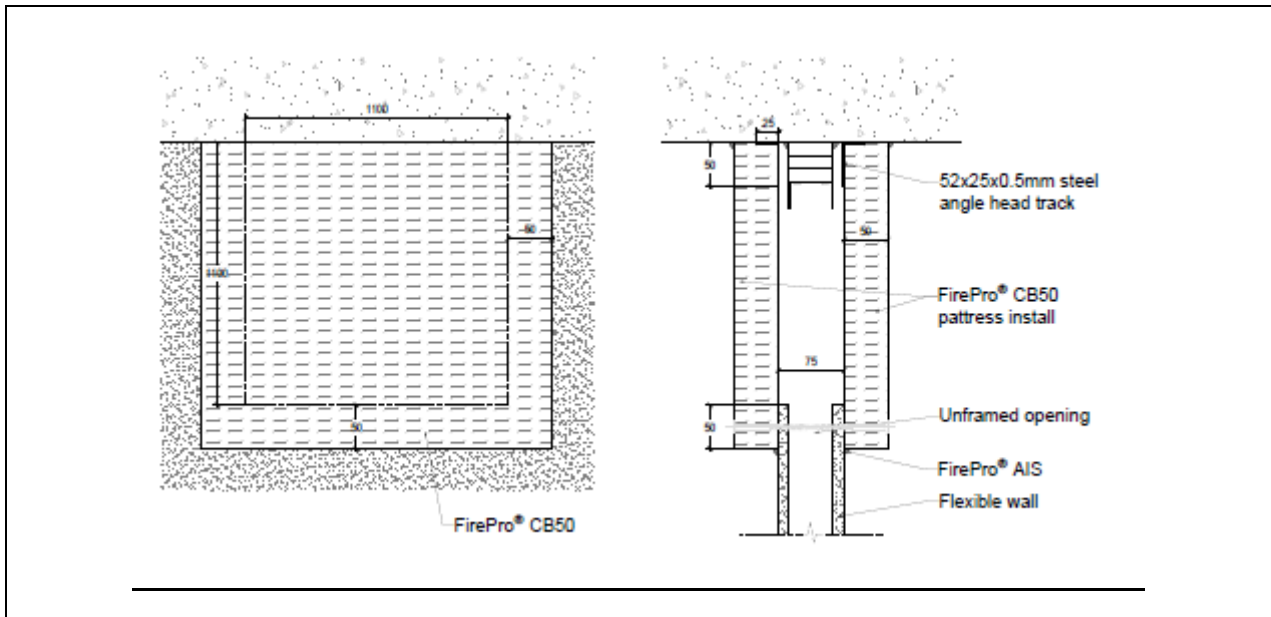


Service type	Max aperture size	Service protection	Classification
Blank	1200 x 1200 mm	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges. All edges and butt joints sealed with FirePro® AIS sealant. The batts were mechanically fixed with 90 mm long woodscrews and washers at 300 mm centres	<b>EI 60</b>
Blank	600 x 800 mm	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on the vertical and top edges. The bottom edge overlap can be reduced to 30 mm. All edges and butt joints sealed with FirePro® AIS sealant. The batts were mechanically fixed with 90 mm woodscrews and washers at 300 mm centres.	<b>EI 90</b>



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## Blank Seal – unframed opening up to a head track detail

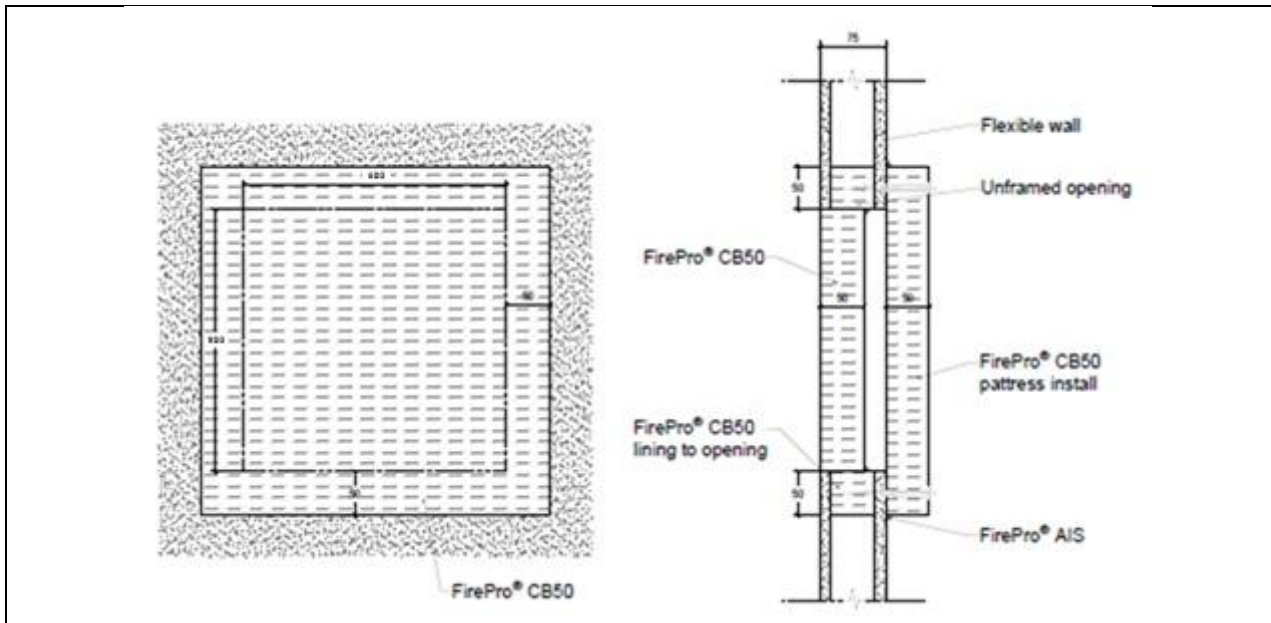


Service type	Max aperture size (mm)	Service protection	Classification
Blank	1100 x 1100 mm	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on vertical and bottom edges. Upper horizontal edge is fixed back to steel head track All butt joints were sealed with FirePro® AIS around edges of aperture and services. The batts were mechanically fixed with woodscrews and washers at 300 mm centres.	<b>EI 90</b>



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## Blank Seal – CB50 lined opening with in-line and pattress. Single sided installation.



Service type	Max aperture size	Service protection	Classification
Blank	600 x 800 mm (aperture lined with FirePro® CB50)	<p>Single layer of 50mm thick FirePro® CB50 batt was friction fitted into the aperture, flush with the face of the wall. Single layer of 50mm FirePro® CB50 pattress fitted to the unexposed face of the aperture, with 50mm overlap on all edges. Maximum 25mm void in-between batts. All edges sealed with a nominal bead and all cuts and butt joints sealed with "FirePro® AIS". The batts were mechanically fixed with screws and washers at 300 mm centres.</p>	<b>EI 90</b>



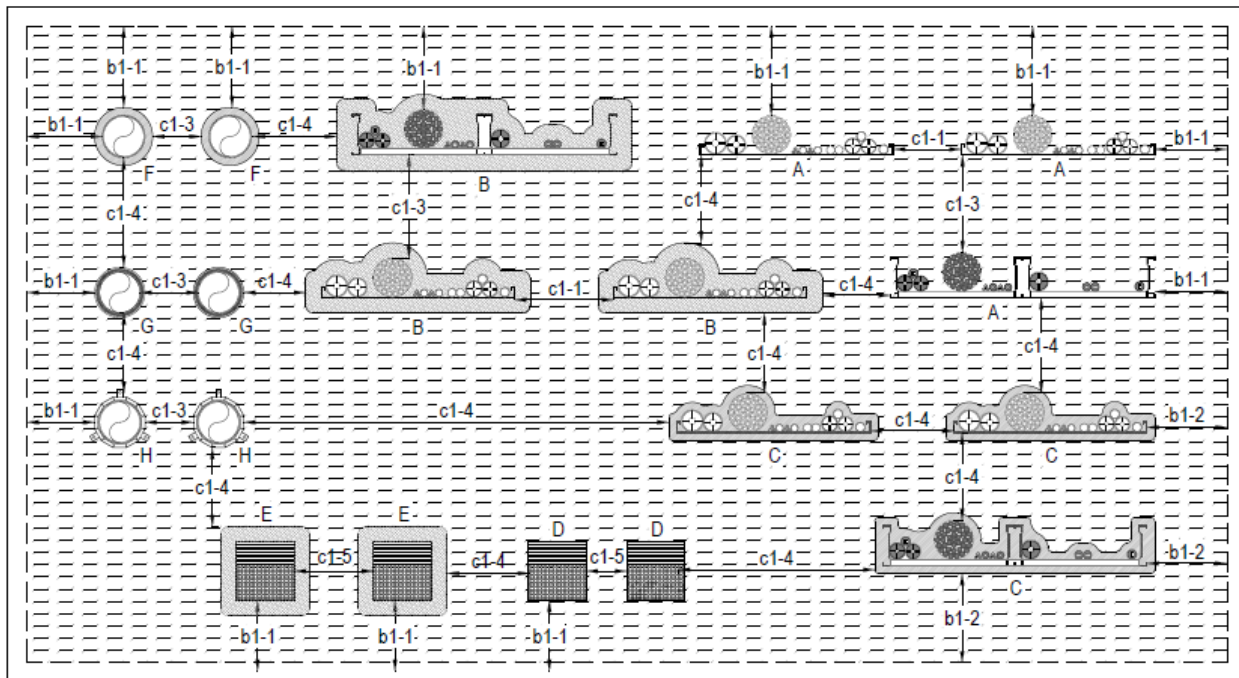
# Appendix UL-EU CERTIFICATE UL-EU-01360-EN

## Service Penetrations

FirePro® CB50 is approved for use with the following service items. Installation of FirePro® CB50 must be completed in accordance with one of the installation methods specified in the blank seal section and must adhere to the size limitations outlined for each methodology. Certain service items may require additional protection depending on the type of service and/or the performance requirements of the seal and service. Details of any required additional protection are provided, as appropriate, in the following performance tables.

**Service arrangement (spacings)–** distances as defined by 1366-3: 2021+2024

Single Skin Flexible walls ≥75mm - Pattress CB50



Service Type	
A	Unlagged cables & cable carriers
B	Lagged cables & cable carriers
C	HES cables & cable carriers
D	Trunking
E	Lagged trunking
F	HES - combustible pipes
G	PWRoll - combustible pipes
H	Collar - combustible pipes

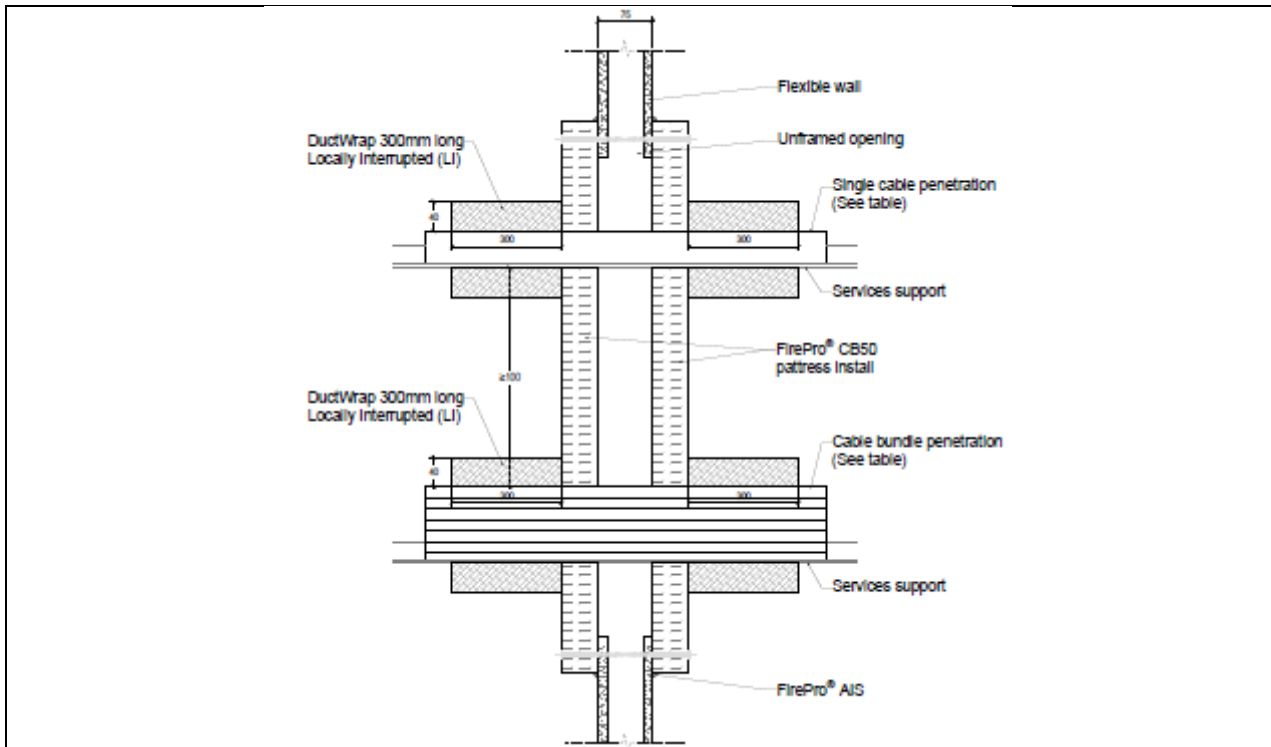
Aperture Edge Distance	
b1-1	0mm
b1-2	20mm
b1-3	50mm
b1-4	100mm

Service Separation	
c1-1	0mm
c1-2	25mm
c1-3	50mm
c1-4	100mm
c1-5	30mm



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## Cable Penetrations with cable carrier separation $\geq 100$ mm - Lagged

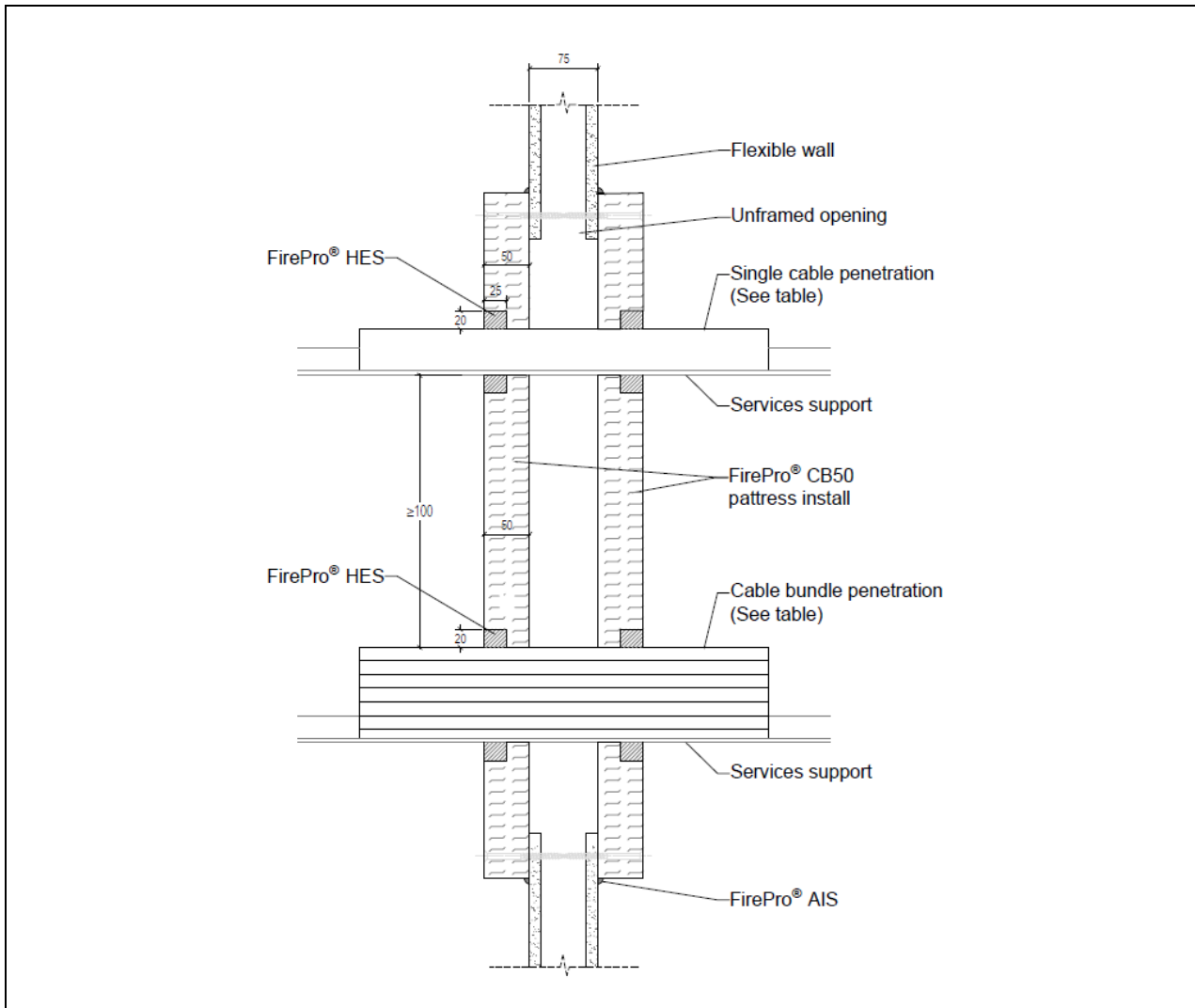


Service type		Service size (mm)	Service Protection	Classification
Sheathed cables	S	$\leq 21$	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges with FirePro® AIS used on all batt edges to seal joints and around services. 40 mm ROCKWOOL® DuctWrap, cut to size and wrapped around the service item in a local interrupted configuration 300 mm to both faces and secured to service with steel wire.	EI 90
	M	$\leq 50$		E 90 / EI 60
	L	$\leq 80$		E 90 / EI 60
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables		EI 90
Unsheathed cables		$\leq 24$ mm		EI 90
Perforated steel cable tray, ladder or basket		Unrestricted		EI 90



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## Cable Penetrations with cable carrier separation $\geq 100$ mm – FirePro HES

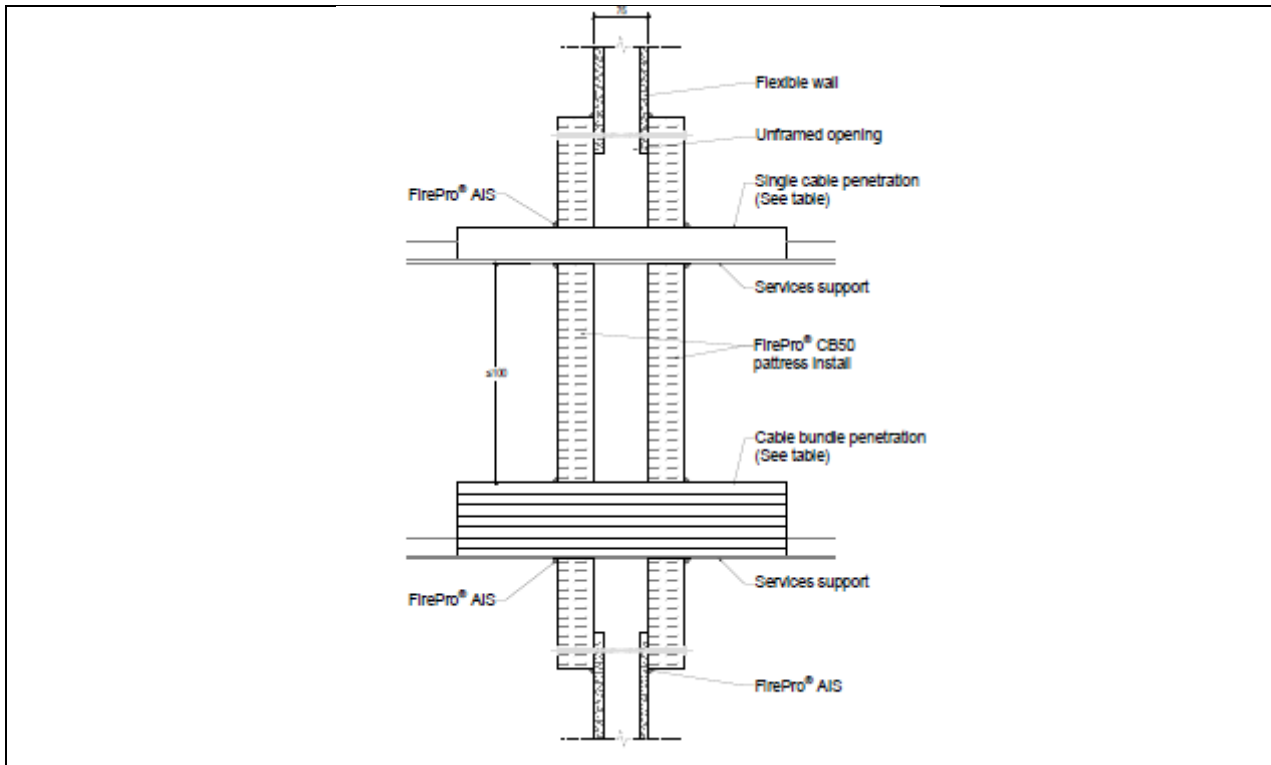


Service type		Service size (mm)	Service protection	Classification
Sheathed cables	S	$\leq 21$	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges with FirePro® AIS used on batt edges to seal all joints. 20 mm annulus of FirePro® HES cartridge gunned to a depth of 25 mm around the service.	EI 60
	M	$\leq 50$ mm		EI 60
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables		EI 60
Perforated steel cable tray, or basket		Unrestricted		EI 60



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## Cable Penetrations with cable carrier separation $\leq 100$ mm

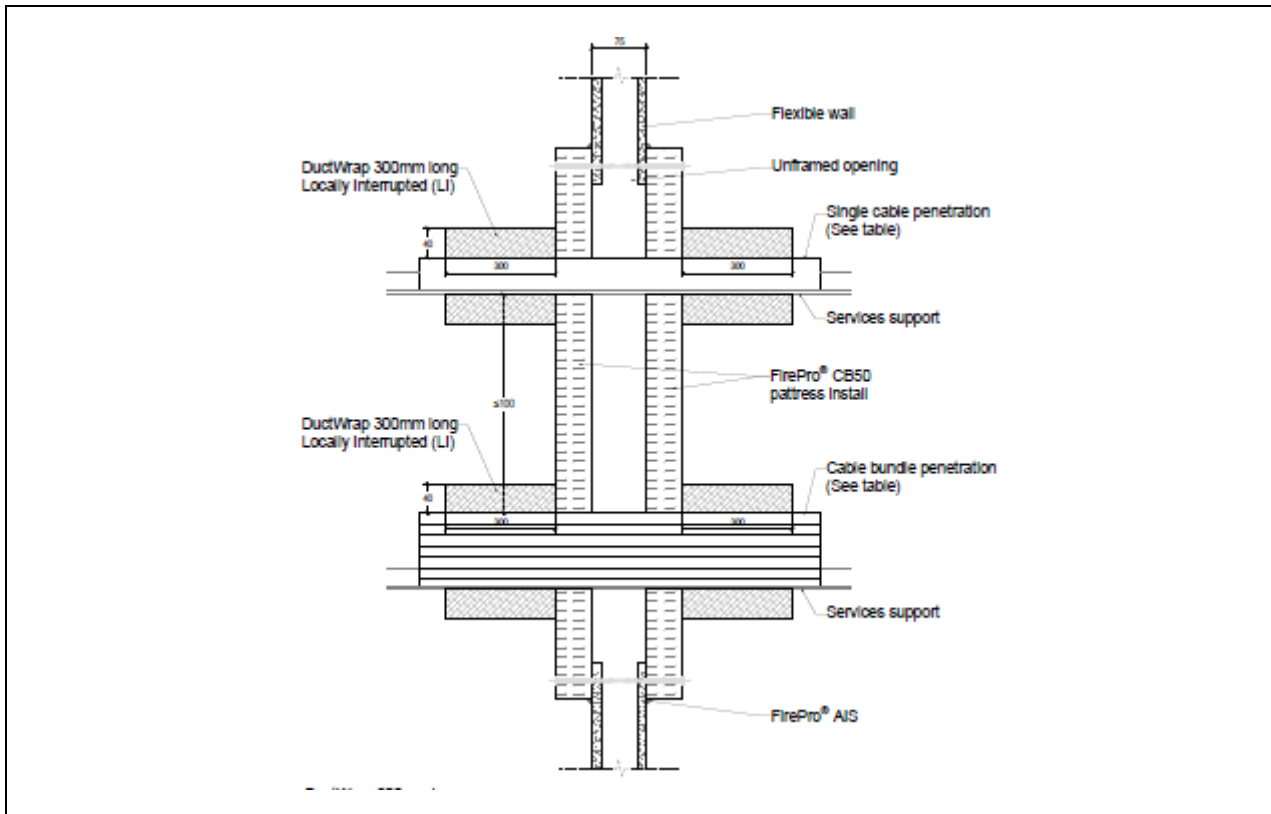


Service type		Service size (mm)	Service protection	Classification
Sheathed cables	S	$\leq 21$	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges with FirePro® AIS used on all batt edges to seal joints and around services.	EI 60
	M	$\leq 50$		EI 60
	L	$\leq 80$		EI 60
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables		EI 60
Unsheathed cables		$\leq 24$		E 60 / EI 45
Steel tray, perforated tray, ladder or basket		Unrestricted		EI 60



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## Cable Penetrations with cable carrier separation $\leq 100$ mm - Lagged

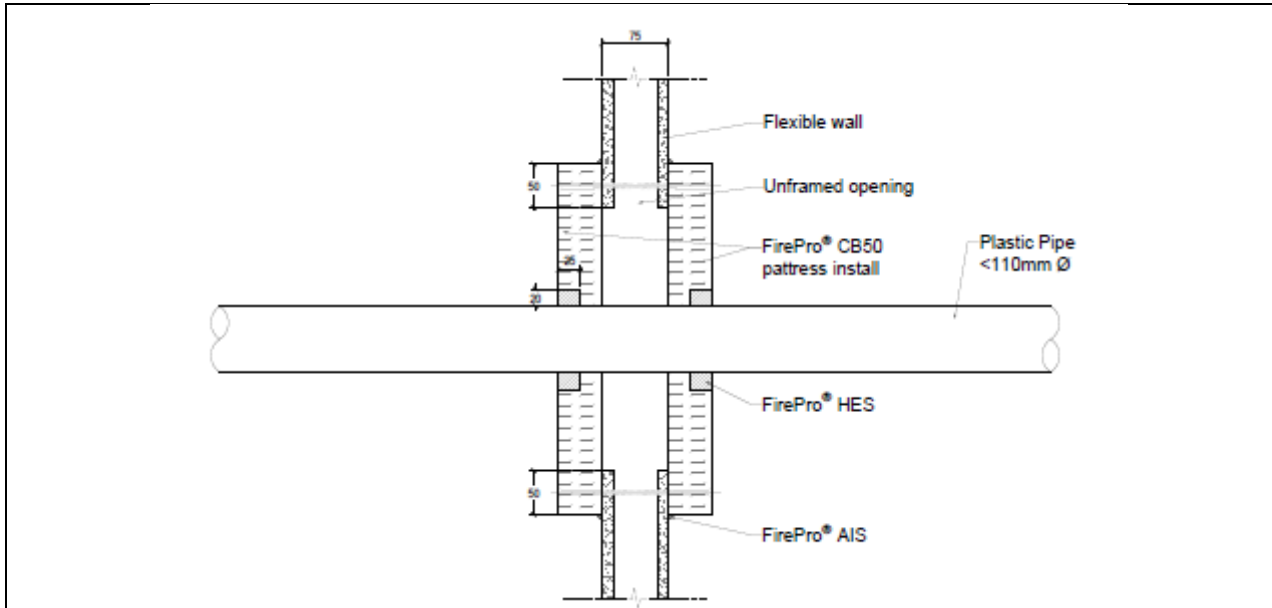


Service type		Service size (mm)	Service protection	Classification
Sheathed cables	S	$\leq 21$	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges with FirePro® AIS used on all batt edges to seal joints and around services.	EI 90
	M	$\leq 50$		E 90 / EI 60
	L	$\leq 80$		E 90 / EI 60
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables	40 mm ROCKWOOL® DuctWrap, cut to size and wrapped around the service item in a local interrupted configuration 300 mm to both faces and secured to service with steel wire.	EI 90
Unsheathed cables		$\leq 24$		EI 90
Steel tray, perforated steel tray, ladder or basket		Unrestricted		EI 90

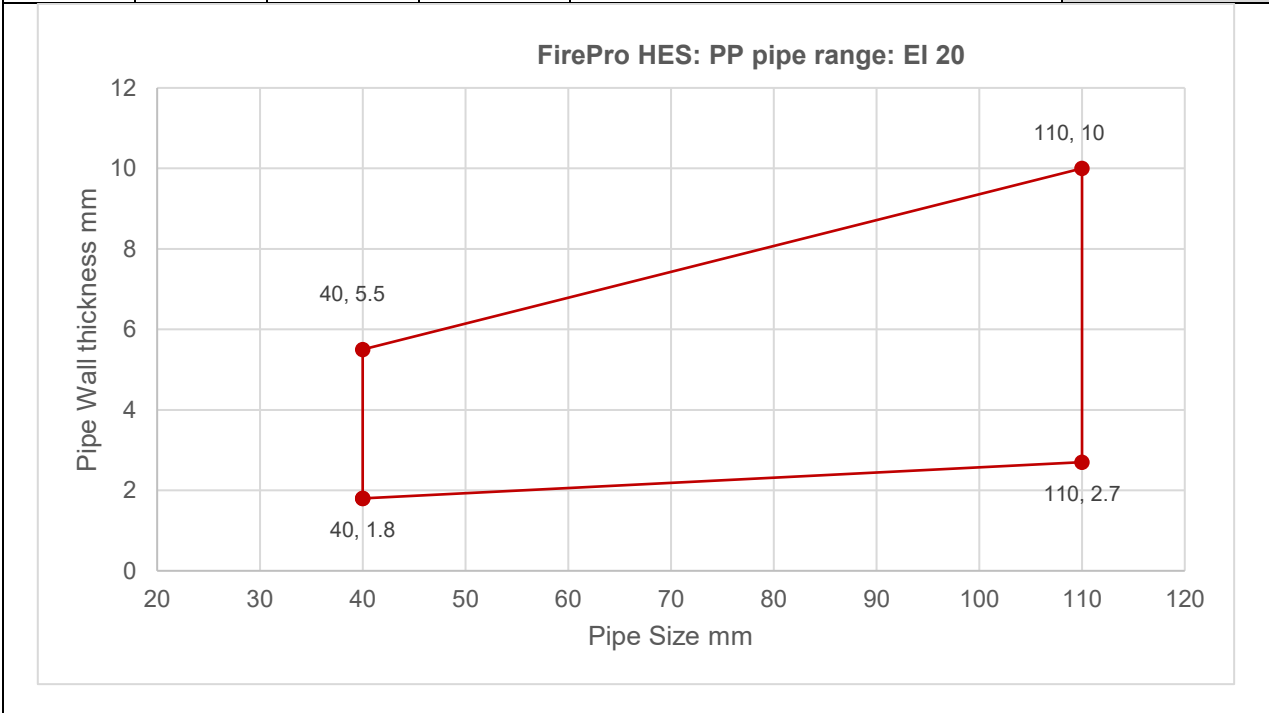


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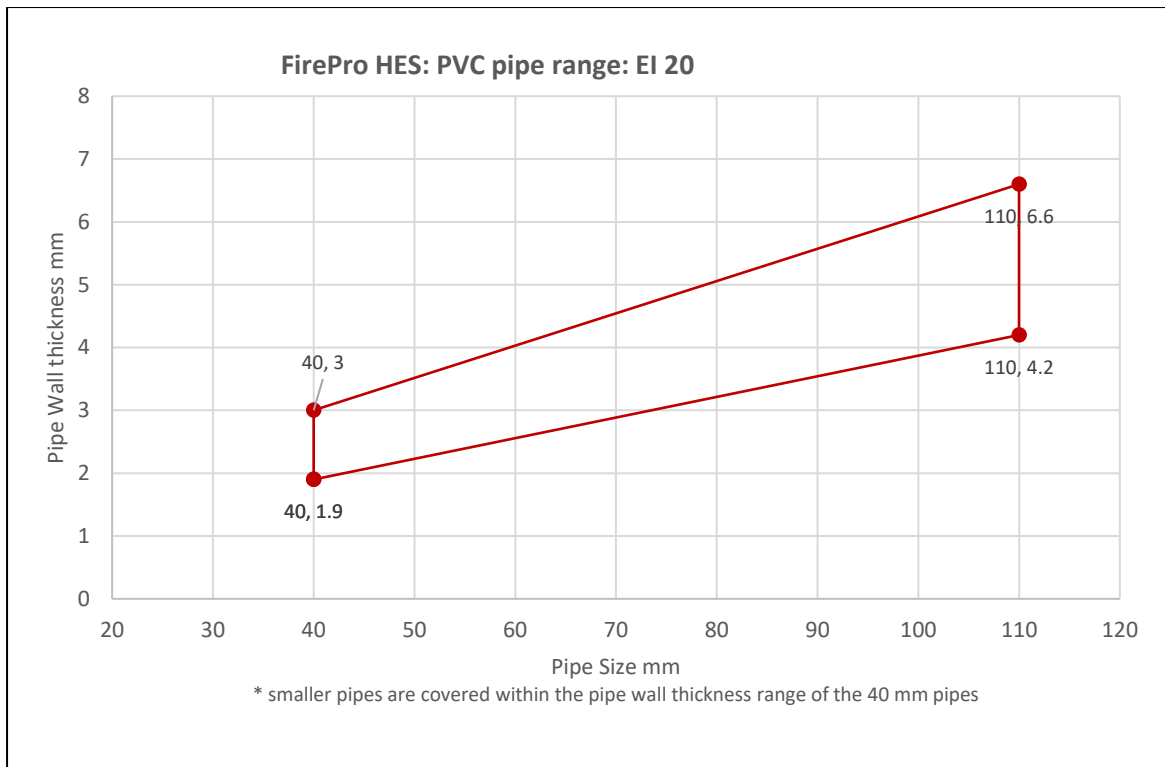
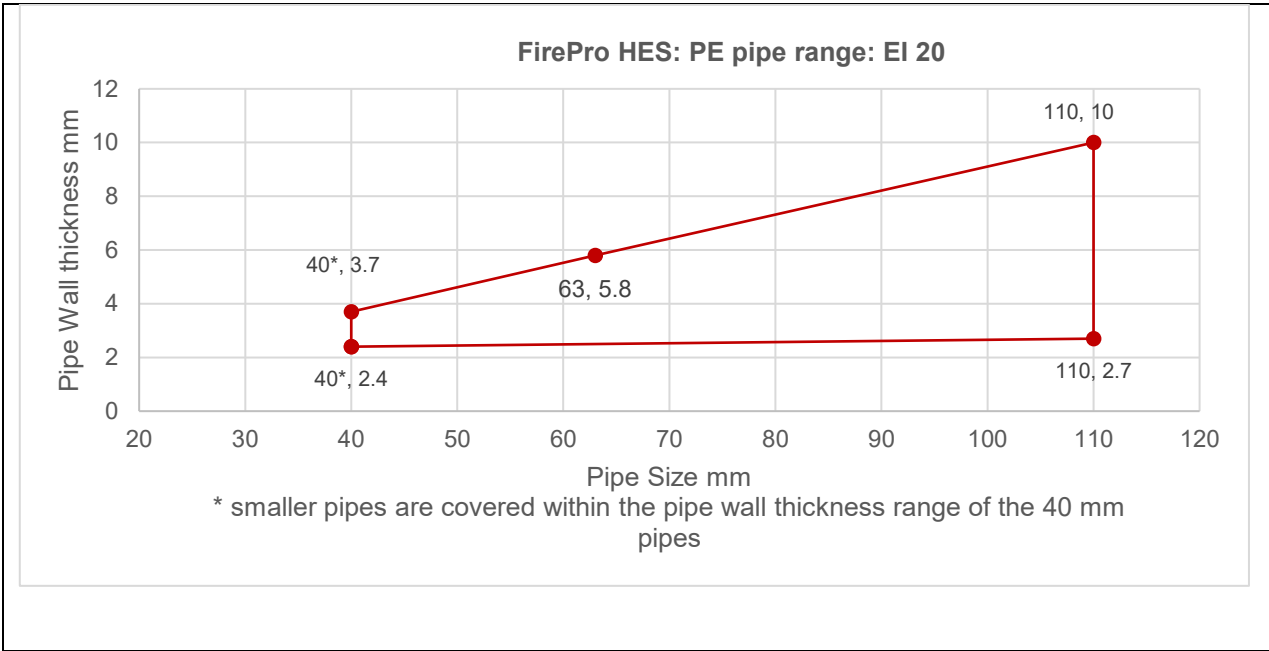
## Plastic Pipe Penetrations – FirePro HES



Pipe material	Pipe size (mm)	HES depth (mm)	Annular gap (mm)	Service Protection	Classification
PP	40 - 110	25 (each face)	20	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges with FirePro® AIS used on batt edges to seal all joints. 20 mm annulus of FirePro® HES cartridge gunned to a depth of 25 mm around the service, on each face of the seal.	EI 20 U/C
PE	40 - 110				
PVC	40 - 110				

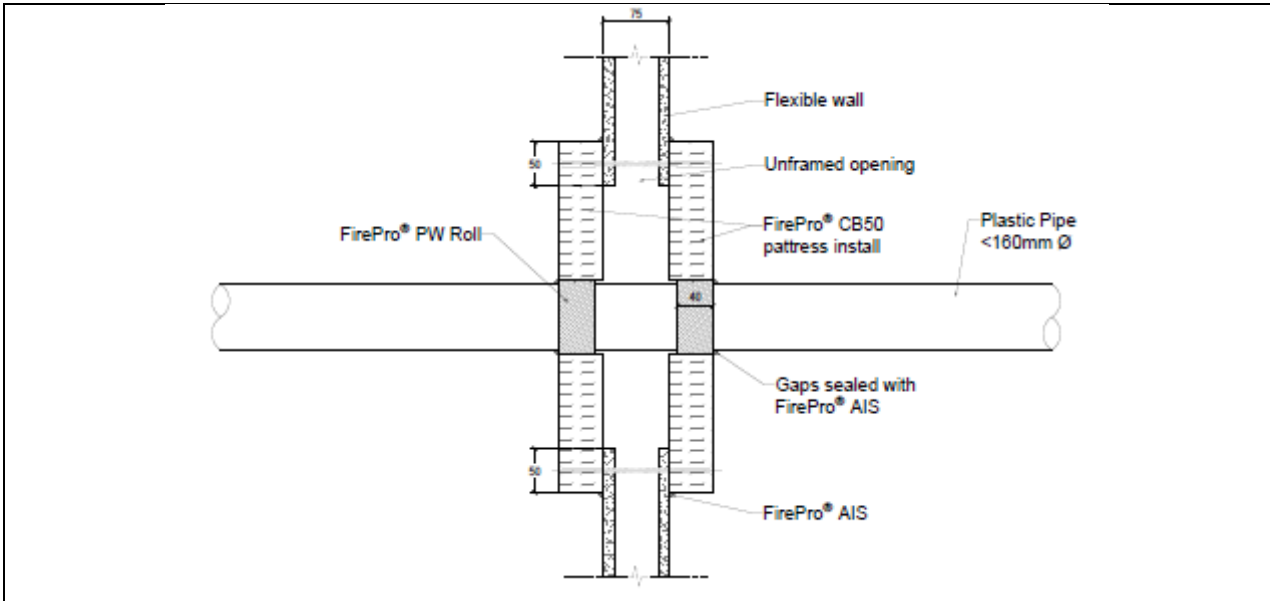


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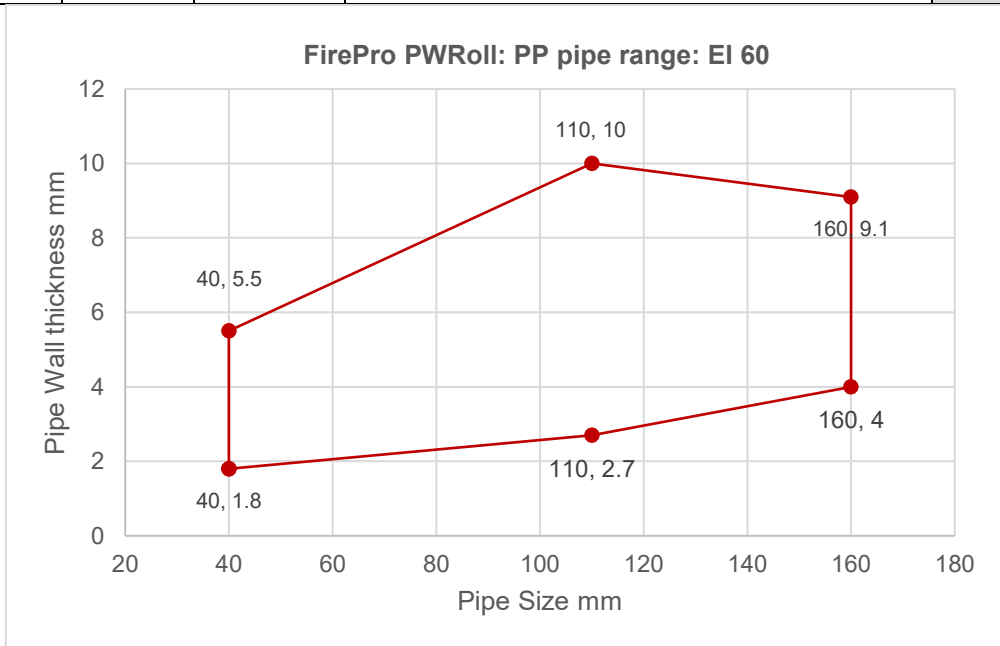


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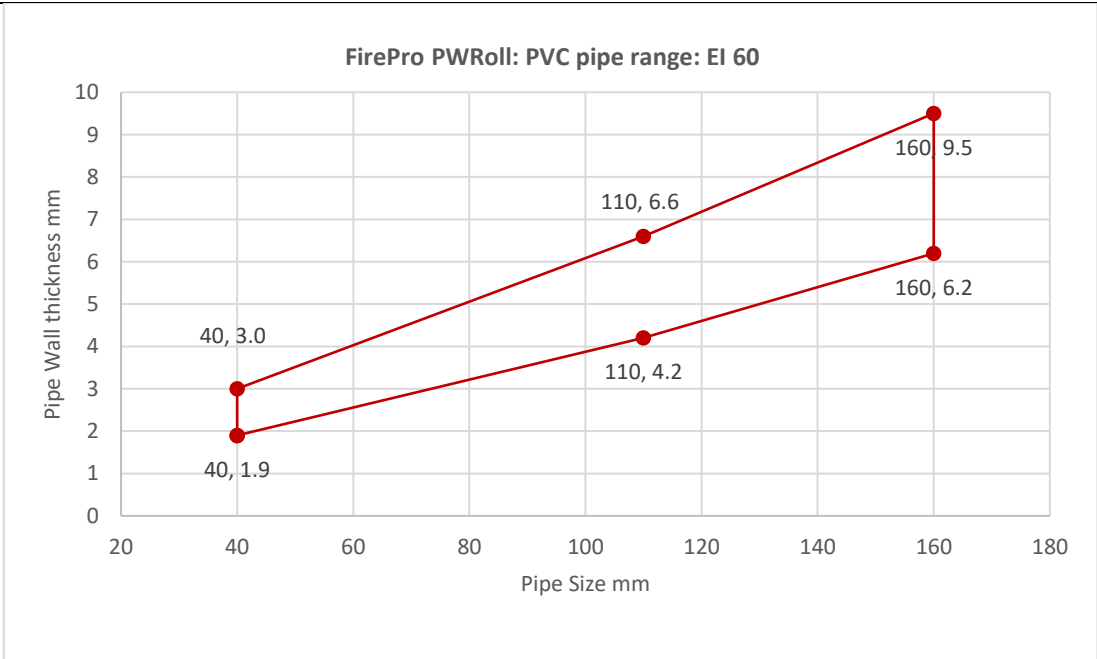
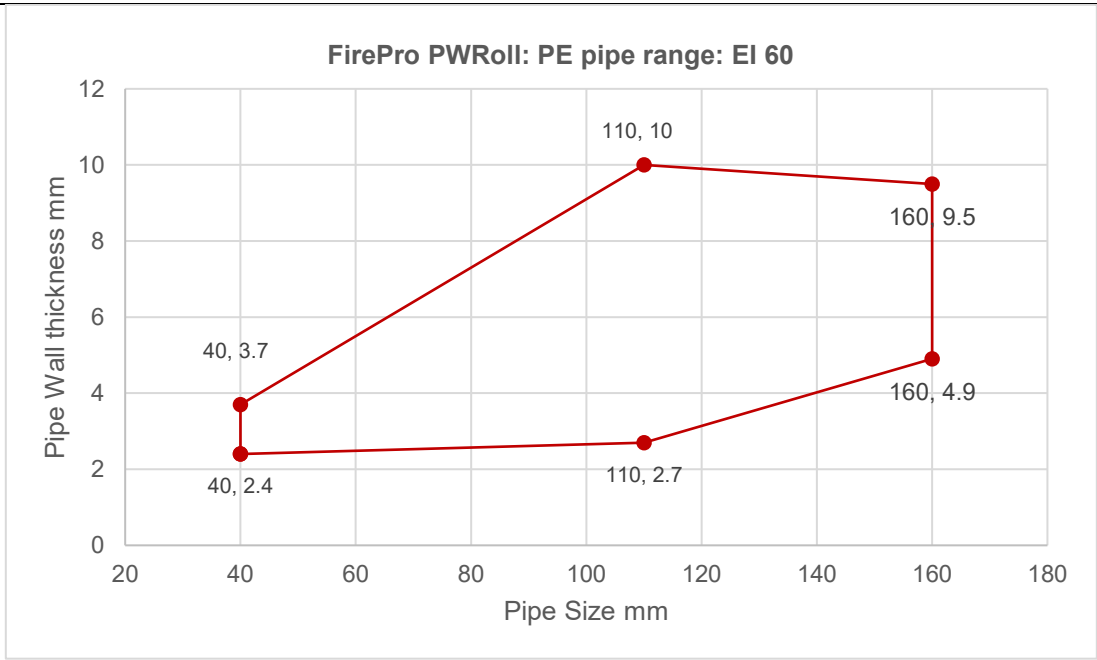
## Plastic Pipe Penetrations – FirePro PWRoll



Pipe material	Pipe size (mm)	Pipe Wrap layers (2mm)	Service Protection	Classification
PP/PE/PVC	≤40	1	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges with FirePro® AIS used on all batt edges to seal joints and around services. FirePro® PWROLL installed centrally around the service.	<b>EI 60 U/C</b>
	41-79	2		
	80-120	3		
	121-160	4		



