UL-EU CERTIFICATE

Certificate No.	UL-EU-01033-CPR
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Date of Issue	2016-11-10
Revision	2022-10-26
Certificate Holder	FISCHERWERKE GMBH & CO KG Klaus-Fischer-Strasse 1 72178, Waldachtal Deutschland
Manufacturer	A/009
Certified Product Type	Fire Stop – Pipe Collar
Product Trade Name	Fire Collar FFC
Trademark	N/A
Rating/Classification	See Appendix
Harmonised Technical Specifications	EAD 350454-00-1104 / EN 13501-2 / EN 13501-1
Expiry date	2026-11-09

UL EU

UKAS PRODUCT CERTIFICATION 4705

Authorized Certification Decision Maker
Chris Johnson

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shall remain valid through the Expiration date, unless a Standard identified on this Certificate is amended or withdrawn prior to that date or there is a non-compliance with the Agreement.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

This certificate relates to the use of Fire Collar FFC for fire stopping where services penetrate floors and walls. The detailed scope is given in pages 3 to 16 of this Certificate. This shows the thickness and acceptable dimensions, substrates and orientations required to provide fire resistance periods of up to 240 minutes (EI 240).

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 1366-3: 2009
iii) Classification in accordance with EN 13501-2
iv) Classification in accordance with EN 13501-1
v) Durability and Servicability as defined in EAD 350454-00-1104

The durability class of Fire Collar FFC is X - intended for use in conditions exposed to weathering (includes all lower classes).

Appendix UL-EU CERTIFICATE

Product-type: Pipe Collar	Intended use: Penetration Seal	
Assessment method	Essential characteristic	Product Performance
BWR 2 Safety in case of fire		
EN 13501-1	Reaction to fire	Class E
EN 13501-2	Resistance to fire	See page 4 - 16
BWR 3 Hygiene, health and environment		
EN 1026	Air permeability	No performance determined
EAD 350454-00-1104, Annex C	Water permeability	No performance determined
Declaration of manufacturer & EN 16516	Content, emission and/or release of dangerous substances	Use category IA1, S/W2 Declaration of manufacturer
BWR 4 Safety in use		
EOTA TR 001:2003	Mechanical resistance and stability	No performance determined
EOTA TR 001:2003	Resistance to impact/movement	No performance determined
EOTA TR 001:2003	Adhesion	No performance determined
EAD 350454-00-1104, Clause 2.2.9	Durability	X
BWR 5 Protection against noise		
EN 10140-1,2,4,5/ EN ISO 717-1	Airborne sound insulation	No performance determined
BWR 6 Energy economy and heat retention		
EN 12664, EN 12667, EN 12939, EN ISO 8990, EN ISO 6946, EN ISO 14683, EN ISO 10211, EN ISO 10456	Thermal properties	No performance determined
EN ISO 12572, EN 12086, EN ISO 10456	Water vapour permeability	No performance determined

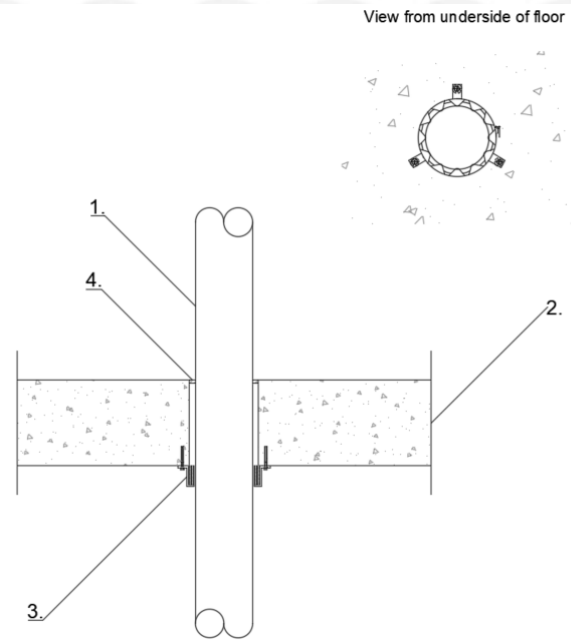
Appendix UL-EU CERTIFICATE

Floors

Rigid floors Minimum Thickness 150 mm

Plastic pipes

Rigid Floors ≥150 mm



Key

1. Plastic Pipe
2. Rigid floor
3. Fire Collar FFC
4. fischer FiAM Intumescent Acoustic Mastic

Penetration Service	Annular Space (mm)	Distances (mm)	Installation	Classification
PVC-U, PVC-C(1) – See Table 3 for scope	≤ 10	Edge – 10 Penetration Service ≥ 100	Face fixed on the underside of the floor with 3no 60mm, M6 fire resistant hexagon head bolts. fischer FiAM Intumescent Acoustic Mastic applied to top side of floor ≥ 5mm	EI 240 U/C, C/C
PE, ABS, SAN-PVC(2) – See Table 3 for scope				
PP(3) – See Table 3 for scope				

