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European Technical Assessment ETA-24/0612 of 2024/07/02

I General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S

Trade name of the construction product:	Fireguard A+ 566
Product family to which the above construction product belongs:	Fire Stopping and Sealing Product:Penetration Seals
Manufacturer:	Dana Lim A/S Københavnsvej 220 DK 4600 Køge Denmark
Manufacturing plant:	E/055
This European Technical Assessment contains:	27 pages including 3 annexes which form an integral part of the document
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of:	EAD 350454-00-1104
This version replaces:	-

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I. SPECIFIC PARTS OF THE EUROPEAN TECHNICAL ASSESSMENT

1 <u>Technical description of the product</u>

- Fireguard A+ 566 is an acrylic based sealant used to form a penetration seal around insulated or uninsulated metallic pipes and electrical cables, to reinstate the fire resistance performance of wall and floor constructions where they have been provided with apertures for the penetration of services.
- 2) Fireguard A+ 566 is supplied in liquid form contained within 310 ml & 380 ml cartridges, 600 ml foils or in 5, 10, 20 or 25 litre tubs. The sealant is gunned or trowelled into the aperture in or between the separating element/elements to a specified depth using various backing materials.
- 3) Certain seals require FSi Thermal Defense Wrap in addition, used to insulate the service. The Thermal Defense Wrap is a 6 mm thick foil faced ceramic based insulation material, installed externally to the Fireguard A+ 566 as detailed in Annex A.
- 4) The applicant has submitted a written declaration that Fireguard A+ 566 does not contain substances which have to be classified as dangerous according to article 59 (1, 10) of the Regulation (EC) No 1907/2006 (REACH).

In addition to the specific clauses relating to dangerous substances contained in this European technical Assessment, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products Regulation, these requirements need also to be complied with, when and where they apply.

5) The use category of Fireguard A+ 566 in relation to BWR 3 (Hygiene, health and environment) is IA2

2 <u>Specification of the intended uses of the product in accordance with the applicable European Assessment</u> <u>Document (Hereinafter EAD): EAD 350454-00-1104</u>

Detailed information and data is given in Annex A.

- 1) The intended use of system Fireguard A+ 566 is to reinstate the fire resistance performance of flexible and rigid wall constructions and rigid floor constructions where they are penetrated by insulated or uninsulated metallic pipes and electrical cables.
- 2) The specific elements of construction that the system Fireguard A+ 566 may be used to provide a penetration seal in, are as follows:

a.	Flexible walls:	The wall must have a minimum thickness of 75 mm and comprise steel studs or timber studs* lined on both faces with minimum 1 layer of 12.5 mm thick boards.
b.	Rigid walls:	The wall must have a minimum thickness of 75 mm and comprise concrete, aerated concrete or masonry with a minimum density of
		650 kg/m ³ .
c.	Rigid floors:	The floor must have a minimum thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650 kg/m ³ .

* no part of the penetration seal may be closer than 100 mm to a stud, the cavity must be closed between the penetration seal and the stud, and minimum 100 mm of insulation of class A1 or A2 according to EN 13501-1 must be provided within the cavity between the penetration seal and the stud.

The supporting construction must be classified in accordance with EN 13501-2 for the required fire resistance period.

- 3) The System Fireguard A+ 566 may be used to provide a penetration seal with specific single insulated metal pipes, uninsulated metal pipes and with specific electrical cables, single or in a bundle (for details see Annex A).
- 4) Apertures in the separating element shall be maximum Ø 350 mm or 300 x 300 mm. The annular space/gap around the services shall be infilled with Fireguard A+ 566 sealant and in some cases utilising various backing materials. For full details, see Annex A.
- 5) The provisions made in this European Technical Assessment are based on an assumed working life of the Fireguard A+ 566 of 25 years, provided that the conditions laid down in the product datasheet for the packaging/transport/ storage/installation/use/repair are met. The indications given on the working life cannot be interpreted as a guarantee given by the producer or the Technical Assessment Body, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.
- 6) Type X: Intended for use in conditions exposed to weathering and all lower classes.