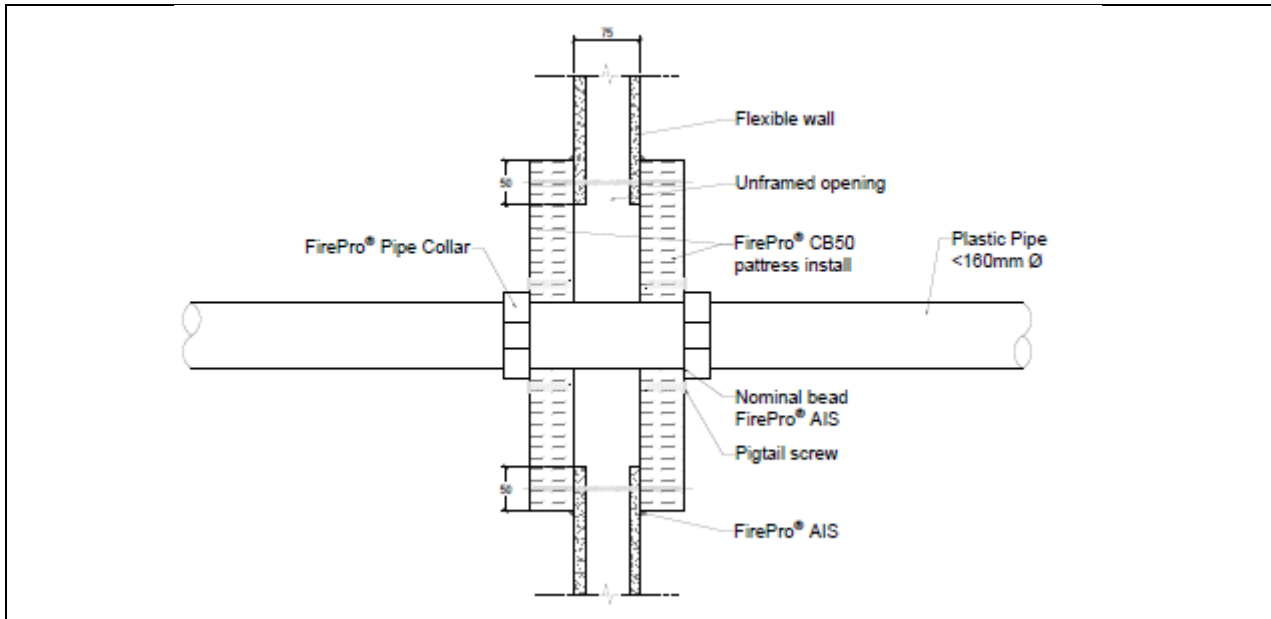
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## Plastic Pipe Penetrations – FirePro Pipe Collar

### PP Pipes

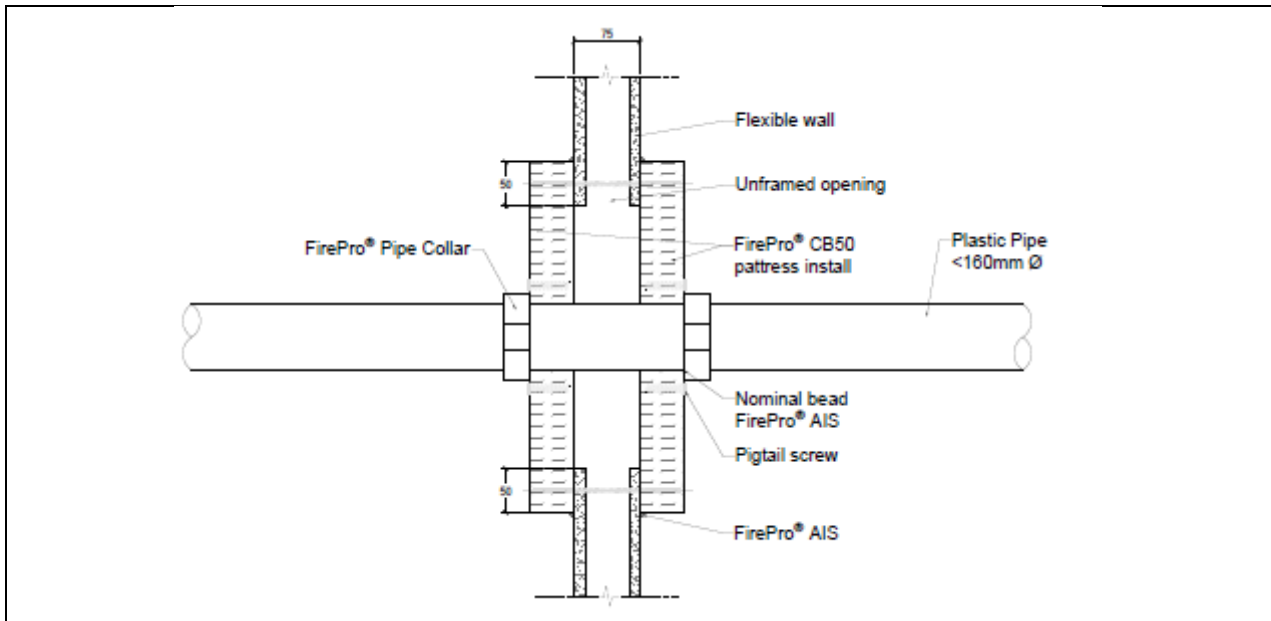


Pipe Collar Size (mm)	Pipe size (mm)	Pipe wall thickness range (mm)	Service Protection	Classification
40	40	1.8 – 5.5	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges FirePro® AIS used on all batt edges to seal joints and around services, installed only from the unexposed only. FirePro® Pipe Collar fixed around the service on both sides of the batt using pigtail screws	<b>EI 60 U/C</b>
55	55	2.0 – 5.6		
63	63	2.1 – 5.8		
75	75	2.2 – 5.9		
82	82	2.4 – 6.0		
90	90	2.6 – 6.2		
110	110	2.7 – 6.3		
125	125	3.1 – 7.2		
140	140	3.5 – 8.1		
160	160	4.0 – 9.1		



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## PE Pipes

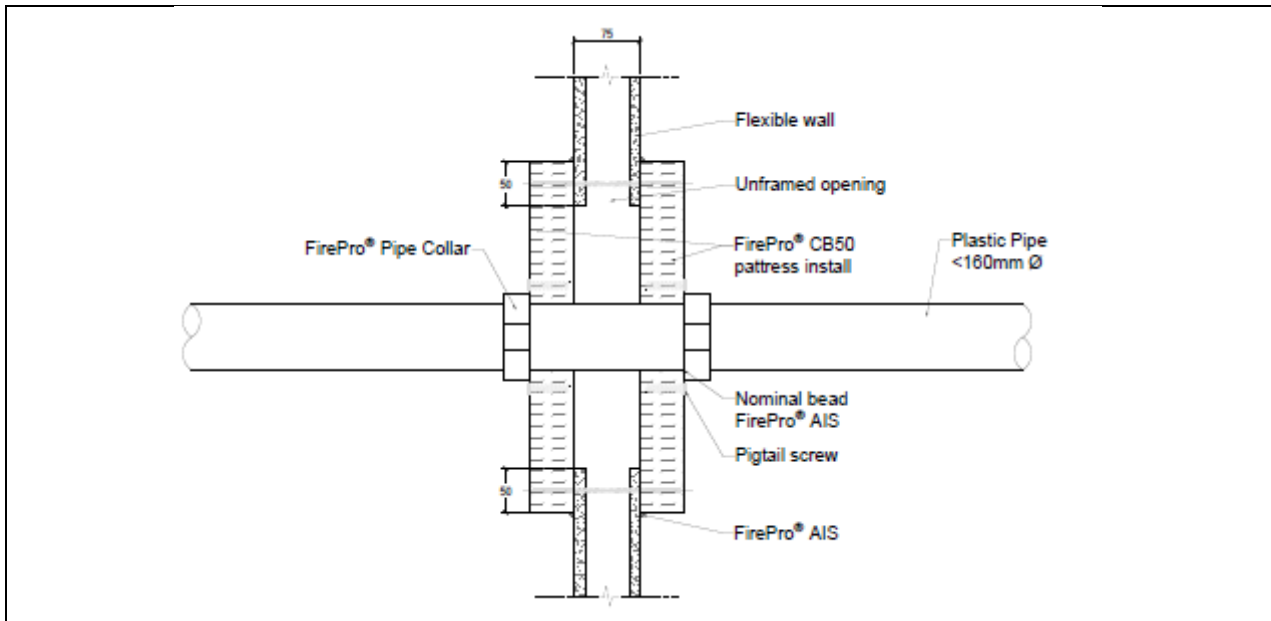


Pipe Collar Size (mm)	Pipe size (mm)	Pipe wall thickness range (mm)	Service Protection	Classification
40	40	2.4 – 3.7	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges. FirePro® AIS used on all batt edges to seal joints and around services, installed only from the unexposed only. FirePro® Pipe Collar fixed around the service on both sides of the batt using pigtail screws	<b>EI 60 U/C</b>
55	55	2.5 – 5.0		
63	63	2.5 – 5.8		
75	75	2.5 – 6.9		
82	82	2.6 – 7.6		
90	90	2.6 – 8.3		
110	110	2.7 - 10		
125	125	3.4 – 9.8		
140	140	4.1 – 9.7		
160	160	4.9 – 9.5		



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## PVC Pipes



Pipe Collar Size (mm)	Pipe size (mm)	Pipe wall thickness range (mm)	Service Protection	Classification
40	40	1.9 – 3.0	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges. FirePro® AIS used on all batt edges to seal joints and around services, installed only from the unexposed only. FirePro® Pipe Collar fixed around the service on both sides of the batt using pigtail screws	<b>EI 60 U/C</b>
55	55	2.4 – 3.7		
63	63	2.6 – 4.1		
75	75	3.0 – 4.8		
82	82	3.2 – 5.1		
90	90	3.5 – 5.6		
110	110	4.2 – 6.6		
125	125	4.8 – 7.6		
140	140	5.5 – 8.4		
160	160	6.2 – 9.5		

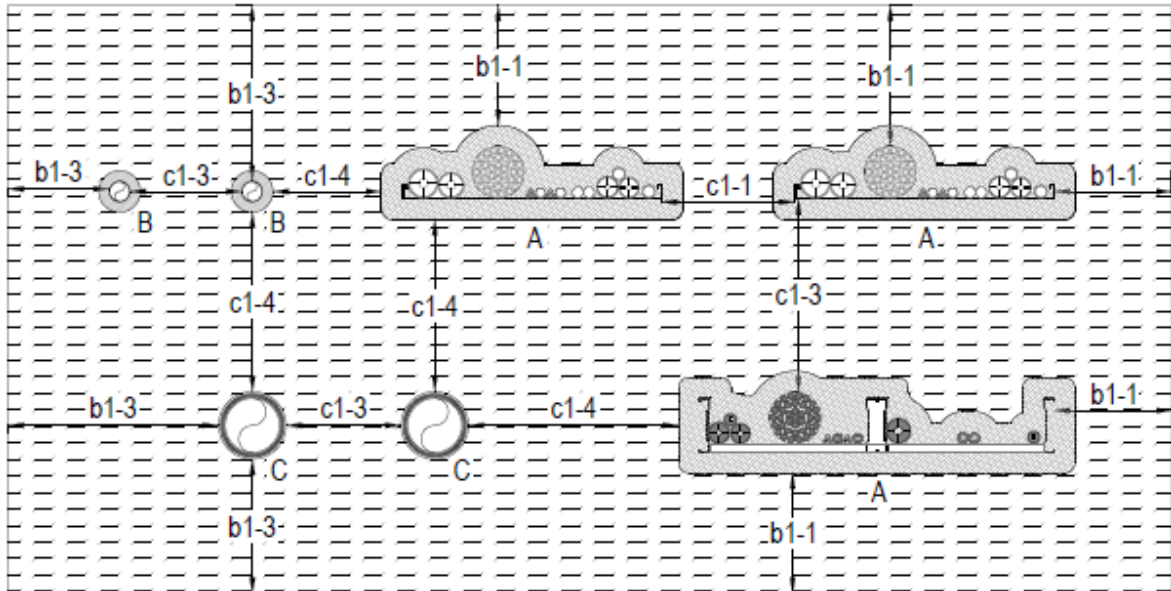


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## Single sided seals

Service arrangement (spacings)– distances as defined by 1366-3: 2021+2024

### Single Skin Flexible walls $\geq 75\text{mm}$ - Single Sided Double CB50



Service Type	
A	Lagged cables & cable carriers
B	HES cables & cable carriers
C	PWRoll - combustible pipes

Aperture Edge Distance	
b1-1	0mm
b1-2	20mm
b1-3	50mm
b1-4	100mm

Service Separation	
c1-1	0mm
c1-2	25mm
c1-3	50mm
c1-4	100mm
c1-5	30mm

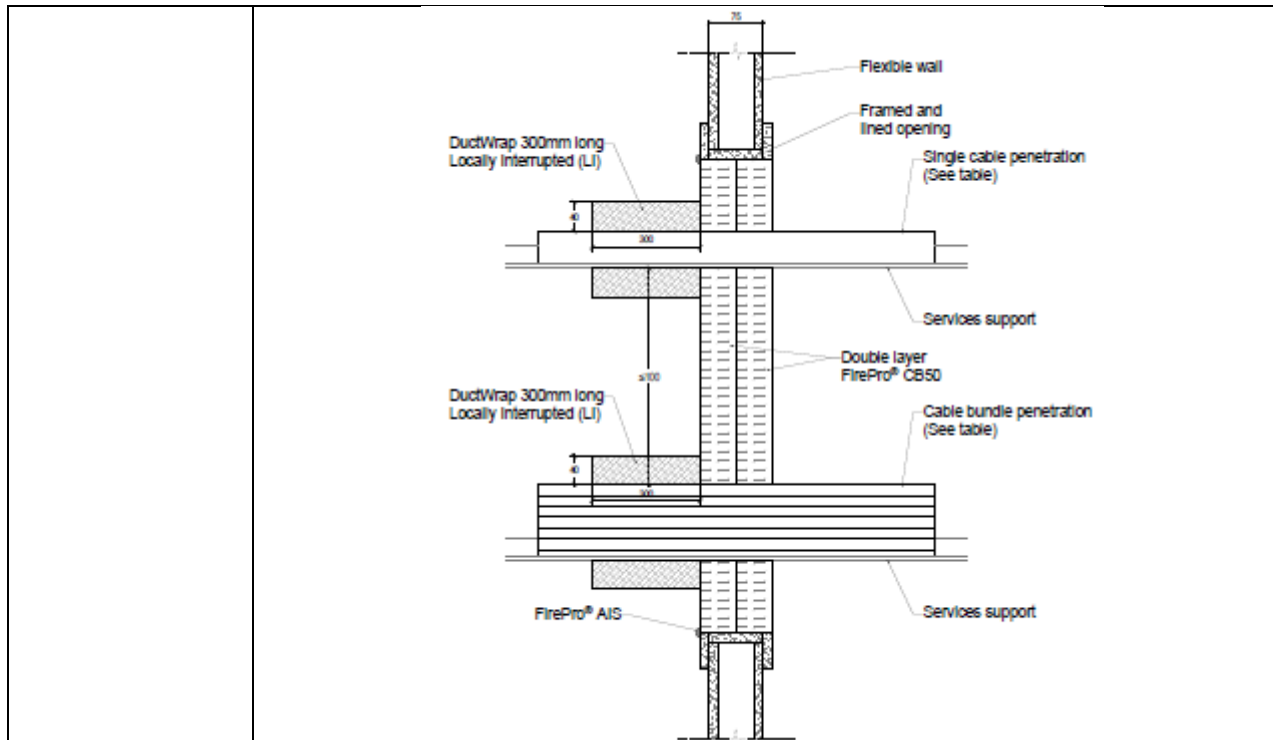


**Solutions**

Form-ULID-006104 V9.0

# Appendix UL-EU CERTIFICATE UL-EU-01360-EN

## Cable Penetrations with cable carrier separation $\leq 100$ mm - Lagged

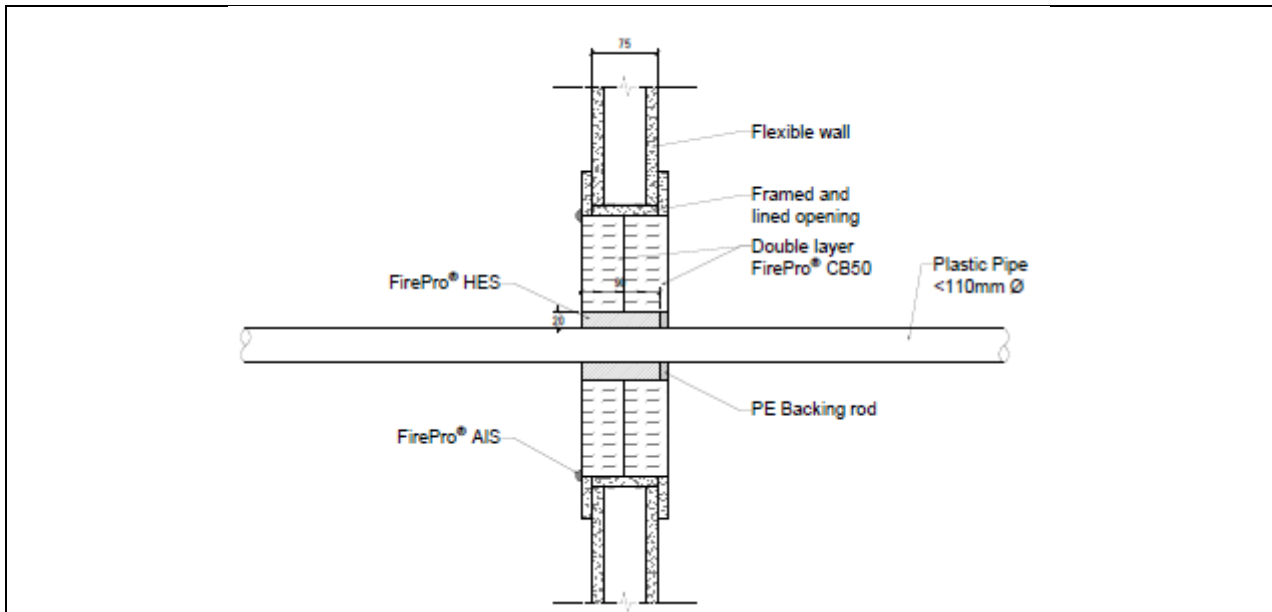


Service type		Service size (mm)	Service protection	Classification
Sheathed cables	S	$\leq 21$	Double layer of 50mm thick FirePro® CB50, friction fitted into the aperture, from a single (unexposed) side, with FirePro® AIS used on all batt edges to seal joints and around services. 40 mm ROCKWOOL® DuctWrap, cut to size and wrapped around a single side of the service item in a LI configuration, 300 mm from the face of the batt. Secured to service with steel wire.	EI 90
	M	$\leq 50$		EI 90
	L	$\leq 80$		EI 90
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables		EI 90
Unsheathed cables		$\leq 24$		E 90
Steel tray, perforated tray, ladder or basket		Unrestricted		EI 90



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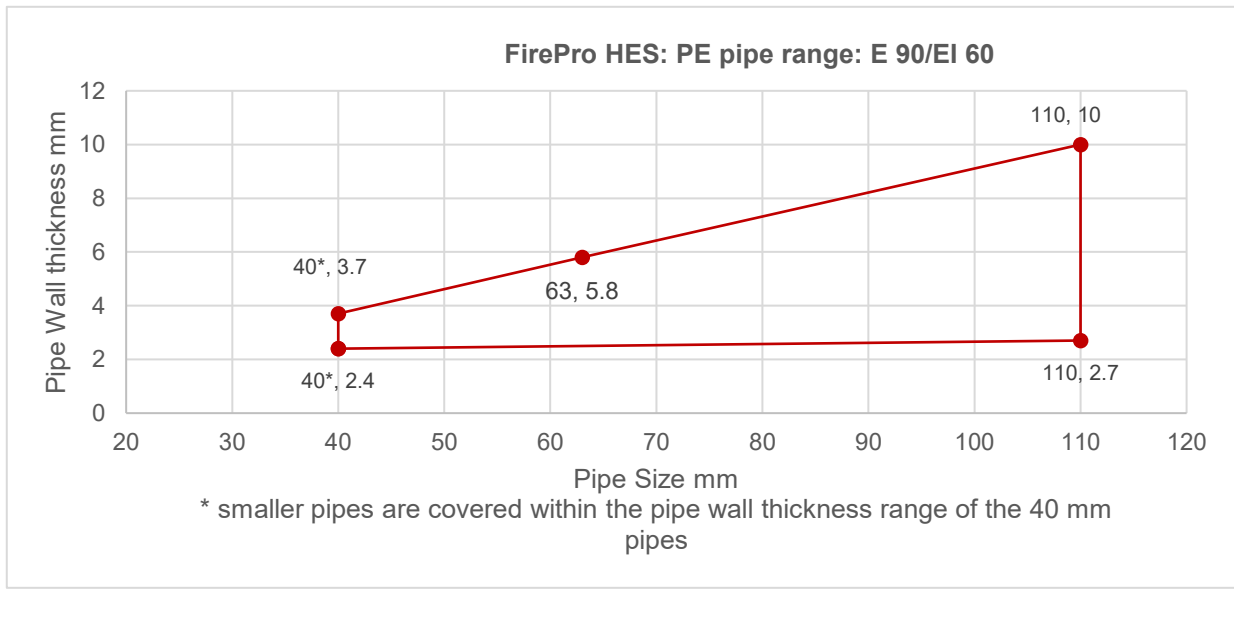
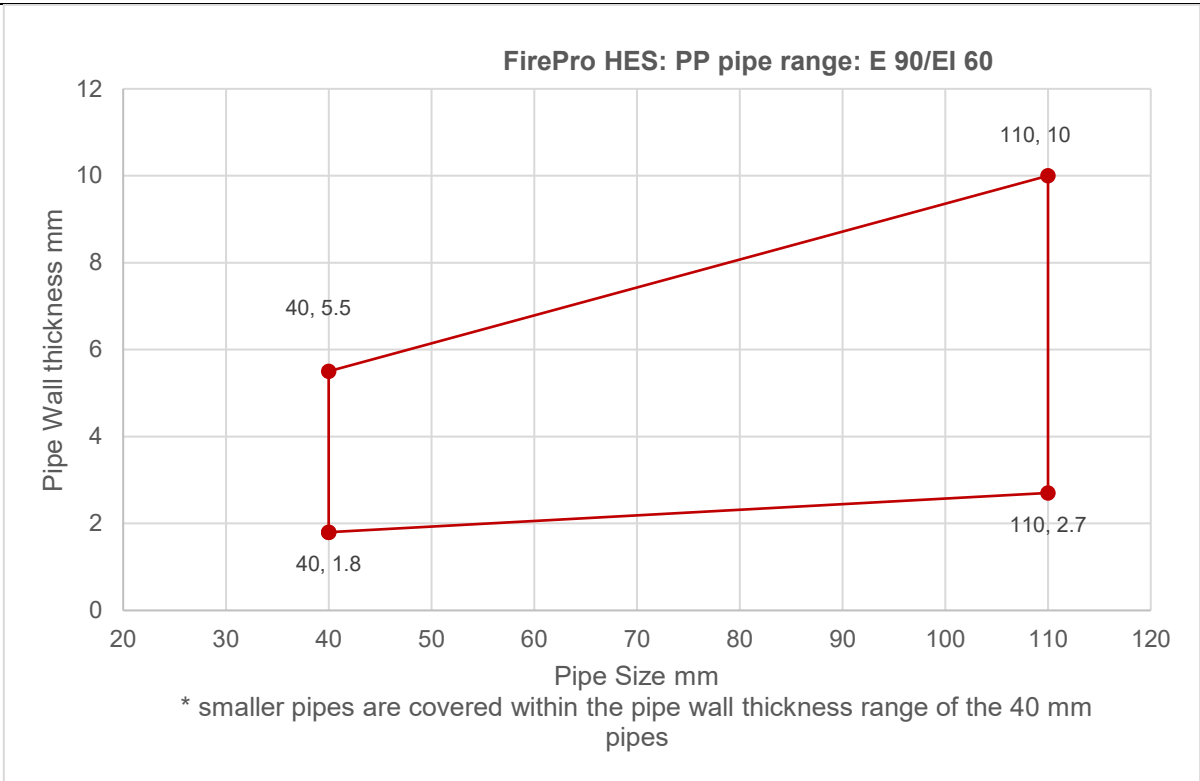
## Plastic Pipe Penetrations – FirePro HES



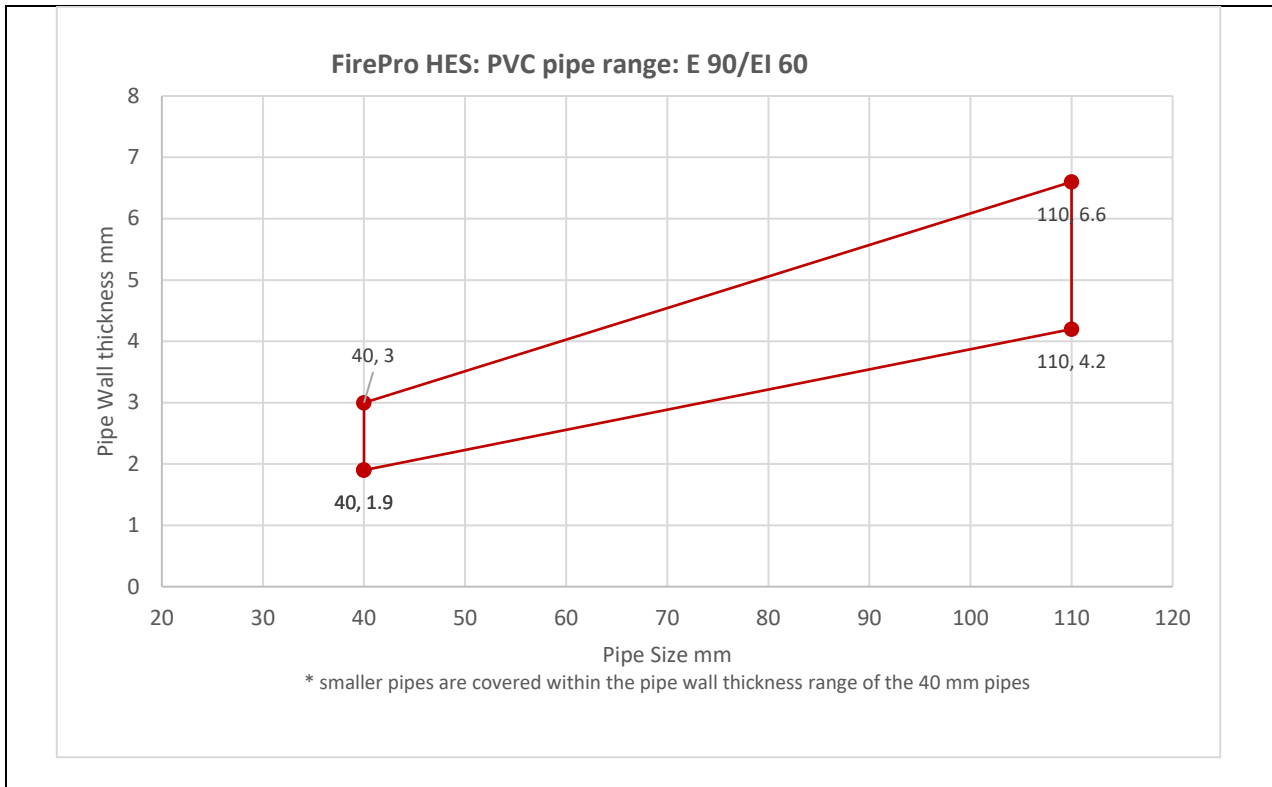
Pipe material	Pipe size (mm)	HES depth (mm)	Annular gap (mm)	Service Protection	Classification
PP	40 - 110	90	20	Double layer of 50mm thick FirePro® CB50, friction fitted into the aperture, from a single side, with FirePro® AIS used on all batt edges to seal joints and around services. 20 mm wide by 90 mm deep annular gap sealed with FirePro® HES installed from a single face (unexposed) over a PE backing rod.	<b>E 90 / EI 60 U/C</b>
PE	40 - 110				
PVC	40 - 110				



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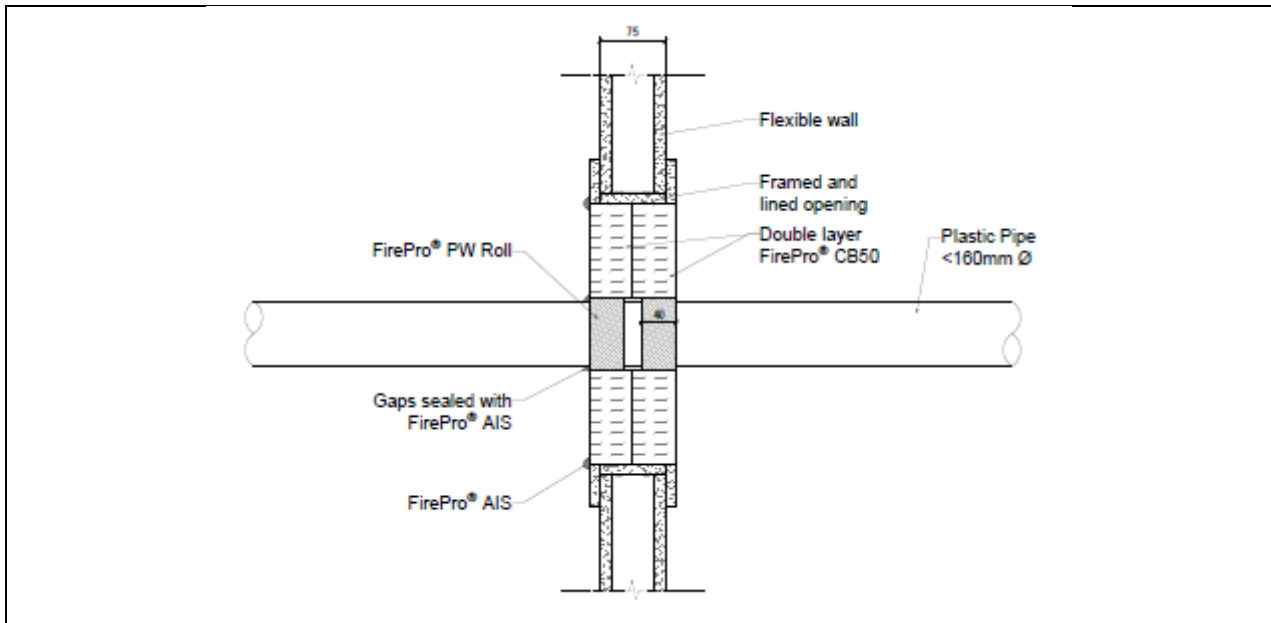


# Appendix UL-EU CERTIFICATE UL-EU-01360-EN



# Appendix UL-EU CERTIFICATE UL-EU-01360-EN

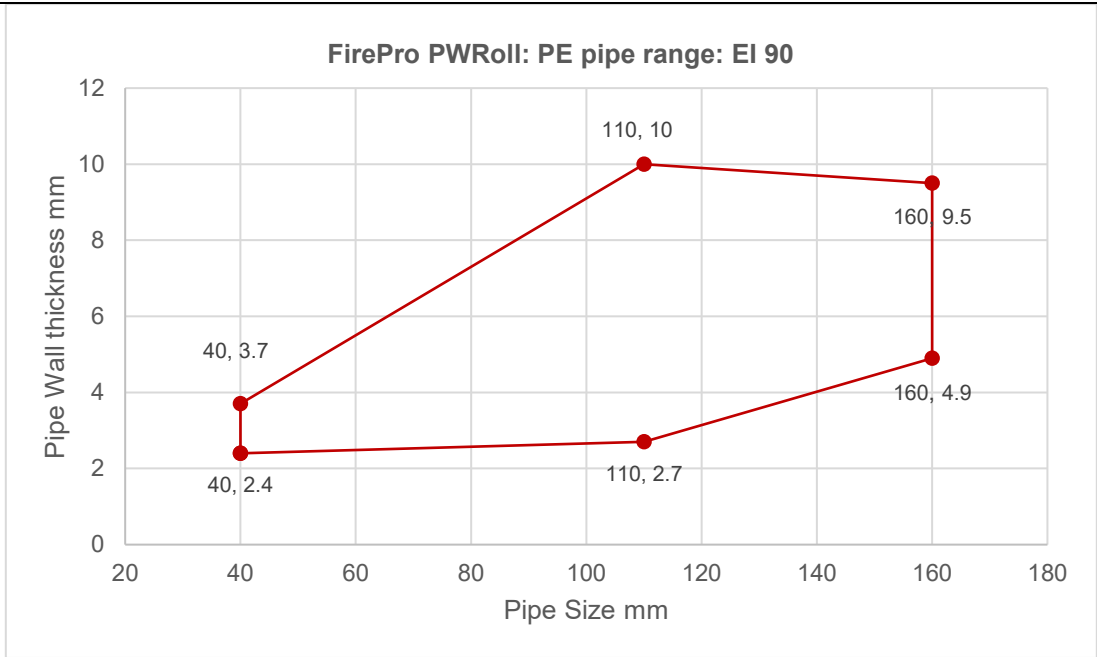
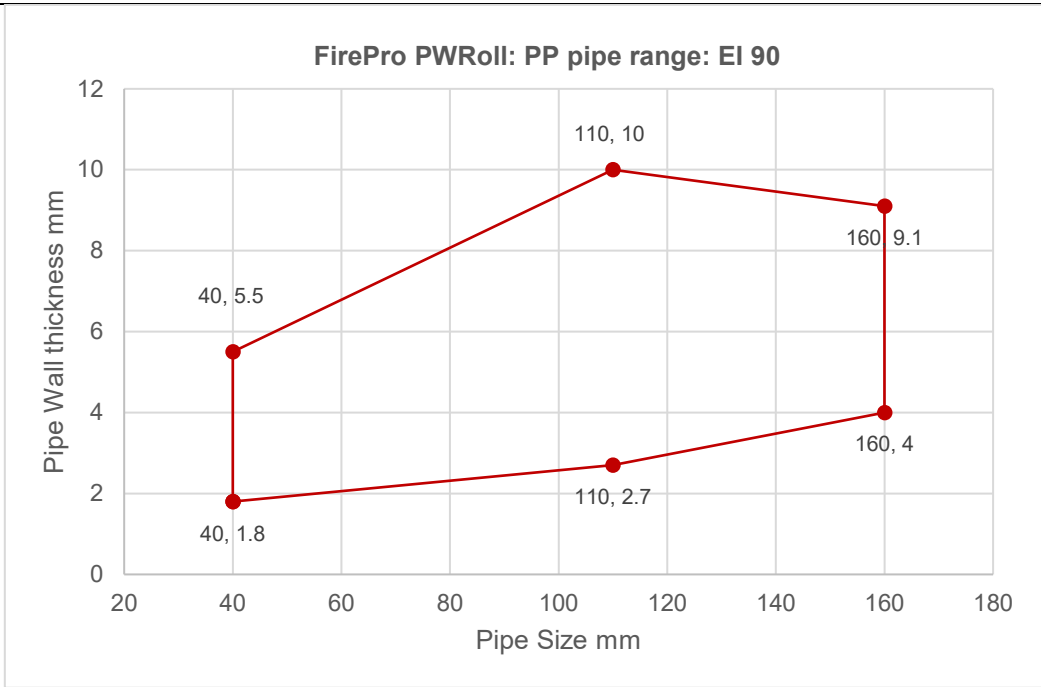
## Plastic Pipe Penetrations – FirePro PWRoll



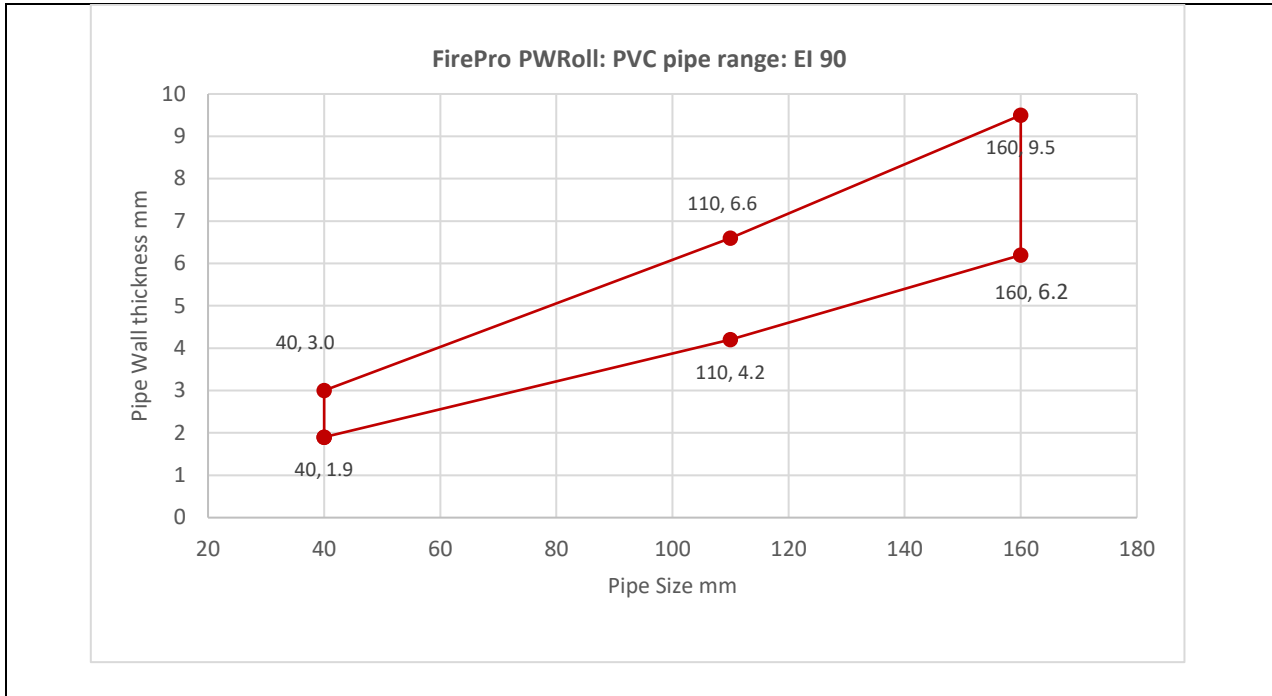
Pipe material	Pipe size (mm)	Pipe Wrap layers (2mm)	Service Protection	Classification
PP/PE/PVC	≤40	1	Double layer of 50mm thick FirePro® CB50, friction fitted into the aperture, with FirePro® AIS used on all batt edges to seal joints and around services, installed from the exposed face only FirePro® PWROLL installed flush with both faces of the batt around the service.	EI 90 U/C
	41-79	2		
	80-120	3		
	121-160	4		



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# Appendix UL-EU CERTIFICATE UL-EU-01360-EN



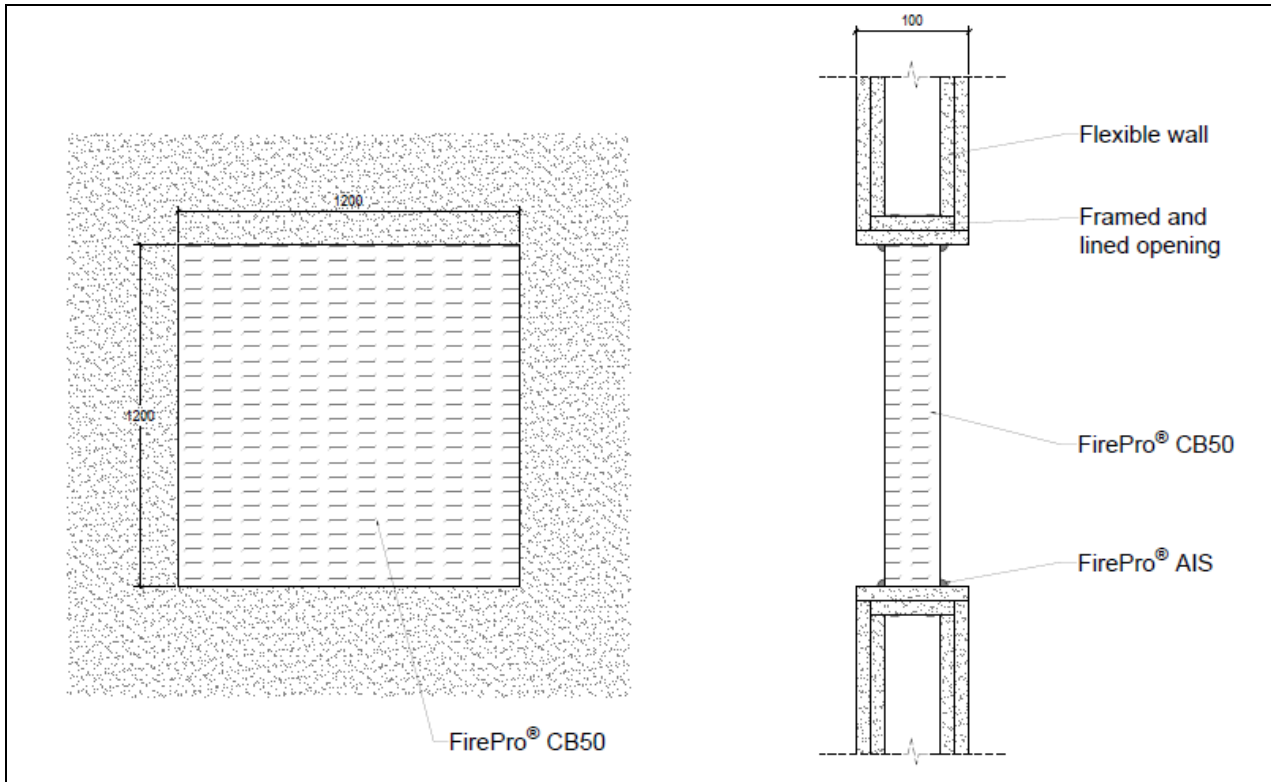
# Appendix UL-EU CERTIFICATE UL-EU-01360-EN

## Double Skin Flexible walls $\geq 100$ mm

### Single Batt Seal Installation Methods

The following installation methods for FirePro® CB50 are considered as part of this classification.

#### Blank Seal – framed and lined openings

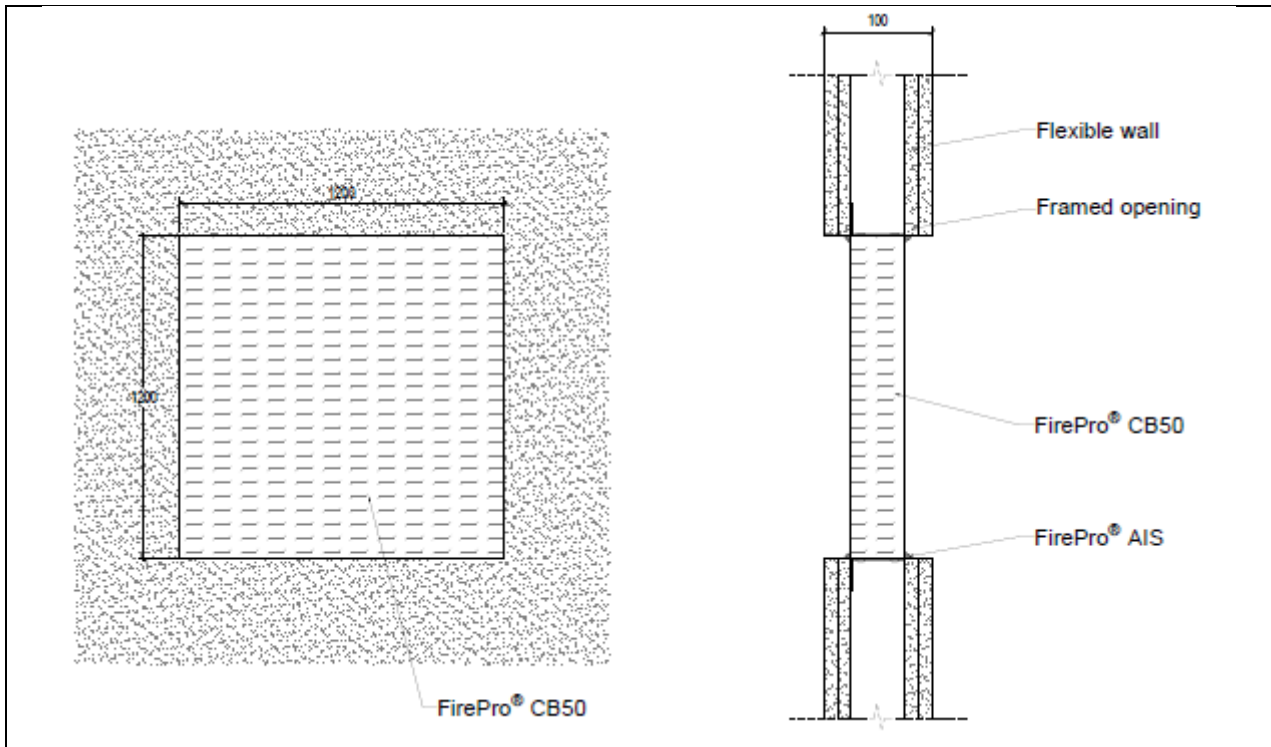


Service type	Aperture size	Service protection	Classification
Blank	1200 x 1200 mm	Single layer of 50mm thick FirePro® CB50 batt, friction fitted centrally within the aperture. Perimeter of the batt/aperture interface and joints between individual batt sections (within the sections) sealed with FirePro® AIS sealant.	EI 60



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## Blank Seal – framed openings



Service type	Aperture size	Service protection	Classification
Blank	1200 mm wide x 1200 mm high	Single layer of 50mm thick FirePro® CB50 batt, friction fitted centrally within the aperture. All edges and butt joints sealed with FirePro® AIS sealant.	EI 60



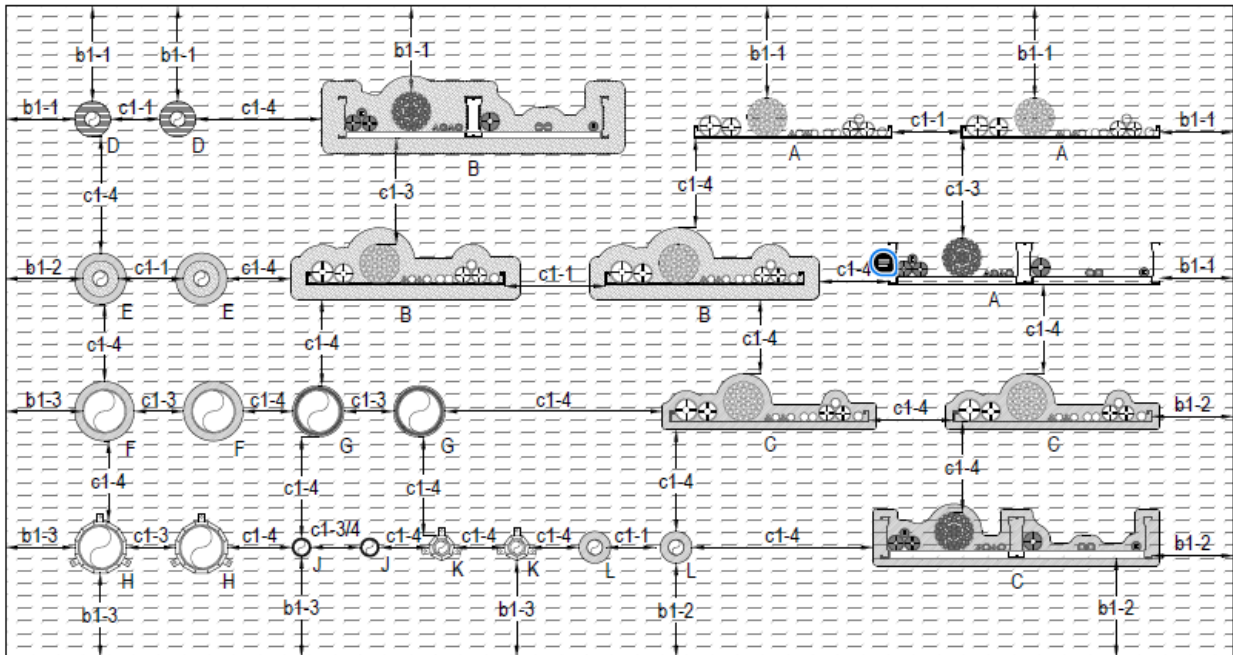
# Appendix UL-EU CERTIFICATE UL-EU-01360-EN

## Service Penetrations

FirePro® CB50 is approved for use with the following service items. Installation of FirePro® CB50 must be completed in accordance with one of the installation methods specified in the blank seal section and must adhere to the size limitations outlined for each methodology. Certain service items may require additional protection depending on the type of service and/or the performance requirements of the seal and service. Details of any required additional protection are provided, as appropriate, on the following performance tables.