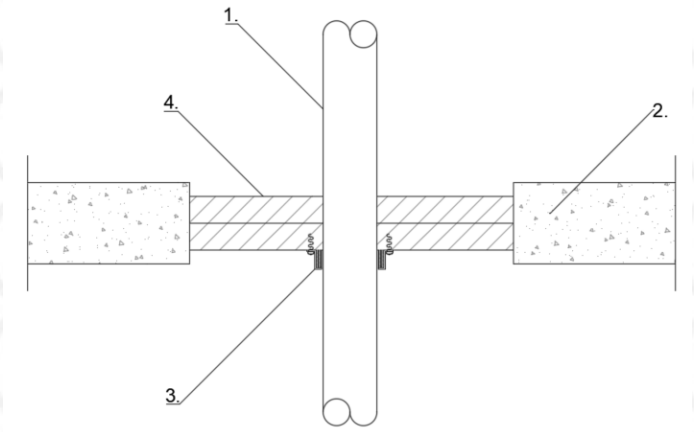
All services supported with pipe supports at 400 mm from the upper face of the floor.

(1) PVC-U pipe according to EN 1329-1, EN 1452-1 and EN 1453-1 and PVC-C according to EN 1566-1
(2) PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1
(3) PP pipe according to EN 1852-1: 2009

Appendix UL-EU CERTIFICATE

Plastic pipes in fischer FCPS Coated Panel System

Rigid Floors ≥150 mm



Key

1. Plastic Pipe
2. Rigid floor
3. Fire Collar FFC
4. fischer FCPS Coated Panel System

Penetration Service	Opening Size (mm)	Distances (mm)	Installation	Classification
PVC-U, PVC-C(1) – See Table 3 for scope	≤ 1500 x 1100	Edge – ≥ 100 Penetration Service ≥ 50	Two 50 mm back-to-back fischer FCPS Coated Panel System friction fit using fischer FiAM Intumescent Acoustic Mastic between joints, Fire Collar FFC collar fixed to the exposed face of the fire batt using pigtail screws.	EI 60 U/C, C/C
PE, ABS, SAN-PVC(2) – See Table 3 for scope				
PP(3) – See Table 3 for scope				
PVC-U, PVC-C(1) – See Table 3 for scope	≤ 1000 x 350			EI 120 – U/C, C/C
PE, ABS, SAN-PVC(2) – See Table 3 for scope				
PP(3) – See Table 3 for scope				

All services supported with pipe supports at 400 mm from the upper face of the floor.

(1) PVC-U pipe according to EN 1329-1, EN 1452-1 and EN 1453-1 and PVC-C according to EN 1566-1
(2) PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1
(3) PP pipe according to EN 1852-1: 2009

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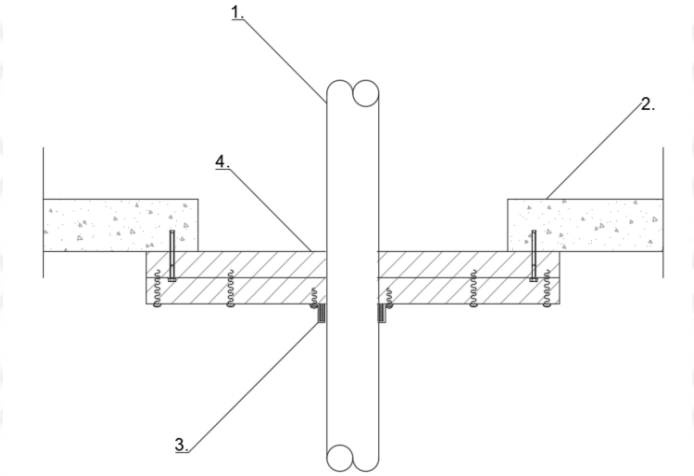
Rigid floors Minimum Thickness 100 mm