3 Performance of the product and references to the methods used for its assessment

Product-type: Intumescent sheet	Intended use: Penetration Seal			
Essential characteristic	Product performance			
BWR 2 Safe	ety in case of fire			
Reaction to fire	No performance assessed			
Resistance to fire	Annex A			
BWR 3 Hygiene, h	ealth and environment			
Air permeability	Annex B			
Water permeability	No performance assessed			
Content, emission and/or release of dangerous substances	Use categories: IA2 Declaration of manufacturer			
BWR 4	Safety in use			
Mechanical resistance and stability	No performance assessed			
Resistance to impact/movement	No performance assessed			
Adhesion	No performance assessed			
Durability	Туре Х			
BWR 5 Prote	ction against noise			
Airborne sound insulation	Annex C			
BWR 6 Energy economy and heat retention				
Thermal properties	No performance assessed			
Water vapour permeability	No performance assessed			

4 ASSESSMENT AND VERIFICATION OF CONSTANCY OF PERFORMANCE (HEREINAFTER AVCP) SYSTEM APPLIED, WITH REFERENCE TO ITS LEGAL BASE

According to the decision 1999/454/EC – Commission Decision of date 22nd June 1999 on the procedure for attesting the conformity of construction products pursuant to Article 20(2) of Council Directive 89/106/EEC as regards fire stopping, fire sealing and fire protective products, published in the Official Journal of the European Union (OJEU) L178/52 of 14/07/1999, (see https://eur-lex.europa.eu/oj/direct-access.html) of the European Commission¹, as amended, the system(s) of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) given in the following table(s) applies (apply).

Product(s)	Intended use(s)	Level(s) or class(es)	System(s)
Fire stopping and Fire Sealing Products	For fire compartmentation and/or fire protection or fire performance	Any	1

5 <u>Technical details necessary for the implementation of the AVCP system, as provided for in the applicable</u> <u>EAD</u>

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at ETA-Danmark A/S prior to CE marking

Issued in Copenhagen on 2024-07-02 by

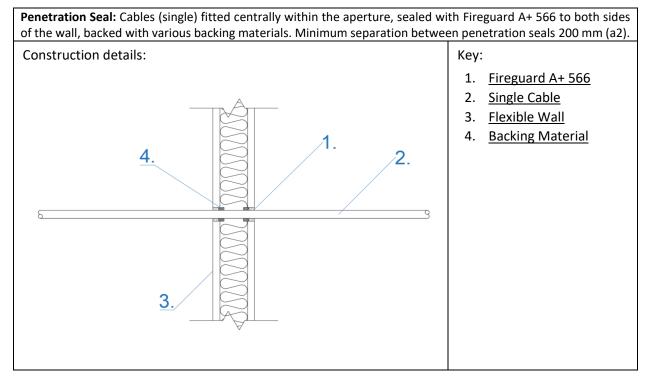
Thomas Bruun Managing Director, ETA-Danmark

¹ Official Journal of the European Communities L178/52 of 14/7/1999

ANNEX A – Resistance to Fire Classification – Fireguard A+ 566

A.1 Flexible and rigid wall constructions with wall thickness of minimum 75 mm

A.1.1 Double sided penetration seal with cables

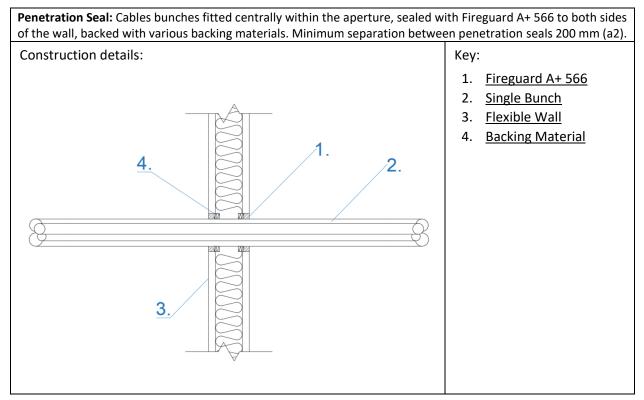


A.1.1.1

Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Classification
D1 cable*	10	100 Ø	PE backing rod, glass 100 Ø wool, stone wool or ceramic wool	
B cable*	12	25 Ø	Stone wool or ceramic wool (10 mm 45kg/m³)	E 90, EI 60

* As defined in EN 1366-3: 2009, Annex A

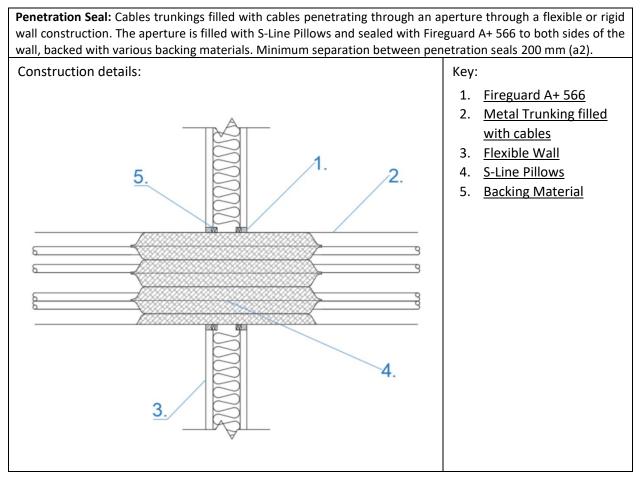
A.1.2 Double sided penetration seal with cables bunches