**Service arrangement (spacings)– distances as defined by 1366-3: 2021+2024**

Double Skin Flexible walls  $\geq 100\text{mm}$  - Single CB50



Service Type	
A	Unlagged cables & cable carriers
B	Lagged cables & cable carriers
C	HES cables & cable carriers
D	H&V/lagged metallic pipes (L/S)
E	Combustible insulation on metallic pipes - HES
F	HES- combustible pipes
G	PWRFII - combustible pipes
H	Collar - combustible pipes
J	PWRFII - MLC pipes (Uponor)
K	Collar - MLC pipes (Uponor)
L	HES- Insulated MLC pipe

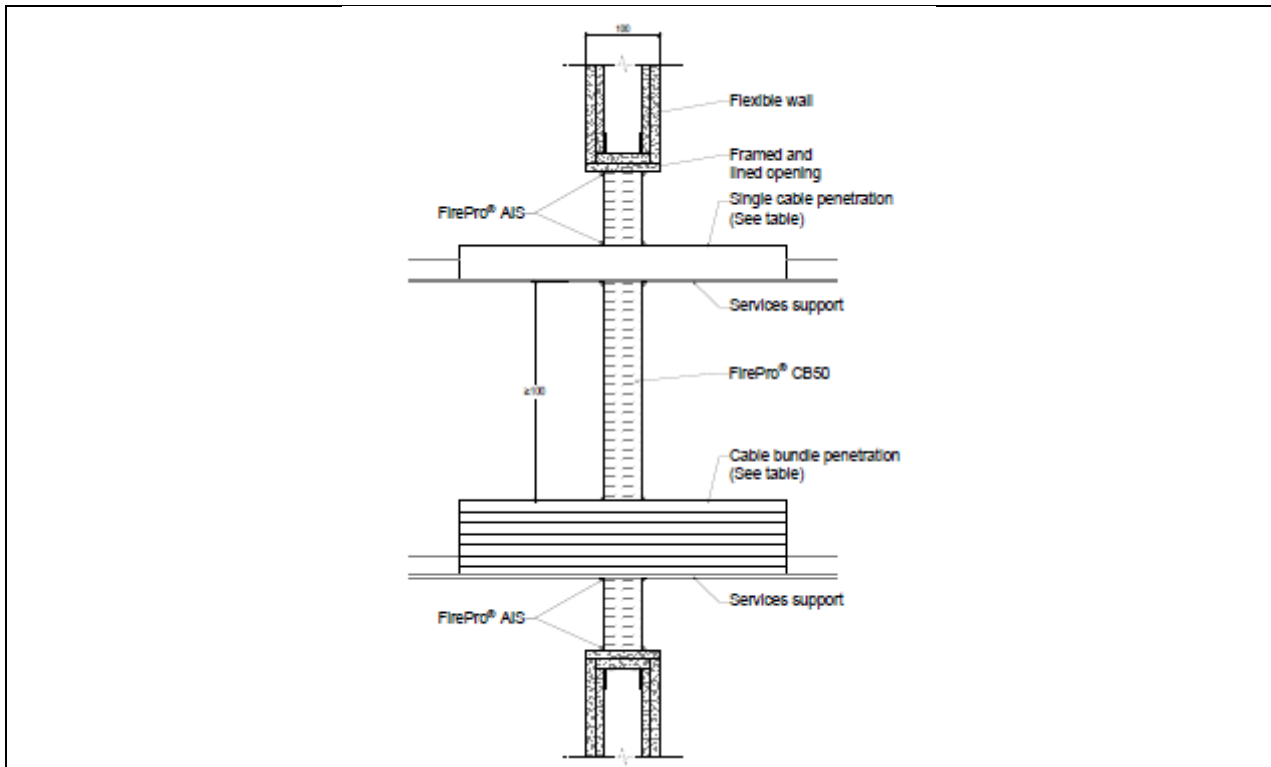
Aperture Edge Distance	
b1-1	0mm
b1-2	20mm
b1-3	50mm
b1-4	100mm

Service Separation	
c1-1	0mm
c1-2	25mm
c1-3	50mm
c1-4	100mm
c1-5	30mm



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## Cable Penetrations with cable carrier separation $\geq 100$ mm

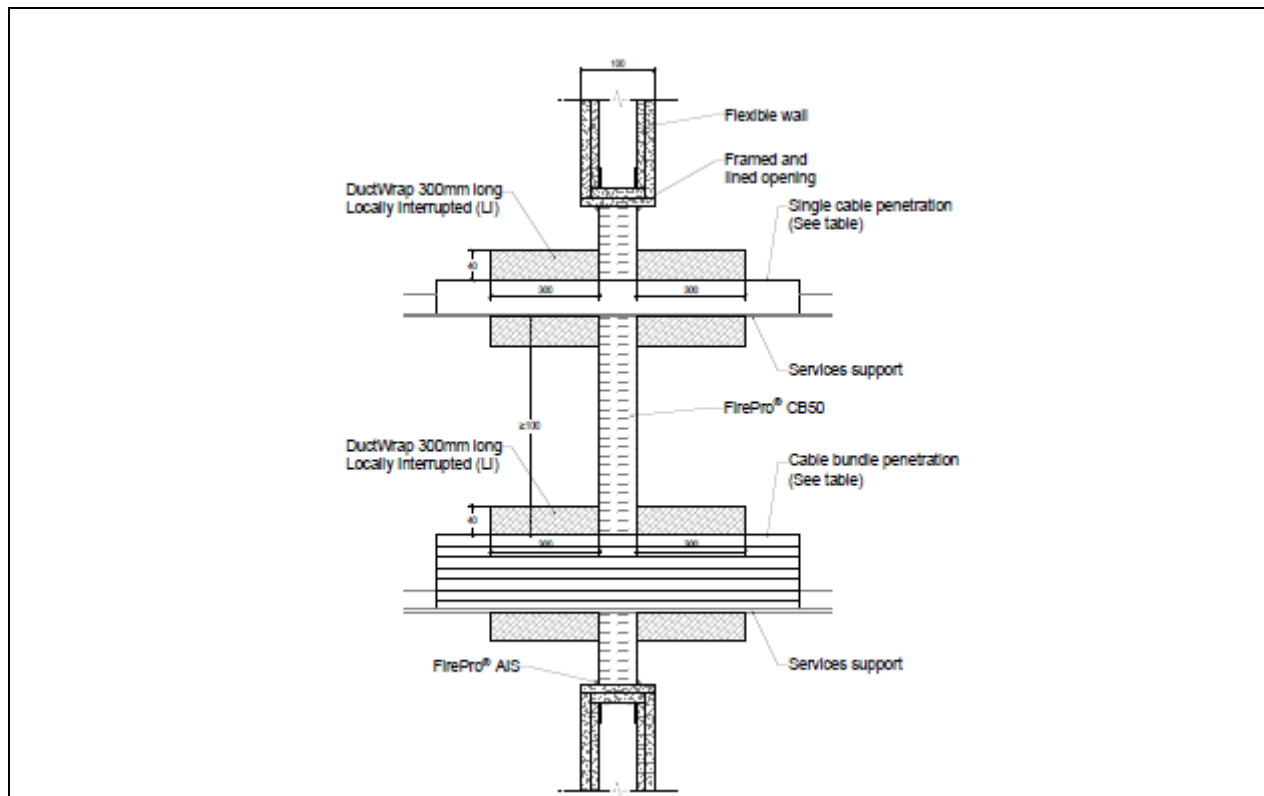


Service type		Service size (mm)	Service protection	Classification
Sheathed cables	S	$\leq 21$	Single layer of 50mm thick FirePro® CB50, friction fitted into the aperture, with FirePro® AIS used on all batt edges to seal joints and around services.	E 60 / EI 45
	M	$\leq 50$		E 60 / EI 45
	L	$\leq 80$		E 60 / EI 45
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables		E 60 / EI 30
Unsheathed cables		$\leq 24$		E 60 / EI 45
Perforated steel cable tray		Unrestricted		E 60 / EI 45



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## Cable Penetrations with cable carrier separation $\geq 100$ mm - Lagged

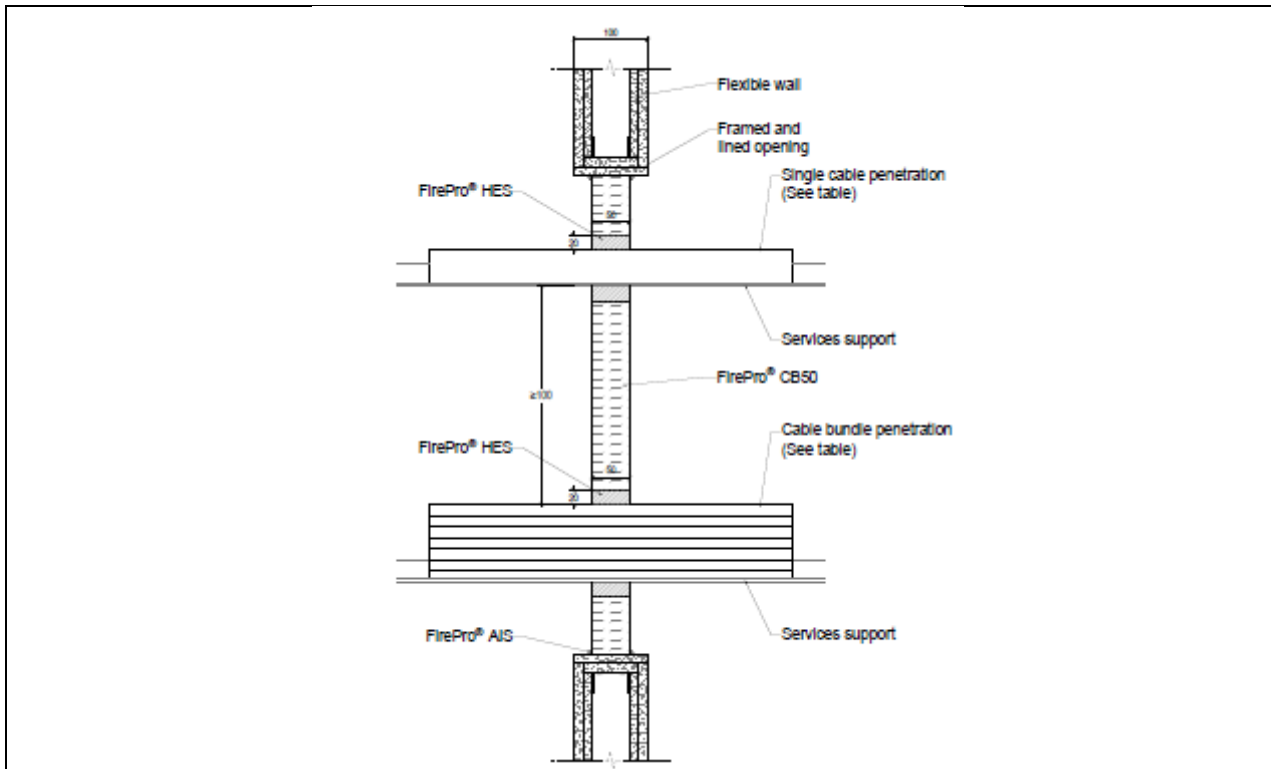


Service type		Service size (mm)	Service Protection	Classification
Sheathed cables	S	$\leq 21$	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. 40 mm ROCKWOOL® DuctWrap, cut to size and wrapped around the service item in a LI configuration 300 mm to both faces and secured to service with steel wire.	EI 60
	M	$\leq 50$		E 60 / EI 45
	L	$\leq 80$		E 60 / EI 45
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables		E 60 / EI 45
Unsheathed cables		$\leq 24$		EI 60
Perforated steel cable tray, or basket		Unrestricted		E 60 / EI 45
Cable ladder		Unrestricted		EI 60



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## Cable Penetrations with cable carrier separation $\geq 100$ mm – FirePro HES

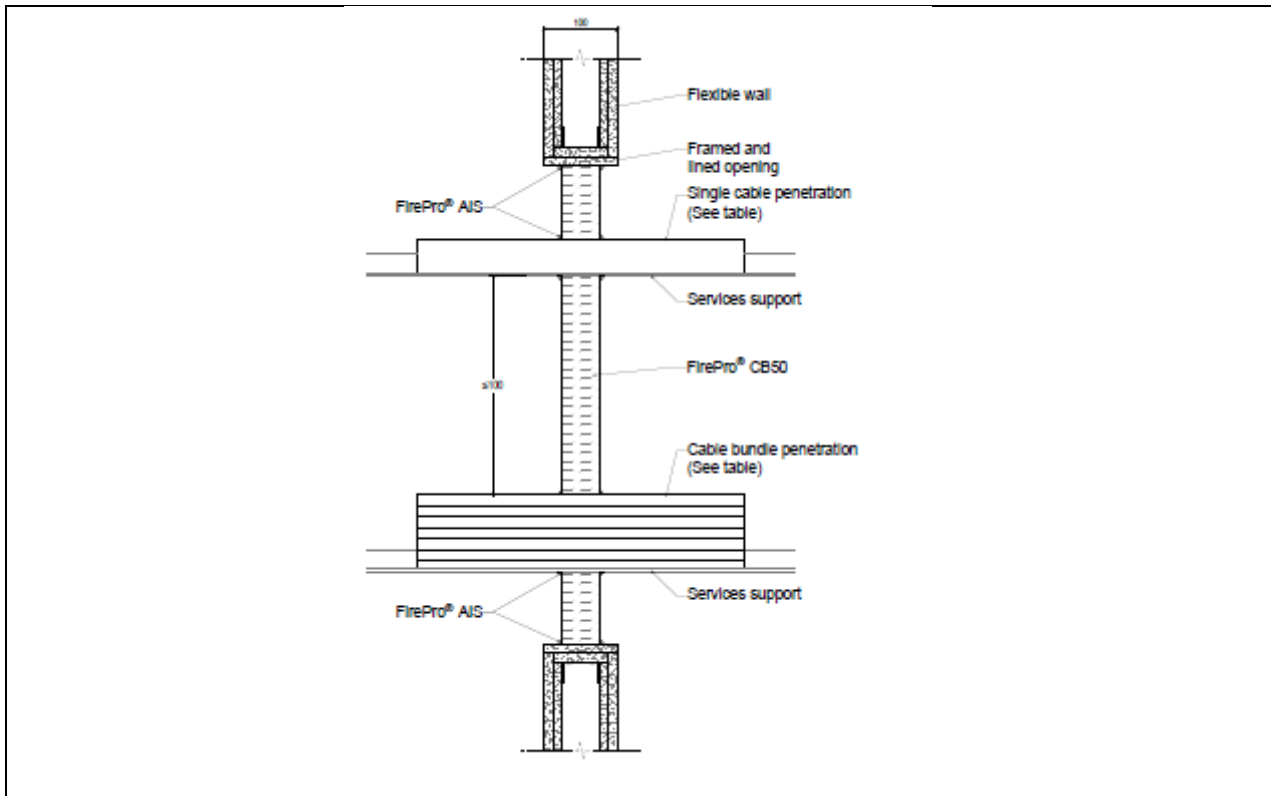


Service type		Service size (mm)	Service protection	Classification
Sheathed cables	S	$\leq 21$	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints.	E 60 / EI 45
	M	$\leq 50$		E 60 / EI 45
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables		20 mm annulus of FirePro® HES cartridge gunned to a depth of 50 mm around the service.
Perforated cable steel tray, or basket		Unrestricted		EI 60



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## Cable Penetrations with cable carrier separation $\leq 100$ mm

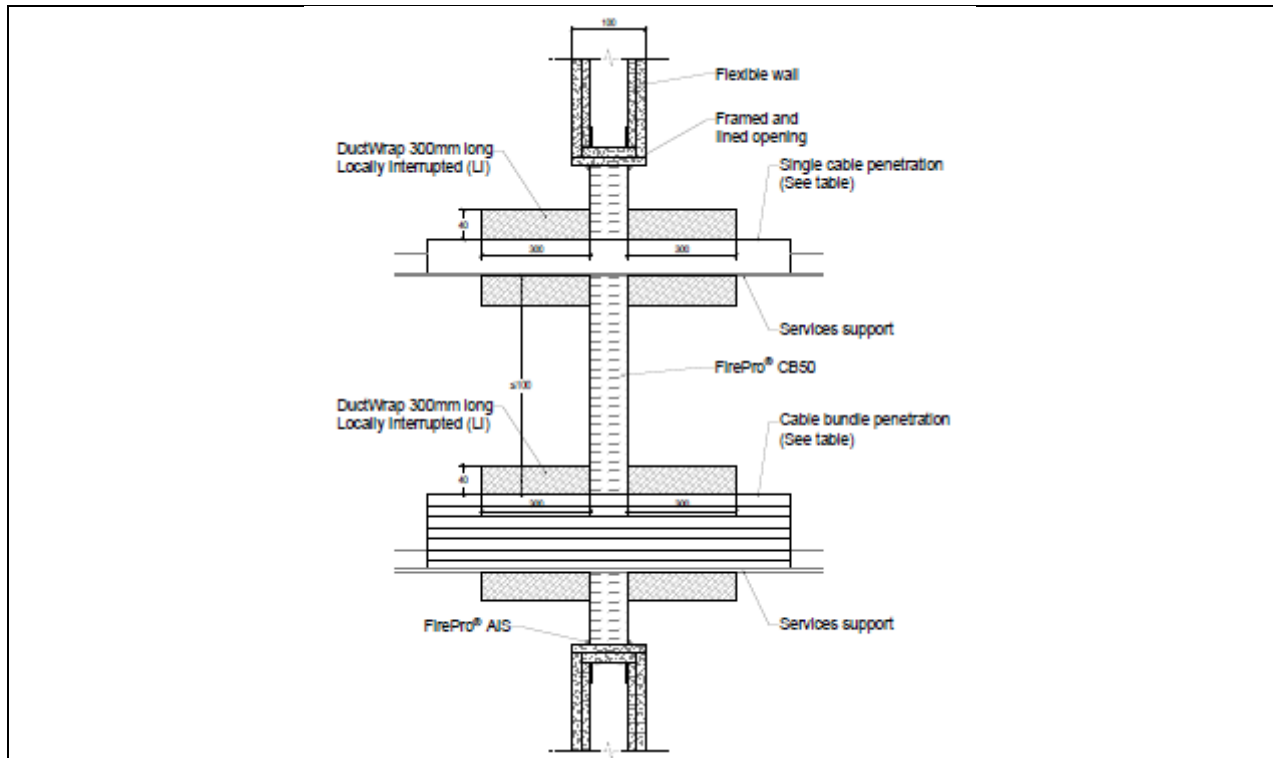


Service type		Service size (mm)	Service protection	Classification
Sheathed cables	S	$\leq 21$	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used with a nominal bead around all batt edges to seal joints and around services.	E 60 / EI 45
	M	$\leq 50$		E 60 / EI 45
	L	$\leq 80$		E 60 / EI 45
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables		E 60 / EI 45
Unsheathed cables		$\leq 24$		E 60 / EI 30
Steel tray, perforated tray, ladder or basket		Unrestricted		E 60 / EI 45



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## Cable Penetrations with cable carrier separation $\leq 100$ mm - Lagged

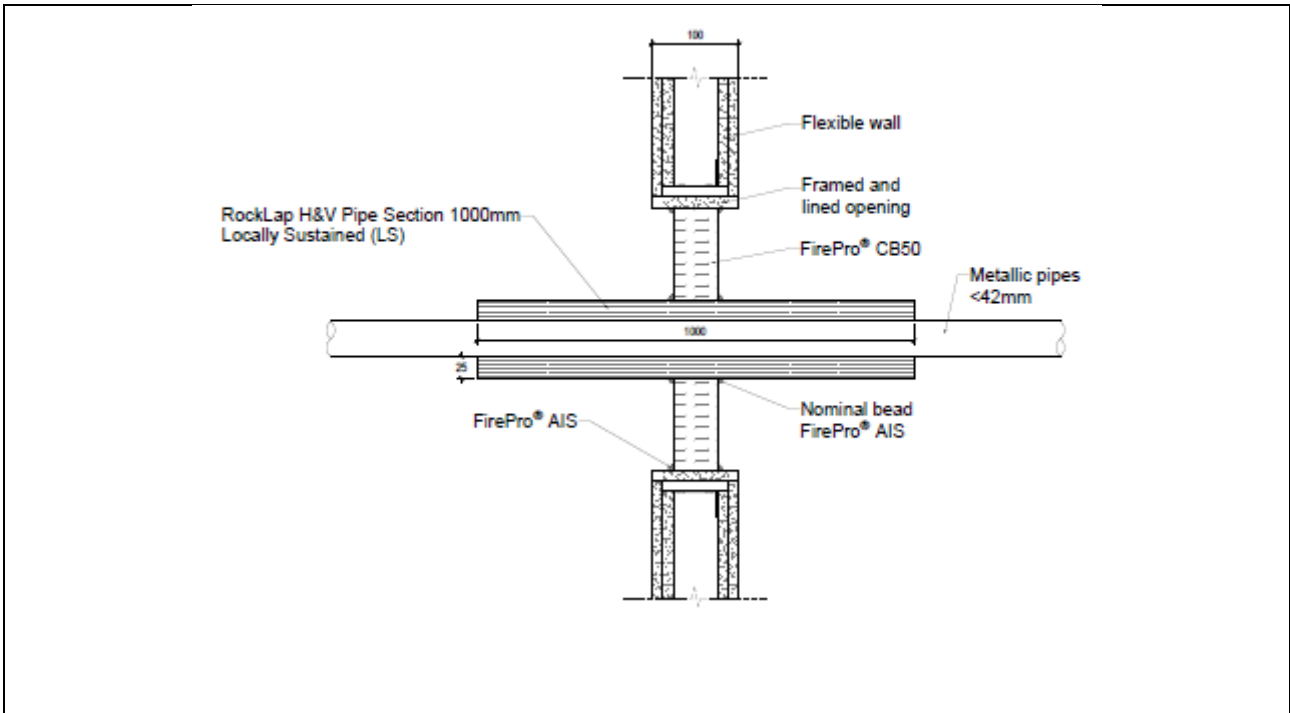


Service type		Service size (mm)	Service protection	Classification
Sheathed cables	S	$\leq 21$	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. 40 mm ROCKWOOL® DuctWrap, cut to size and wrapped around the service item in a LI configuration 300 mm to both faces and secured to service with steel wire.	E 60 / EI 45
	M	$\leq 50$		E 60 / EI 45
	L	$\leq 80$		E 60 / EI 45
Cable bundle		$\leq \text{Ø}100$ cable		E 60 / EI 45
Unsheathed		$\leq 24$		E 60 / EI 45
Steel tray, perforated tray, ladder or basket		Unrestricted		E 60 / EI 45



# Appendix UL-EU CERTIFICATE UL-EU-01360-EN

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

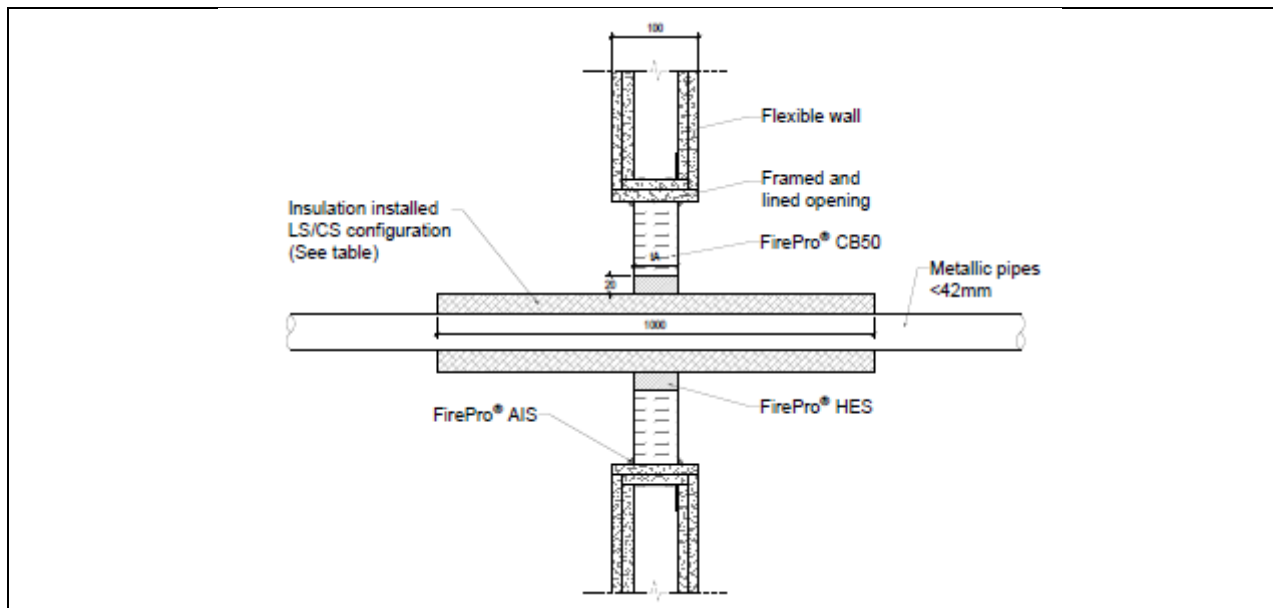


Service type	Service Size (mm)	Wall thickness (mm)	Service protection	Insulation sleeve type	Insulation sleeve details	Classification
Copper and steel pipes Linear (0 mm)	≤42 Ø	≥1.2	Single layer of 50mm thick FirePro® CB50, friction fit into the aperture, with FirePro® AIS used on all batt edges to seal joints and around services. 1000 mm long x 25 mm thick ROCKWOOL RockLap H&V Pipe Section in a LS configuration, fixed around the metallic pipes.	RockLap H&V Pipe Section® in an LS configuration, fixed around the metallic pipes.	1000 mm long x 25 mm thick.	<b>E 60 / EI 45 C/U</b>



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## Metallic pipes: Insulated with combustible insulation – FirePro HES.

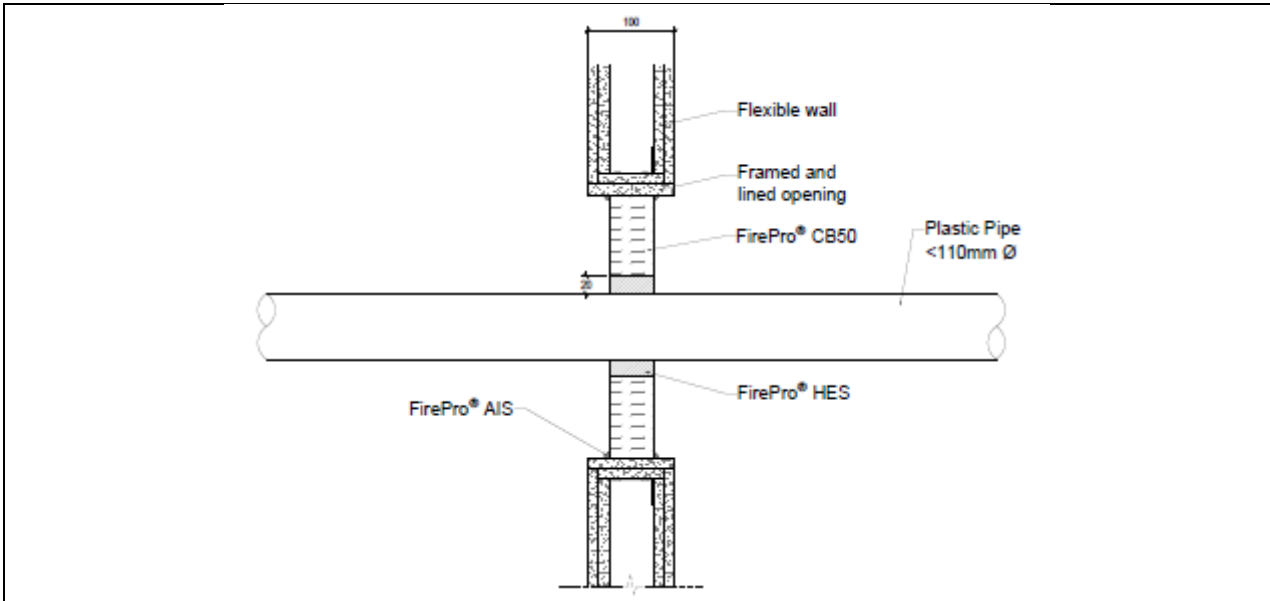


Service type	Pipe Size (mm)	Wall thickness (mm)	Seal depth tA (mm)	Annular gap (mm)	Insulation type / thickness (mm)	Service protection	Classification
Copper and steel pipes Linear (0 mm)	≤42 Ø	≥1.2	50	20	Kingspan Kooltherm installed in CS config/ 15-30	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal all joints	<b>EI 30 C/U</b>
Copper and steel pipes Linear (0 mm)					Armacell Armaflex installed in CS config/ 9-32	20 mm annulus of FirePro® HES cartridge gunned to a depth of 50 mm around the services	<b>E 30 / EI 15 C/U</b>

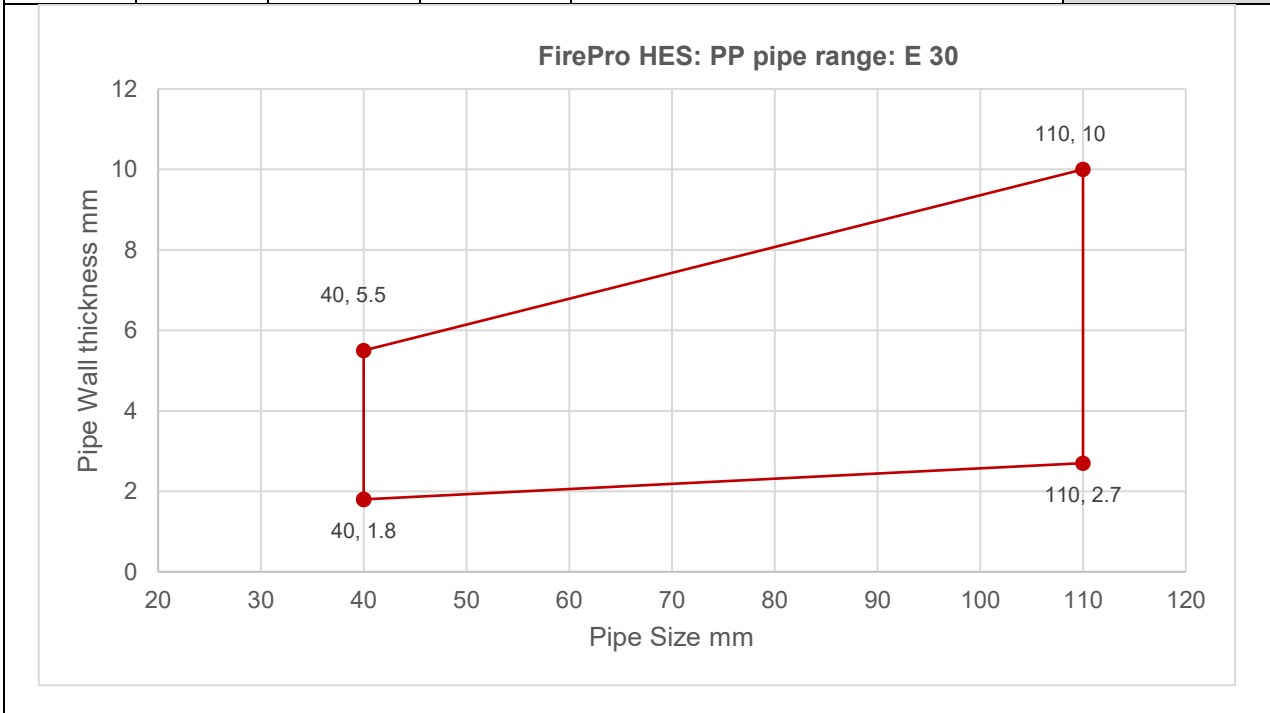


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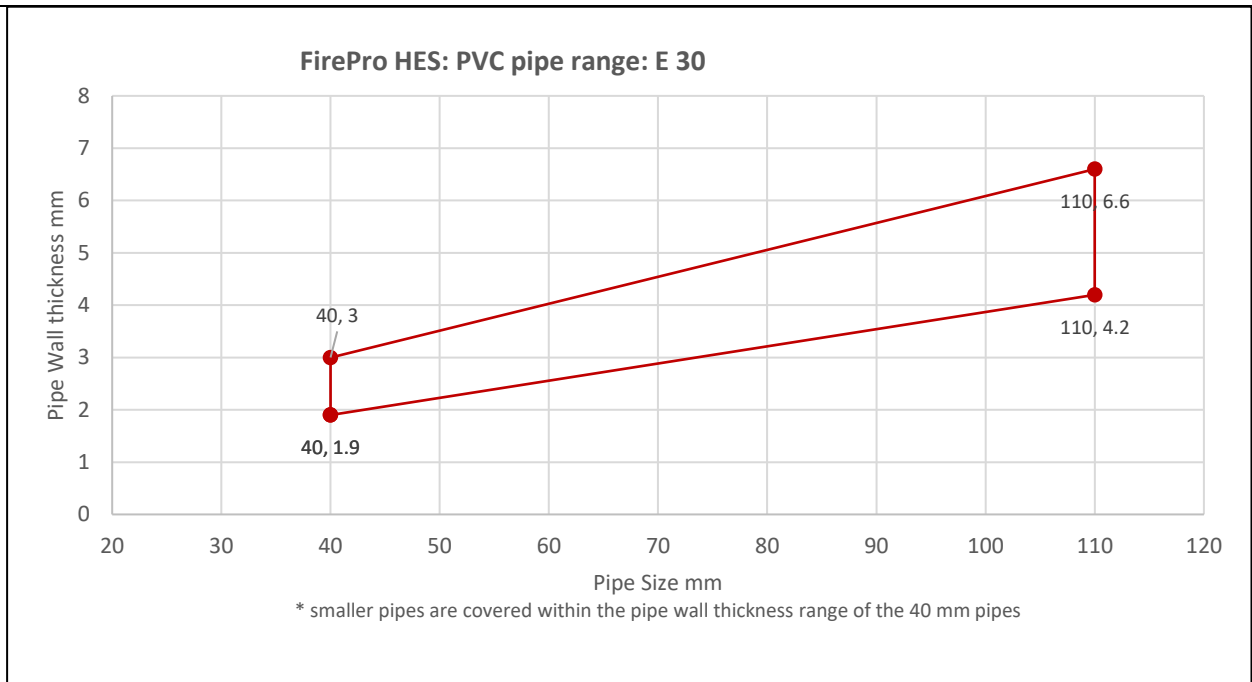
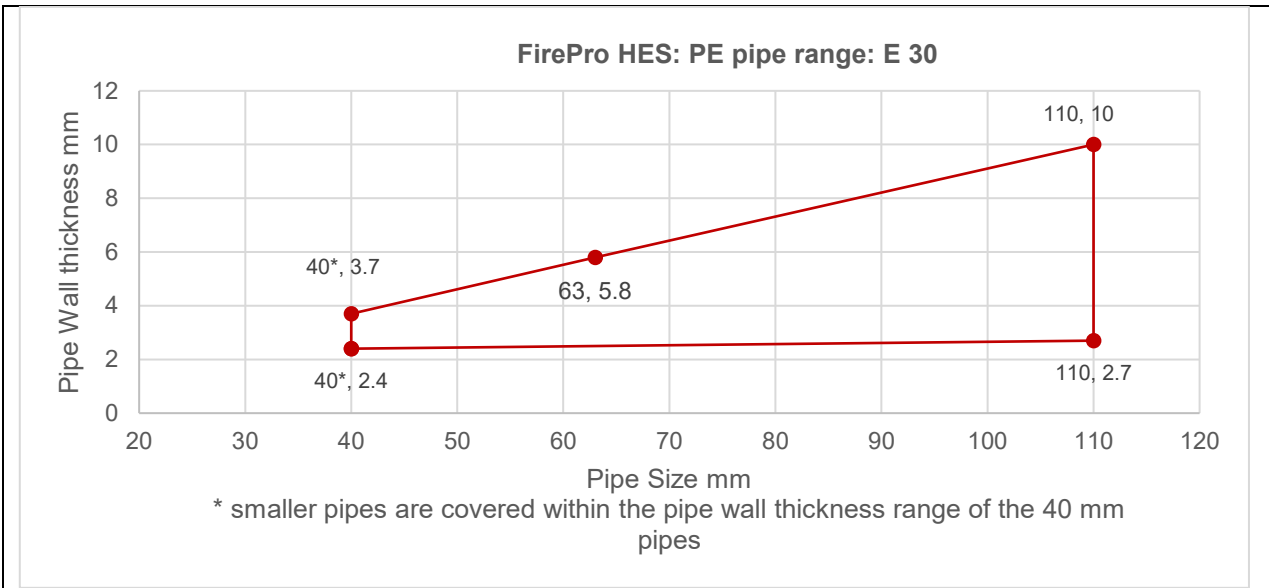
## Plastic Pipe Penetrations – FirePro HES



Pipe material	Pipe size (mm)	HES depth (mm)	Annular gap (mm)	Service Protection	Classification
PP	40 - 110	50	20	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal all joints. 20 mm annulus sealed with FirePro HES to the full depth of the batt.	<b>E 30 U/C</b>
PE	40 - 110				
PVC	40 - 110				

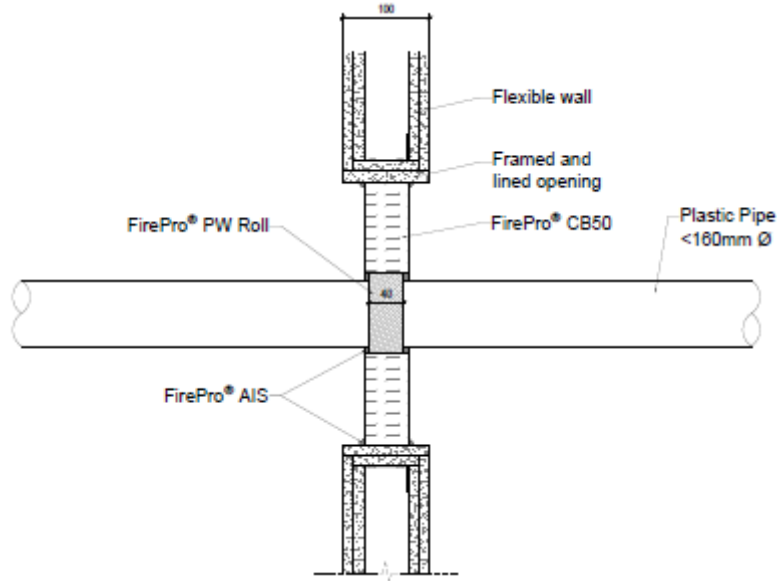


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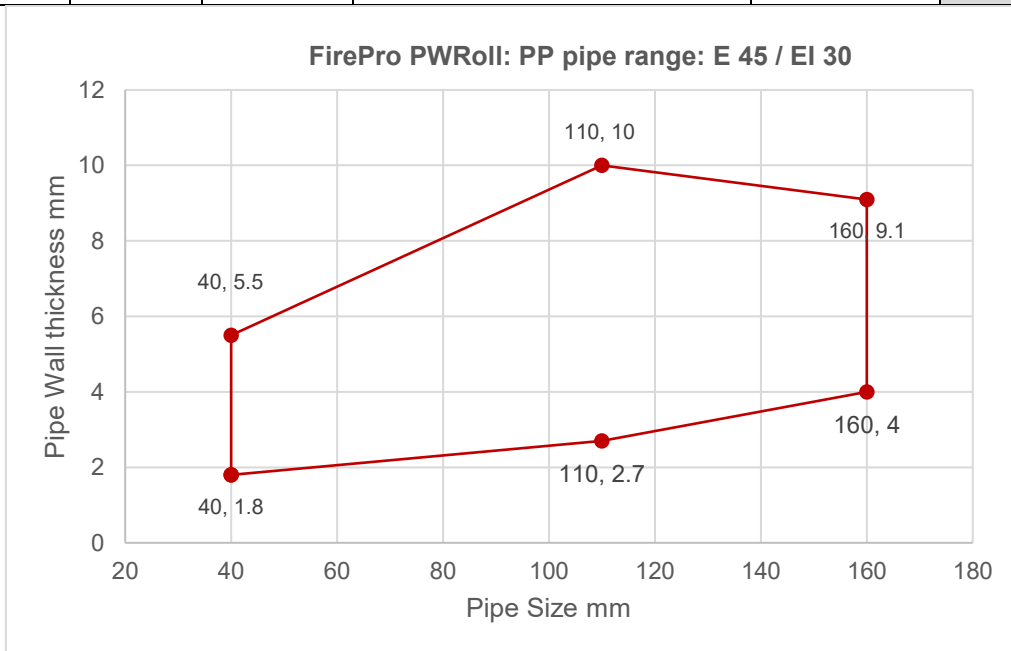


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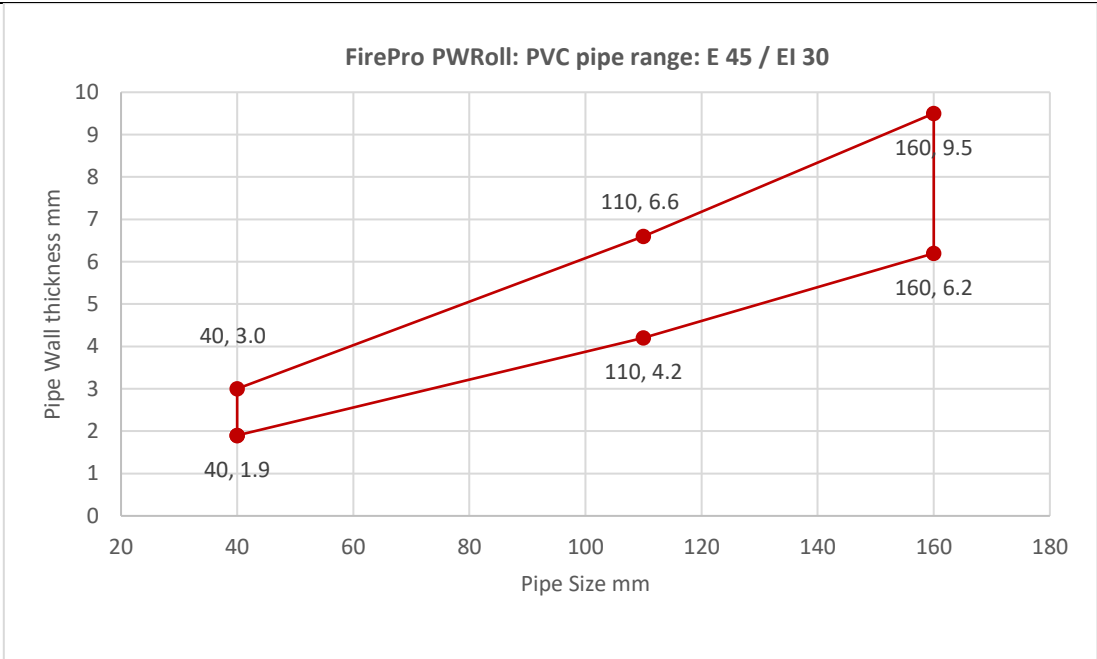
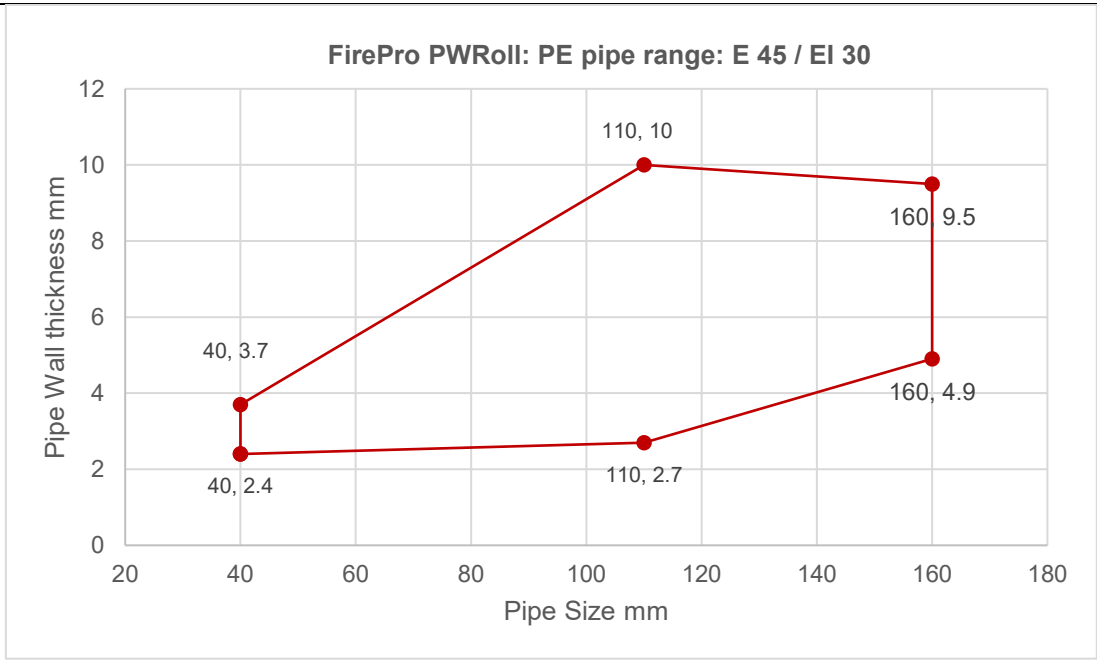
## Plastic Pipe Penetrations – FirePro PWRoll



Pipe material	Pipe size (mm)	Pipe Wrap layers (2mm)	Service Protection	Annular gap (mm)	Classification
PP/PE/PVC	≤40	1	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® PWROLL installed centrally around the service.	≤10	<b>E 45 / EI 30 U/C</b>
	41-79	2			
	80-120	3			
	121-160	4			



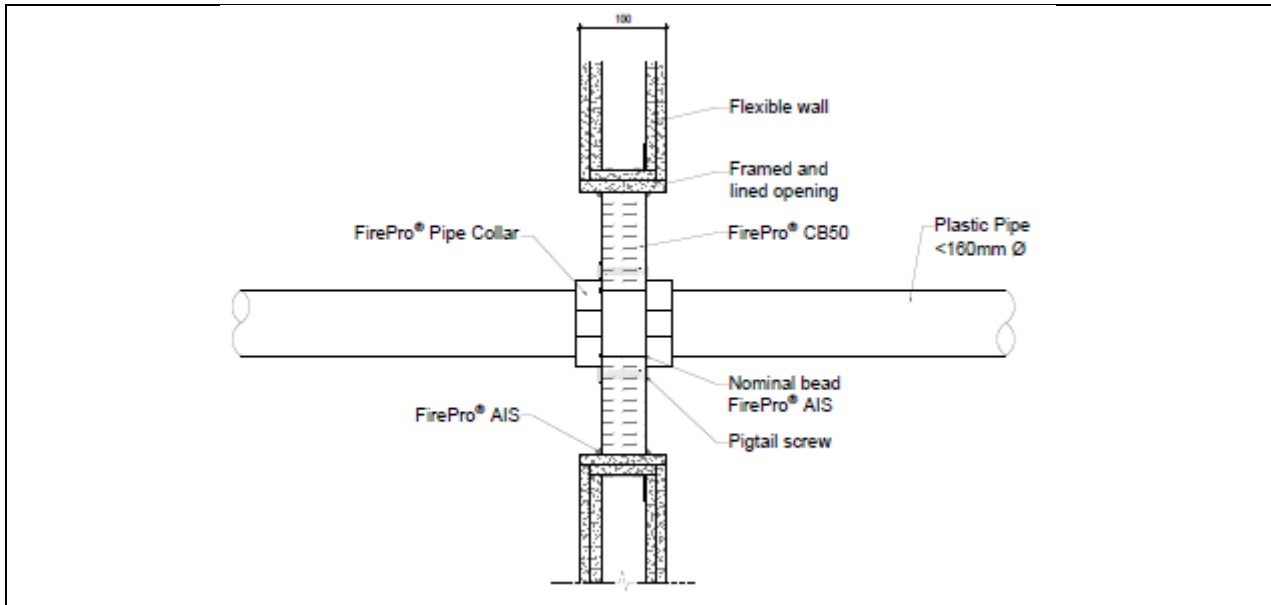
# Appendix UL-EU CERTIFICATE UL-EU-01360-EN