Plastic pipes in fischer FCPS Coated Panel System

Rigid Floors ≥100 mm



Key

1. Plastic Pipe
2. Rigid floor
3. Fire Collar FFC
4. fischer FCPS Coated Panel System

Penetration Service	Opening Size (mm)	Distances (mm)	Installation	Classification
PVC-U, PVC-C(1) – See Table 3 for scope	≤ 1300 x 1000	Edge – ≥ 0 Penetration Service ≥ 0	Two 50 mm back-to-back fischer FCPS Coated Panel System pattress fit using fischer FiAM Intumescent Acoustic Mastic between joints. Fire resistant insulation fixings 110mm used to fix first fire batt to substrate, 100mm overlap onto substrate. Pig tail screws 90 mm used to fix second fire batt to first. Fire Collar FFC collar fixed to the exposed face of the fire batt using pigtail screws.	EI 60 U/C, C/C
PE, ABS, SAN-PVC(2) – See Table 3 for scope				
PP(3) – See Table 3 for scope				

All services supported with pipe supports at 400 mm from the upper face of the floor.

(1) PVC-U pipe according to EN 1329-1, EN 1452-1 and EN 1453-1 and PVC-C according to EN 1566-1
(2) PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1
(3) PP pipe according to EN 1852-1: 2009

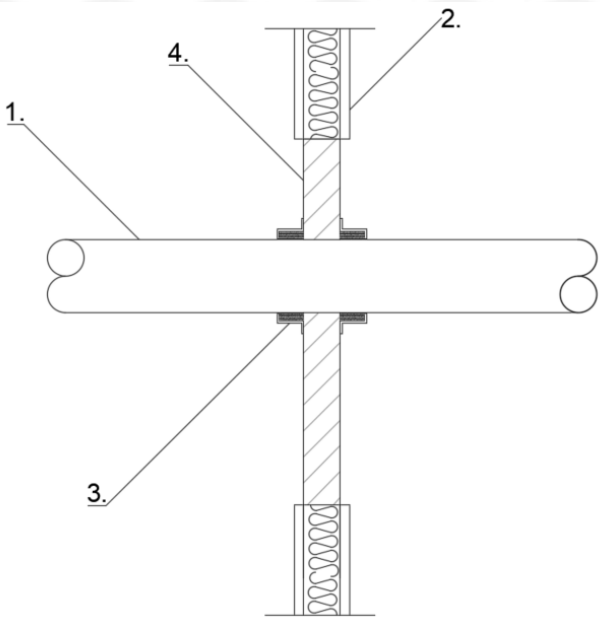
Appendix UL-EU CERTIFICATE

Walls

Flexible or Rigid Walls Minimum Thickness 75 mm

Plastic pipes in fischer FCPS Coated Panel System

Flexible or rigid walls ≥75 mm



Key

1. Plastic Pipe
2. Flexible Wall
3. Fire Collar FFC
4. fischer FCPS Coated Panel System

Penetration Service	Opening Size (mm)	Distances (mm)	Installation	Classification
PVC-U, PVC-C(1) – See Table 1 for scope	≤ 600 x 600	Edge – ≥ 70 Penetration Service ≥ 0	fischer FCPS Coated Panel System friction fit using fischer FiAM Intumescent Acoustic Mastic between joints, Fire Collar FFC collar fixed to both sides of wall to the face of the fire batt using pigtail screws.	EI 60 U/C, C/C
PE, ABS, SAN-PVC(2) – See Table 1 for scope				
PP(3) – See Table 1 for scope				

All services supported with pipe supports at 420 mm from both faces of the wall.

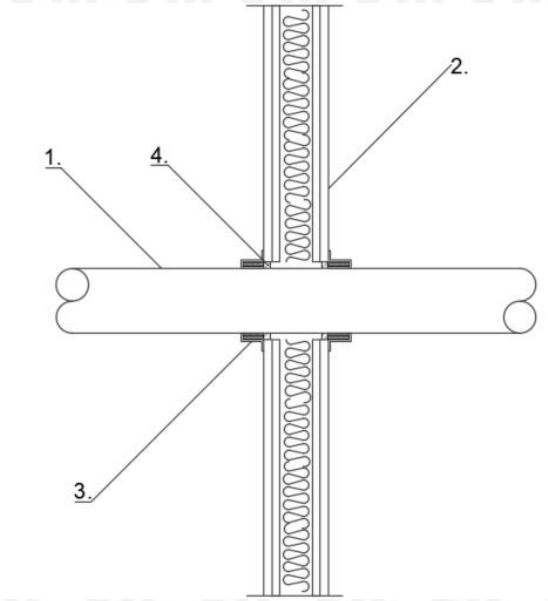
(1) PVC-U pipe according to EN 1329-1, EN 1452-1 and EN 1453-1 and PVC-C according to EN 1566-1
(2) PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1
(3) PP pipe according to EN 1852-1: 2009