A.1.2.1

Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Classification
Telecoms cables ≤21 mm Ø in cable bunch ≤100 mm Ø	10	120 Ø	PE backing rod, glass wool, stone wool or ceramic wool	E 60, El 45

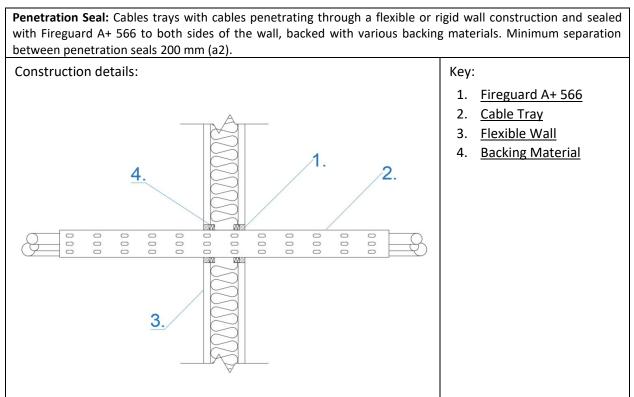
A.1.3 Double sided penetration seal with cable trunking



A.1.3.1

Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Steel trunking up to 150 mm x 150 mm	10	170 x 170	PE backing rod, glass wool, stone wool or ceramic wool	0	E 60, El 20
Steel trunking up to 50 mm x 50 mm	10	70 x 70	PE backing rod, glass wool, stone wool or ceramic wool	0	E 60, El 45

A.1.4 Double sided penetration seal with cable trays



A.1.4.1

Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Steel cable tray ≤450 mm wide loaded with cables ≤21 mm Ø + C1, C2, C3 cables*	10	470 x 100	PE backing rod, glass wool, stone wool or ceramic wool	0	E 60, El 20
Steel cable tray ≤450 mm wide loaded with cables ≤21 mm Ø + C1, C2, C3 cables*with insulation ≤40 mm thick ≤45kg/m³, ≤400 mm either side of the wall (L/I)	10	470 x 100	PE backing rod, glass wool, stone wool or ceramic wool	0	EI 45

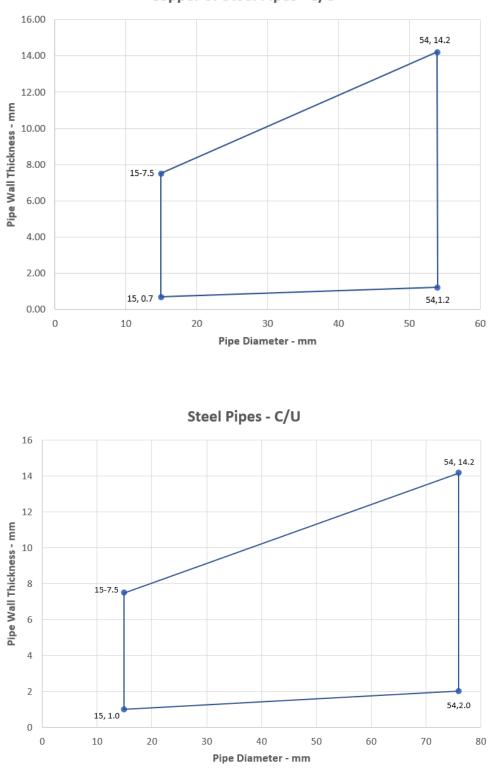
* As defined in EN 1366-3: 2009, Annex A

A.1.5 Double side penetration seal with metallic pipes

3

A.1.5.1

Penetration Service	Depth	Annular	Backing	Classification
	(mm)	(mm)	Material	
Copper pipe ≤15 mm diameter/ 0.7-14.2				E 90 C/U, C/C,
mm wall thickness				EI 60 C/U, C/C
Copper or Steel pipe 15-54 mm			Stone wool or	E 90 C/U, C/C
diameter/ 1.2-14.2 mm wall thickness*	12	5-10	ceramic wool	E 90 C/ 0, C/ C
Steel pipe 15 mm diameter/ 1-14.2 mm	12	5-10	(≥10mm	EI 90 C/U, C/C
wall thickness			≥45kg/m³)	EI 90 C/ U, C/ C
Steel pipe 15-76 mm diameter/ 2-14.2				E 90 C/U, C/C,
mm wall thickness*				EI 20 C/U, C/C
Steel pipe 325 mm diameter/ 17.5 mm		25 (O distance	PE backing rod,	
wall thickness, insulated with stone wool	10	25 (0 distance	glass wool,	E 60 C/U, C/C,
≥40 mm thick, ≥45kg/m³ (LI) min. 400	10	from aperture	stone wool or	EI 30 C/U, C/C
mm length to both faces		edge)	ceramic wool	