# Appendix UL-EU CERTIFICATE UL-EU-01360-EN

## Plastic Pipe Penetrations – FirePro Pipe Collar

### PP Pipes

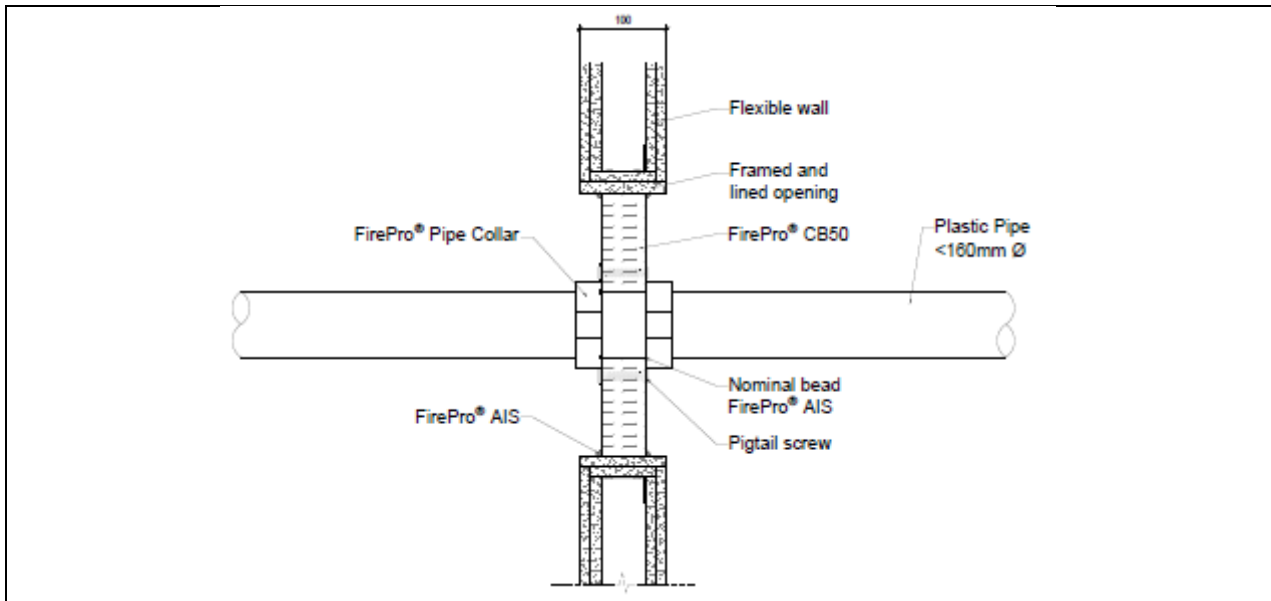


Pipe Collar Size (mm)	Pipe size (mm)	Pipe wall thickness range (mm)	Service Protection	Classification
40	40	1.8 – 5.5	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® Pipe Collar fixed around the service flush with both faces of the wall using pigtail screws	EI 60 U/C
55	55	2.0 – 5.6		
63	63	2.1 – 5.8		
75	75	2.2 – 5.9		
82	82	2.4 – 6.0		
90	90	2.6 – 6.2		
110	110	2.7 – 6.3		
125	125	3.1 – 7.2		
140	140	3.5 – 8.1		
160	160	4.0 – 9.1		



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## PE Pipes

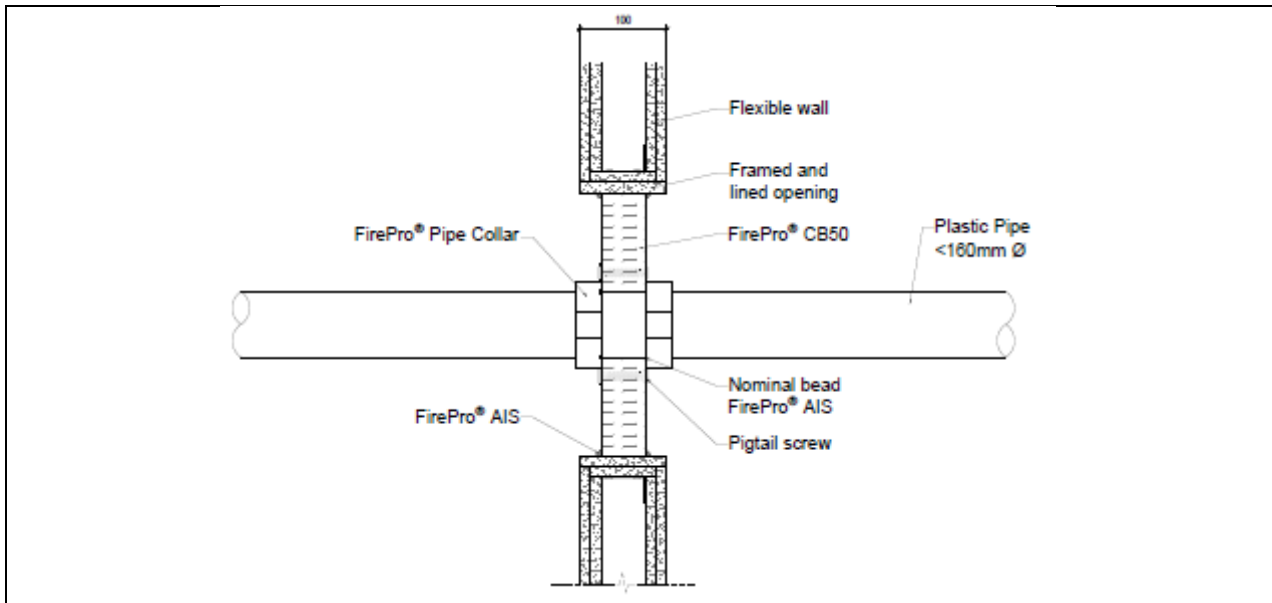


Pipe Collar Size (mm)	Pipe size (mm)	Pipe wall thickness range (mm)	Service Protection	Classification
40	40	2.4 – 3.7	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® Pipe Collar fixed around the service flush with both faces of the wall using pigtail screws	<b>EI 60 U/C</b>
55	55	2.5 – 5.0		
63	63	2.5 – 5.8		
75	75	2.5 – 6.9		
82	82	2.6 – 7.6		
90	90	2.6 – 8.3		
110	110	2.7 - 10		
125	125	3.4 – 9.8		
140	140	4.1 – 9.7		
160	160	4.9 – 9.5		



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## PVC Pipes

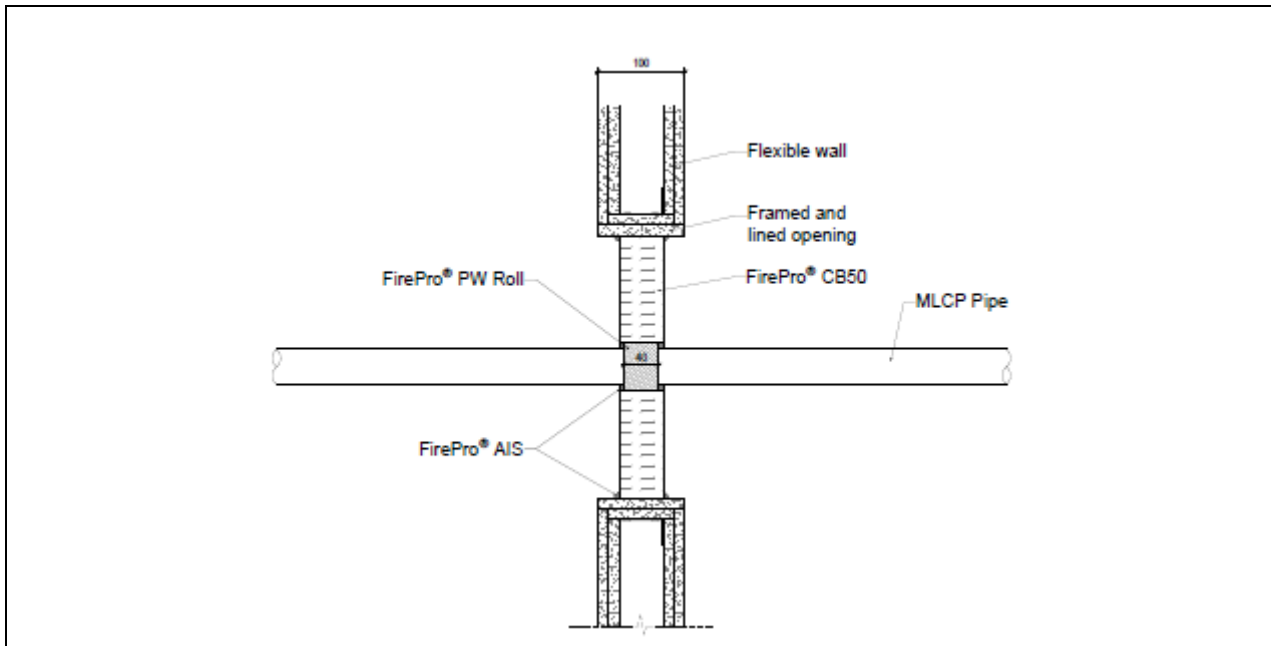


Pipe Collar Size (mm)	Pipe size (mm)	Pipe wall thickness range (mm)	Service Protection	Classification
40	40	1.9 – 3.0	Single layer of 50mm thick FirePro® CB50, friction fitted into the aperture, with FirePro® AIS used on all batt edges to seal joints and around services. FirePro® Pipe Collar fixed around the service flush with both faces of the wall using pigtail screws	<b>EI 60 U/C</b>
55	55	2.4 – 3.7		
63	63	2.6 – 4.1		
75	75	3.0 – 4.8		
82	82	3.2 – 5.1		
90	90	3.5 – 5.6		
110	110	4.2 – 6.6		
125	125	4.8 – 7.6		
140	140	5.5 – 8.4		
160	160	6.2 – 9.5		



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## MLCP Pipes – FirePro PWRoll



### Single pipes

Pipe material	Pipe size (mm)	Pipe wall thickness (mm)	Pipe Wrap layers (2mm)	Service Protection	Classification
UPONOR PP-RT / AL / PP-RT	110	10	3	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® PWROLL installed centrally around the pipe.	E 60 / EI 45 U/C
UPONOR PP-RT / AL / PP-RT	40	2	1		E 60 / EI 45 U/C

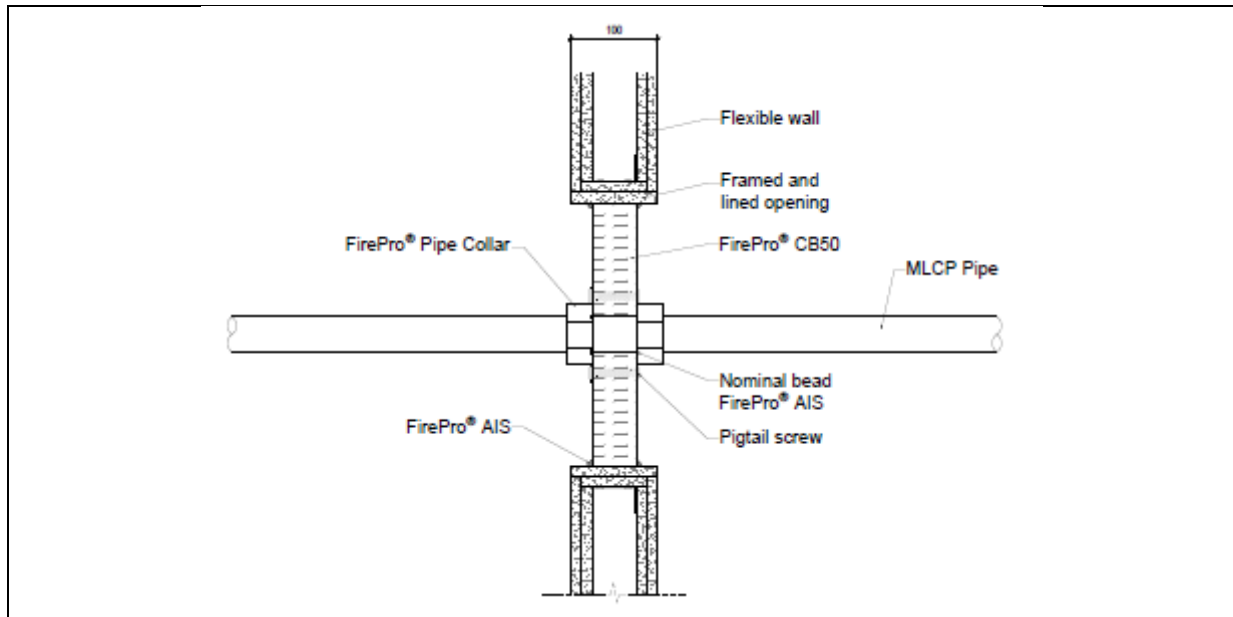
### Multiple pipes – Linear Configuration

UPONOR PP-RT / AL / PP-RT	63	6	3	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® PWROLL installed centrally around the pipe.	E 60 / EI 30 U/C
UPONOR PP-RT / AL / PP-RT	40	2	1		E 60 / EI 30 U/C



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## MLCP Pipes – FirePro Pipe Collar

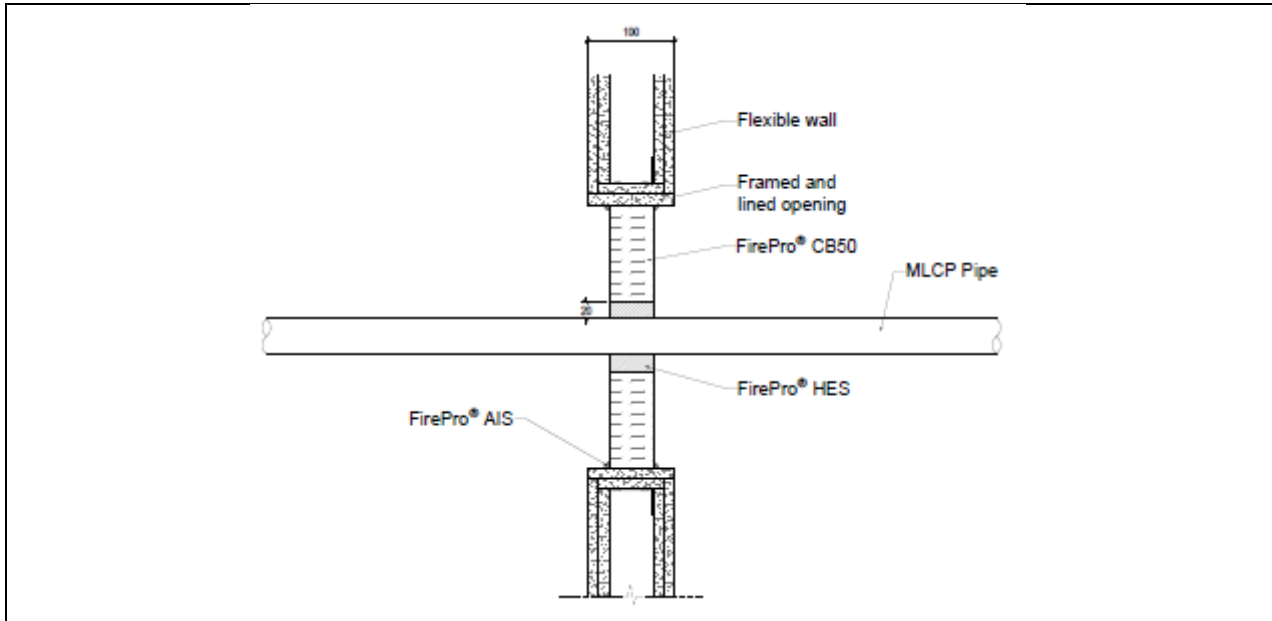


Pipe Collar Size (mm)	Pipe size (mm)	Pipe Type	Pipe wall thickness range (mm)	Service protection	Classification
110	110	UPONO R PP- RT / AL / PP-RT	10	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® Pipe Collar fixed around the service on both sides of the batt using pigtail screws	<b>E 60 / EI 30 U/C</b>
40	40	UPONO R PP- RT / AL/ PP-RT	2		



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## Insulated MLCP Pipes – Uponor Uni Pipe Plus – FirePro HES



Single, linear or clustered configuration

Pipe Type	Pipe size (mm)	Insulation thickness (mm)	HES depth (mm)	Annular gap (mm)	Service Protection	Classification
PP-RT/AL/PP-RT with PE Insulation (clustered 0 mm)	16 - 25	5 - 13	50	20	Single layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal all joints. 20 mm annulus sealed with FirePro HES to the full depth of the batt.	<b>E60 / EI 30 U/C</b>



**Solutions**

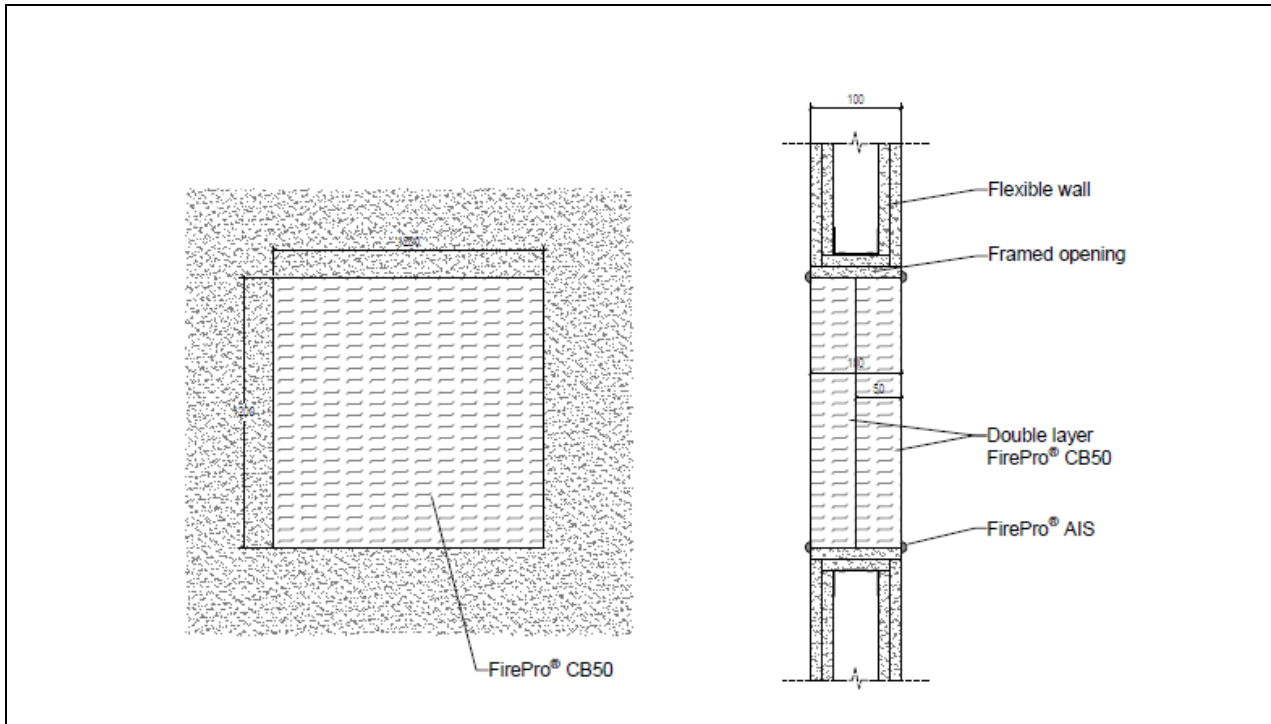
Form-ULID-006104 V9.0

# Appendix UL-EU CERTIFICATE UL-EU-01360-EN

## Double Batt Seal Installation Methods

The following installation methods for FirePro® CB50 are considered as part of this classification.

### Framed and lined openings

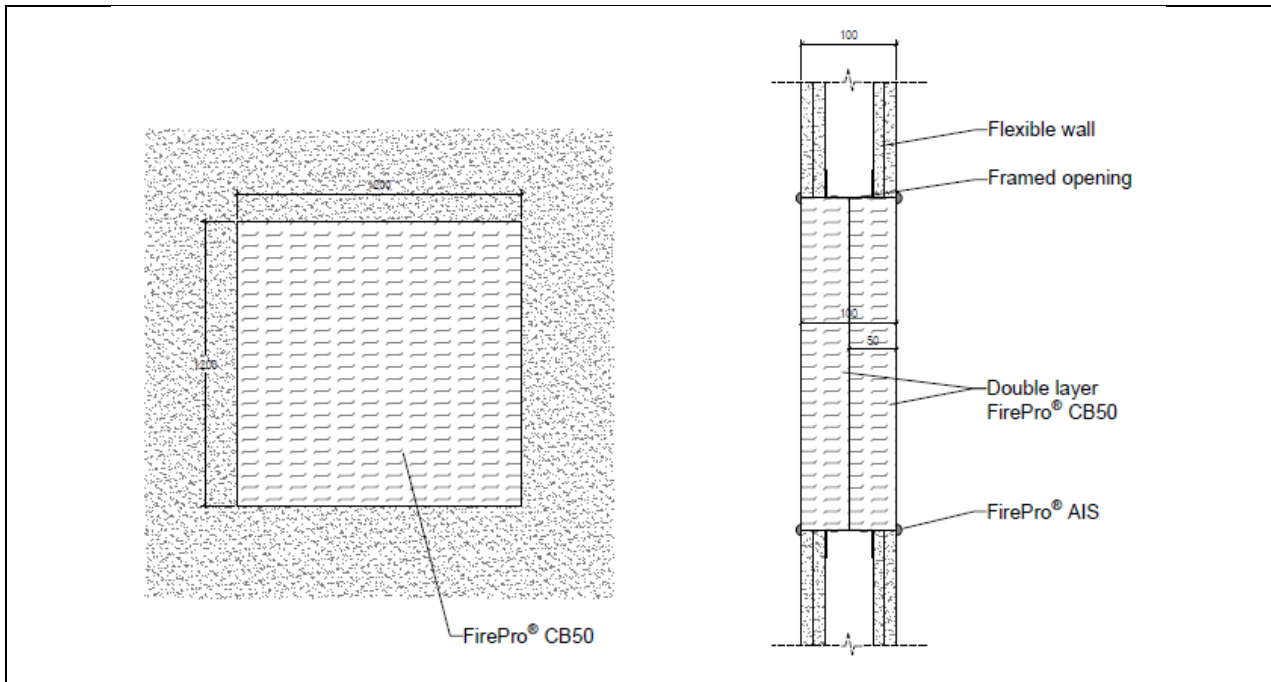


Service type	Aperture size	Service protection	Classification
Blank	2600 x 2600 mm	Double layer of 50mm thick FirePro® CB50 batt, friction fitted centrally within the aperture. All edges and butt joints sealed with FirePro® AIS sealant.	<b>EI 120</b>
Blank	1210 x 1200 mm	1010 mm high double layer of 50mm thick FIREPRO® CB50 batt was friction fitted into the aperture. 200 mm high by 100 mm thick FirePro® Flex Seal Coated Strip was compression fitted into the top of the aperture with 10 mm compression to the width and length. All edges sealed with a nominal bead and all cuts and butt joints sealed with "FirePro® AIS". FirePro Flex Seal Coated Strip was brush coated with FirePro® Flex Seal Coating.	<b>EI 90</b>



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## Blank Seal – framed openings



Service type	Aperture size	Service protection	Classification
Blank	1200 x 1200 mm	Double layer of 50mm thick FirePro® CB50 batt, friction fitted within the aperture. All edges and butt joints sealed with FirePro® AIS sealant.	EI 60



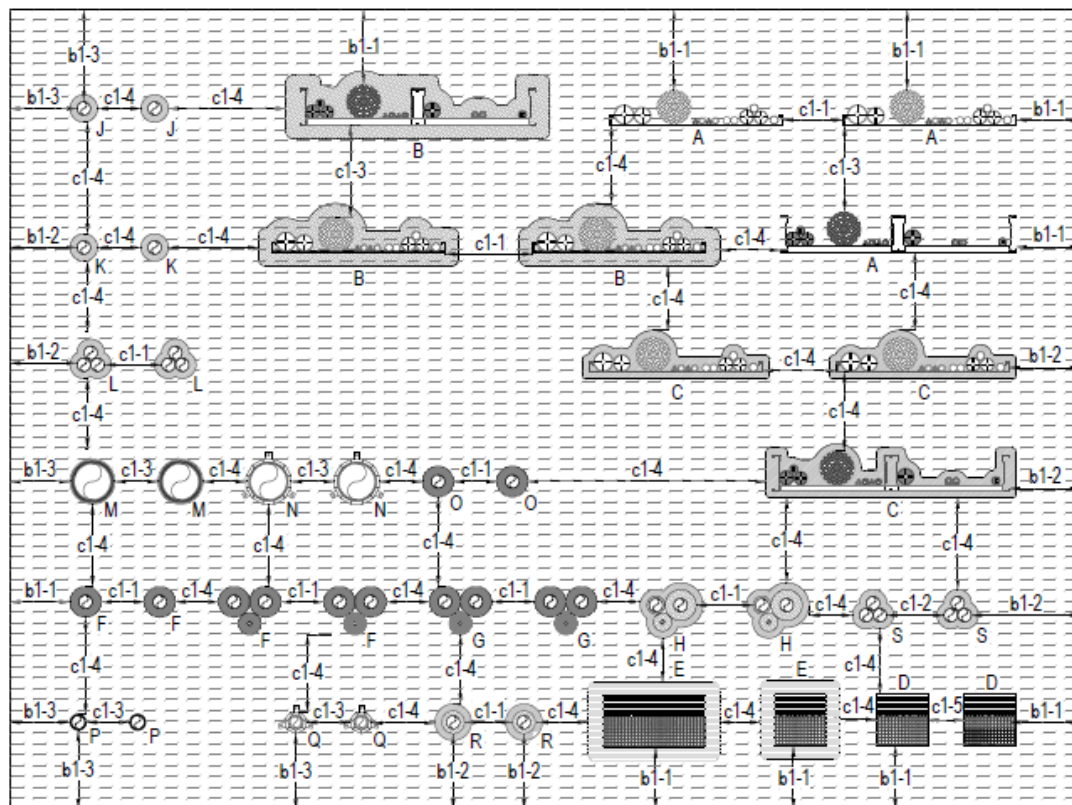
# Appendix UL-EU CERTIFICATE UL-EU-01360-EN

## Service Penetrations

FirePro® CB50 is approved for use with the following service items. Installation of FirePro® CB50 must be completed in accordance with one of the installation methods specified in the blank seal section and must adhere to the size limitations outlined for each methodology. Certain service items may require additional protection depending on the type of service and/or the performance requirements of the seal and service. Details of any required additional protection are provided, as appropriate, on the following performance tables.

**Service arrangement (spacings)–** distances as defined by 1366-3: 2021+2024

Double Skin Flexible walls ≥100mm - Double CB50



Service Type	
A	Unlagged cables & cable carriers
B	Lagged cables & cable carriers
C	HES cables & cable carriers
D	Trunking
E	Lagged trunking
F	H&V lagged metallic pipes (L/S)
G	DuctWrap lagged metallic pipes (L/I)
H	Combustible insulation on metallic pipes - HES
J	HES - combustible pipes
K	HES - CPVC
L	HES - PB
M	PWRoll - combustible pipes
N	Collar - combustible pipes
O	IFS - combustible pipes
P	PWRoll - MLC pipes (Uponor)
Q	Collar - MLC pipes (Uponor)
R	HES - Insulated MLC pipe
S	HES - TracPipe

Aperture Edge Distance	
b1-1	0mm
b1-2	20mm
b1-3	50mm
b1-4	100mm

Service Separation	
c1-1	0mm
c1-2	25mm
c1-3	50mm
c1-4	100mm
c1-5	30mm

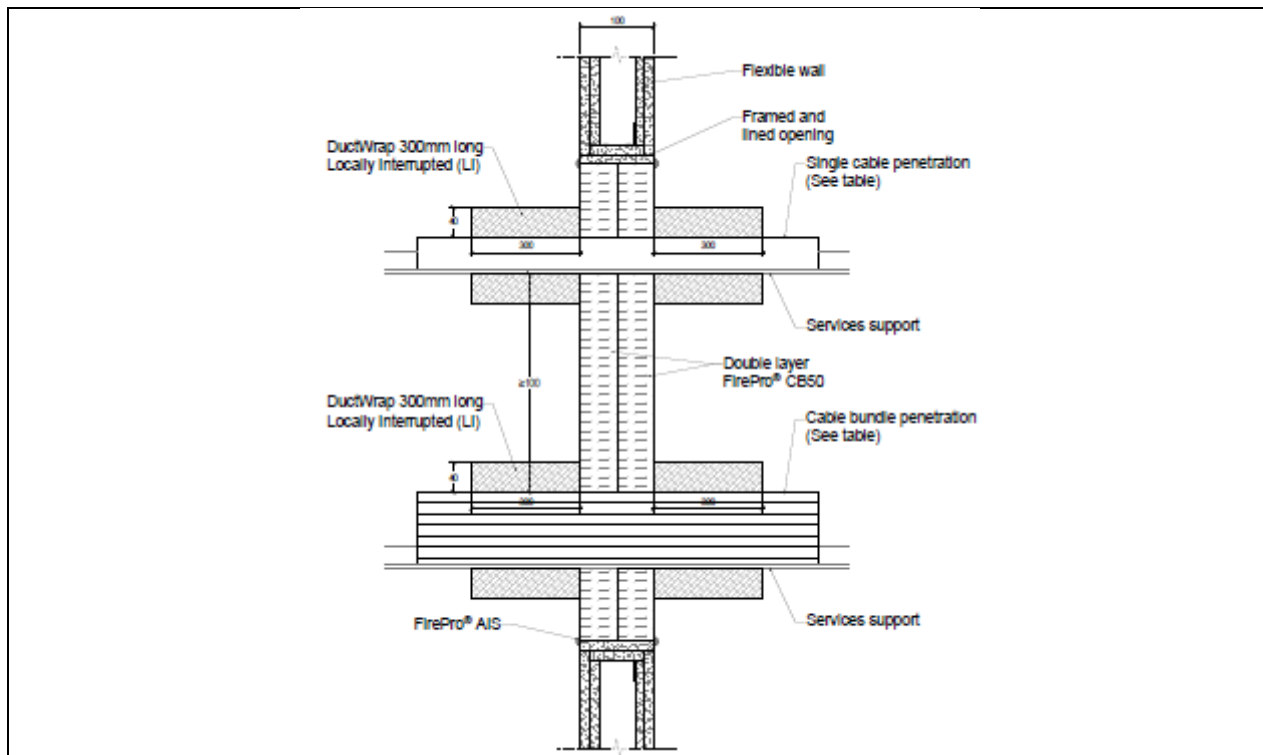


**Solutions**

Form-ULID-006104 V9.0

# Appendix UL-EU CERTIFICATE UL-EU-01360-EN

## Cable Penetrations with cable carrier separation $\geq 100$ mm - Lagged

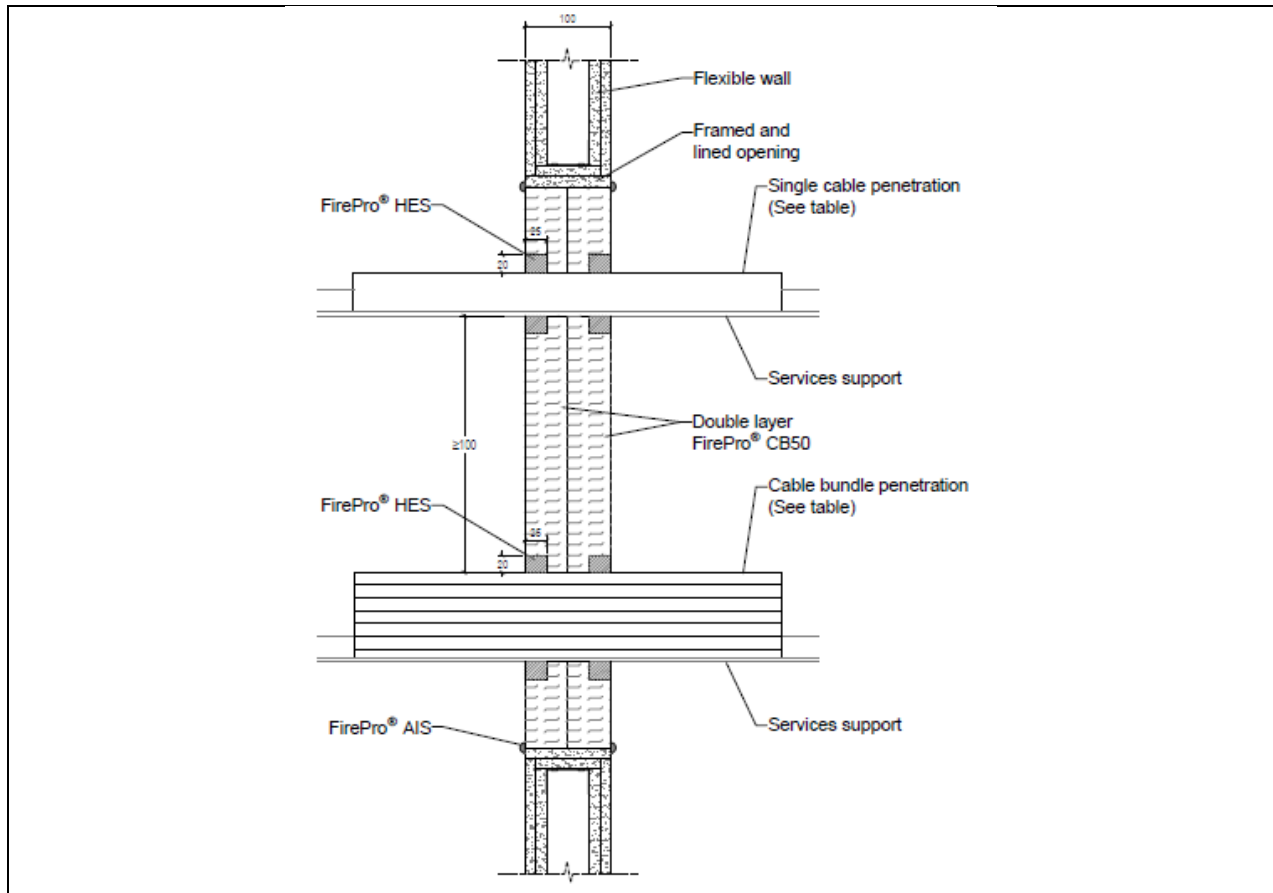


Service type		Service size (mm)	Service Protection	Classification
Sheathed cables	S	$\leq 21$	Double layer 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. 40 mm ROCKWOOL® DuctWrap, cut to size and wrapped around the service item in a local interrupted configuration 300 mm to both faces and secured to service with 2 no. steel wire.	EI 120
	M	$\leq 50$		EI 120
	L	$\leq 80$		EI 120
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables		EI 120
Unsheathed cables		$\leq 24$		EI 120
perforated tray, or basket		Unrestricted		EI 120
Cable ladder		Unrestricted		EI 120



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## Cable Penetrations with cable carrier separation $\geq 100$ mm – FirePro HES

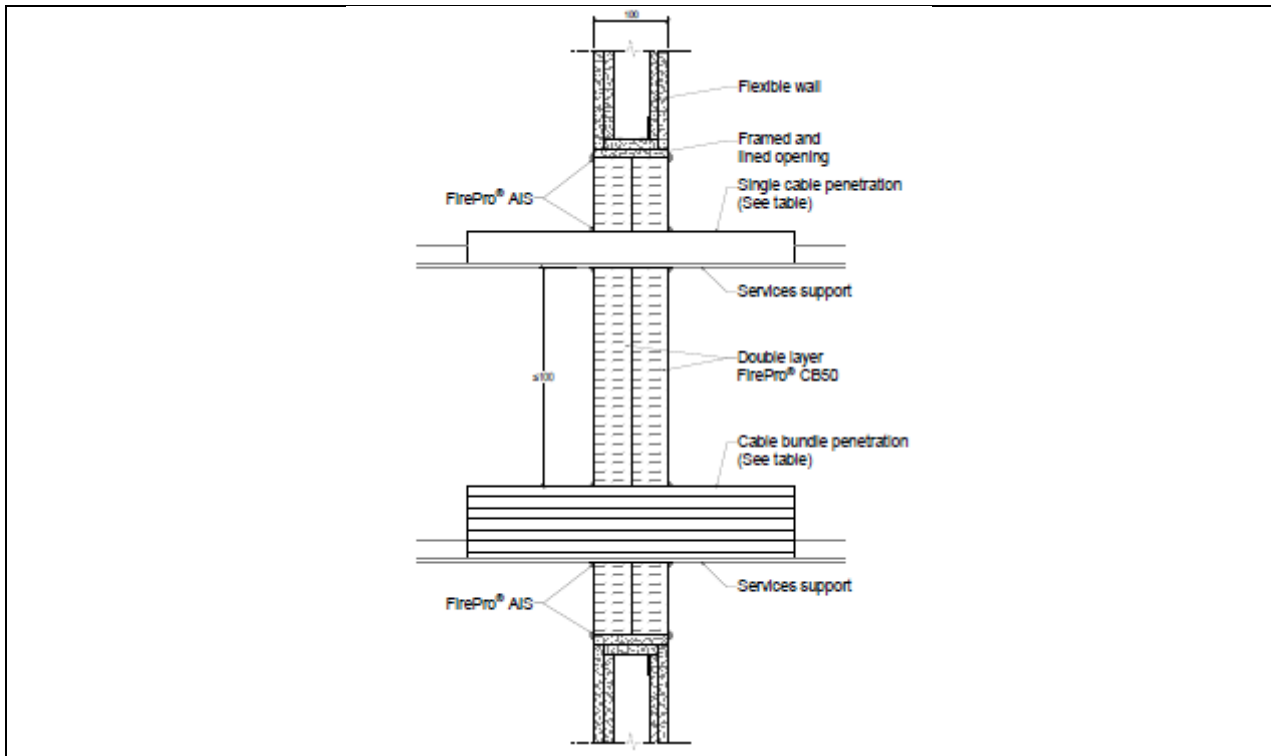


Service type		Service size (mm)	Service protection	Classification
Sheathed cables	S	$\leq 21$	Double layer of 50mm thick FirePro® CB50, friction fitted into the aperture, with FirePro® AIS used on all batt edges to seal joints. 20 mm annulus of FirePro® HES cartridge gunned to a depth of 25 mm around the service on each side of the seal.	E 120 / EI 90
	M	$\leq 50$		E 120 / EI 90
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables		E 120 / EI 90
perforated tray, or basket		Unrestricted		E 120 / EI 90
Blank Seal (Max HES seal size)		NA	500 mm wide by 260 mm high by 25 mm deep cut back to the faces of the batt to the exposed and unexposed faces, filled with FirePro® HES	EI 120



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## Cable Penetrations with cable carrier separation $\leq 100$ mm

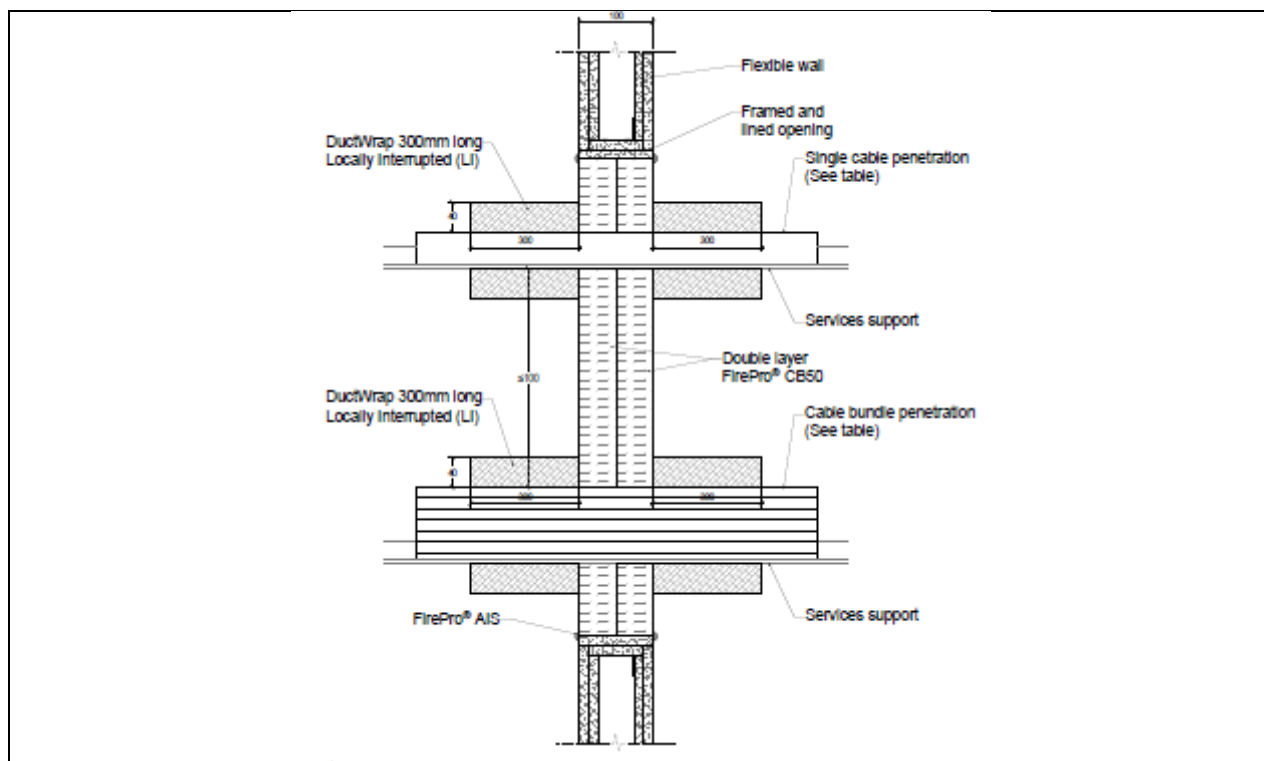


Service type		Service size (mm)	Service protection	Classification
Sheathed cables	S	$\leq 21$	Double layer of 50mm thick FirePro® CB50, friction fitted into the aperture, with FirePro® AIS used on all batt edges to seal joints and around services.	E 120 / EI 45
	M	$\leq 50$		E 120 / EI 45
	L	$\leq 80$		E 120 / EI 45
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables		E 120 / EI 30
Unsheathed cables		$\leq 24$		E 120 / EI 45
Steel tray, perforated tray, ladder or basket		Unrestricted		E 120 / EI 60



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## Cable Penetrations with cable carrier separation $\leq 100$ mm - Lagged

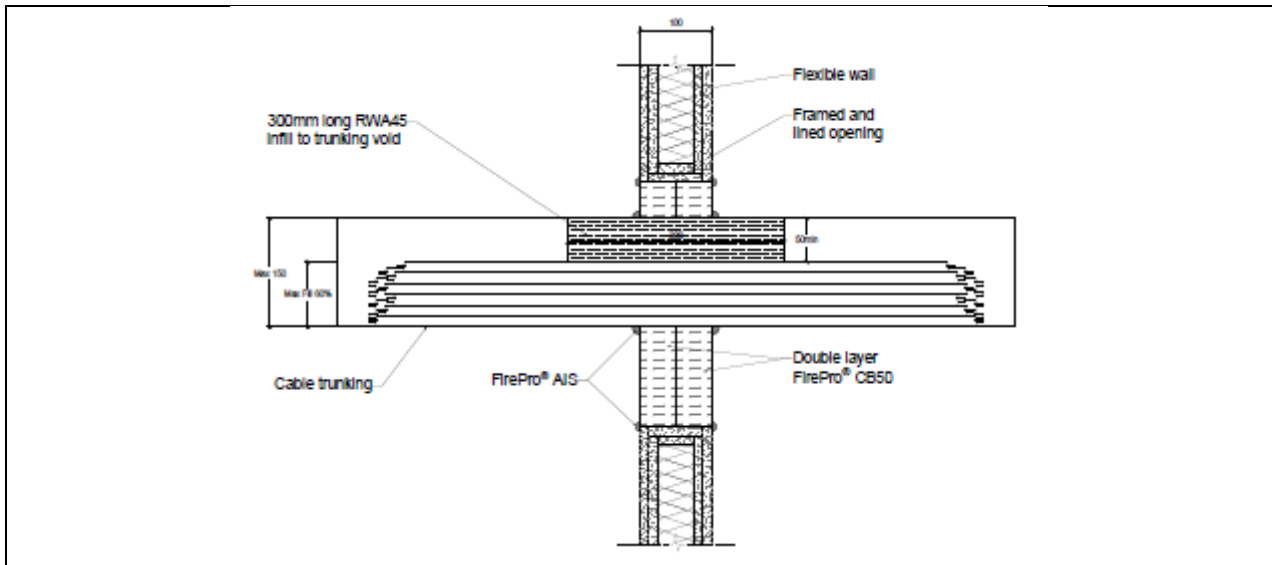


Service type		Service size (mm)	Service protection	Classification
Sheathed cables	S	$\leq 21$	Double layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. 40 mm ROCKWOOL® DuctWrap, cut to size and wrapped around the service item in a local interrupted configuration 300 mm to both faces and secured to service with steel wire.	EI 120
	M	$\leq 50$		EI 120
	L	$\leq 80$		EI 120
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables		EI 120
Unsheathed cables		$\leq 24$		EI 120
Steel tray, perforated tray, ladder or basket		Unrestricted		EI 120



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## Cable Trunking – unlagged