Appendix UL-EU CERTIFICATE

Flexible or Rigid Walls Minimum Thickness 100 mm

Plastic pipes

Flexible or rigid walls ≥100 mm



Key

1. Plastic Pipe
2. Flexible Wall
3. Fire Collar FFC
4. fischer FiAM Intumescent Acoustic Mastic

Penetration Service	Annular Space (mm)	Distances (mm)	Installation	Classification
PVC-U, PVC-C(1) – See Table 1 for scope	≤ 10	Edge – ≥ 10 Penetration Service ≥ 100	Face fixed each side of the wall using 3no 6.0 mm diameter x 65 mm long steel toggle plasterboard anchor. fischer FiAM Intumescent Acoustic Mastic applied to annular space 12.5mm depth both sides of wall.	EI 120 U/C, C/C
PE, ABS, SAN-PVC(2) – See Table 1 for scope				
PP(3) – See Table 1 for scope				
PVC-U, PVC-C(1) – See Table 2 for scope				EI 60 – U/U, C/U, U/C, C/C
PE, ABS, SAN-PVC(2) – See Table 2 for scope				
PP(3) – See Table 2 for scope				

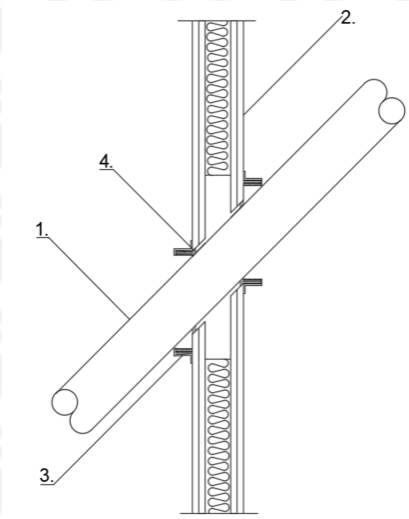
All services supported with pipe supports at 400 mm from both faces of the wall.

(1) PVC-U pipe according to EN 1329-1, EN 1452-1 and EN 1453-1 and PVC-C according to EN 1566-1
(2) PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1
(3) PP pipe according to EN 1852-1: 2009

Appendix UL-EU CERTIFICATE

Angled plastic pipes

Flexible or rigid walls ≥100 mm insulated or uninsulated, lined, or unlined



Key

1. Plastic Pipe
2. Flexible Wall
3. Fire Collar FFC
4. fischer FiAM Intumescent Acoustic Mastic

Penetration Service	Annular Space (mm)	Distances (mm)	Collar	Installation	Classification
PVC-U, PVC-C(1), 110 mm Ø x 6.6 mm thick wall	≤ 10	Edge – ≥ 10 Penetration Service ≥ 0	160 mm Fire Collar FFC with 40 x 18 mm inlay	Face fixed each side of the wall using 3no 50 mm long x 5 mm diameter screw with penny washer. fischer FiAM Intumescent Acoustic Mastic applied to annular space 10mm depth both sides of wall. Angle of pipe is permitted from 30° - 150°.	EI 90 U/C, C/C
PE, ABS, SAN-PVC(2), 110 mm Ø x 2.7 mm thick wall			160 mm Fire Collar FFC with 40 x 18 mm inlay		
PP(3), 50 mm Ø x 2.9 mm thick wall			110 mm Fire Collar FFC with 40 x 10 mm inlay		

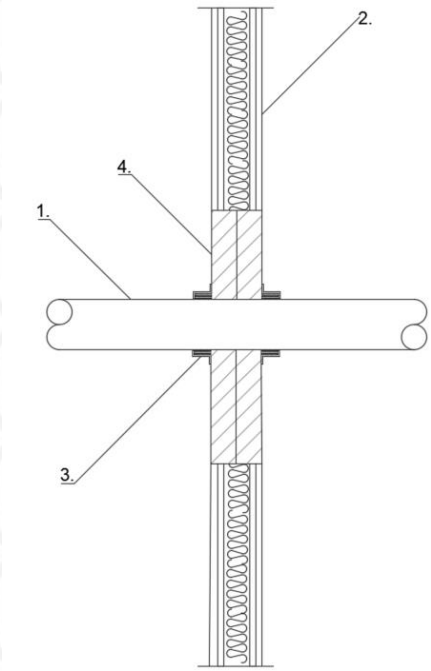
All services supported with pipe supports at 400 mm from both faces of the wall.

(1) PVC-U pipe according to EN 1329-1, EN 1452-1 and EN 1453-1 and PVC-C according to EN 1566-1
(2) PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1
(3) PP pipe according to EN 1852-1: 2009

Appendix UL-EU CERTIFICATE

Plastic pipes in fischer FCPS Coated Panel System

Flexible or rigid walls ≥100 mm insulated, unlined or lined



Key

1. Plastic Pipe
2. Flexible Wall
3. Fire Collar FFC
4. fischer FCPS Coated Panel System

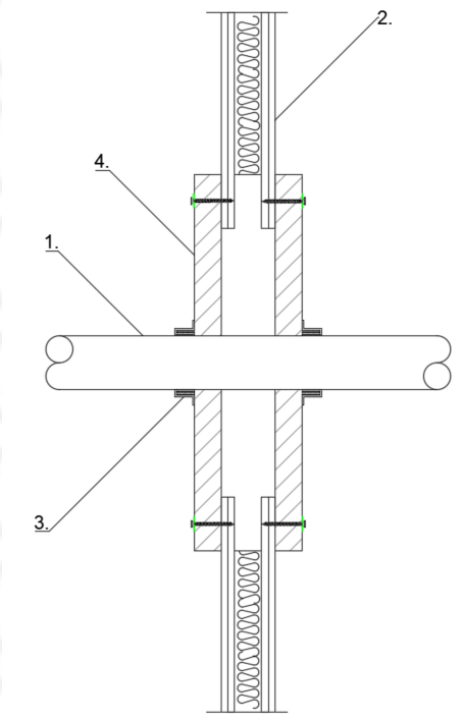
Penetration Service	Opening Size (mm)	Distances (mm)	Installation	Classification
PVC-U, PVC-C(1) – See Table 1 for scope	≤ 1200 x 730	Edge – ≥ 100 Penetration Service ≥ 0	Two 50 mm back-to-back fischer FCPS Coated Panel System friction fit using fischer FiAM Intumescent Acoustic Mastic between joints, Fire Collar FFC collar fixed to both sides of wall to the face of the fire batt using pigtail screws.	EI 120 U/C, C/C
PE, ABS, SAN-PVC(2) – See Table 1 for scope				
PP(3) – See Table 1 for scope				
PVC-U, PVC-C(1) – See Table 1 for scope	≤ 2600 x 2600			EI 60 – U/C, C/C
PE, ABS, SAN-PVC(2) – See Table 1 for scope				
PP(3) – See Table 1 for scope				

All services supported with pipe supports at 400 mm from both faces of the wall.

(1) PVC-U pipe according to EN 1329-1, EN 1452-1 and EN 1453-1 and PVC-C according to EN 1566-1
(2) PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1
(3) PP pipe according to EN 1852-1: 2009

Appendix UL-EU CERTIFICATE

Flexible or Rigid Walls ≥100 mm insulated or uninsulated, unllined or lined



Key

1. Plastic Pipe
2. Flexible Wall
3. Fire Collar FFC
4. fischer FCPS Coated Panel System

Penetration Service	Opening Size (mm)	Distances (mm)	Installation	Classification
PVC-U, PVC-C(1) – See Table 1 for scope	≤ 1200 x 750	Edge – 100 Penetration Service ≥ 0	fischer FCPS Coated Panel System pattress fit using fischer FiAM Intumescent Acoustic Mastic between joints. Fixed to the substrate using 6 x 80 steel screws and steel washers, 100mm overlap onto substrate. Fire Collar FFC collar fixed to the exposed face of the fire batt using pigtail screws.	EI 120 U/C, C/C
PE, ABS, SAN-PVC(2) – See Table 1 for scope				
PP(3) – See Table 1 for scope				