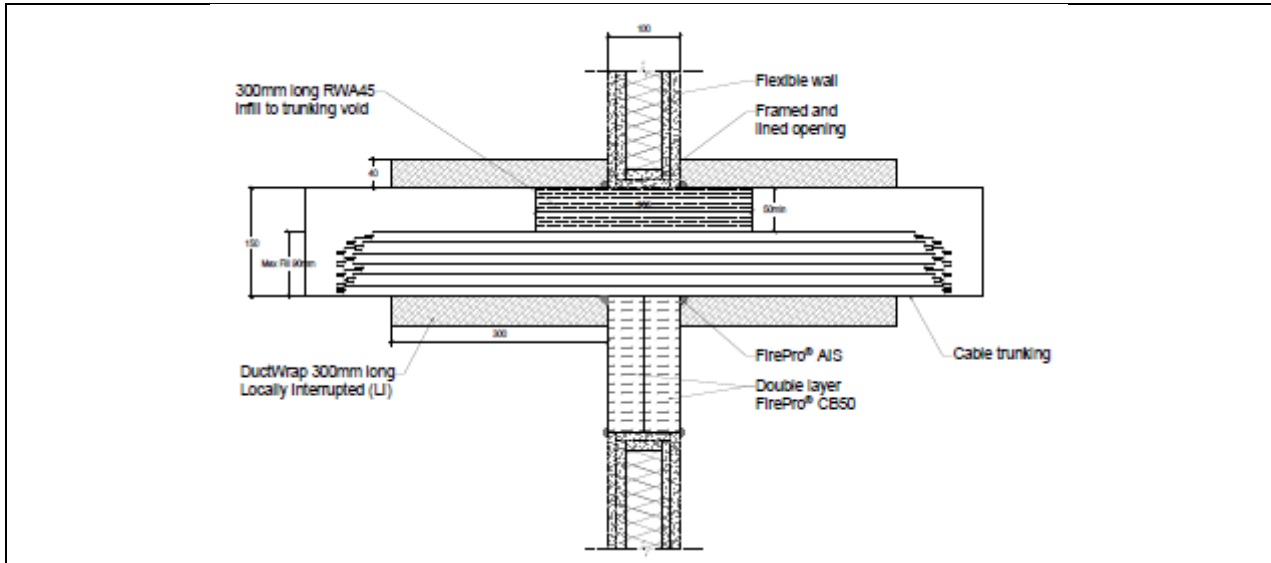


Type	Service		Trunking inner protection	Service protection	Classification
	Size (mm)	Cable Size (mm)			
Steel trunking	≤100 x 100	≤80	300 mm long RWA45 inserted into the trunking on top of the cables under 50 mm compression. The RWA45 should full fill the trunking central to the CB50 seal.	Double layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services.	EI 120 U/U
	≤150 x 150	≤80			E 120 / EI 90 U/U



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## Cable Trunking – lagged

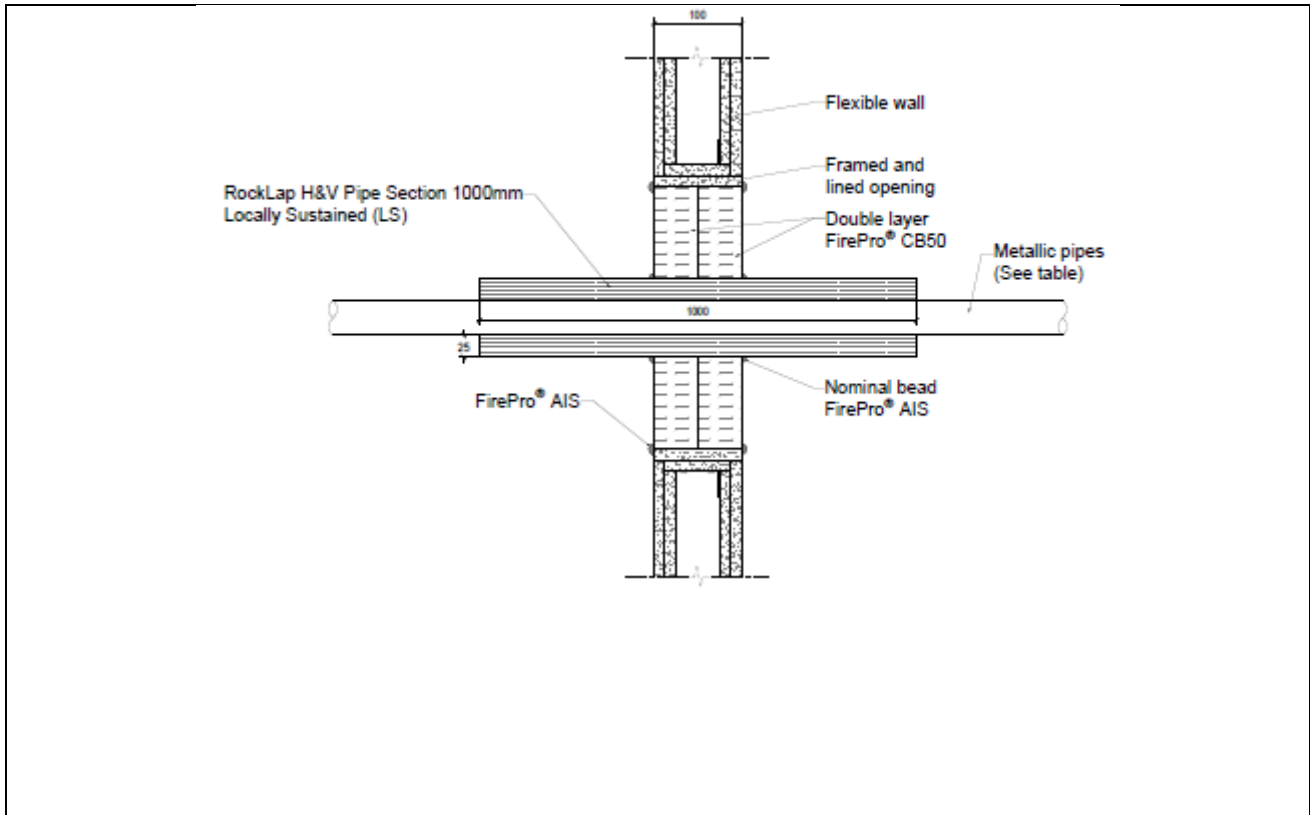


Type	Service		Trunking inner protection	Service protection	Classification
	Size (mm)	Cable Size (mm)			
Steel trunking	≤300 x 150 (w x h)	≤80	300 mm long RWA45 inserted into the trunking on top of the cables under 50 mm compression. The RWA45 should full fill the trunking central to the CB50 seal.	Double layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. 40 mm ROCKWOOL® DuctWrap, cut to size and wrapped around the service item in a LI configuration 300 mm to both faces and secured to service with 0.7 mm steel wire 50mm from both ends.	<b>EI 120 U/U</b>



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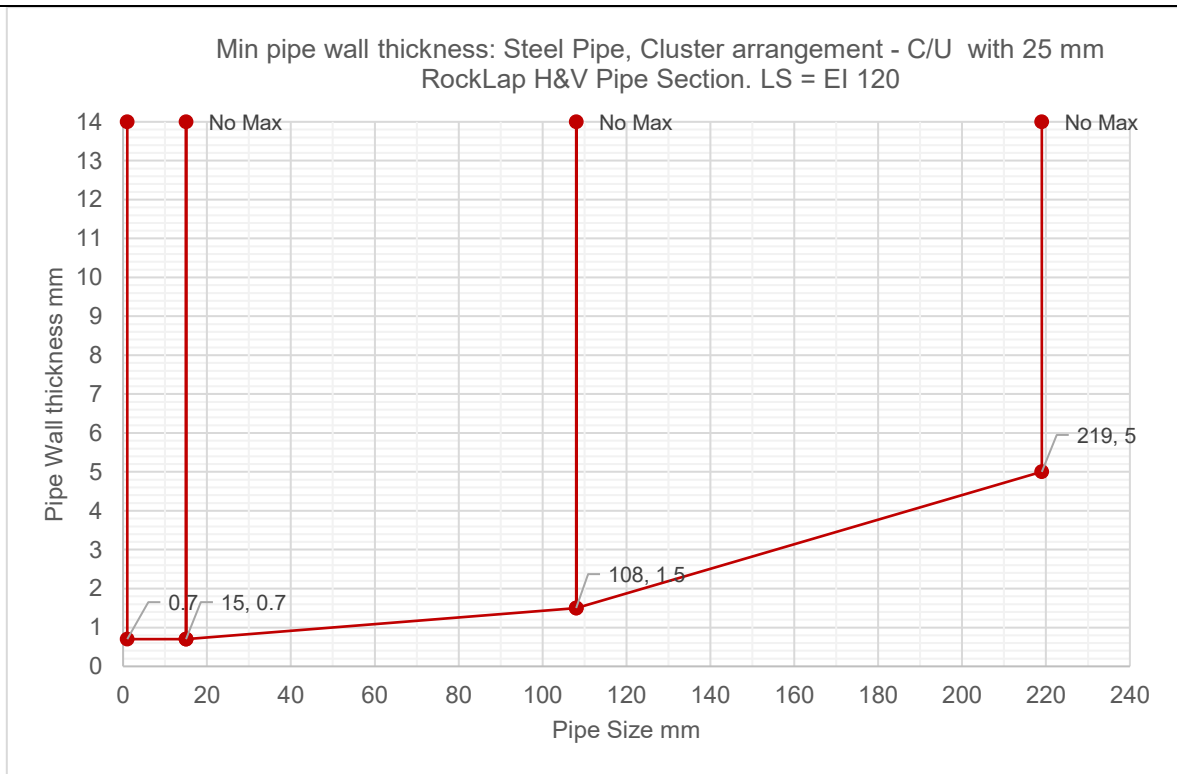
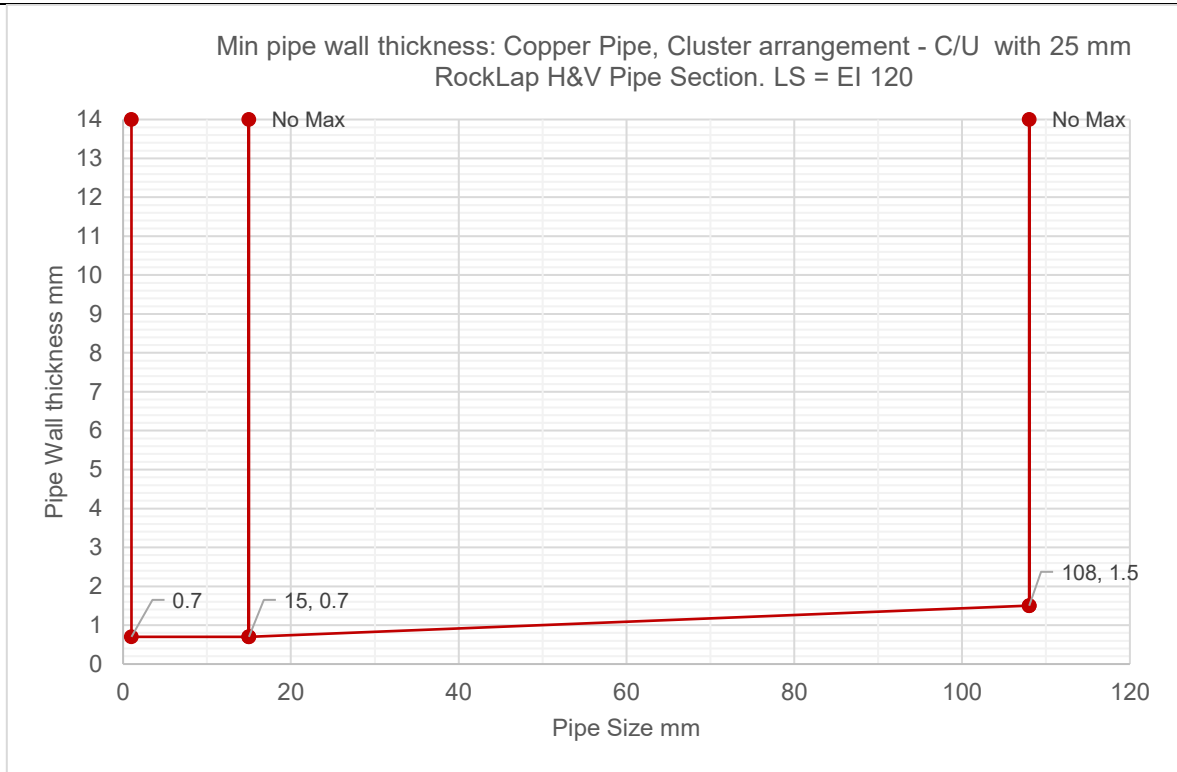
## Metallic pipes: Insulated with RockLap H&V Pipe section – LS installation.



Service type	Service Size (mm)	Wall thickness (mm)	Pipe arrangement	Service protection	Lagging thickness (mm)	Classification
Copper and steel pipes	≤42 Ø	≥1.2	Linear (0 mm)	Double layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. 1000 mm long ROCKWOOL RockLap H&V Pipe Section in a LS configuration, fixed around the metallic pipes.	25	E 120 / EI 90 C/U
Copper and steel pipes	≤15 Ø	≥0.7	Cluster (0mm)			EI 120 C/U
Copper and steel pipes	≤108 Ø	≥1.5	Cluster (0mm)			EI 120 C/U
Steel pipes	≤219 Ø	≥5	Cluster (0mm)			EI 120 C/U

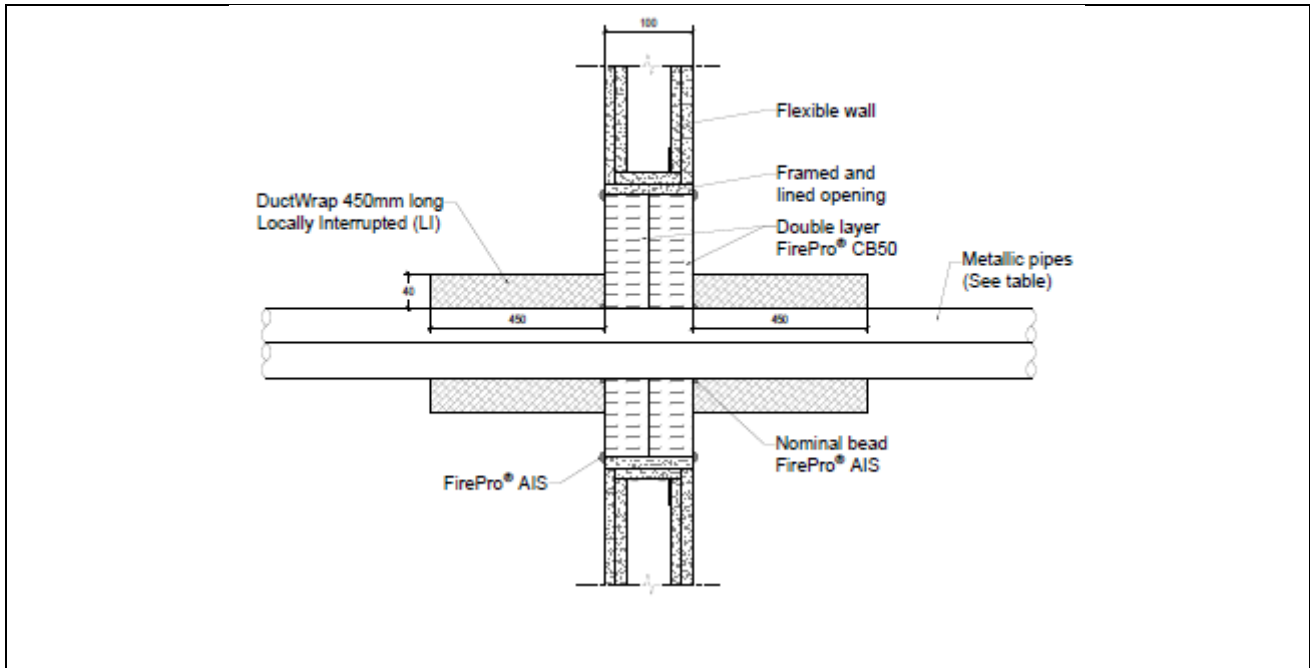


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# Appendix UL-EU CERTIFICATE UL-EU-01360-EN

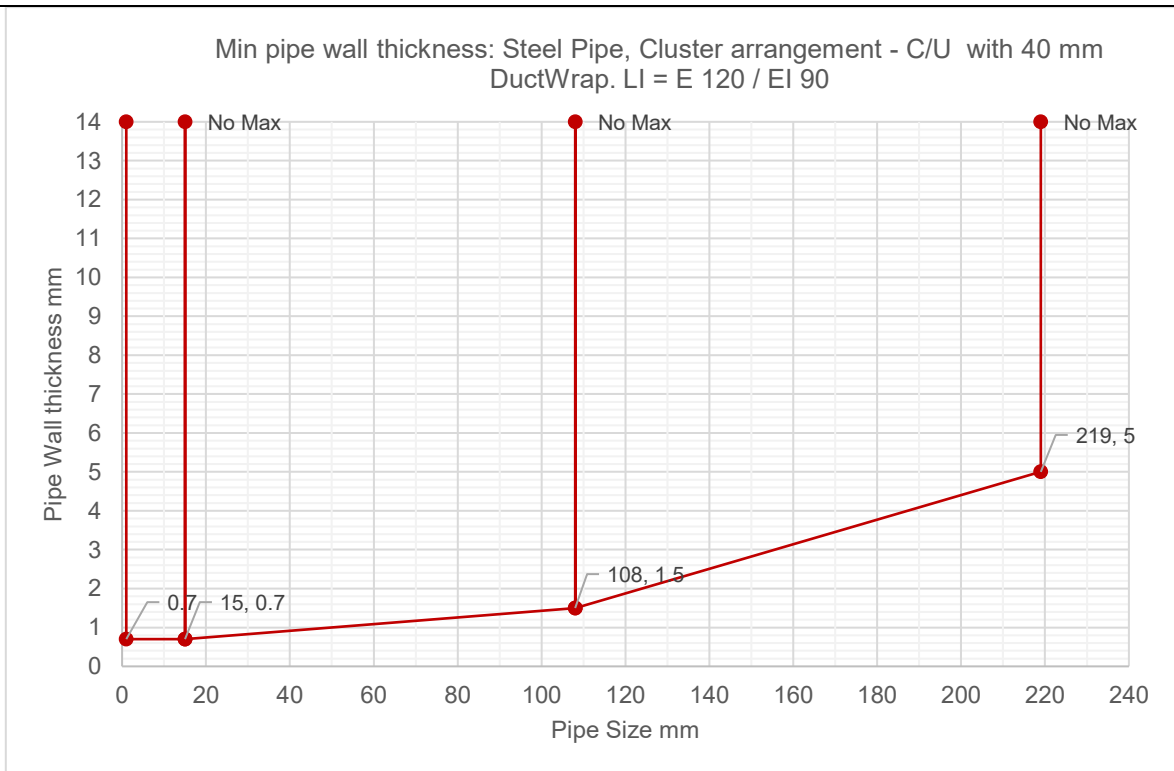
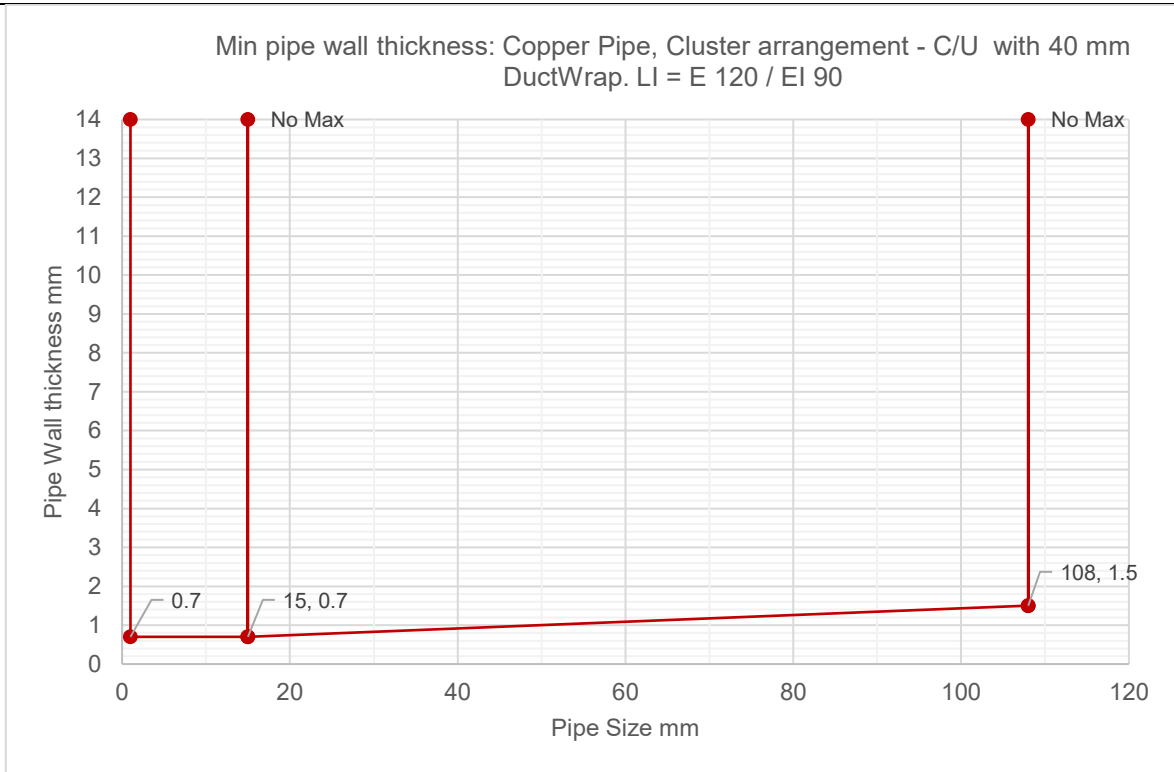
## Metallic pipes: Insulated with ROCKWOOL DuctWrap – LI installation.



Service type	Service Size (mm)	Wall thickness (mm)	Pipe arrangement	Service protection	Lagging thickness (mm)	Classification
Copper and steel pipes	≤15 Ø	≥0.7	Cluster (0mm)	Double layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. 450 mm long layer of ROCKWOOL® DuctWrap installed around the service in a LI configuration.	40	EI 120 U/C
Copper and steel pipes	≤108 Ø	≥1.5	Cluster (0mm)			E 120 / EI 90 U/C
Steel pipes	≤219 Ø	≥5	Cluster (0mm)			E 120 / EI 90 U/C

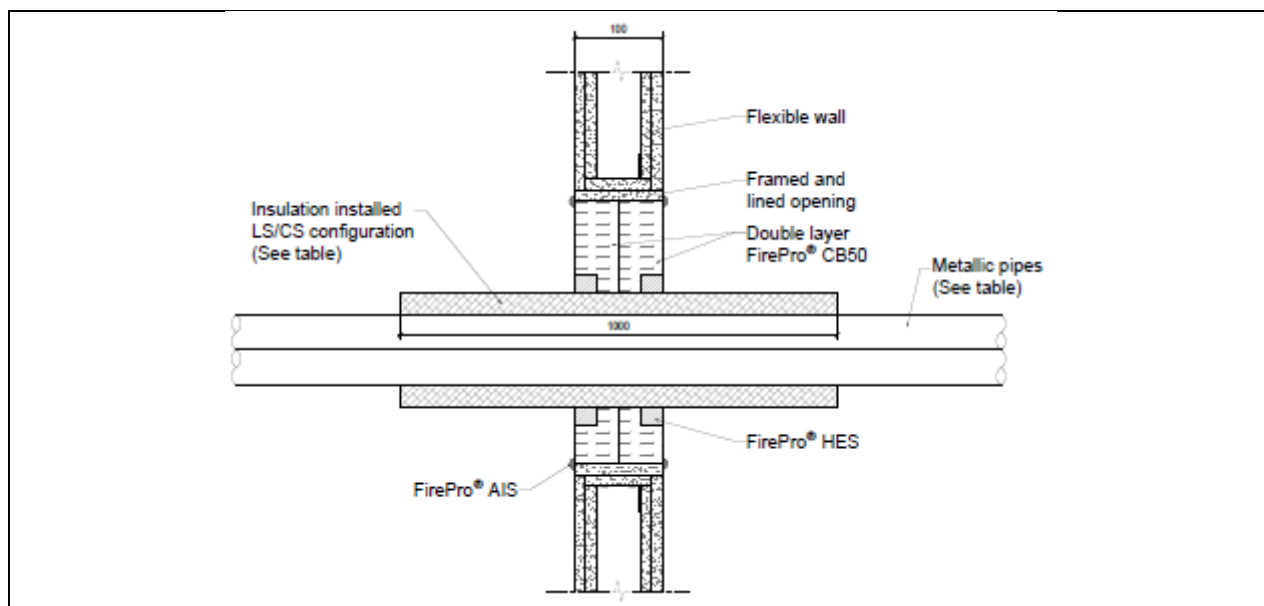


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## Metallic pipes: Insulated with combustible insulation – FirePro HES.

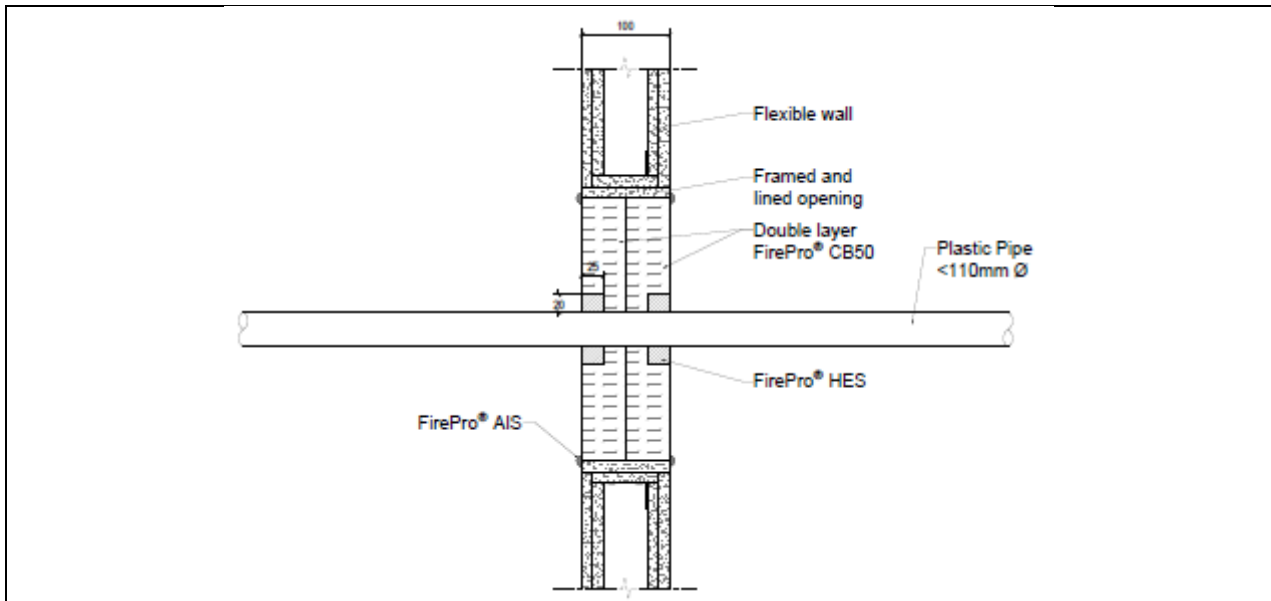


Service type	Pipe Size (mm)	Seal depth (mm)	Annular gap (mm)	Insulation type / thickness	Service protection	Classification
Copper and steel pipes Cluster (0 mm)	≤42 Ø	25	20	Armacell Armaflex 9-32 mm around the service in a LS/CS configuration	Double layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal all joints	<b>E 120 / EI 45 U/C</b>
Copper and steel pipes Cluster (0mm) mounted on a cable tray						<b>E 120 / EI 60 U/C</b>
Copper and steel pipes Cluster (0mm) mounted on a cable tray	≤15 Ø		Armacell Armaflex 6-19 mm around the service in a LS/CS configuration	20 mm annulus of FirePro® HES cartridge gunned to a depth of 25 mm around the services on each face of the wall	<b>E 120 / EI 90 U/C</b>	
Blank Seal (Max HES seal size)	NA	NA	NA	500 mm wide by 260 mm high by 25 mm deep cut back to the faces of the batt to the exposed and unexposed faces, filled with FirePro® HES	<b>EI 120</b>	

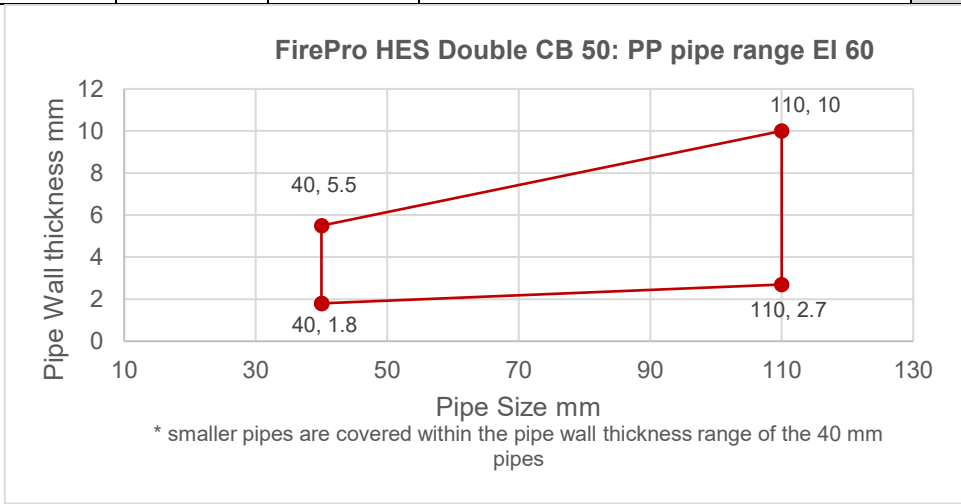


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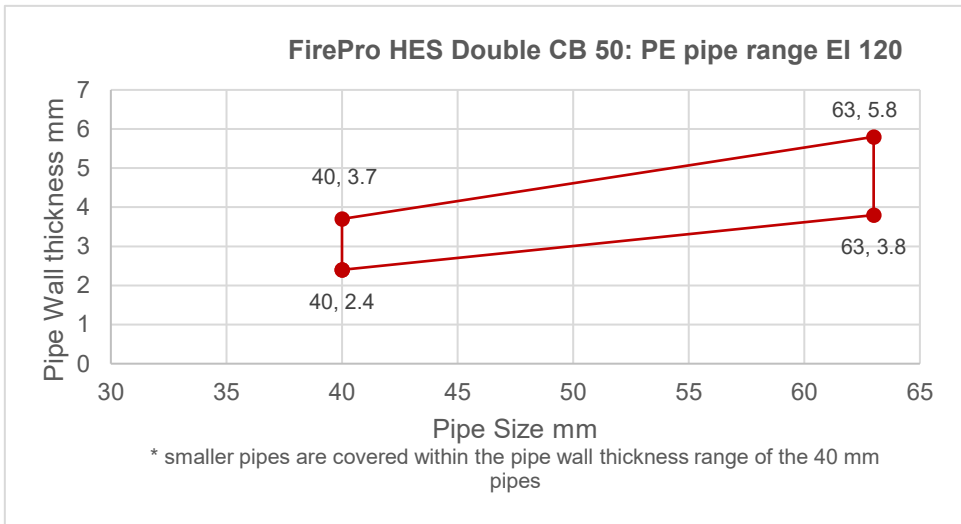
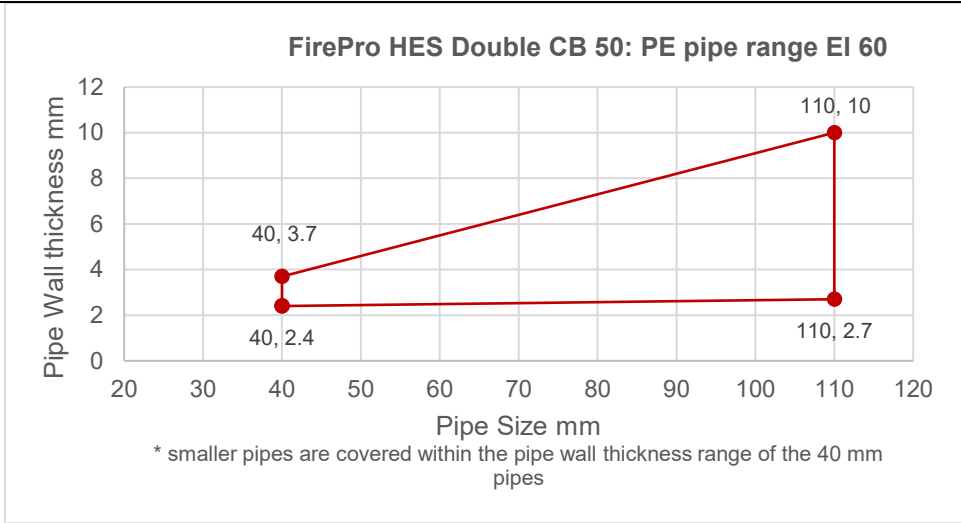
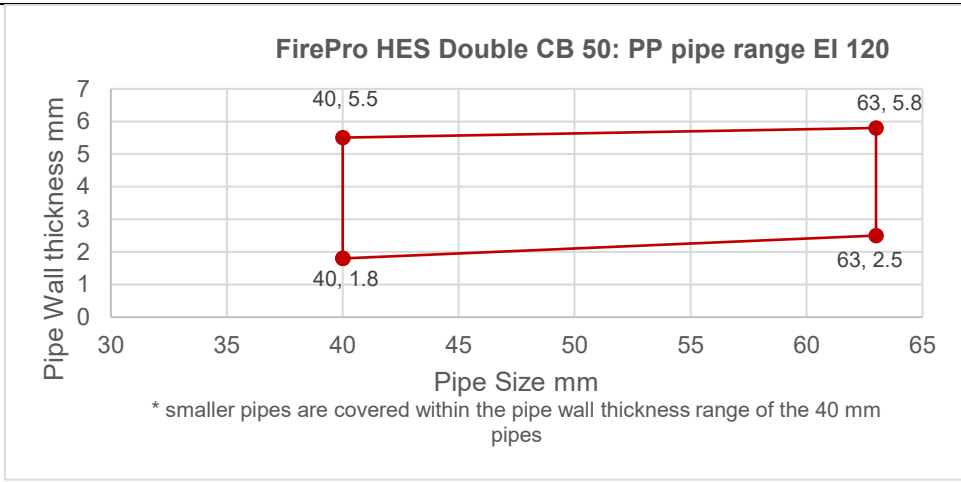
## Plastic Pipe Penetrations – FirePro HES



Pipe material	Pipe size Ø (mm)	HES depth (mm)	Annular gap (mm)	Service Protection	Classification
PP	40 - 63	25	20	Double layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal all joints. 20 mm wide by 25 mm deep annular gap sealed with 25 mm FirePro HES to both faces	EI 120 U/C
	64 - 110				EI 60 U/C
PE	40 - 63				EI 120 U/C
	64 - 110				EI 60 U/C
PVC	40 - 63				EI 120 U/C
	64 - 110				EI 60 U/C

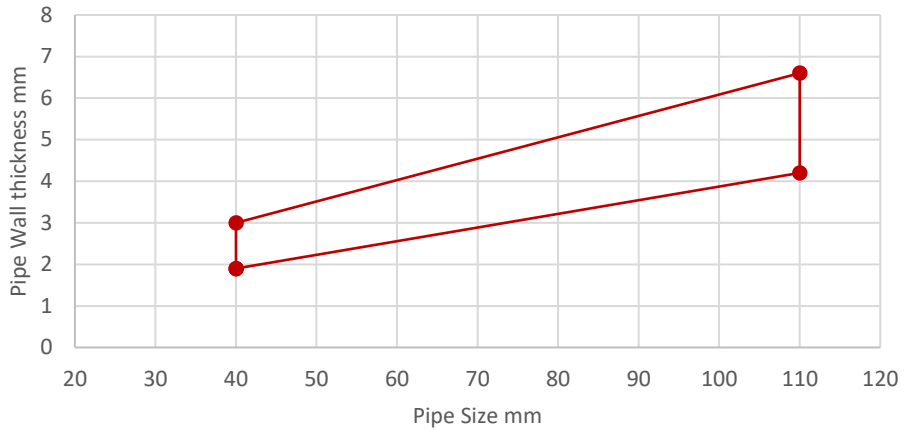


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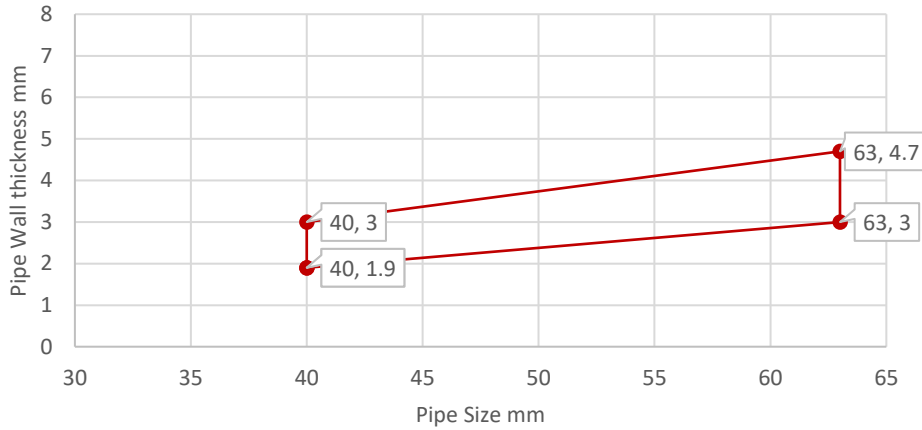
# Appendix UL-EU CERTIFICATE UL-EU-01360-EN

**FirePro HES Double CB 50: PVC pipe range EI 60**



\* smaller pipes are covered within the pipe wall thickness range of the 40 mm pipes

**FirePro HES Double CB 50: PVC pipe range EI 120**

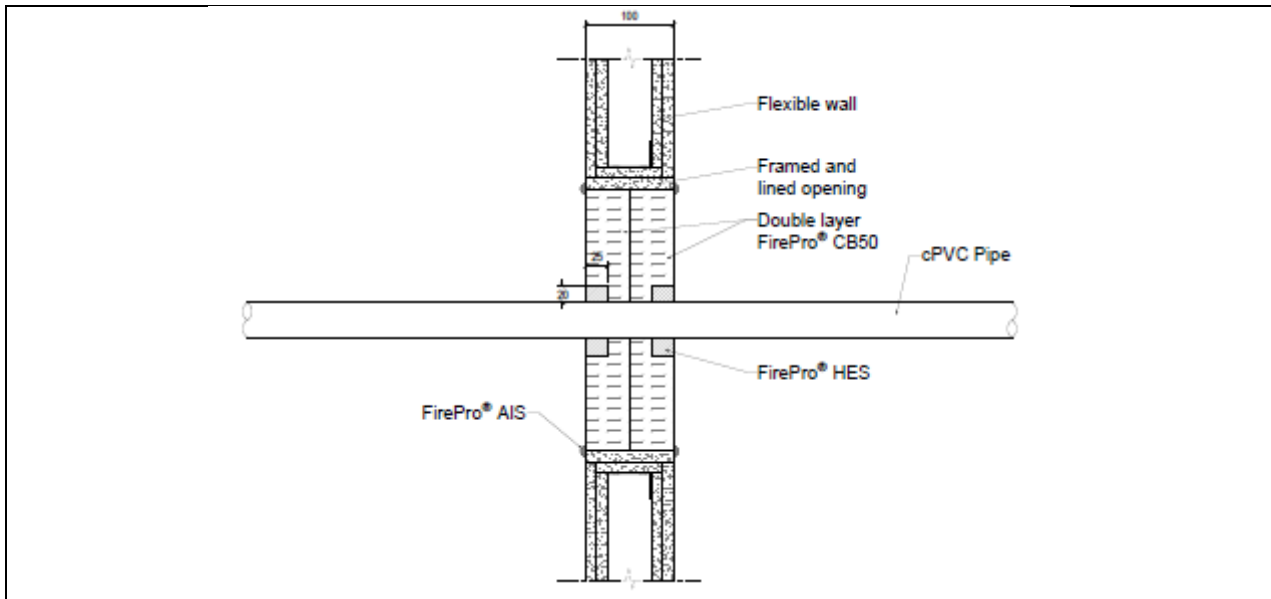


\* smaller pipes are covered within the pipe wall thickness range of the 40 mm pipes



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## Plastic Pipe Penetrations – FirePro HES

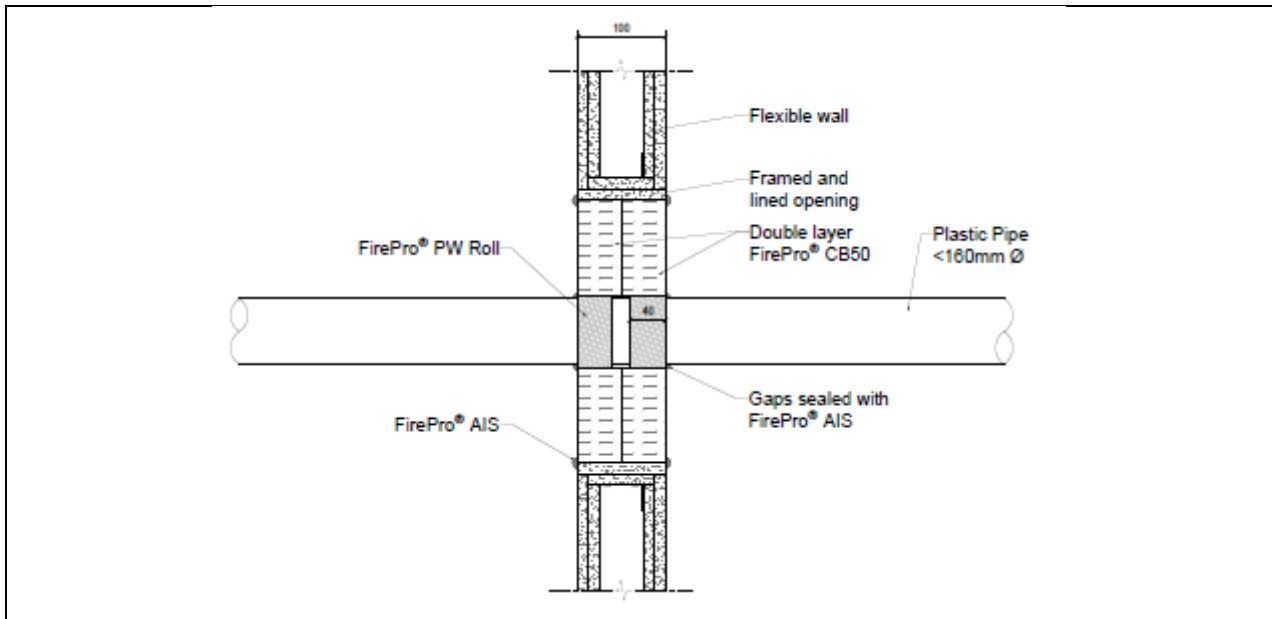


Pipe material	Pipe size (mm)	Wall thickness (mm)	Service Protection	Classification
cPVC (BlazeMaster)	Ø20	2.5	Double layer of 50 mm thick FirePro® CB50 friction fitted into the aperture, flush with both faces of the wall. All cuts, edges and joints were sealed with FirePro® AIS. 20 mm wide by 25 mm deep annular gap sealed with 25 mm FirePro HES to both faces	EI 120 U/C
cPVC (BlazeMaster)	Ø48	3.9		EI 120 U/C
cPVC (BlazeMaster)	Ø88	6.95		EI 120 U/C
PB Cluster (0mm)	Ø28	2.6		E 120 / EI 90 U/C



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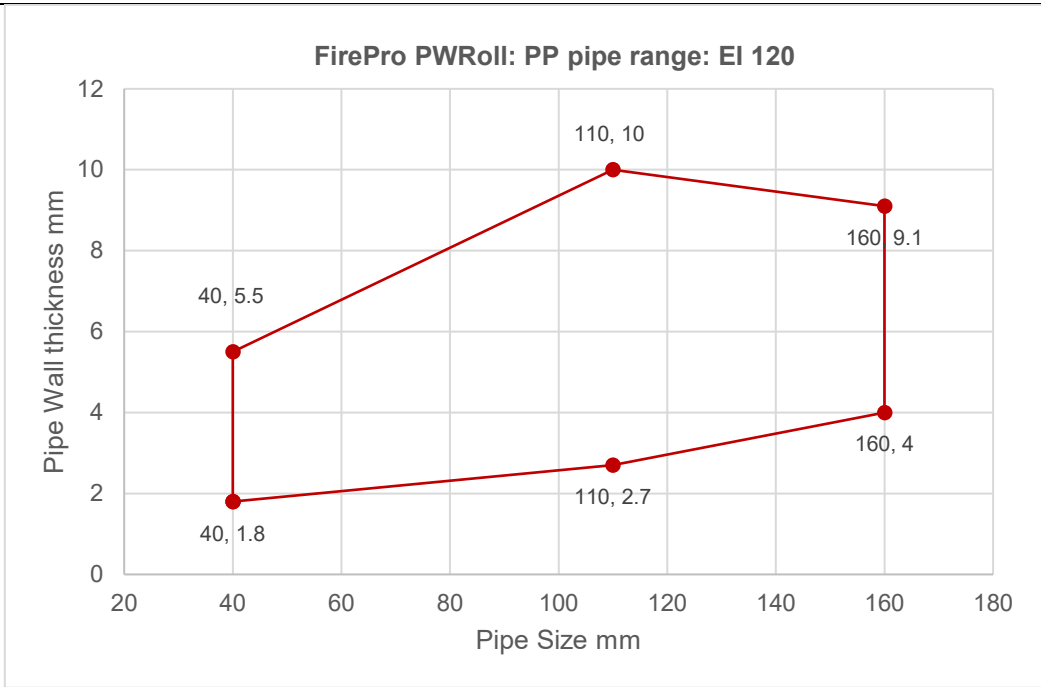
## Plastic Pipe Penetrations – FirePro PWRoll



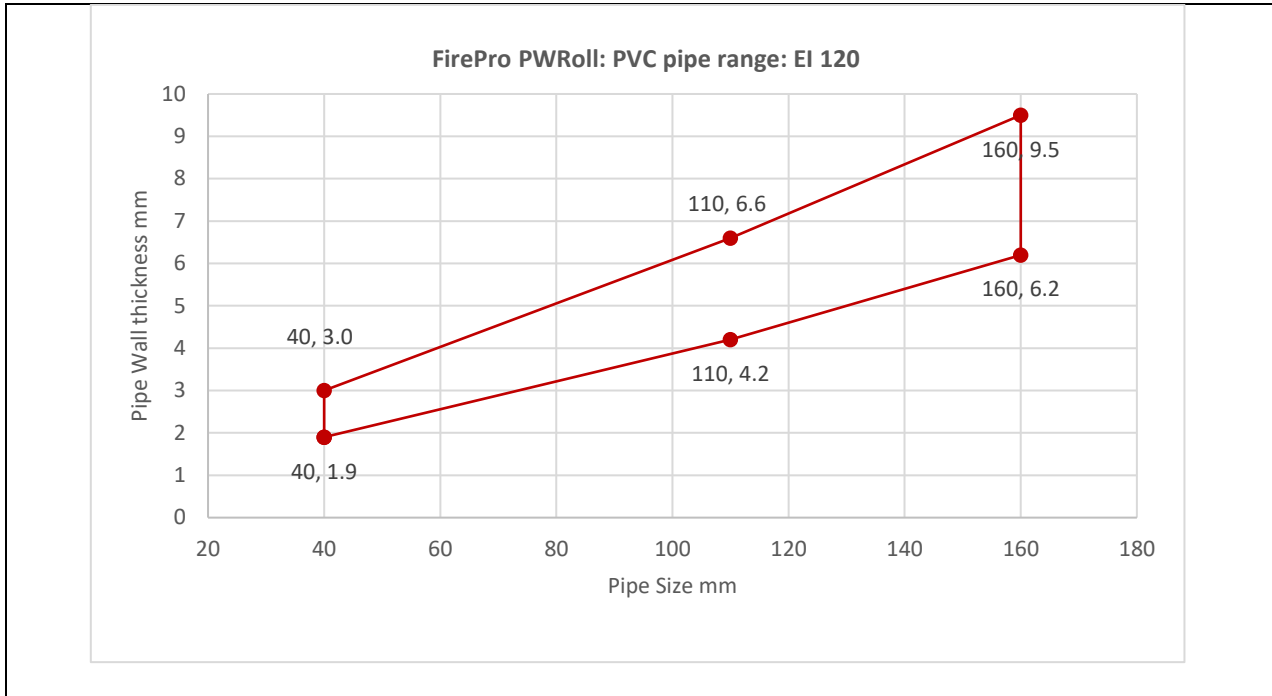
Pipe material	Pipe size (mm)	Pipe Wrap layers (2mm)	Service Protection	Classification
PP/PE/PVC	≤40	1	Double layer of 50mm thick FirePro® CB50, friction fitted into the aperture, with FirePro® AIS used on all batt edges to seal joints and around services. FirePro® PWROLL installed flush with both faces of the batt around the service.	EI 120 U/C
	41-79	2		
	80-120	3		
	121-160	4		