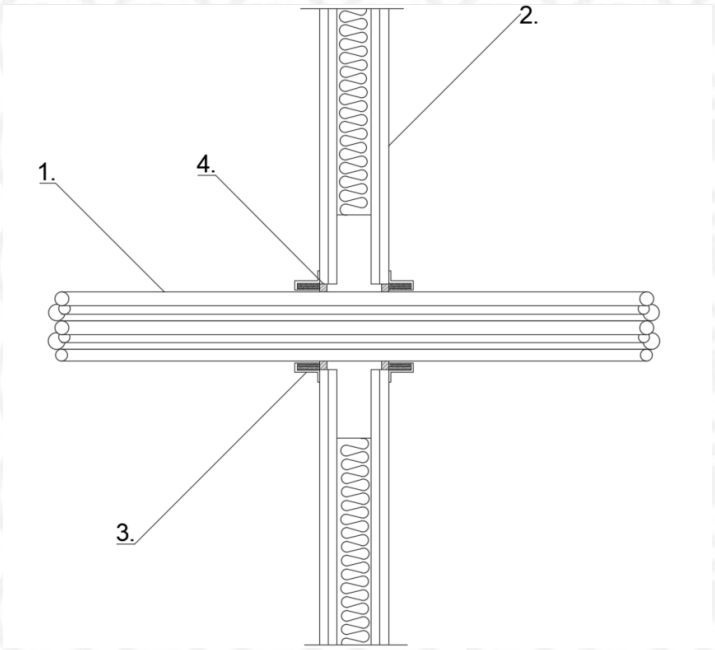
All services supported with pipe supports at 400 mm from both faces of the wall.

(1) PVC-U pipe according to EN 1329-1, EN 1452-1 and EN 1453-1 and PVC-C according to EN 1566-1
(2) PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1
(3) PP pipe according to EN 1852-1: 2009

Appendix UL-EU CERTIFICATE

Cables

Flexible or rigid walls ≥100 mm insulated or uninsulated, lined, or unlined



Key

1. Cables
2. Flexible Wall
3. Fire Collar FFC
4. fischer FiAM Intumescent Acoustic Mastic

Penetration Service	Annular Space (mm)	Distances (mm)	Installation	Classification
Telecoms cable bunch ≤100mm Ø	≤ 10	Edge – ≥ 10 Penetration Service ≥ 100	Face fixed each side of the wall using 3no 50 mm long x 5 mm diameter screw with penny washer. fischer FiAM Intumescent Acoustic Mastic applied to annular space 10mm depth both sides of wall.	EI 120

All services supported with pipe supports at 400 mm from both faces of the wall.

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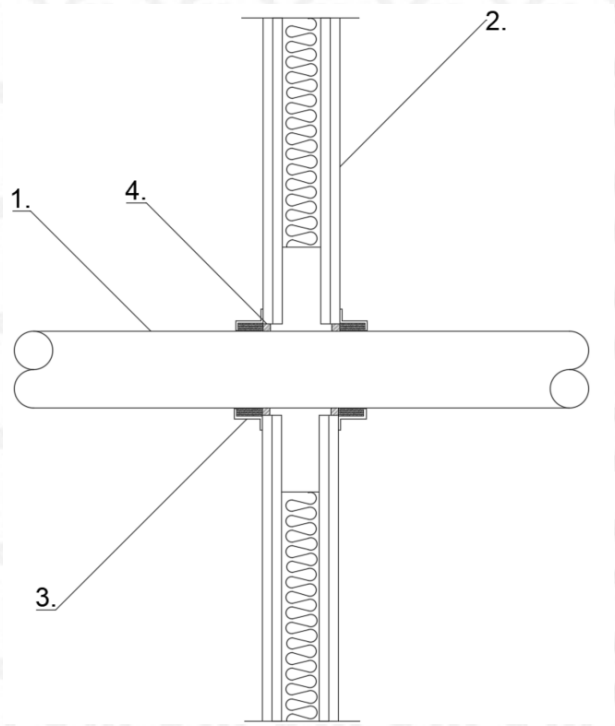
Aluminium pipes

Flexible or rigid walls ≥100 mm insulated or uninsulated, lined, or unlined



Key

1. Aluminium Pipe
2. Flexible Wall
3. Fire Collar FFC
4. fischer FiAM Intumescent Acoustic Mastic

Penetration Service	Annular Space (mm)	Distances (mm)	Installation	Classification
Aluminium pipe, 101.6 mm outside diameter x 3.175 mm thick wall	≤ 10	Edge – ≥ 10 Penetration Service ≥ 100	Face fixed each side of the wall using 3no 50 mm long x 5 mm diameter screw with penny washer. fischer FiAM Intumescent Acoustic Mastic applied to annular space 10mm depth both sides of wall.	EI 120 C/C

All services supported with pipe supports at 400 mm from both faces of the wall.