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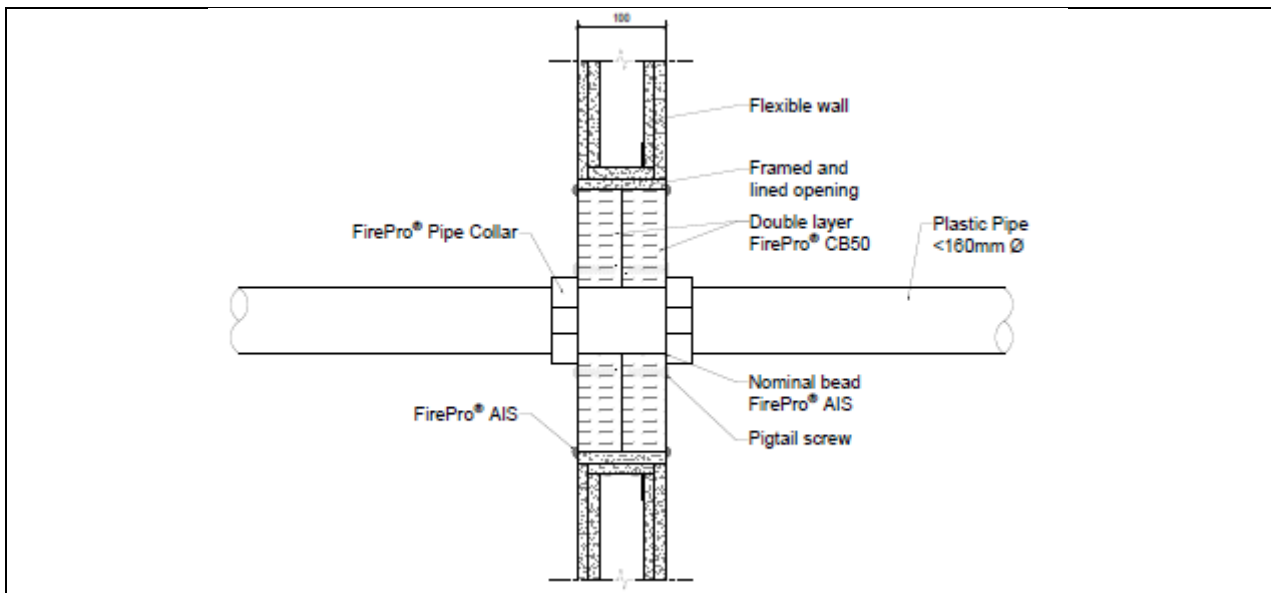
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# Appendix UL-EU CERTIFICATE UL-EU-01360-EN

## Plastic Pipe Penetrations – FirePro Pipe Collar

### PP Pipes

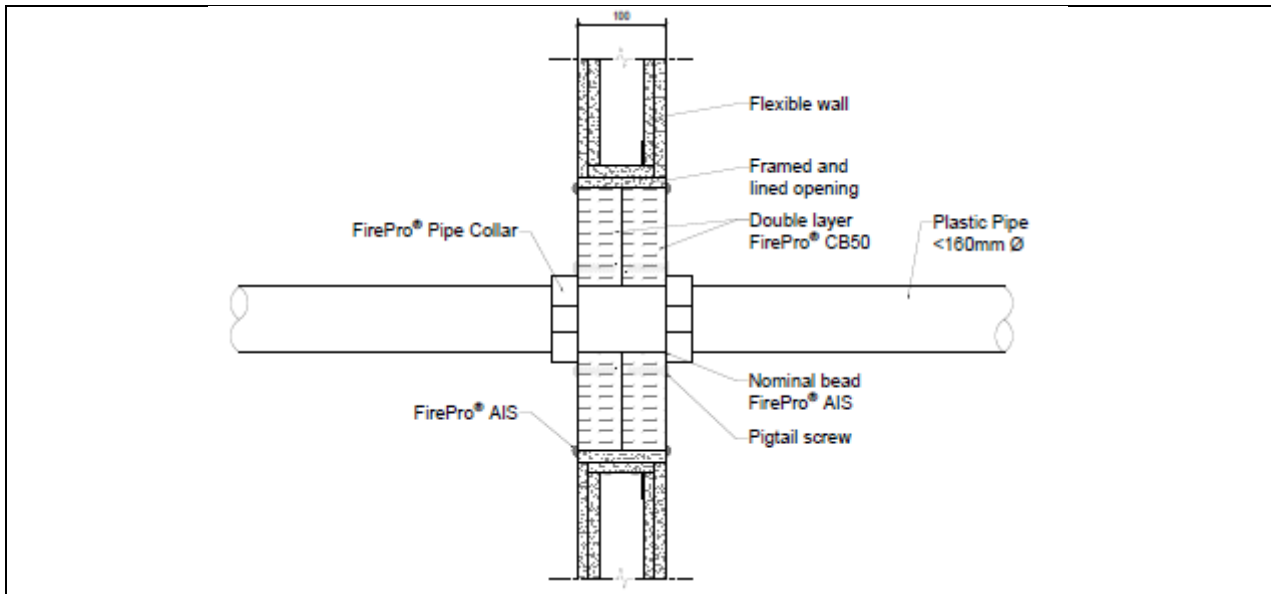


Pipe Collar Size (mm)	Pipe size (mm)	Pipe wall thickness range (mm)	Service Protection	Classification
40	40	1.8 – 5.5	Double layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® Pipe Collar fixed around the service on both sides of the batt using pigtail screws	<b>EI 120 U/C</b>
55	55	2.0 – 5.6		
63	63	2.1 – 5.8		
75	75	2.2 – 5.9		
82	82	2.4 – 6.0		
90	90	2.6 – 6.2		
110	110	2.7 – 6.3		
125	125	3.1 – 7.2		
140	140	3.5 – 8.1		
160	160	4.0 – 9.1		



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## PE Pipes

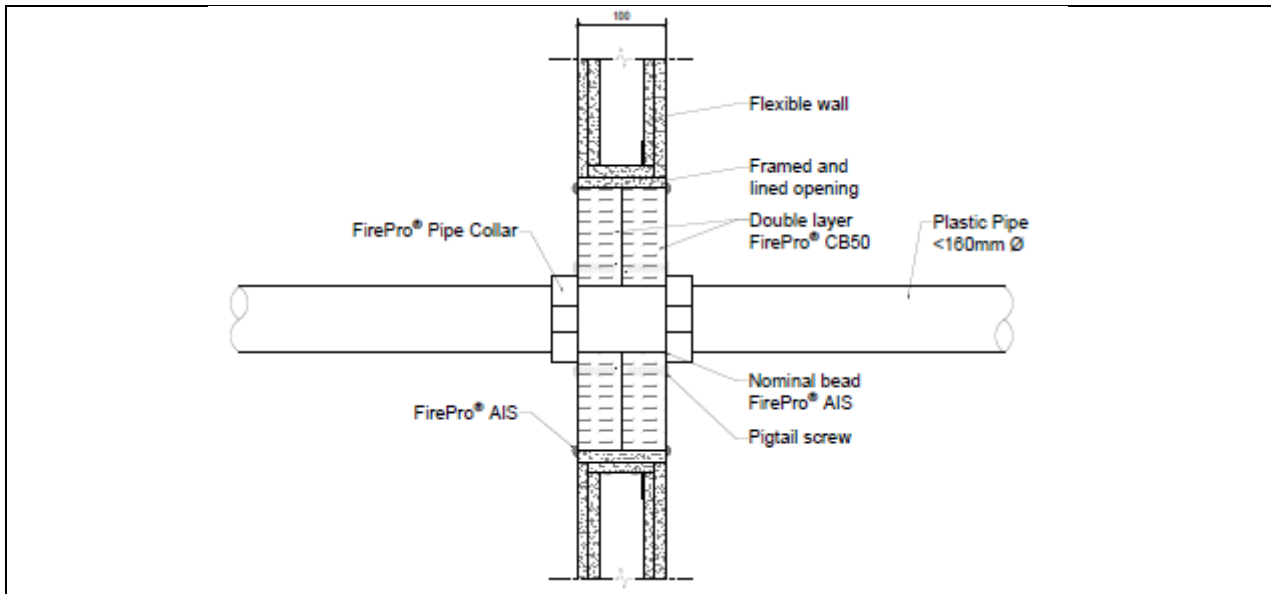


Pipe Collar Size (mm)	Pipe size (mm)	Pipe wall thickness range (mm)	Service Protection	Classification
40	40	2.4 – 3.7	Double layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® Pipe Collar fixed around the service on both sides of the batt using pigtail screws	<b>EI 120 U/C</b>
55	55	2.5 – 5.0		
63	63	2.5 – 5.8		
75	75	2.5 – 6.9		
82	82	2.6 – 7.6		
90	90	2.6 – 8.3		
110	110	2.7 - 10		
125	125	3.4 – 9.8		
140	140	4.1 – 9.7		
160	160	4.9 – 9.5		



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## PVC Pipes

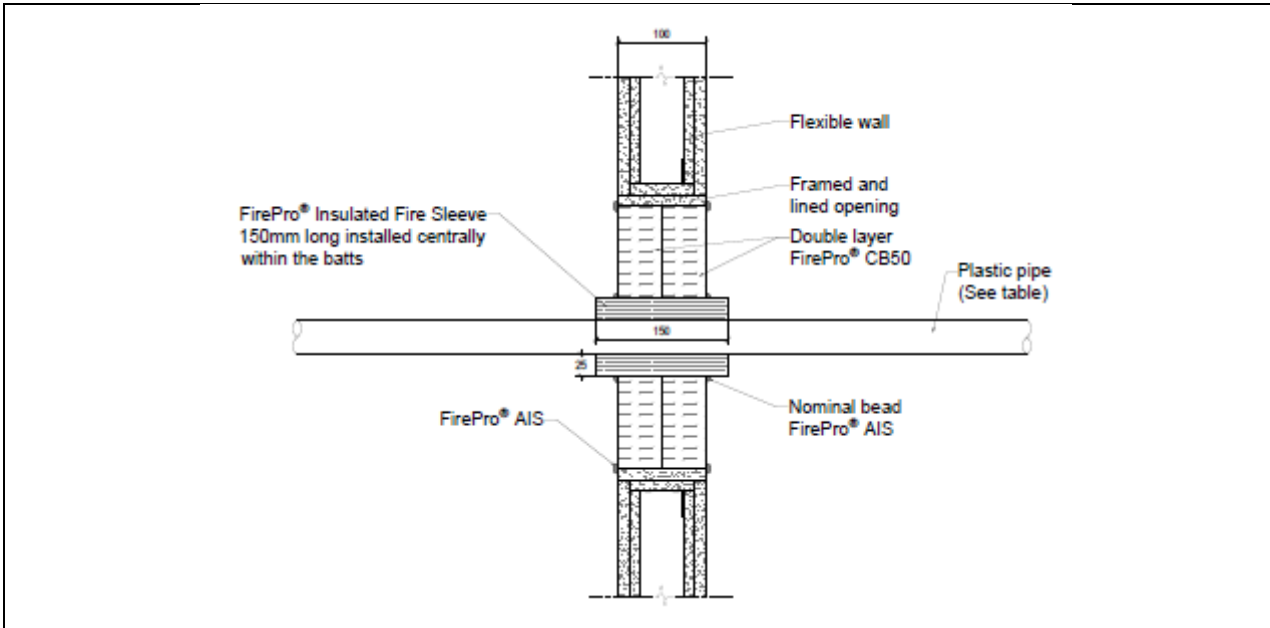


Pipe Collar Size (mm)	Pipe size (mm)	Pipe wall thickness range (mm)	Service Protection	Classification
40	40	1.9 – 3.0	Double layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® Pipe Collar fixed around the service on both sides of the batt using pigtail screws	<b>EI 120 U/C</b>
55	55	2.4 – 3.7		
63	63	2.6 – 4.1		
75	75	3.0 – 4.8		
82	82	3.2 – 5.1		
90	90	3.5 – 5.6		
110	110	4.2 – 6.6		
125	125	4.8 – 7.6		
140	140	5.5 – 8.4		
160	160	6.2 – 9.5		

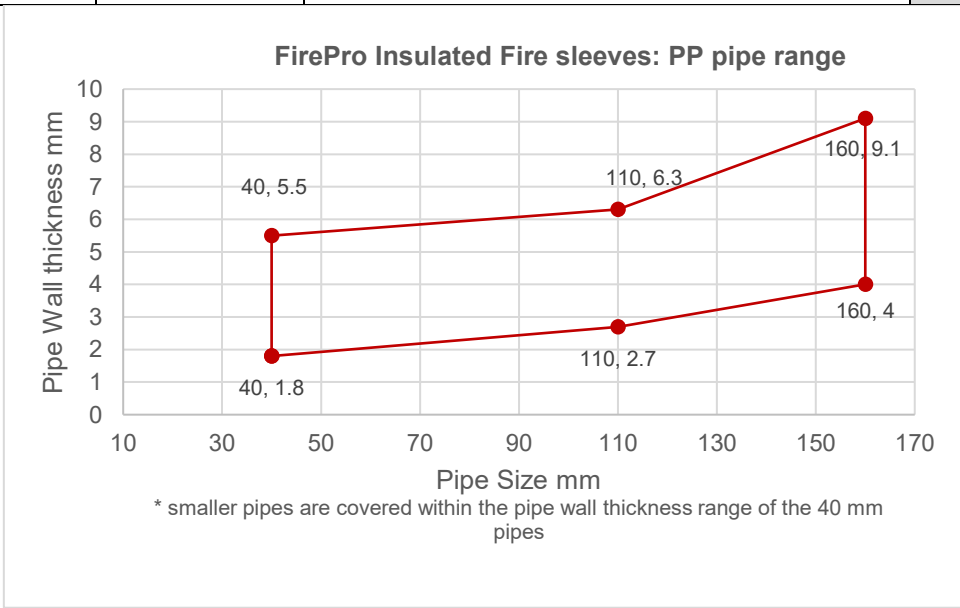


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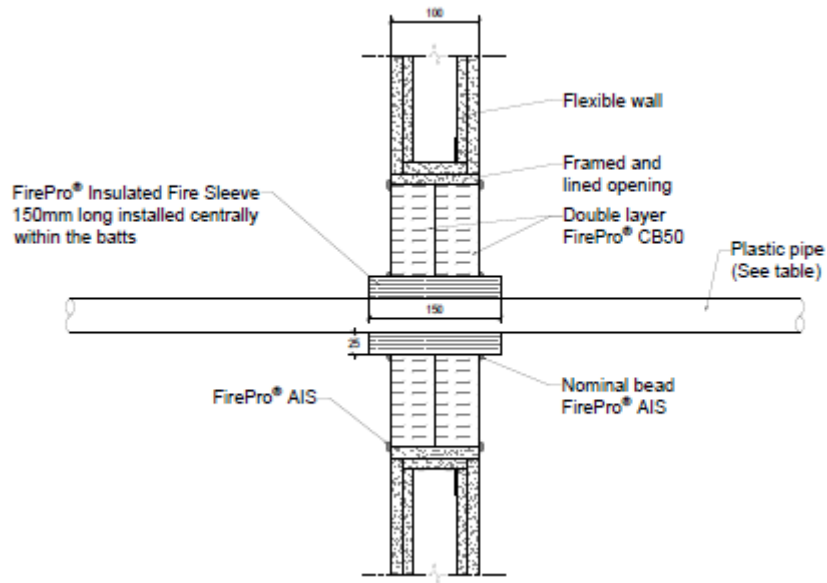
## Plastic Pipes: Protected with FirePro® Insulated Fire Sleeves



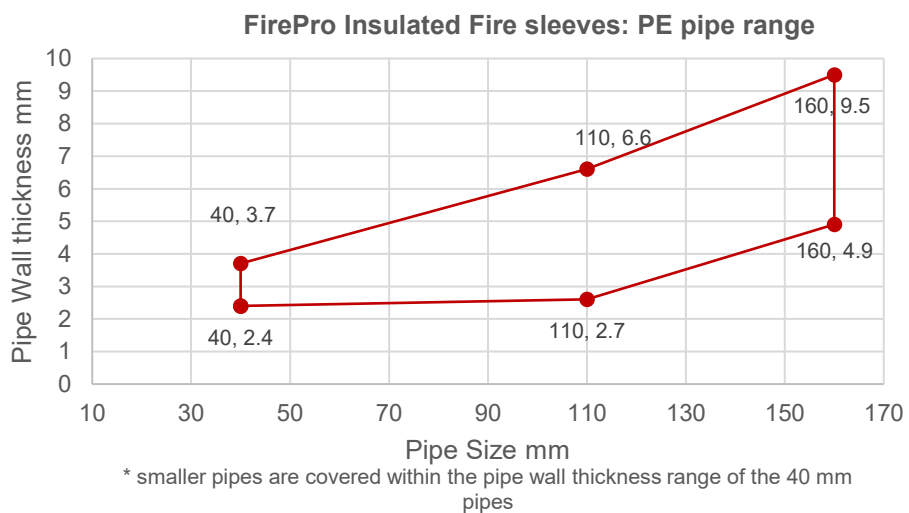
Pipe type	Service Size (mm)	Pipe arrangement	Service protection	Classification
PP	≤Ø 110	Linear (50 mm)	Double layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® Insulated Fire Sleeve (150 mm long) installed around the service, centrally within the batts.	EI 120 U/C
PP	≤Ø 110 - 160	Single (0 mm)		EI 30 U/C



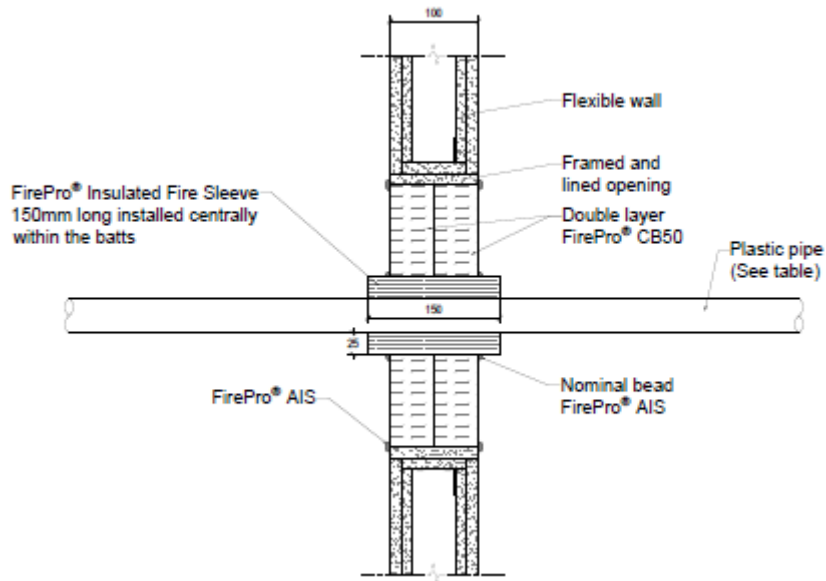
# Appendix UL-EU CERTIFICATE UL-EU-01360-EN



Pipe type	Service Size (mm)	Pipe arrangement	Service protection	Classification
PE	≤Ø 110	Linear (50 mm)	Double layer of 50mm thick FirePro® CB50, friction fitted into the aperture, with FirePro® AIS used on all batt edges to seal joints and around services.	EI 120 U/C
PE	≤Ø 110 - 160	Single	FirePro® Insulated Fire Sleeve (150 mm long) installed around the service, centrally within the batts.	EI 120 U/C

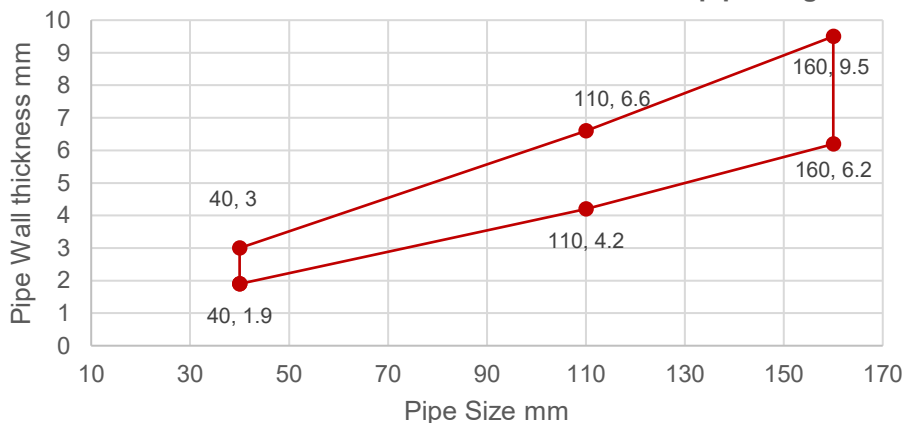


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Pipe type	Service Size (mm)	Pipe arrangement	Service protection	Classification
PVC	≤Ø 110	Linear (50 mm)	Double layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® Insulated Fire Sleeve (150 mm long) installed around the service, centrally within the batts.	EI 120 U/C
PVC	≤Ø 110 - 160	Single		EI 120 U/C

FirePro Insulated Fire sleeves: PVC pipe range

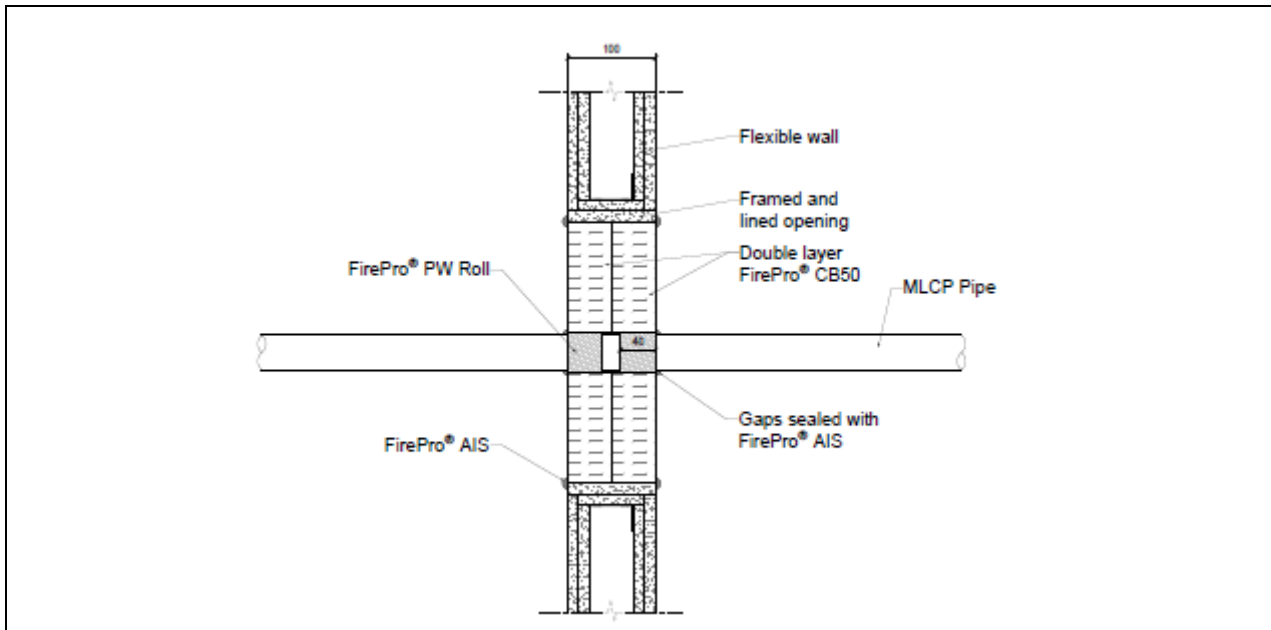


\* smaller pipes are covered within the pipe wall thickness range of the 40 mm pipes



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## MLCP Pipes – FirePro PWRoll



### Single pipes

Pipe material	Pipe size (mm)	Pipe wall thickness (mm)	Pipe Wrap layers (2mm)	Service Protection	Classification
UPONOR PP-RT / AL / PP-RT	110	10	3	Double layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® PWRoll installed flush with both faces of the batt around the service.	E 120 / EI 60 U/C
UPONOR PP-RT / AL / PP-RT	40	2	1		E 120 / EI 30 U/C

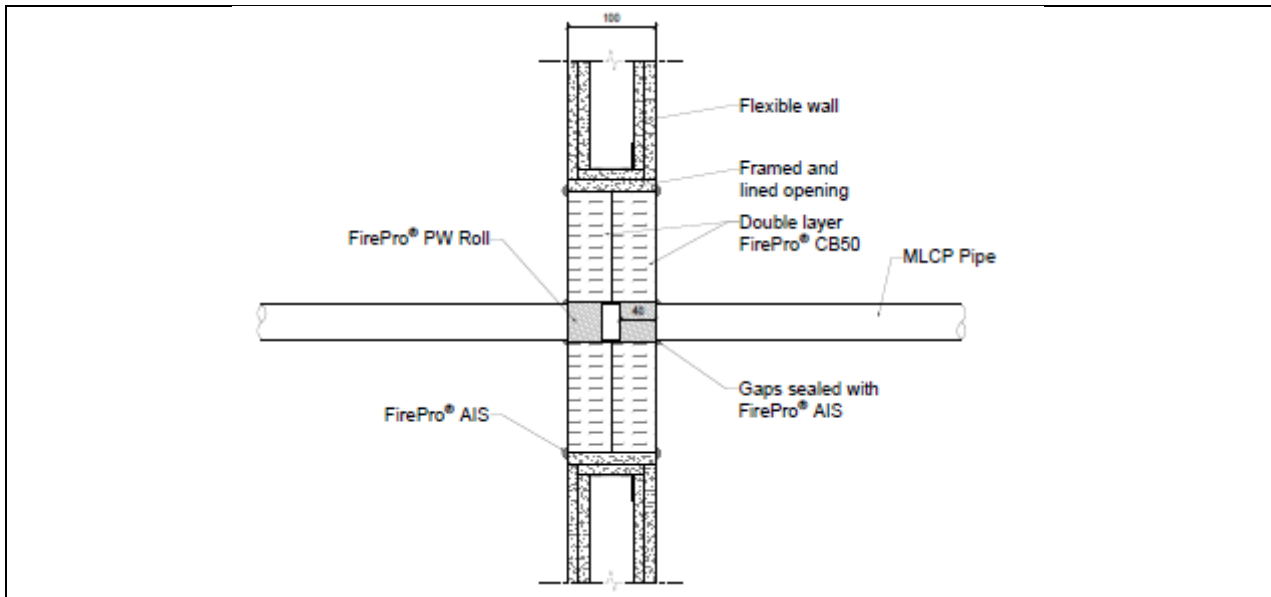
### Multiple pipes – Linear Configuration

UPONOR PP-RT / AL / PP-RT	63	6	3	Double layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® PWRoll installed flush with both faces of the batt around the service.	E 120 / EI 60 U/C
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# Appendix UL-EU CERTIFICATE UL-EU-01360-EN

## MLCP Pipes – FirePro PWRoll



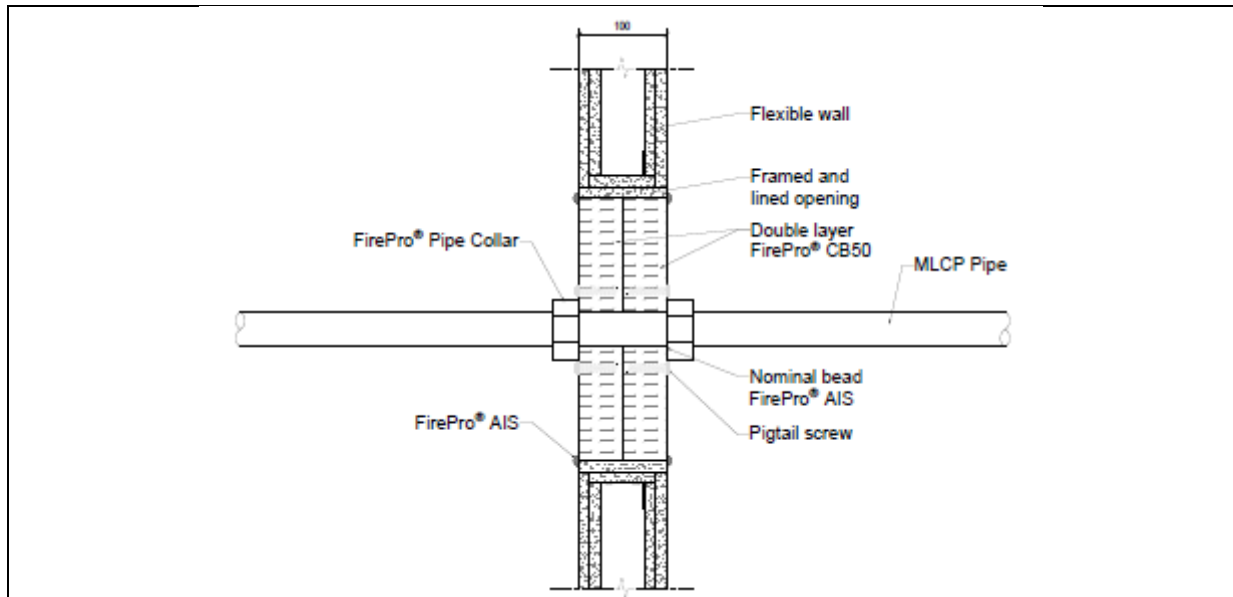
### Single pipes

Pipe material	Pipe size (mm)	Pipe wall thickness (mm)	Pipe Wrap layers (2mm)	Service Protection	Classification
UPONOR PE-RT Pipe	63	6	3	Double layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services. FirePro® PWRoll installed flush with both faces of the batt.	E 120 / EI 60 U/C



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## MLCP Pipes – FirePro Pipe Collar

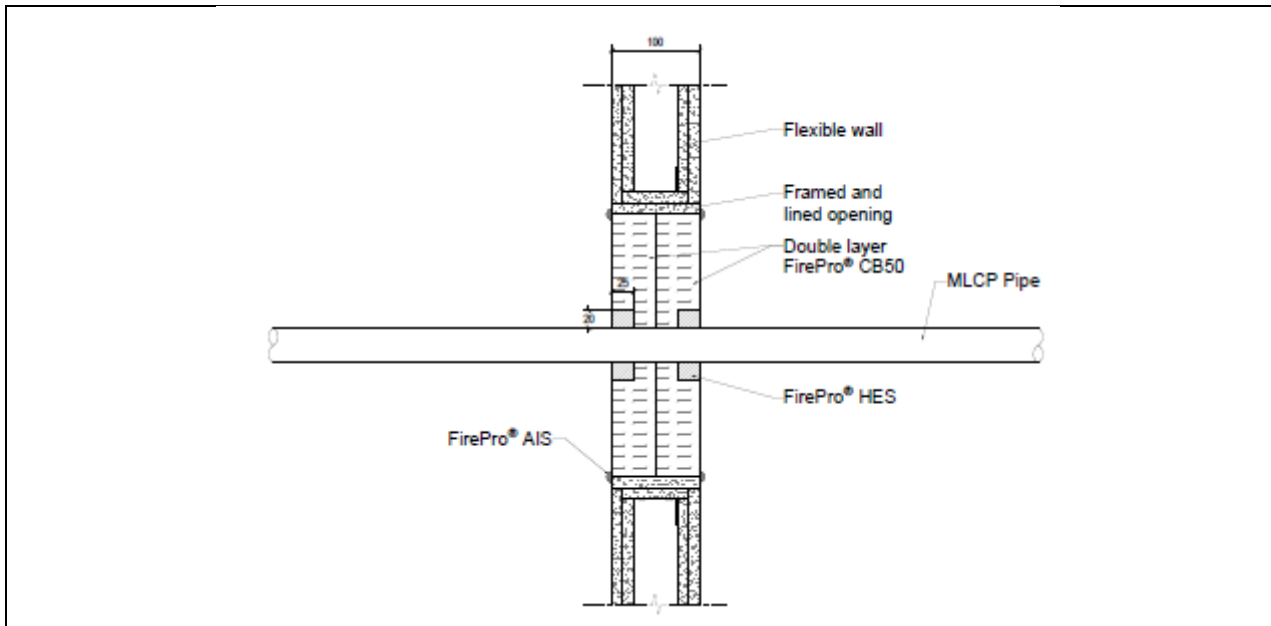


Pipe Collar Size (mm)	Pipe size (mm)	Pipe Type	Pipe wall thickness range (mm)	Service protection	Classification
110	110	UPONOR PP-RT / AL / PP-RT	10	Double layer of 50mm thick FirePro® CB50. FirePro® AIS used on all batt edges to seal joints and around services.	<b>E 120 / EI 45 U/C</b>
40	40	UPONOR PP-RT / AL / PP-RT	2	FirePro® Pipe Collar fixed around the service on both sides of the batt using pigtail screws	<b>E 120 / EI 60 U/C</b>



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## Insulated MLCP Pipes – Uponor Uni Pipe Plus – FirePro HES



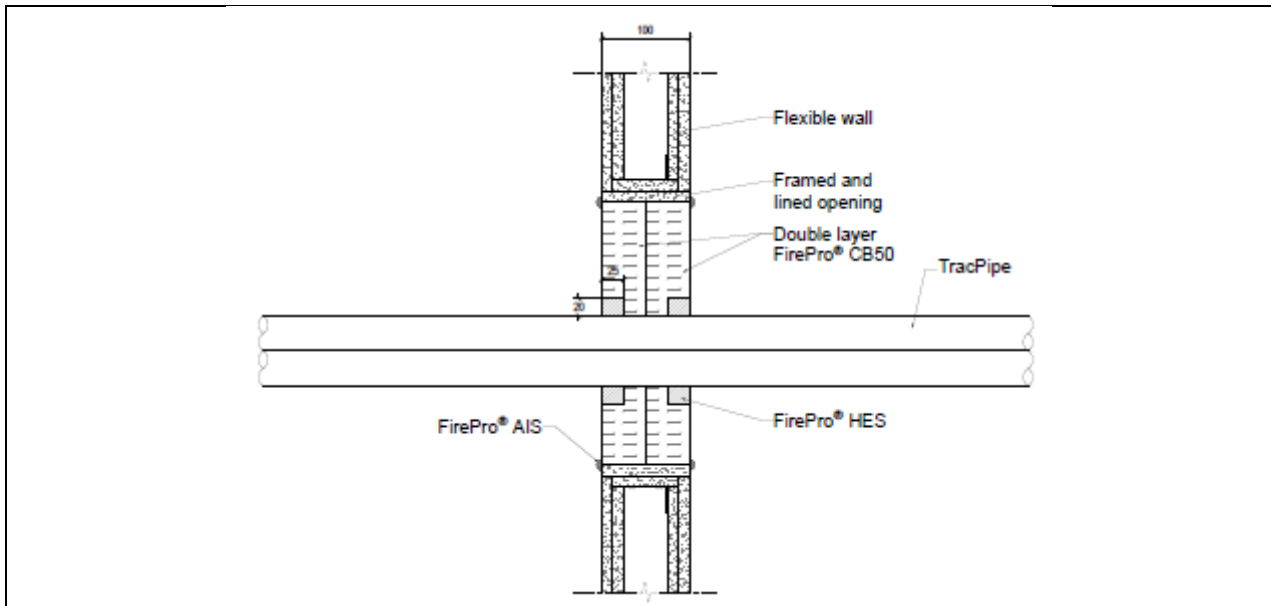
### Single, linear or clustered configuration

Pipe Type	Pipe size (mm)	Insulation thickness (mm)	HES depth (mm)	Annular gap (mm)	Service Protection	Classification
UPONOR Uni Pipe Plus : PP-RT/AL/PP-RT with PE Insulation	16-25	10 - 13	25	20	Double layer FirePro® CB50 friction fitted into the aperture flush with both faces of the wall. All cuts, edges and joints were sealed with FirePro® AIS. 20 mm wide by 25 mm deep annular gap sealed with FirePro® HES to both faces of the wall.	EI 120 U/C
		6				E 120 / EI 90 U/C



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## TracPipe – FirePro HES



### Single, linear or clustered configuration

Pipe Type	Pipe size (mm)	Wall thickness (mm)	HES depth (mm)	Annular gap (mm)	Service Protection	Classification
TracPipe. Corrugated stainless steel pipe wrapped within a yellow PE jacket	42	5	25	20	Double layer of 50 mm thick FirePro® CB50. All cuts, edges and joints were sealed with FirePro® AIS. 20 mm wide by 25 mm deep annular gap sealed with FirePro® HES to both faces of the wall.	<b>E 120 / EI 45 U/C</b>

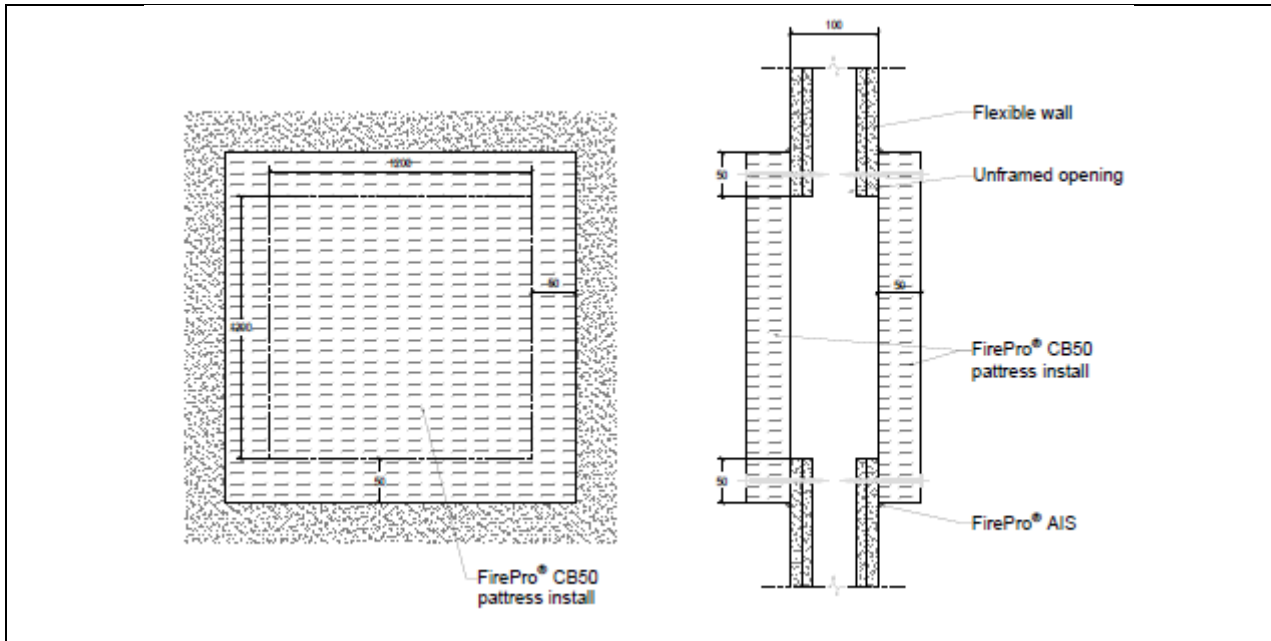


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## Pattress Batt Seal installation methods

The following installation methods for FirePro® CB50 are considered as part of this classification.

### Blank Seal – Unframed openings

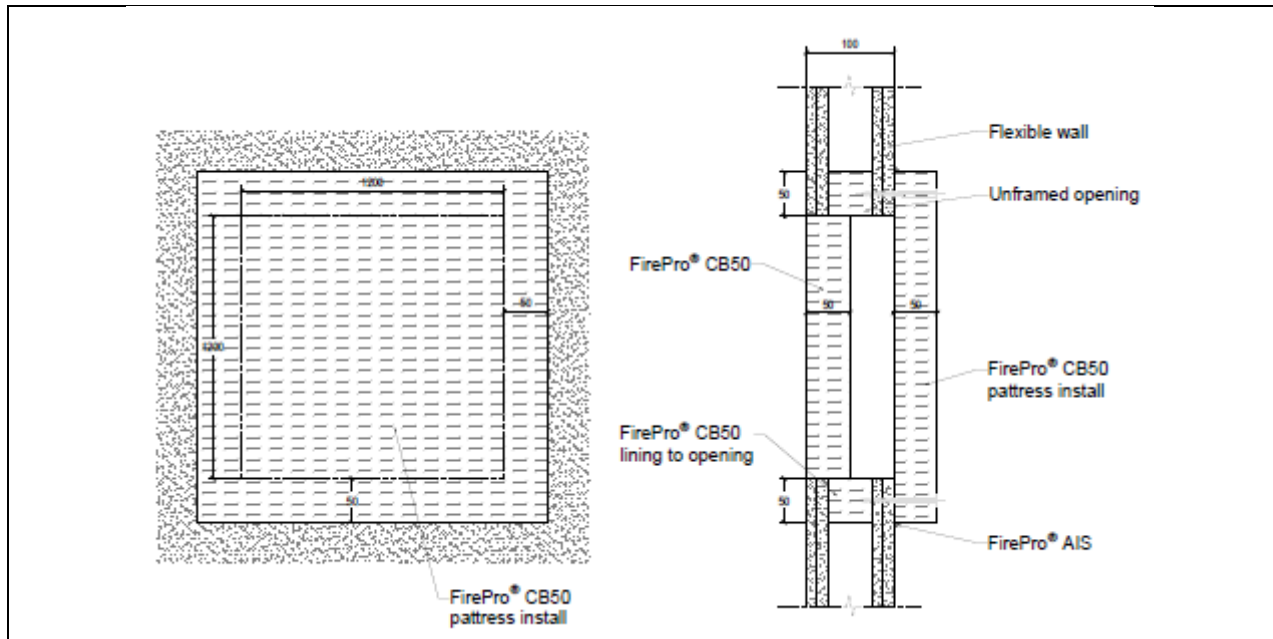


Service type	Aperture size	Service protection	Classification
Blank	2000 x 1100 mm	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges. All edges and butt joints sealed with FirePro® AIS sealant. The batts were mechanically fixed with 90 mm woodscrews and 25 mm washers at 300 mm centres.	<b>EI 120</b>



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## Blank Seal – CB50 lined opening with in-line and pattress. Single sided installation.



Service type	Aperture size	Service protection	Classification
Blank	600 x 800 mm (aperture lined with FirePro® CB50)	Single layer of 50mm thick FirePro® CB50 batt was friction fitted into the aperture, flush with the exposed face of the wall. Single layer of 50mm FirePro® CB50 pattress fitted to the unexposed face of the aperture, with 50mm overlap on all edges. All edges sealed with a nominal bead and all cuts and butt joints sealed with "FirePro® AIS". The batts were mechanically fixed with screws and washers at 300 mm centres.	<b>EI 90</b>



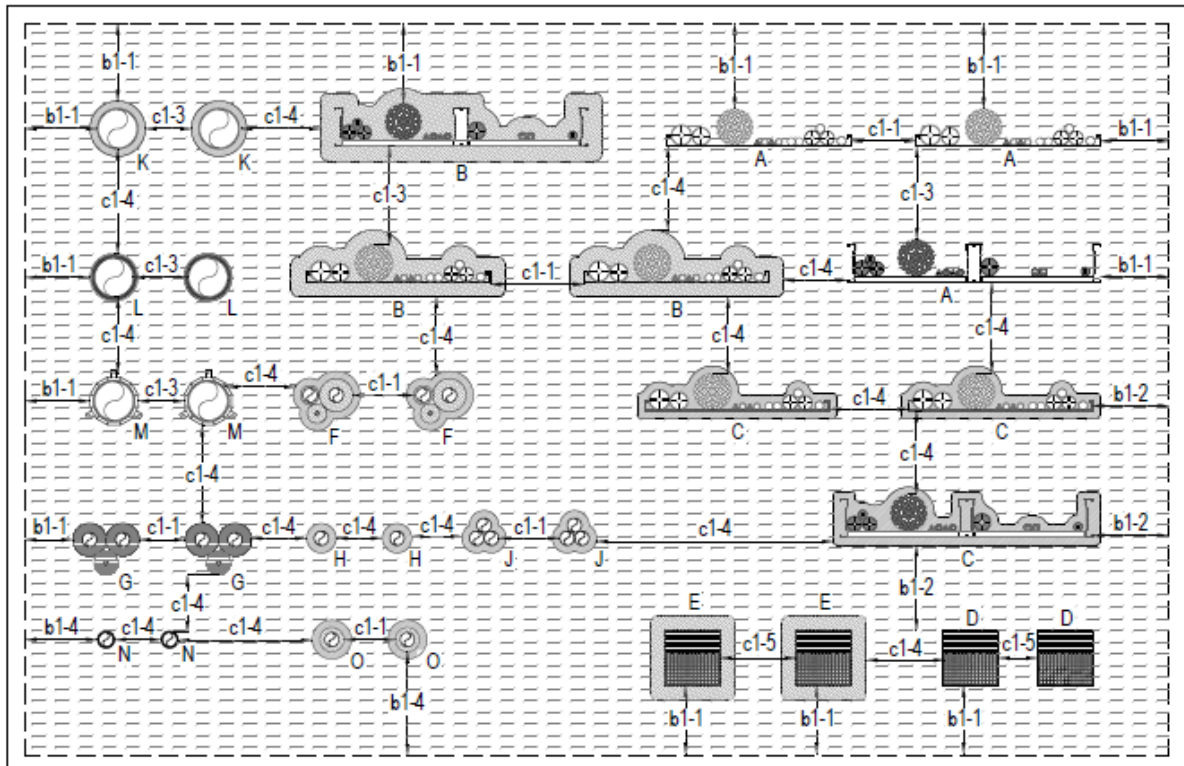
# Appendix UL-EU CERTIFICATE UL-EU-01360-EN

## Service Penetrations

FirePro® CB50 is approved for use with the following service items. Installation of FirePro® CB50 must be completed in accordance with one of the installation methods specified in the blank seal section and must adhere to the size limitations outlined for each methodology. Certain service items may require additional protection depending on the type of service and/or the performance requirements of the seal and service. Details of any required additional protection are provided, as appropriate, in the following performance tables.