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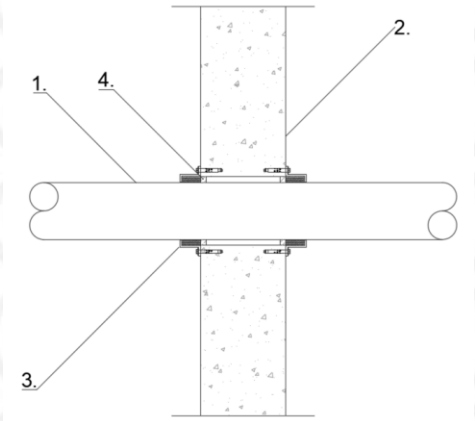
Rigid Walls

Plastic pipes

Rigid walls ≥100 mm



Key

1. Plastic Pipe
2. Rigid Wall
3. Fire Collar FFC
4. fischer FiAM Intumescent Acoustic Mastic

Penetration Service*	Annular Space (mm)	Distances (mm)	Installation	Classification
Polypropylene pipe, 110 mm Ø x 2.7 mm thick wall	≤ 10	Edge – ≥ 10 Penetration Service ≥ 100	Face fixed each side of the wall using 3no 40mm fire resistant anchors. fischer FiAM Intumescent Acoustic Mastic applied to annular space 10mm depth both sides of wall at a 10mm depth	EI 120 – U/U, C/U, U/C, C/C
Polypropylene pipe, 160 mm Ø x 4.0 mm thick wall	≤ 10	Edge – ≥ 10 Penetration Service ≥ 100	Face fixed each side of the wall using 3no 70mm woodscrews and penny washers. fischer FiAM Intumescent Acoustic Mastic applied to annular space 10mm depth both sides of wall at a 10mm depth	EI 120 – U/U, C/U, U/C, C/C
Polypropylene pipe, 250 mm Ø x 6.2 mm thick wall	≤ 10	Edge – ≥ 10 Penetration Service ≥ 100	Face fixed each side of the wall using 3no 70mm woodscrews and penny washers. fischer FiAM Intumescent Acoustic Mastic applied to annular space 10mm depth both sides of wall at a 10mm depth	EI 120 – U/C, C/C

All services supported with pipe supports at at 230 mm from both faces of the wall.
*PP pipe according to EN 1852-1: 2009

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Table 1

Plastic Type and pipe wall thickness (mm)			
Fire Collar FFC ref. *	**PVC-U, PVC-C**	**PE, ABS, SAN-PVC**	**PP**
32	1.8	2.9	2.9
40	1.8	2.9	2.9
50	1.8	2.9	2.9
55	1.8 - 2.3	2.9 - 5.1	2.9 - 4.4
63	2.3 – 3.0	2.9 - 5.8	2.9 - 4.4
75	3.1 - 4.8	2.8 - 6.9	2.8 - 6.7
82	3.1 - 4.8	2.8 - 7.5	2.8 - 6.7
90	4.2 - 7.4	2.8 - 8.2	2.7 - 10.0
100	4.2 - 7.4	2.7 - 9.1	2.7 - 10.0
110	4.2 - 7.4	2.7 – 10.0	2.7 - 10.0
125	6.0	3.1	3.1
140	6.1 - 7.5	3.9 - 5.8	3.5 - 8.0
160	6.2- 9.5	4.9 - 9.5	4.0 - 14.6

* See graphs on page 16 for specific intumescent layers

Table 2

Plastic Type and pipe wall thickness (mm)			
Fire Collar FFC ref.	**PVC-U, PVC-C**	**PE, ABS, SAN-PVC**	**PP**
32	1.8	3.0	2.0
40	1.8	3.0	2.0
50	1.8 – 3.7	3.0 – 4.6	2.0 – 6.9
55	2.0 - 3.9	3.0- 5.1	2.1 - 7.2
63	2.3 - 4.3	3.0 - 5.8	2.2 - 7.6
75	2.8 -4.9	2.9 - 6.9	2.3 - 8.2
82	3.1 - 5.2	2.9 - 7.5	2.4 - 8.6
90	3.4 - 5.6	2.8 - 8.2	2.5 – 9.0
100	3.8 - 6.1	2.8 - 9.1	2.6 - 9.5
110	4.2 - 6.6	2.7 – 10.0	2.7 – 10.0
125	4.8 - 7.4		
140	5.4 - 8.3		
160	6.2 - 9.5		