**Service arrangement (spacings)– distances as defined by 1366-3: 2021+2024**

Double Skin Flexible walls ≥100mm - Pattress CB50



Service Type	
A	Unlagged cables & cable carriers
B	Lagged cables & cable carriers
C	HES cables & cable carriers
D	Trunking
E	Lagged trunking
F	HES- Metallic pipes combustible insulation
G	H&V lagged metallic pipes (L/S)
H	HES- CPVC
J	HES- PB
K	HES- combustible pipes
L	PWRoll - combustible pipes
M	Collar - combustible pipes
N	PWRoll - MLC pipes (Uponor)
O	HES- Insulated MLC pipe

Aperture Edge Distance	
b1-1	0mm
b1-2	20mm
b1-3	50mm
b1-4	100mm

Service Separation	
c1-1	0mm
c1-2	25mm
c1-3	50mm
c1-4	100mm
c1-5	30mm

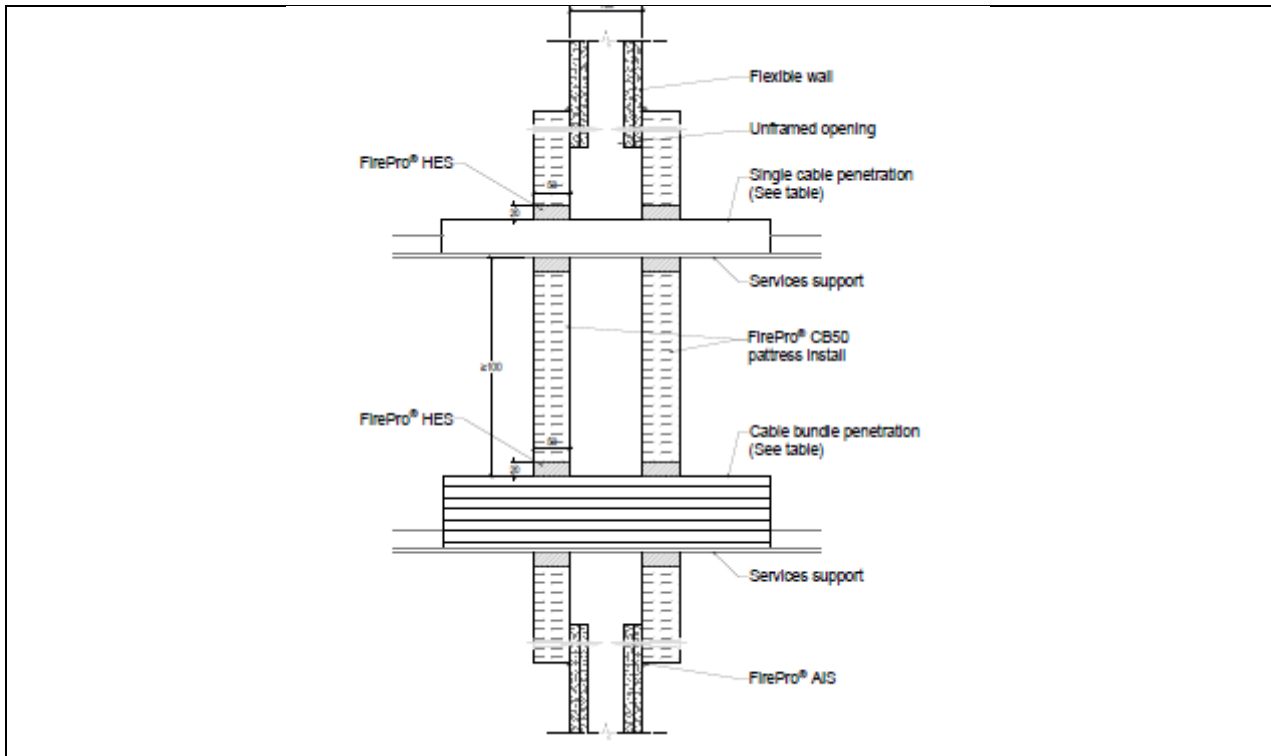


**Solutions**

Form-ULID-006104 V9.0

# Appendix UL-EU CERTIFICATE UL-EU-01360-EN

## Cable Penetrations with cable carrier separation $\geq 100$ mm – FirePro HES

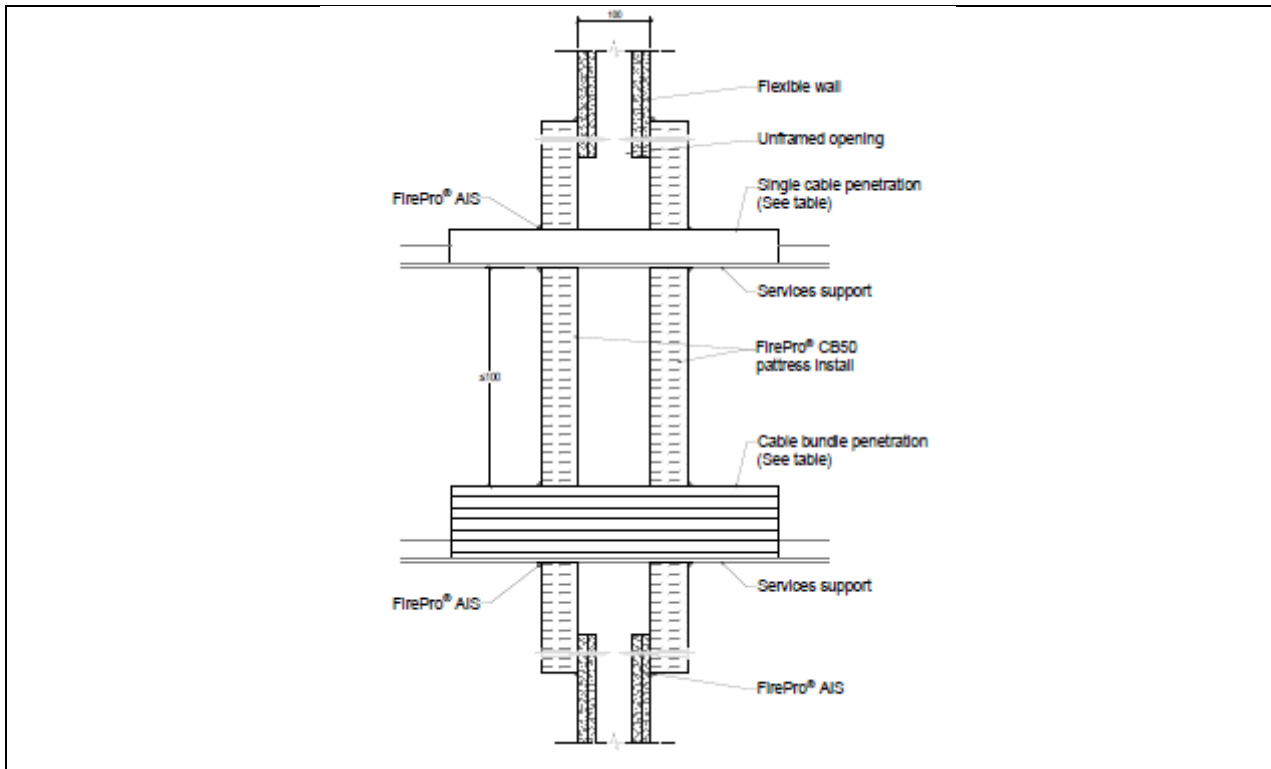


Service type		Service size (mm)	Service protection	Classification
Sheathed cables	S	$\leq 21$	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges with FirePro® AIS used on batt edges to seal all joints. 20 mm annulus of FirePro® HES cartridge gunned to a depth of 50 mm around the service.	EI 60
	M	$\leq 50$		E 60 / EI 20
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables		E 60 / EI 20
Perforated tray, or basket		Unrestricted		EI 60



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## Cable Penetrations with cable carrier separation $\leq 100$ mm

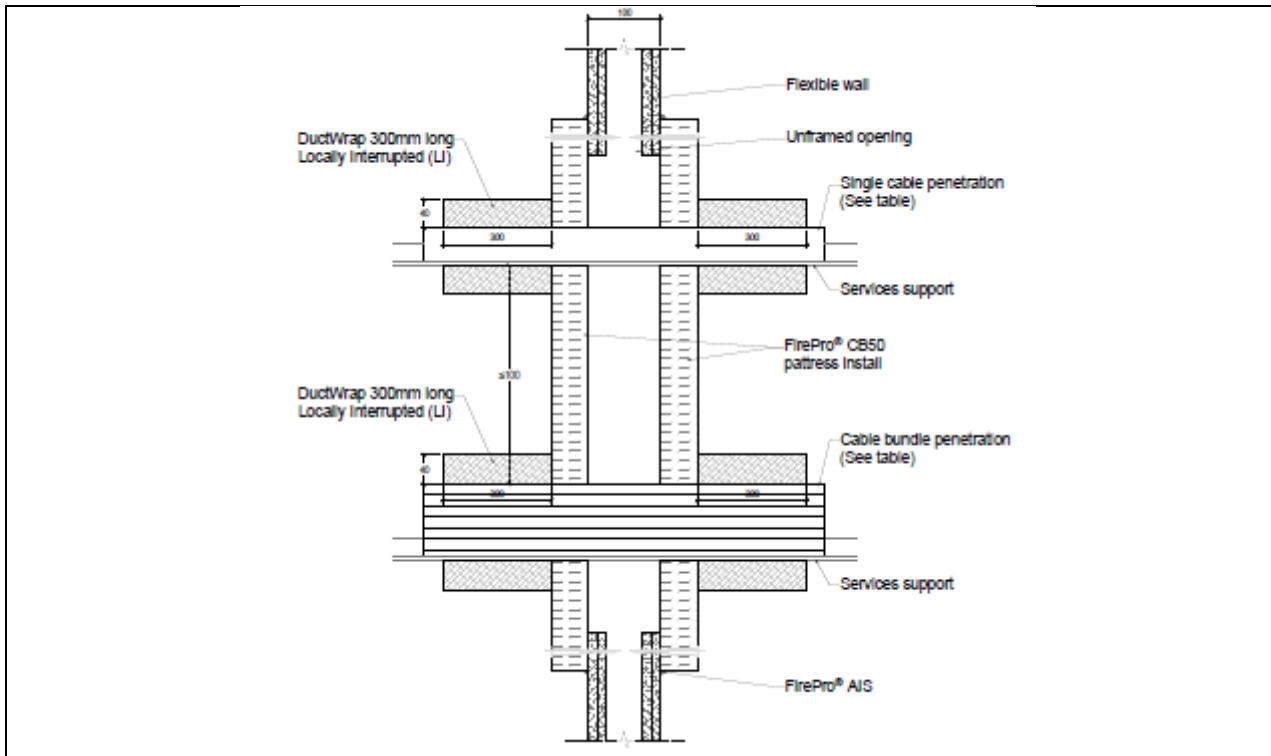


Service type		Service size (mm)	Service protection	Classification
Sheathed cables	S	$\leq 21$	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges with FirePro® AIS used on all batt edges to seal joints and around services.	E 120 / EI 60
	M	$\leq 50$		E 120 / EI 60
	L	$\leq 80$		E 120 / EI 60
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables		E 120 / EI 60
Unsheathed cables		$\leq 24$		E 120 / EI 90
Steel tray, perforated tray, ladder or basket		Unrestricted		E 120 / EI 90



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## Cable Penetrations with cable carrier separation $\leq 100$ mm - Lagged



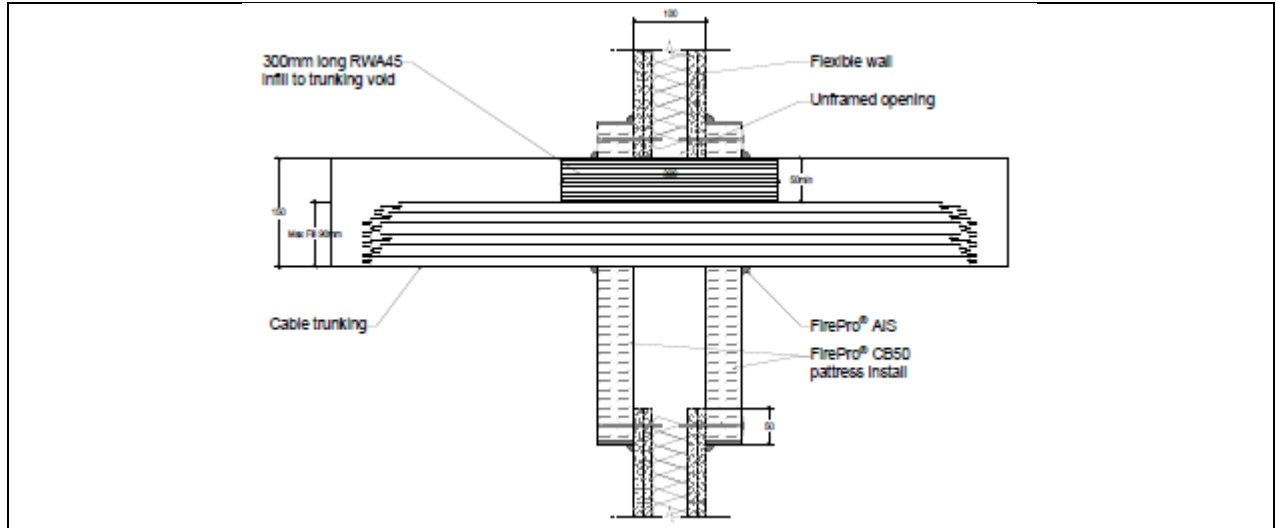
Service type		Service size (mm)	Service protection	Classification
Sheathed cables	S	$\leq 21$	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges with FirePro® AIS used on all batt edges to seal joints and around services. 40 mm ROCKWOOL® DuctWrap, cut to size and wrapped around the service item in a LI configuration 300 mm to both faces and secured to service with steel wire.	EI 120
	M	$\leq 50$		EI 120
	L	$\leq 80$		EI 120
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables		EI 120
Unsheathed cables		$\leq 24$		EI 120
Steel tray, perforated tray, ladder or basket		Unrestricted		EI 120



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## Cable Trunking – unlagged

### Linear configuration – 30 mm separation

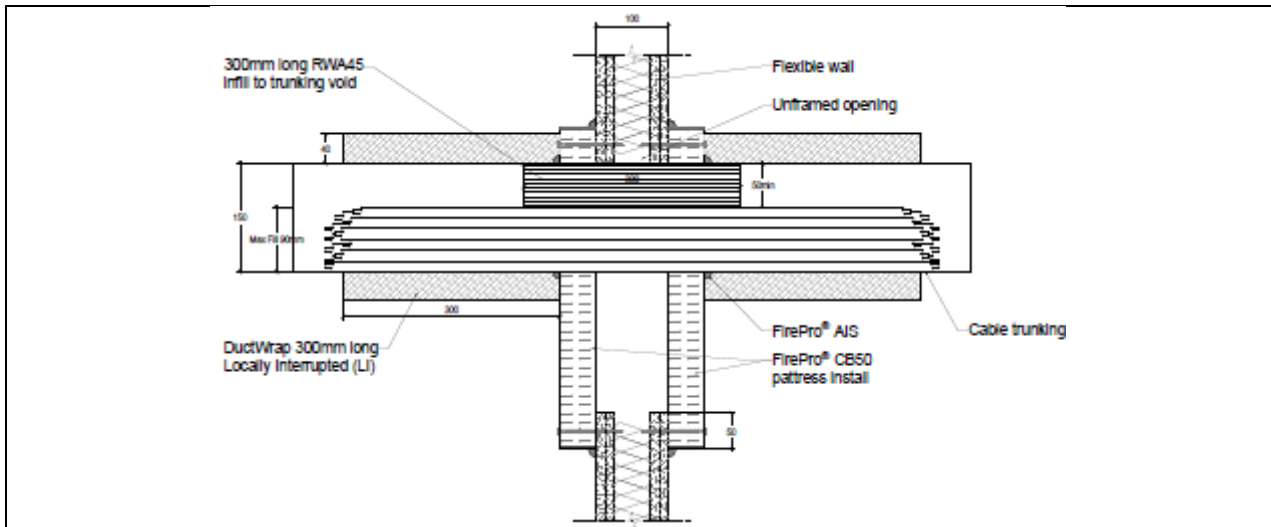


Type	Service		Trunking inner protection	Service protection	Classification
	Size (mm)	Cable Size (mm)			
Steel trunking	150 x 150	≤80	300 mm long RWA45 inserted into the trunking on top of the cables under 50 mm compression. The RWA45 should full fill the trunking central to the CB50 seal.	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges with FirePro® AIS used on all batt edges to seal joints and around services.	EI 120 U/U



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## Cable Trunking – lagged

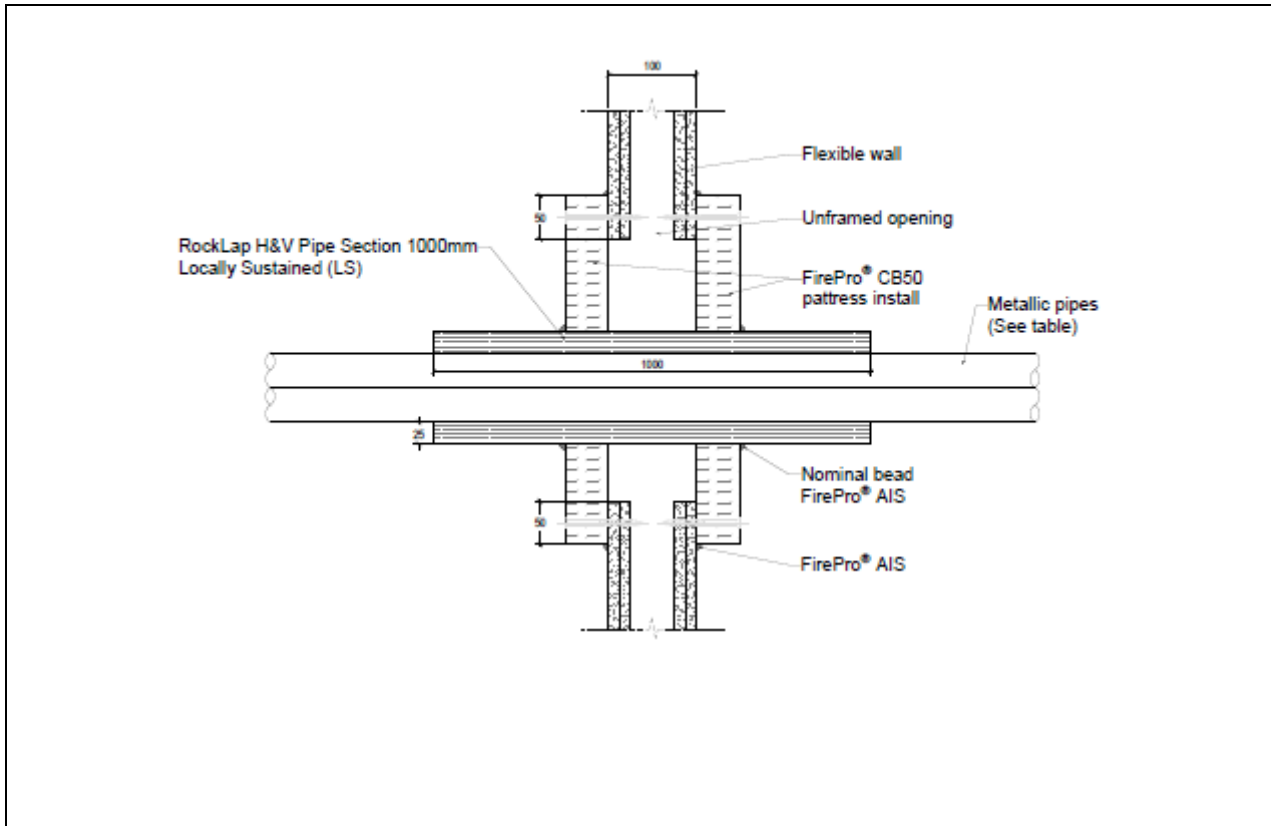


Type	Service		Trunking inner protection	Service protection	Classification
	Size (mm)	Cable Size (mm)			
Steel trunking	300 x 150 (w x h)	≤80	300 mm long RWA45 inserted into the trunking on top of the cables under 50 mm compression. The RWA45 should fulfill the trunking central to the CB50 seal.	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges with FirePro® AIS used on all batt edges to seal joints and around services. 40 mm ROCKWOOL® DuctWrap, cut to size and wrapped around the service item in a LI configuration 300 mm to both faces and secured to service with 0.7 mm steel wire 50mm from both ends	<b>EI 120 U/U</b>



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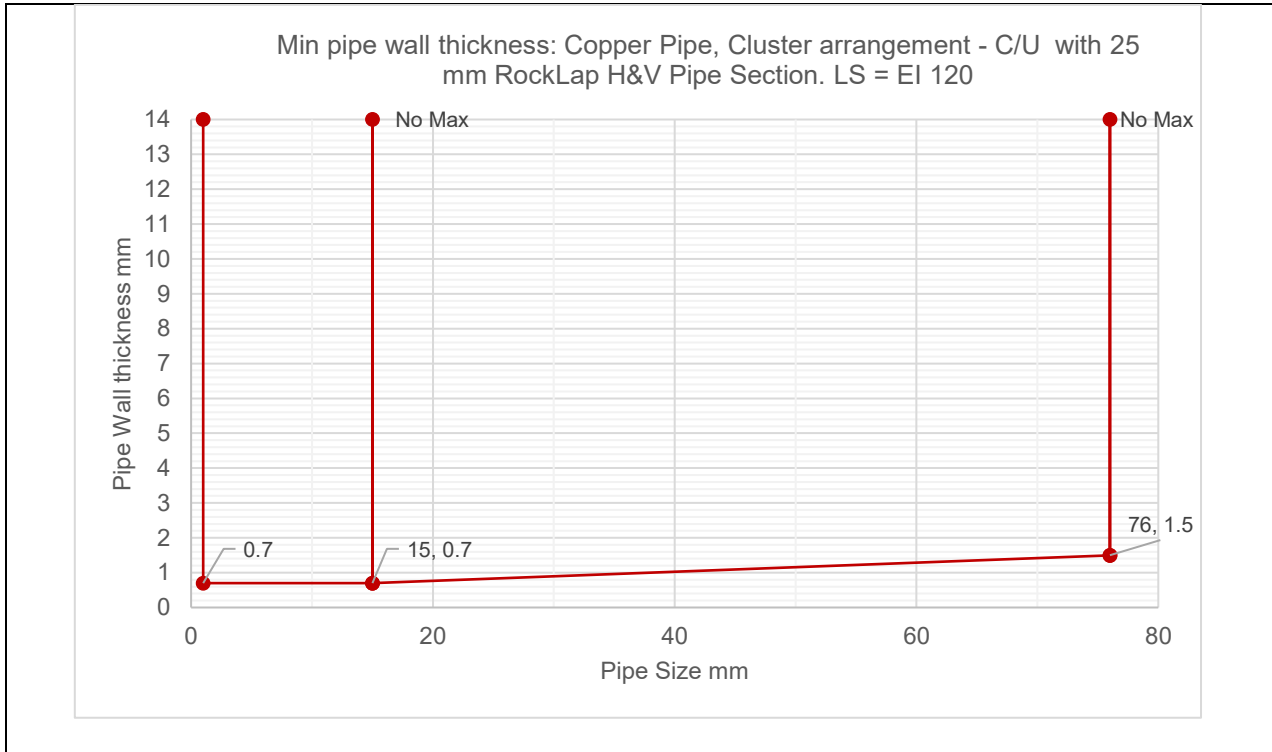
## Metallic pipes: Insulated with RockLap H&V Pipe section – LS installation.



Service type	Service Size (mm)	Wall thickness (mm)	Pipe arrangement	Service protection	Classification
Copper and steel pipes	≤15 Ø	≥0.7	Cluster (0mm)	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges with FirePro® AIS used on all batt edges to seal joints and around services.	EI 120 C/U
Copper and steel pipes	≤76 Ø	≥1.5	Cluster (0mm)	1000 mm long x 25 mm thick ROCKWOOL RockLap H&V Pipe Section in a LS configuration, fixed around the metallic pipes.	EI 120 C/U

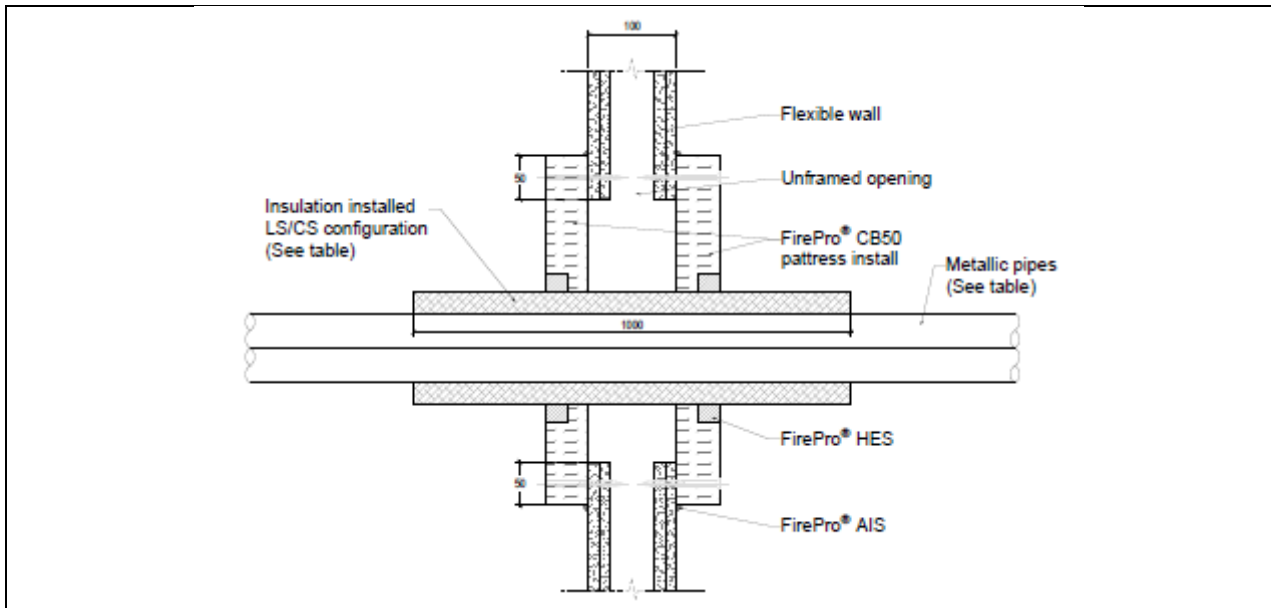


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## Metallic pipes: Insulated with combustible insulation – FirePro HES.

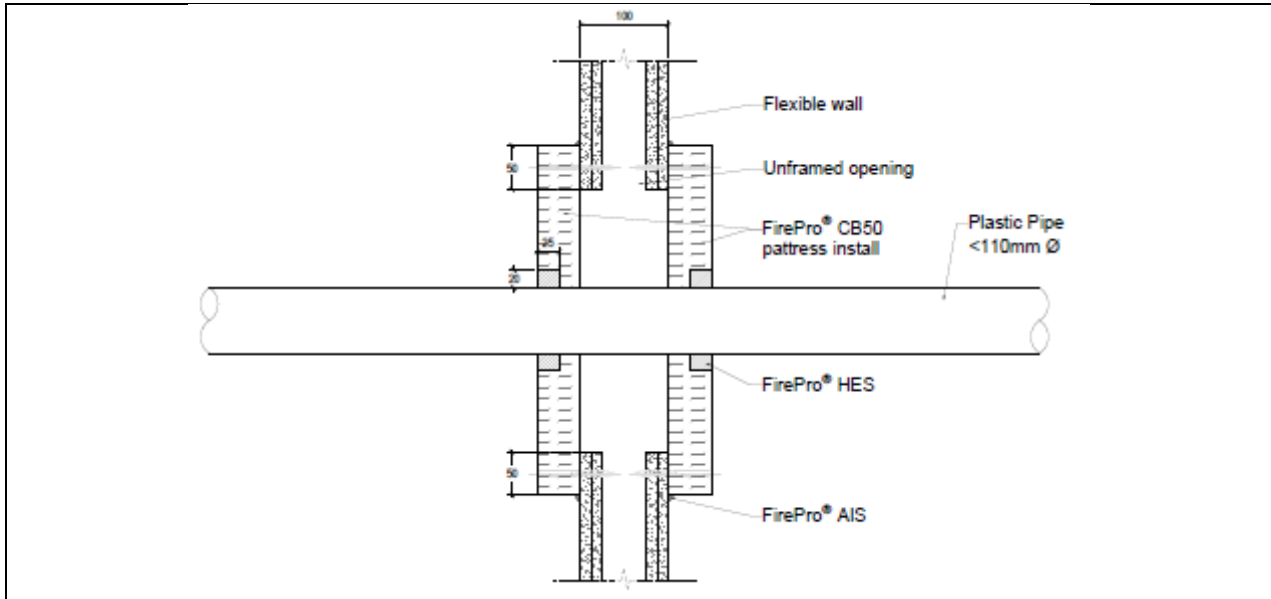


Service type	Pipe Size (mm)	Wall thickness (mm)	Seal depth (mm)	Annular gap (mm)	Insulation type / thickness	Service protection	Classification
Copper and steel pipes Cluster (0 mm)	≤42 Ø	≥1.2	25	20	Armacell Armaflex insulation, around the service in a LS/CS sustained config/ 9-32 mm.	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges with FirePro® AIS used on batt edges to seal all joints. 20 mm annulus of FirePro® HES cartridge gunned to a depth of 25 mm around the services on each face of the wall	E 120 / EI 90 C/U
	≤6 Ø	≥0.6					

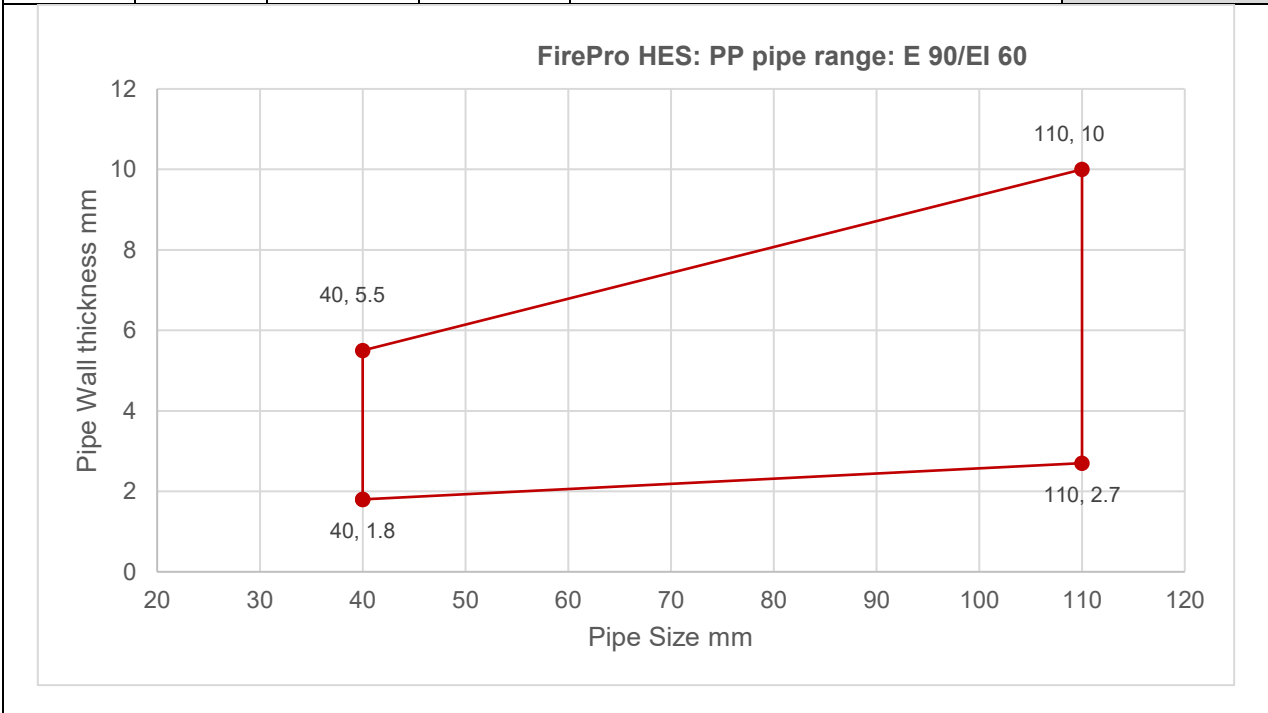


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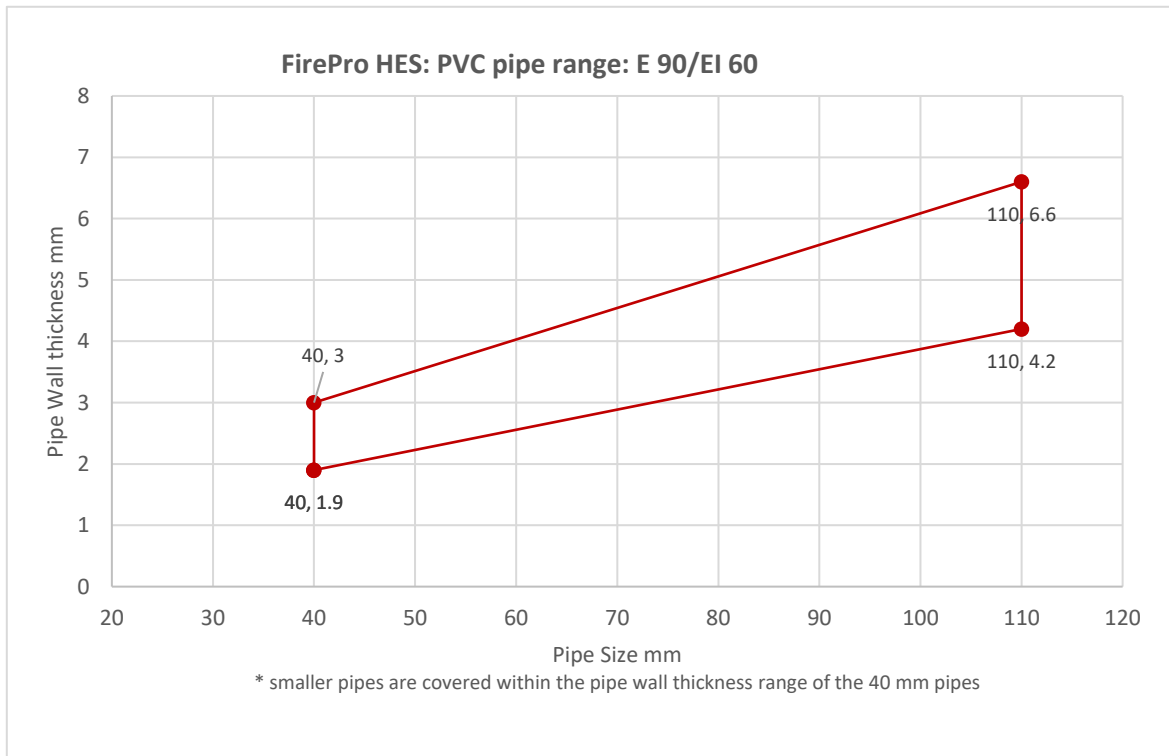
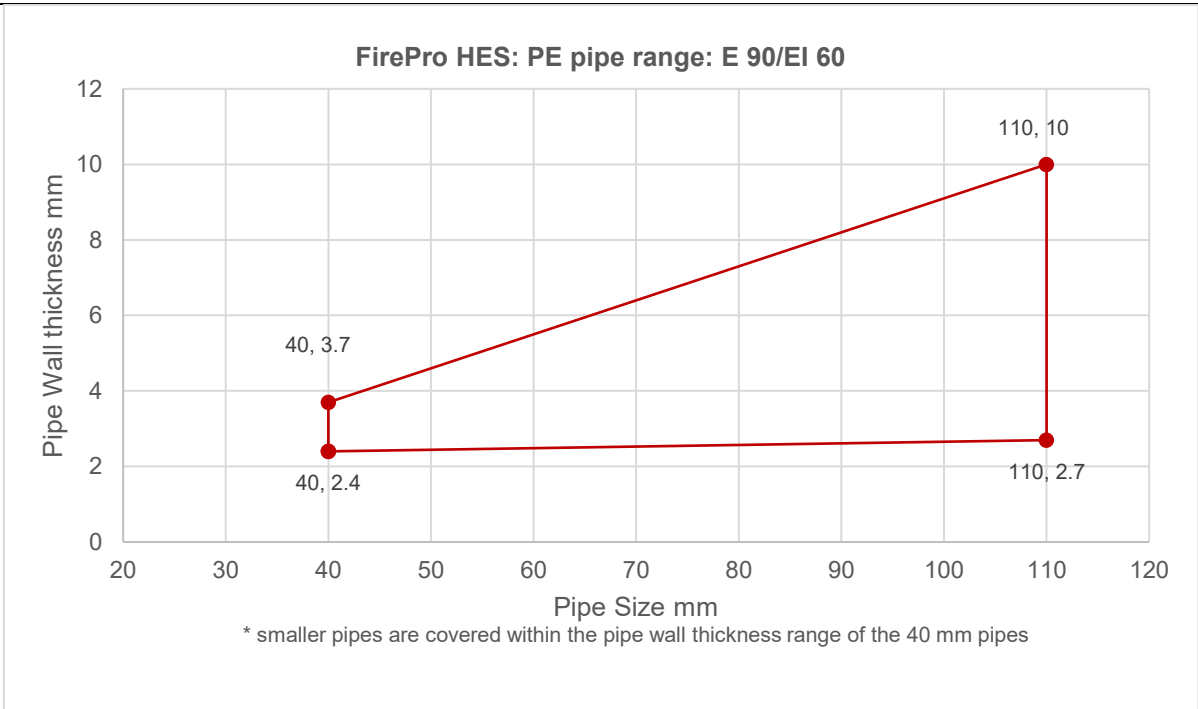
## Plastic Pipe Penetrations – FirePro HES



Pipe material	Pipe size (mm)	HES depth (mm)	Annular gap (mm)	Service Protection	Classification
PP	40 - 110	25 (each face)	20	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges with FirePro® AIS used on batt edges to seal all joints. 20 mm annulus of FirePro® HES cartridge gunned to a depth of 25 mm around the service, on each face of the seal.	<b>E 90 / EI 60 U/C</b>
PE	40 - 110				
PVC	40 - 110				

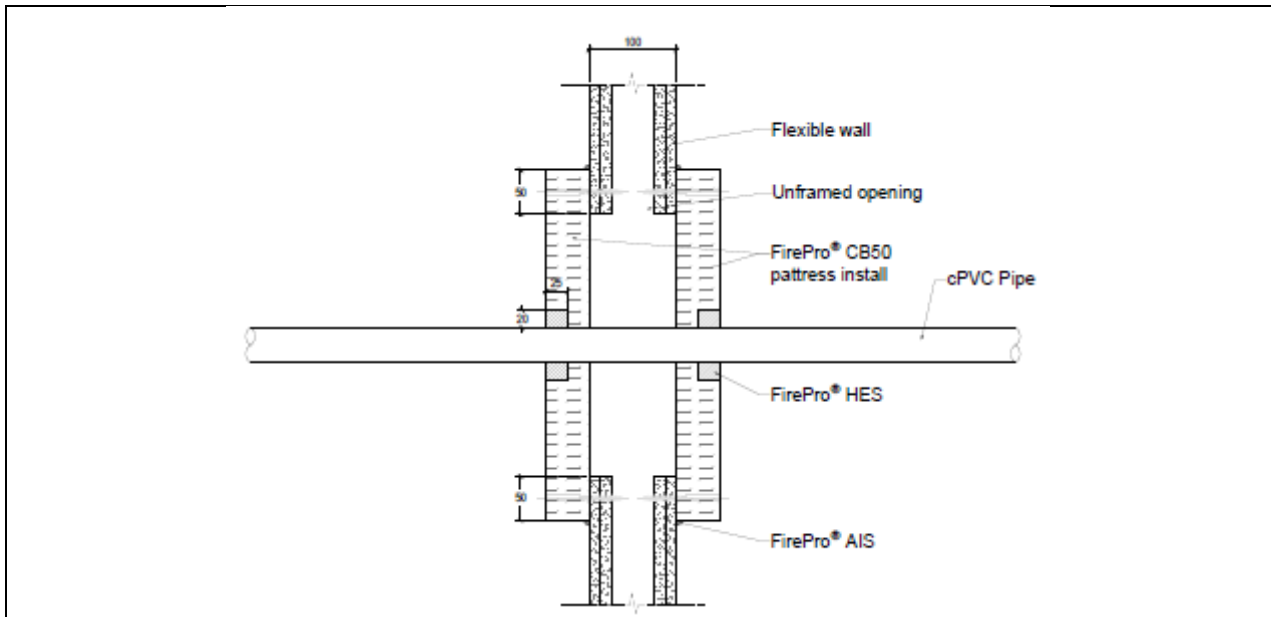


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## Plastic Pipe Penetrations – FirePro HES

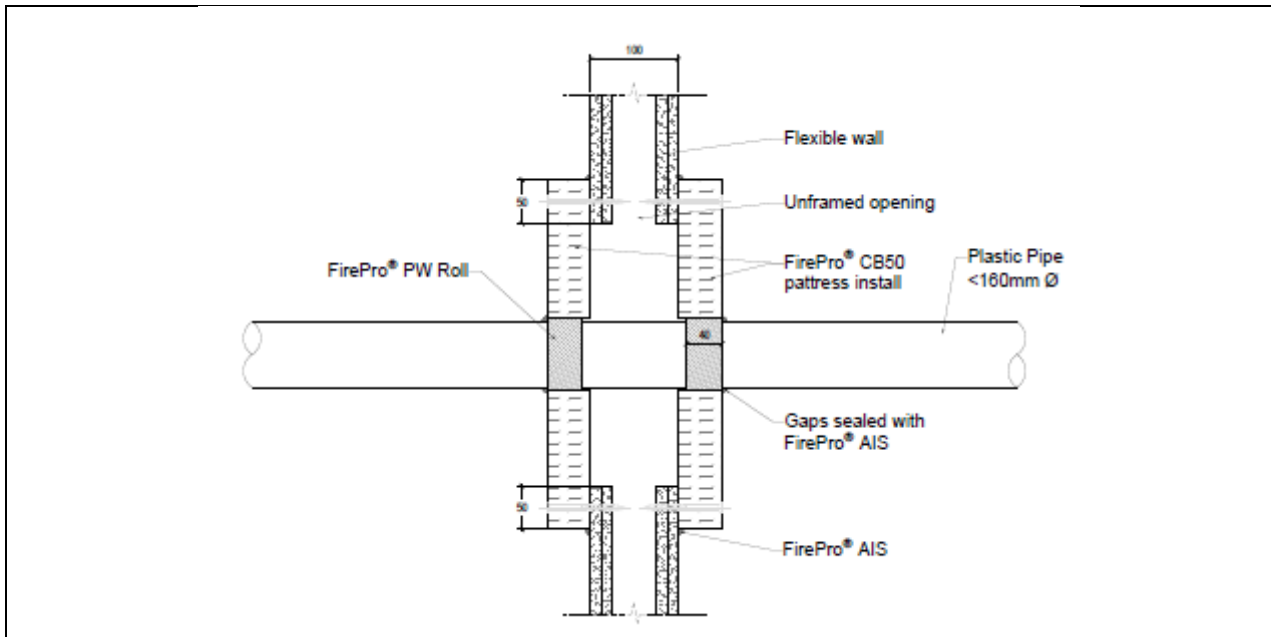


Pipe material	Pipe size (mm)	Wall thickness (mm)	Service Protection	Classification
cPVC (BlazeMaster)	≤Ø20	≥2.5	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges with FirePro® AIS used on batt edges to seal all joints. 20 mm annulus of FirePro® HES cartridge gunned to a depth of 25 mm around the service, on each face of the seal.	EI 120 U/C
cPVC (BlazeMaster)	≤Ø48	≥3.85		EI 120 U/C
cPVC (BlazeMaster)	≤Ø88	≥6.95		EI 120 U/C
PB Cluster (0mm)	≤Ø28	≥2.6		EI 120 U/C



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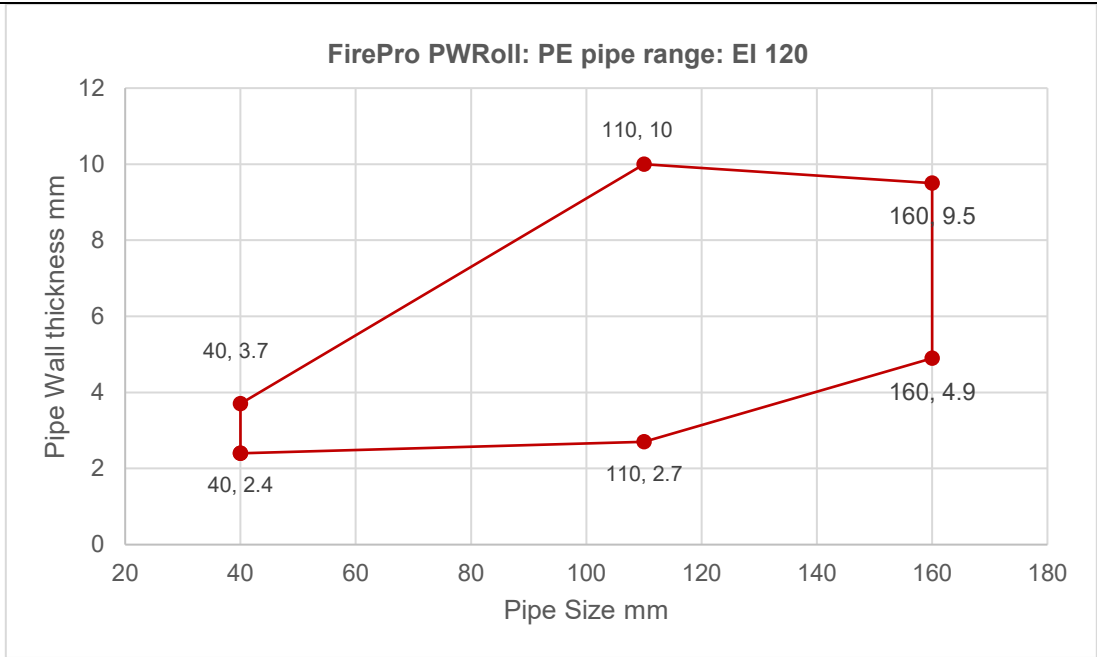
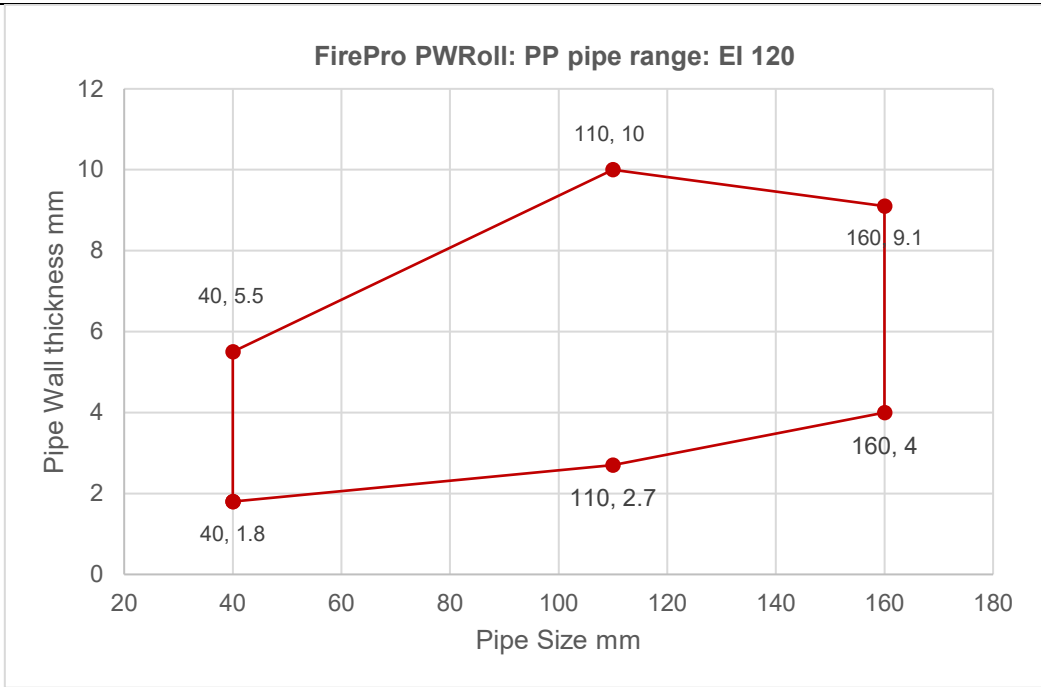
## Plastic Pipe Penetrations – FirePro PWRoll