* See graphs on page 16 for specific intumescent layers

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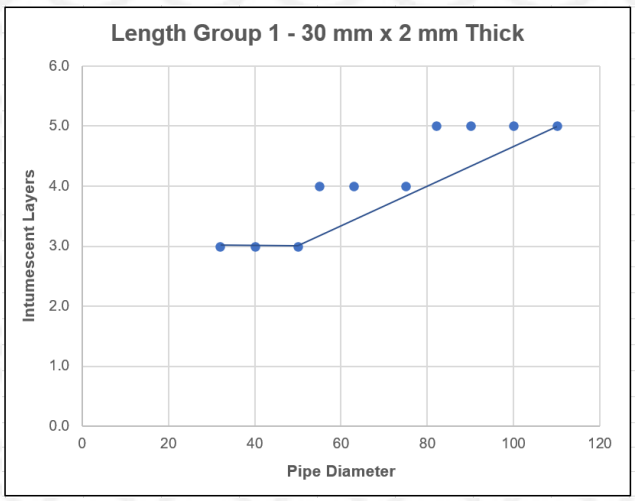
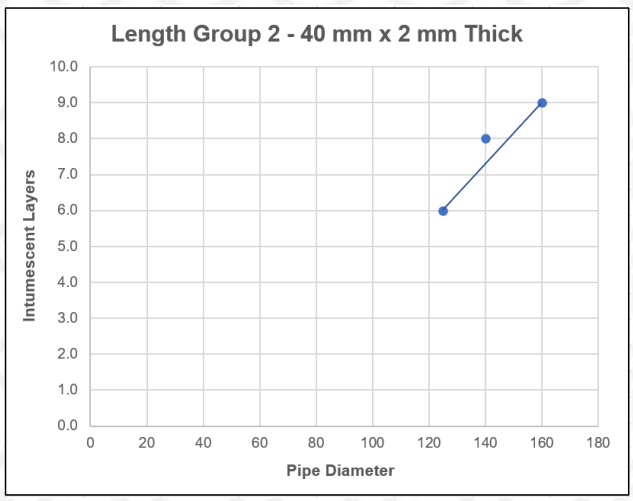
Table 3

Plastic Type and pipe wall thickness (mm)			
Fire Collar FFC ref.	**PVC-U, PVC-C**	**PE, ABS, SAN-PVC**	**PP**
32	1.8	2.9	2.9
40	1.8	2.9	2.9
50	1.8	2.9	2.9
55	2.0 - 2.3	2.9 - 3.5	2.9 - 3.5
63	2.3 - 3.0	2.9 - 4.4	2.9 - 4.4
75	2.8 - 4.1	2.8 - 5.9	2.8 - 5.9
82	3.1 - 4.7	2.8 - 6.7	2.8 - 6.7
90	3.4 - 5.5	2.8 - 7.6	2.8 - 7.6
100	3.8 - 6.4	2.7 - 8.8	2.7 - 8.8
110	4.2 - 7.3	2.7 - 10.0	2.7 - 10.0
125	6.0	3.1	3.1
140	6.1 - 7.5	3.9 - 5.8	3.5 - 8.0
160	6.2 - 9.5	4.9 - 9.5	4.0 - 14.6

* See below graphs for specific intumescent layers





Appendix UL-EU Certificate

Certification Mark	**UL-EU mark**
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The UL-EU Mark, as displayed below, shall appear on certified products only. Minimum size is not specified, as long as the Mark is legible. The following is suggested.

The minimum height of the registered trademark symbol ® shall be 1 mm. When the overall diameter of the UL-EU Mark is less than 9.5 mm, the trademark symbol may be omitted if it is not legible to the naked eye.

The UL-EU Mark may appear on a label, nameplate, or may be cast, stamped or molded into the product. When appearing on a label or nameplate, the Manufacturer's name or trademark along with a model number are also required on that same label or nameplate. If cast, stamped or molded, the Manufacturer's name or trademark and model number shall also appear elsewhere on the product.

All content shall be in accordance with the details provided on this UL-EU Certificate.

PROCUREMENT

The Production site may reproduce the Mark or obtain it from a UL authorized supplier. The list of UL authorized suppliers can be found on UL's online directory at www.ul.com.