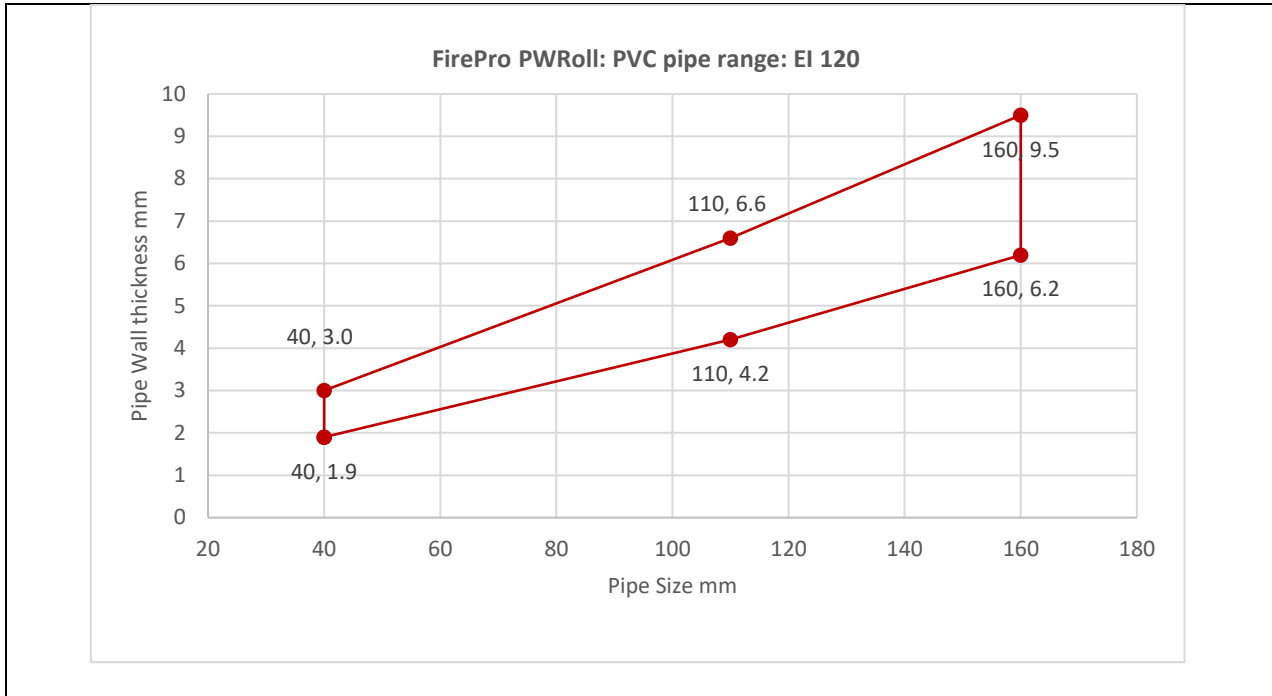
Pipe material	Pipe size (mm)	Pipe Wrap layers (2mm)	Service Protection	Classification
PP/PE/PVC	≤40	1	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges with FirePro® AIS used on all batt edges to seal joints and around services. FirePro® PWROLL installed centrally around the service in each layer of batt.	EI 120 U/C
	41-79	2		
	80-120	3		
	121-160	4		



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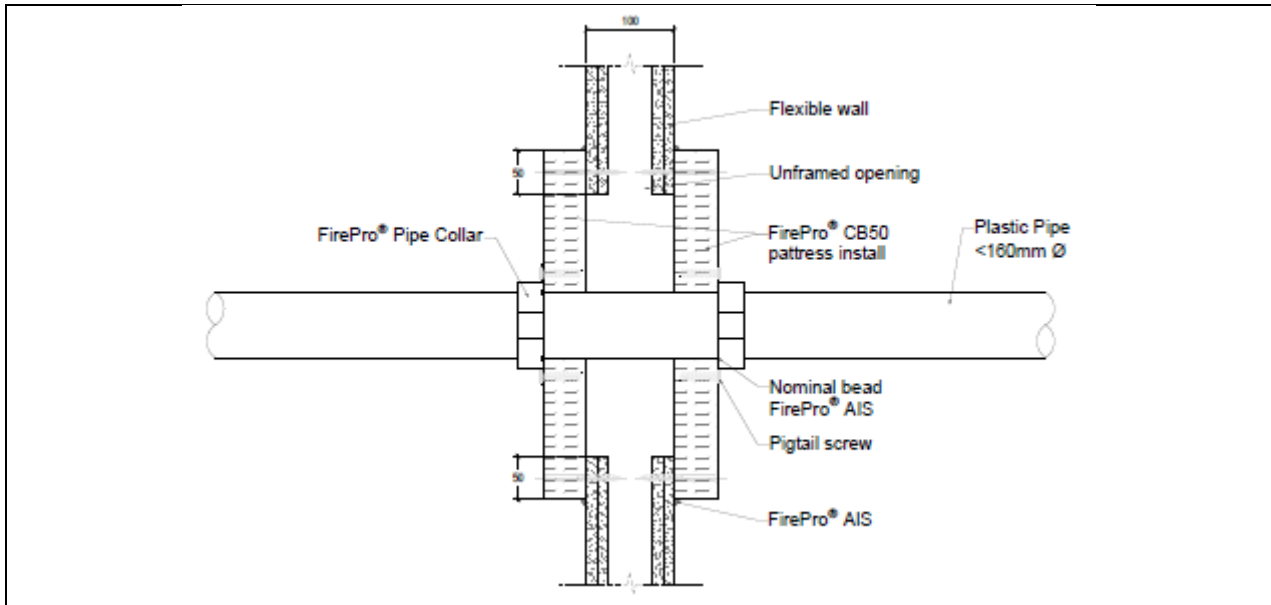
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## Plastic Pipe Penetrations – FirePro Pipe Collar

### PP Pipes

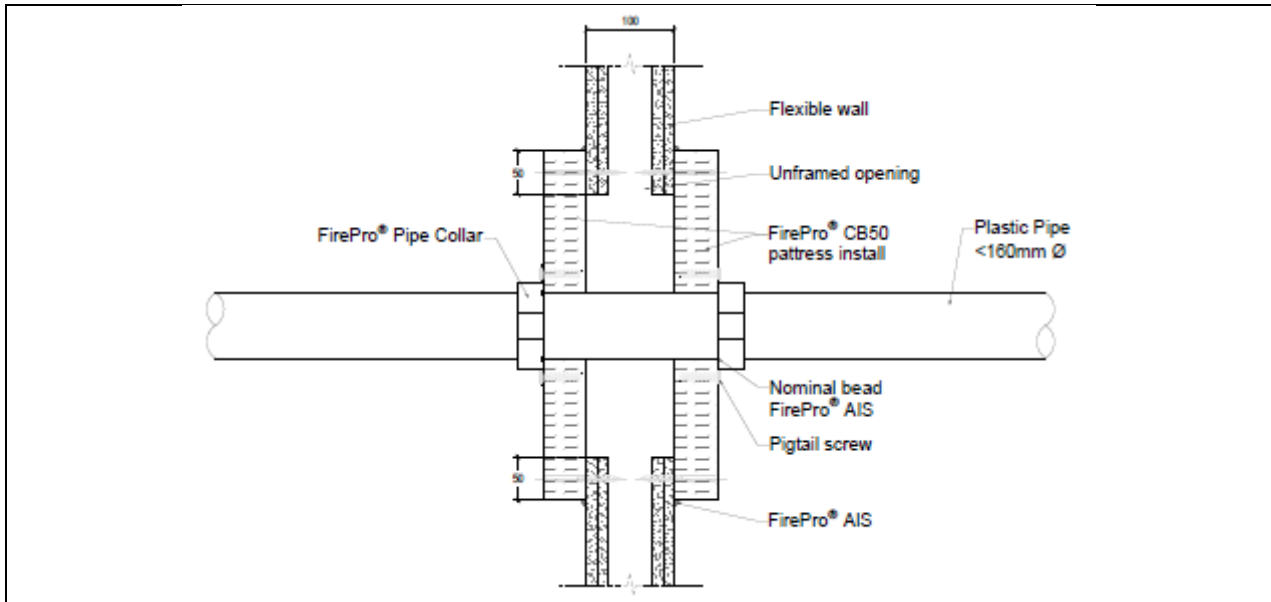


Pipe Collar Size (mm)	Pipe size (mm)	Pipe wall thickness range (mm)	Service Protection	Classification
40	40	1.8 – 5.5	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges. FirePro® AIS used on all batt edges to seal joints and around services, installed only from the unexposed only. FirePro® Pipe Collar fixed around the service on both sides of the batt using pigtail screws	<b>EI 120 U/C</b>
55	55	2.0 – 5.6		
63	63	2.1 – 5.8		
75	75	2.2 – 5.9		
82	82	2.4 – 6.0		
90	90	2.6 – 6.2		
110	110	2.7 – 6.3		
125	125	3.1 – 7.2		
140	140	3.5 – 8.1		
160	160	4.0 – 9.1		



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## PE Pipes

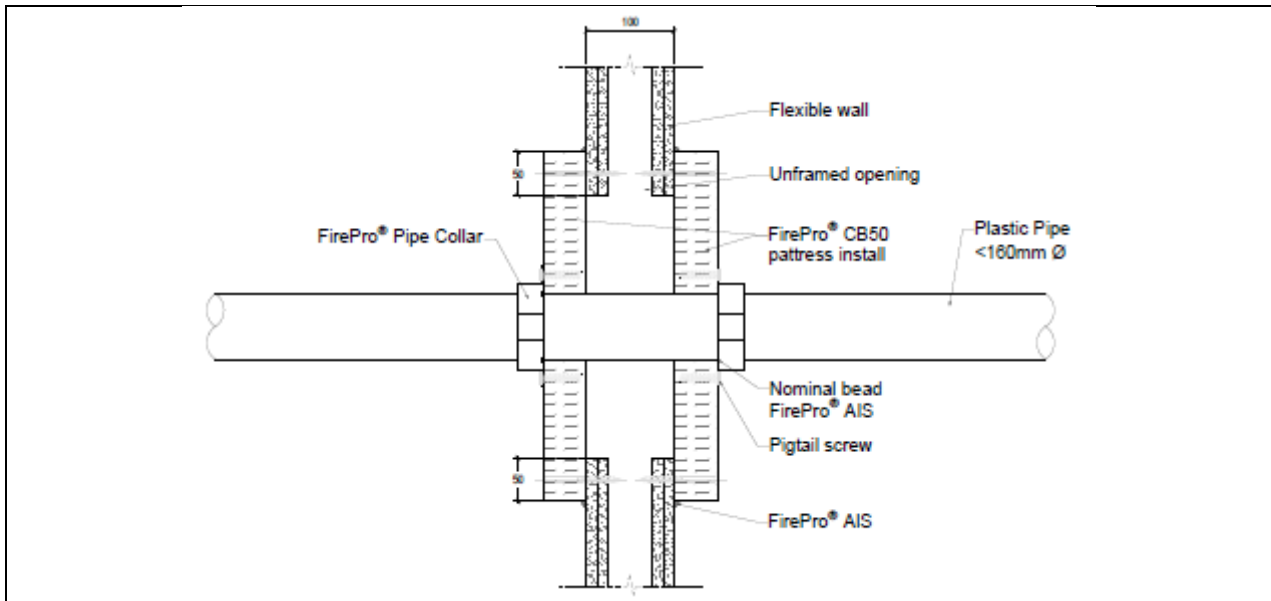


Pipe Collar Size (mm)	Pipe size (mm)	Pipe wall thickness range (mm)	Service Protection	Classification
40	40	2.4 – 3.7	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges. FirePro® AIS used on all batt edges to seal joints and around services, installed only from the unexposed only. FirePro® Pipe Collar fixed around the service on both sides of the batt using pigtail screws	<b>EI 120 U/C</b>
55	55	2.5 – 5.0		
63	63	2.5 – 5.8		
75	75	2.5 – 6.9		
82	82	2.6 – 7.6		
90	90	2.6 – 8.3		
110	110	2.7 - 10		
125	125	3.4 – 9.8		
140	140	4.1 – 9.7		
160	160	4.9 – 9.5		



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## PVC Pipes

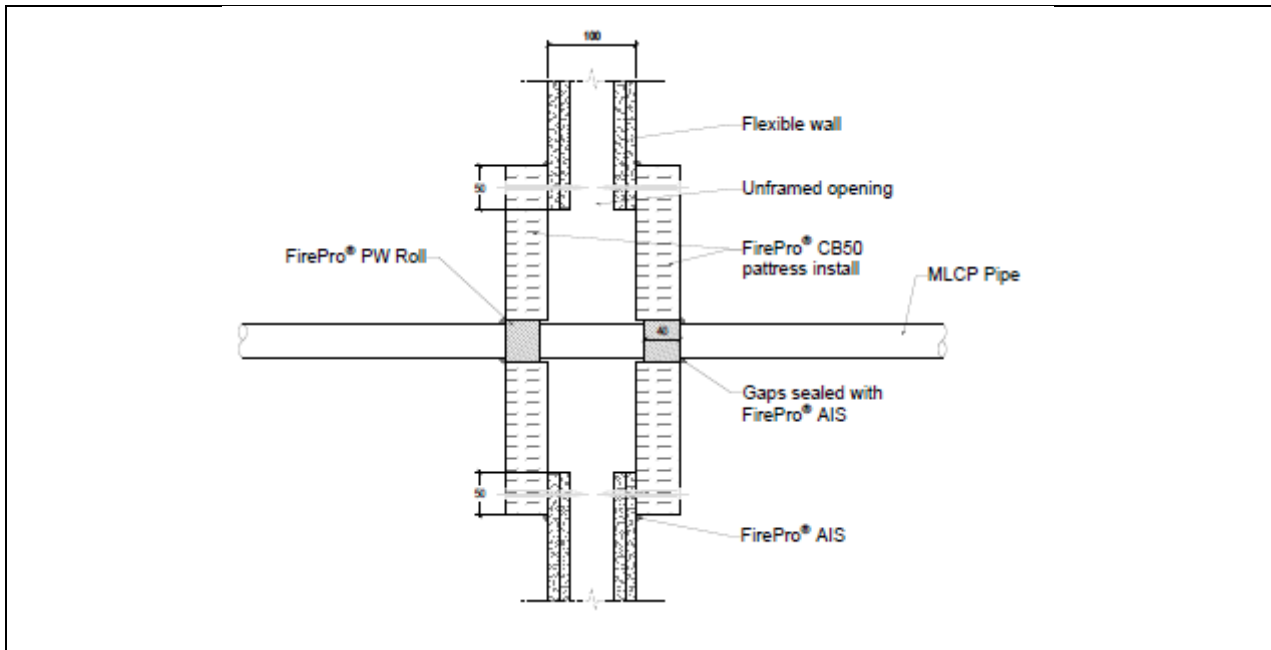


Pipe Collar Size (mm)	Pipe size (mm)	Pipe wall thickness range (mm)	Service Protection	Classification
40	40	1.9 – 3.0	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges. FirePro® AIS used on all batt edges to seal joints and around services, installed only from the unexposed only. FirePro® Pipe Collar fixed around the service on both sides of the batt using pigtail screws	<b>EI 120 U/C</b>
55	55	2.4 – 3.7		
63	63	2.6 – 4.1		
75	75	3.0 – 4.8		
82	82	3.2 – 5.1		
90	90	3.5 – 5.6		
110	110	4.2 – 6.6		
125	125	4.8 – 7.6		
140	140	5.5 – 8.4		
160	160	6.2 – 9.5		



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## MLCP Pipes – FirePro PWRoll



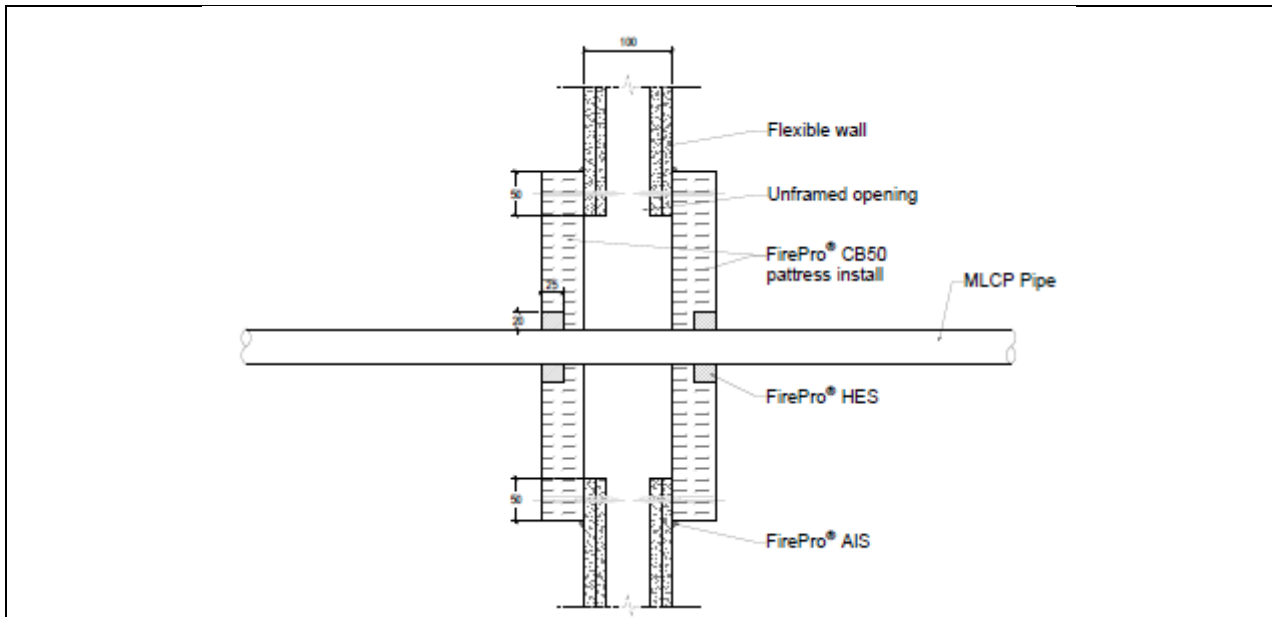
### Single pipes

Pipe material	Pipe size (mm)	Pipe wall thickness (mm)	Pipe Wrap layers (2mm)	Service Protection	Classification
UPONOR MLCP PE-RT Pipe	63	6	3	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges with FirePro® AIS used on batt edges to seal all joints. FirePro® PWRoll installed flush with both faces of the batt around the service.	<b>E 120 / EI 60 U/C</b>



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## Insulated MLCP Pipes – Uponor Uni Pipe Plus – FirePro HES



Single, linear or clustered configuration

Pipe Type	Pipe size (mm)	Insulation thickness (mm)	HES depth (mm)	Annular gap (mm)	Service Protection	Classification
UPONOR Uni Pipe Plus : PP-RT/AL/PP-RT with PE Insulation Cluster (0 mm)	16 - 25	10 - 13	25	20	50mm thick layer of FirePro® CB50 pattress fitted over the aperture, to both faces, with a 50 mm overlap on all edges with FirePro® AIS used on batt edges to seal all joints. 20 mm wide by 25 mm deep annular gap sealed with FirePro® HES to both faces of the wall.	<b>E 120 / EI 60 U/C</b>

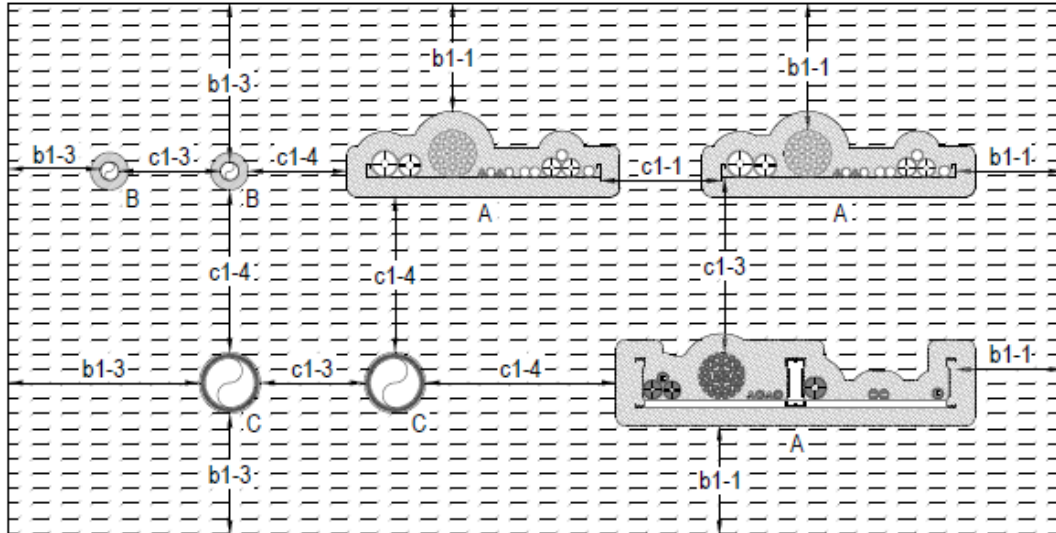


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## Single sided seals

Service arrangement (spacings)– distances as defined by 1366-3: 2021+2024

### Double Skin Flexible walls ≥100mm - Single Sided Double CB50



Service Type	
A	Lagged cables & cable carriers
B	HES cables & cable carriers
C	PWRoll - combustible pipes

Aperture Edge Distance	
b1-1	0mm
b1-2	20mm
b1-3	50mm
b1-4	100mm

Service Separation	
c1-1	0mm
c1-2	25mm
c1-3	50mm
c1-4	100mm
c1-5	30mm

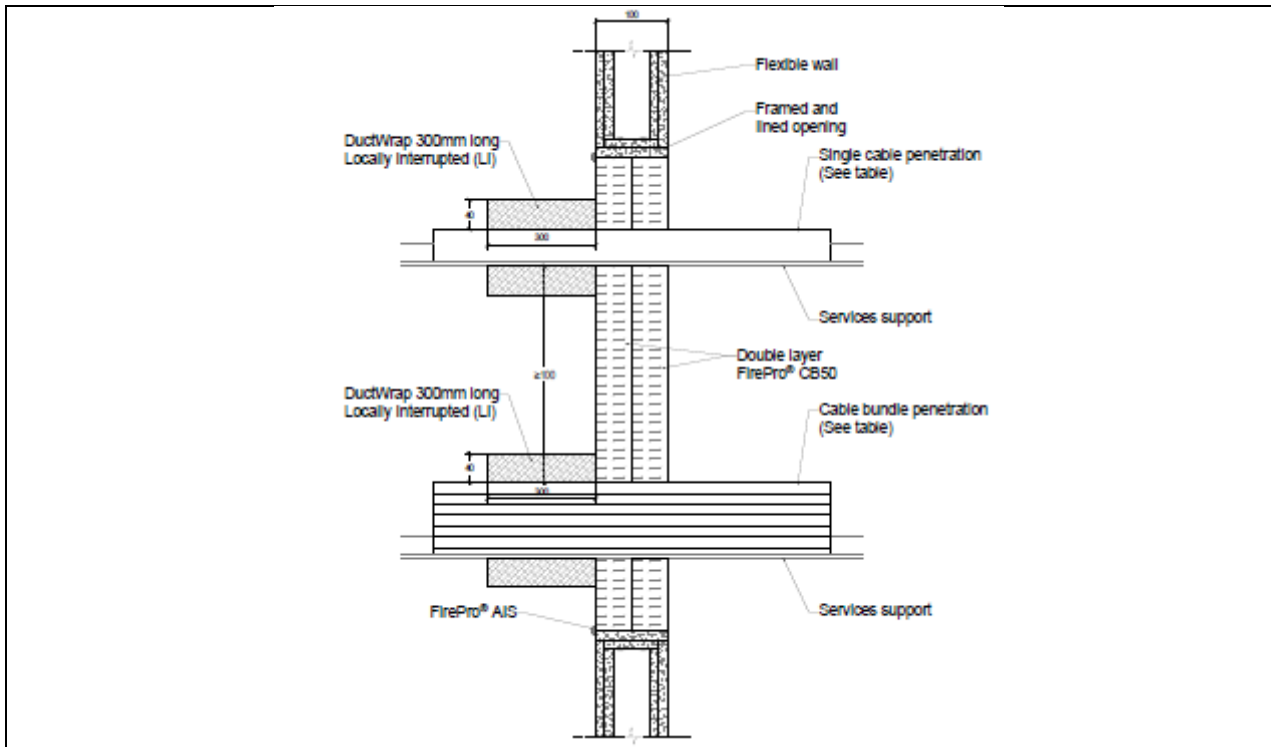


**Solutions**

Form-ULID-006104 V9.0

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## Cable Penetrations with cable carrier separation $\leq 100$ mm - Lagged

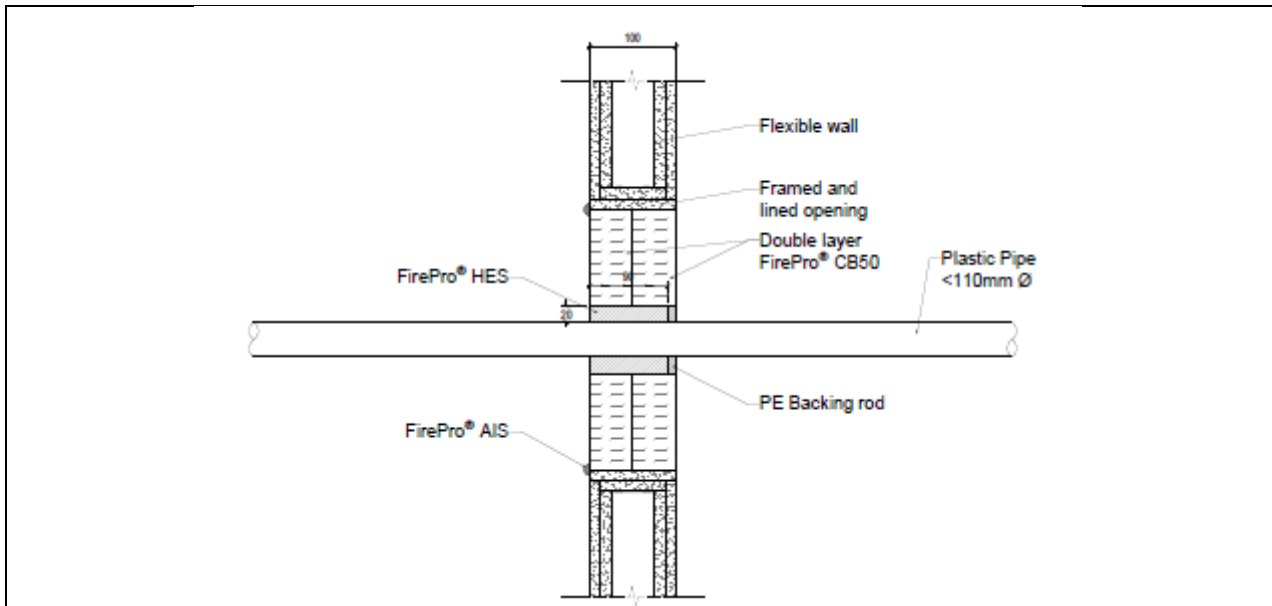


Service type		Service size (mm)	Service protection	Classification
Sheathed cables	S	$\leq 21$	Double layer of 50mm thick FirePro® CB50, friction fitted into the aperture, from a single (unexposed) side, with FirePro® AIS used on all batt edges to seal joints and around services.  40 mm ROCKWOOL® DuctWrap, cut to size and wrapped around a single side of the service item in a LI configuration, 300 mm from the face of the batt. Secured to service with steel wire.	E 120 / EI 90
	M	$\leq 50$		E120 / EI 90
	L	$\leq 80$		E120 / EI 90
Cable bundle		$\leq \text{Ø}100$ cable bundle of $\leq \text{Ø}21$ cables		E 120 / EI 90
Unsheathed cables		$\leq 24$		E120 / EI 90
Steel tray, perforated tray, ladder or basket		Unrestricted		E120 / EI 90

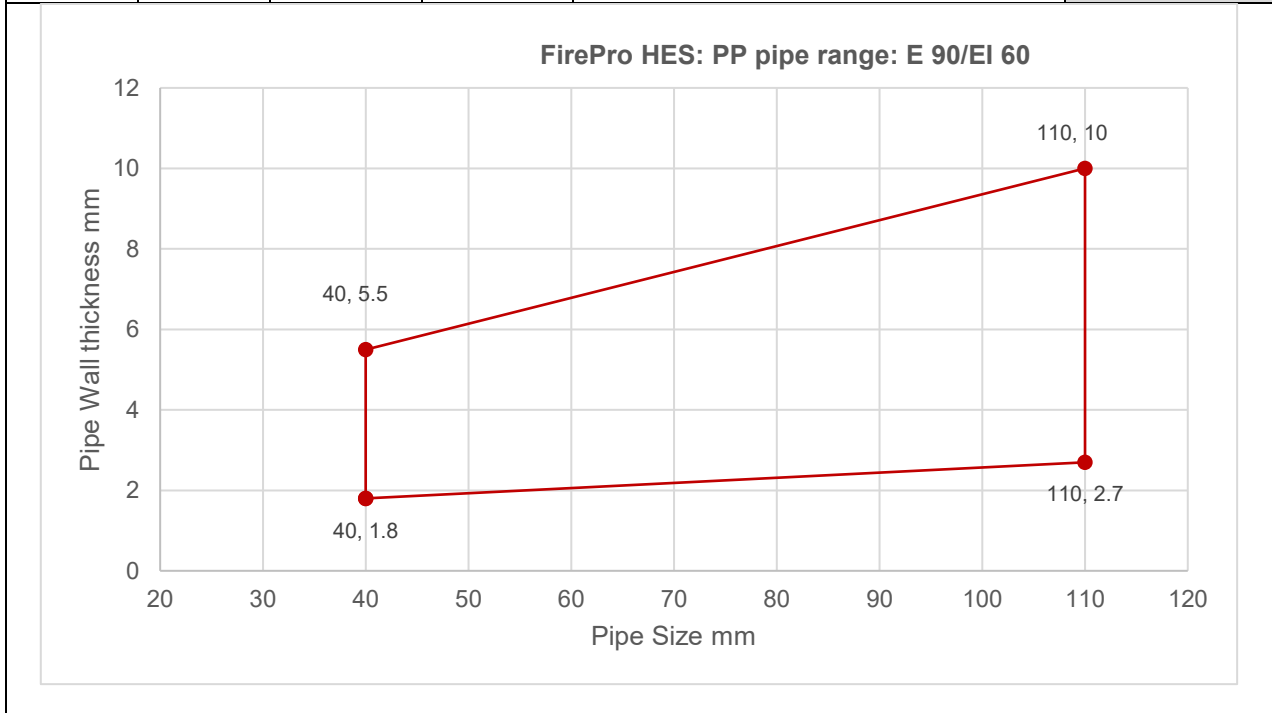


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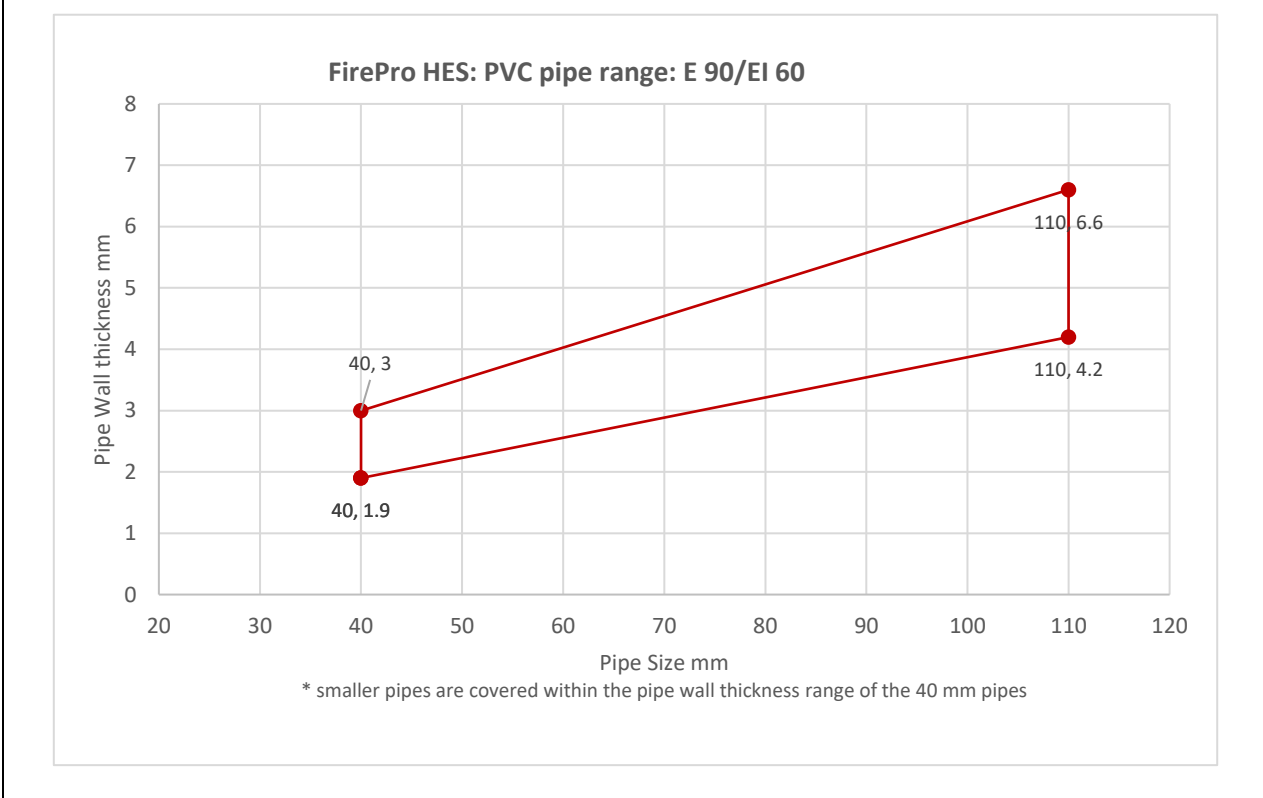
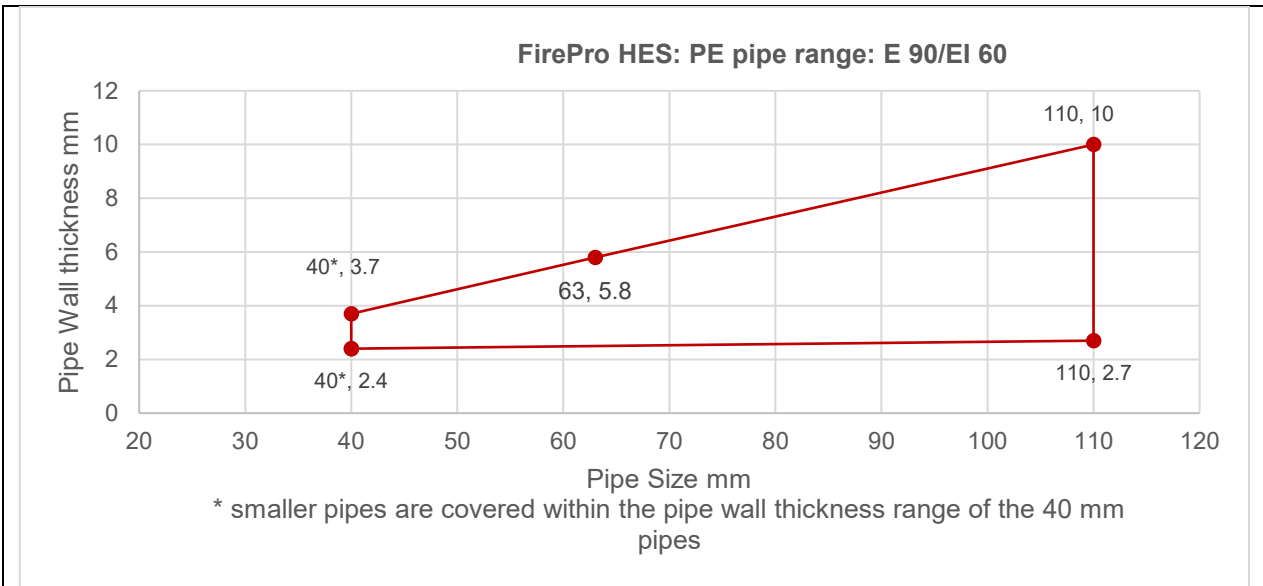
## Plastic Pipe Penetrations – FirePro HES



Pipe material	Pipe size (mm)	HES depth (mm)	Annular gap (mm)	Service Protection	Classification
PP	40 - 110	90	20	Double layer of 50mm thick FirePro® CB50, friction fitted into the aperture, from a single side, with FirePro® AIS used on all batt edges to seal joints and around services. 20 mm wide by 90 mm deep annular gap sealed with FirePro® HES installed from a single face (unexposed) over a PE backing rod.	<b>E 90 / EI 60 U/C</b>
PE	40 - 110				
PVC	40 - 110				

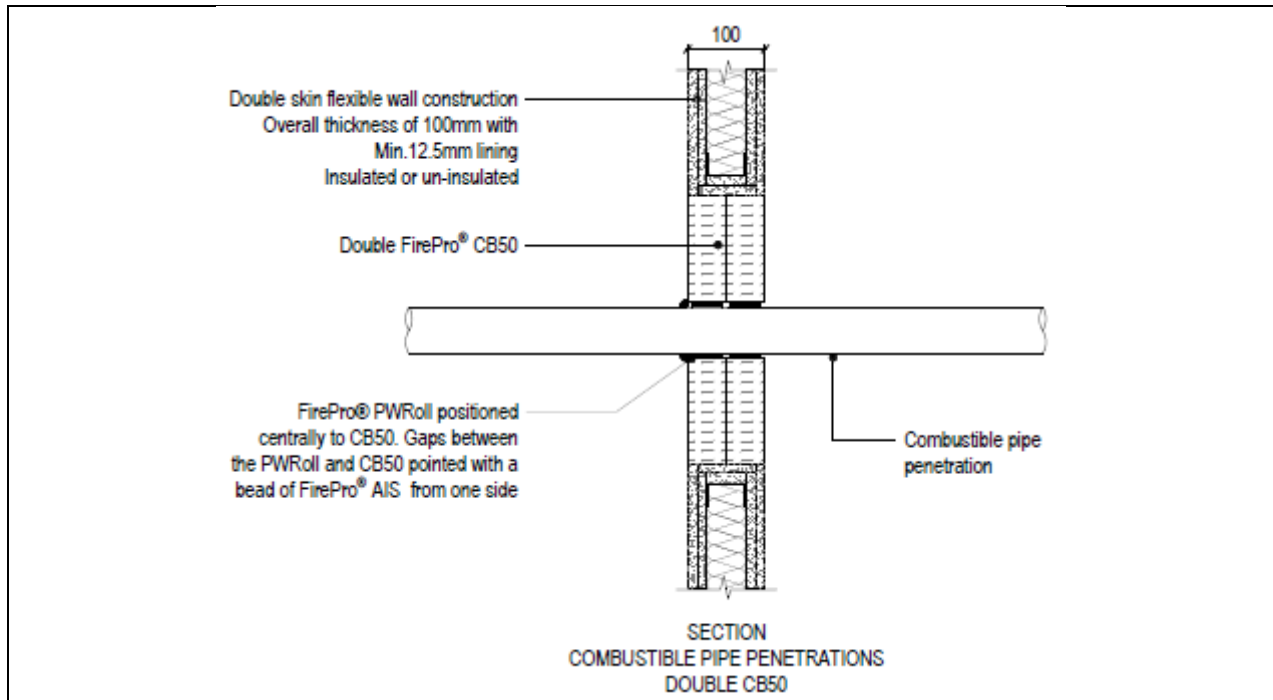


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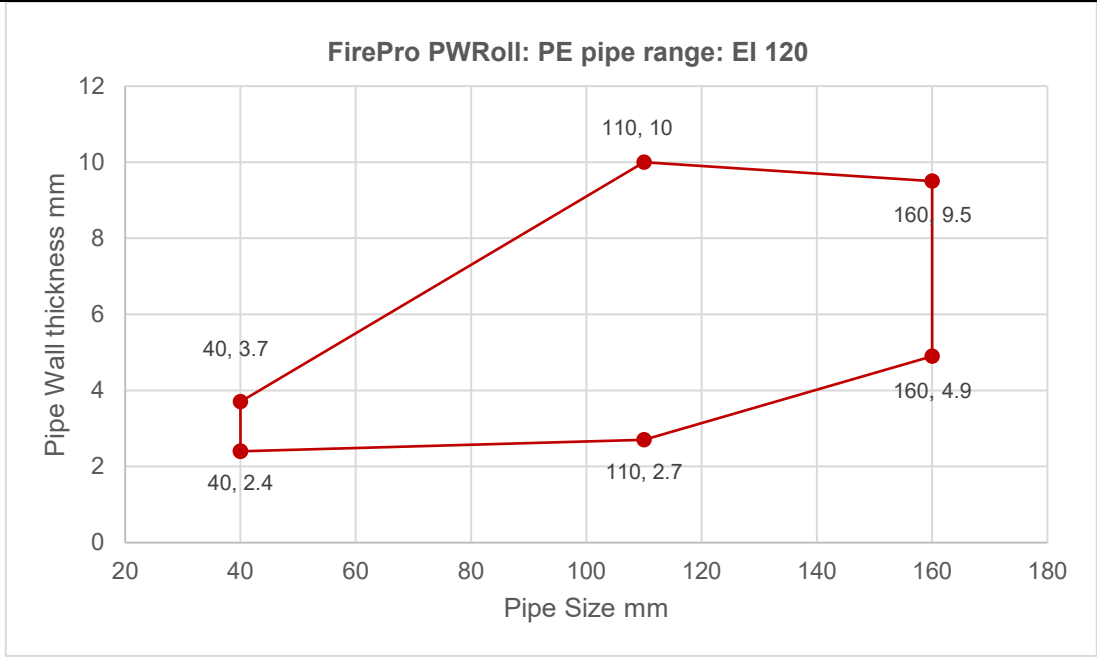
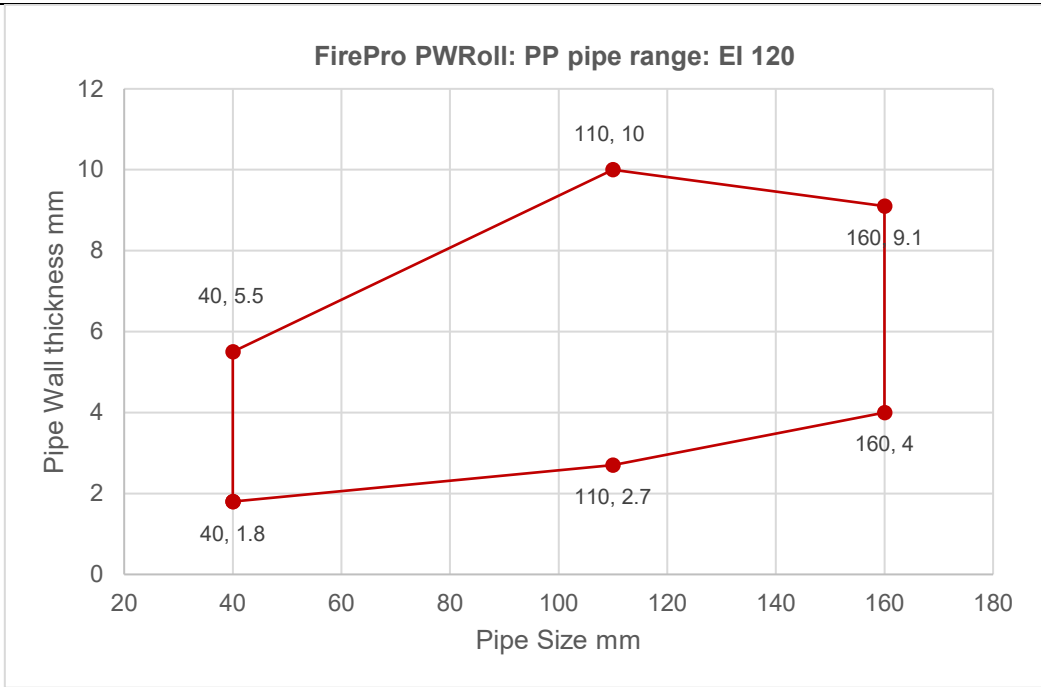
## Plastic Pipe Penetrations – FirePro PWRoll



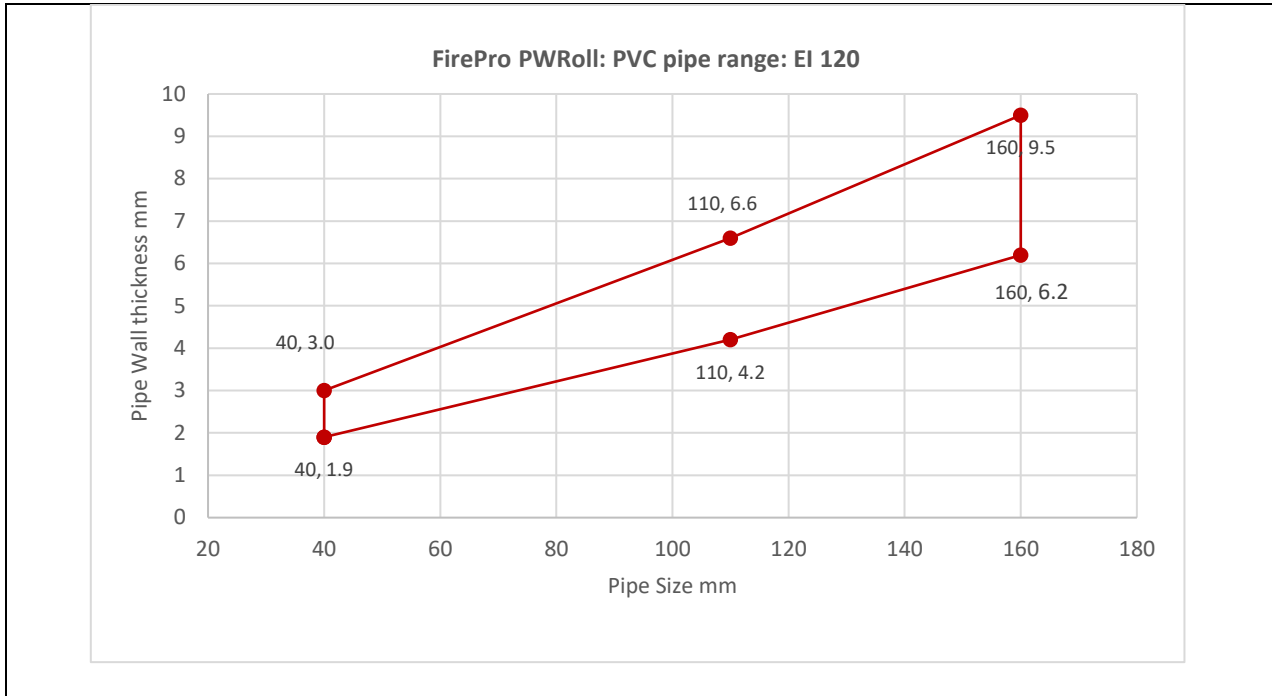
Pipe material	Pipe size (mm)	Pipe Wrap layers (2mm)	Service Protection	Classification
PP/PE/PVC	≤40	1	Double layer of 50mm thick FirePro® CB50, friction fitted into the aperture, with FirePro® AIS used on all batt edges to seal joints and around services, installed from the exposed face only FirePro® PWROLL installed flush with both faces of the batt around the service.	EI 120 U/C
	41-79	2		
	80-120	3		
	121-160	4		



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## Appendix UL-EU CERTIFICATE UL-EU-01360-EN

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\*Note: E12345 is an example of the UL file number.

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