Copper or Steel Pipes - C/U

A.1.6 Double side penetration seal with insulated metallic pipes

A.1.6.1

Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Copper or steel pipe 159 mm diameter/ 2- 14.2 mm wall thickness insulated with stone wool ≥50 mm thick, ≥90kg/m ³ (C/S)	10	10	PE backing rod, glass wool, stone wool or ceramic wool	0	E 60 C/U, C/C, El 45 C/U, C/C

A.2 Flexible and rigid wall constructions with wall thickness of minimum 100 mm

A.2.1 Double sided penetration seal with cables and conduits

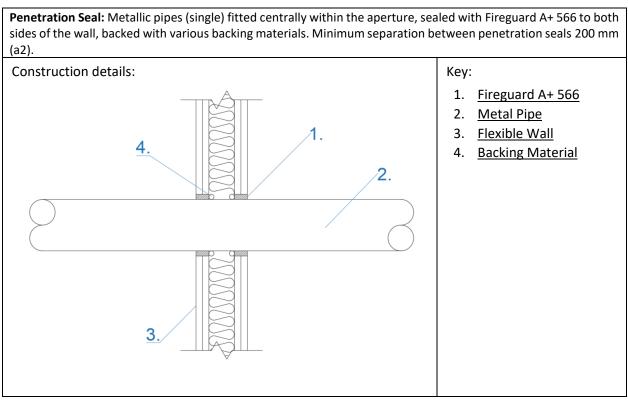
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A.2.1.1

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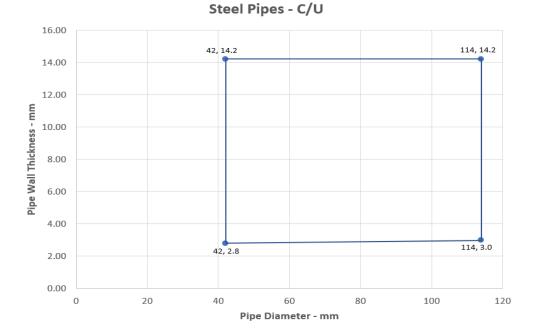
Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Cable bunch ≤100 mm Ø					EI 120
PVC conduits ≤16 mm Ø			Stone wool or		EI 120
Steel/Copper conduits ≤16 mm Ø	20	180 x 180	ceramic wool (20 mm	10	E 120, El 20
Cables ≤50 mm Ø			45kg/m³)		E 90, EI 60
Cables ≤21 mm Ø					EI 120

A.2.2 Double sided penetration seal with metallic pipes



A.2.2.1

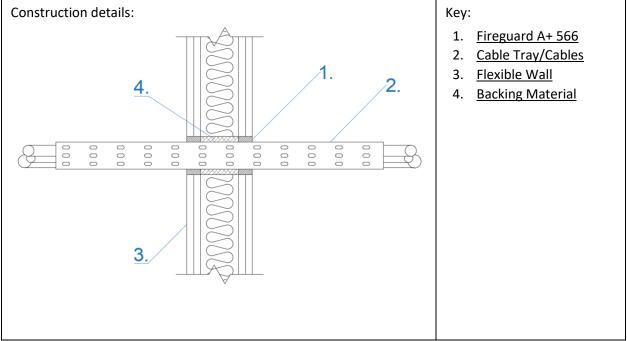
Penetration Service	Depth (mm)	Annular (mm)	Backing Material	Classification
Steel pipe 42 mm diameter/ 2.8-14.2 mm wall thickness	25	10	PE backing rod, glass wool,	E 120 C/U, C/C, El 45 C/U, C/C
Steel pipe 42-114mm diameter/ 3- 14.2mm wall thickness*	25	10	stone wool or ceramic wool	E 120 C/U, C/C, El 20 C/U, C/C



A.3 Flexible and rigid wall constructions with wall thickness of minimum 120 mm

A.3.1 Double sided penetration seal with cable trays

Penetration Seal: Cables trays with cables penetrating through a flexible or rigid wall construction and sealed with Fireguard A+ 566 to both sides of the wall, backed with various backing materials. Minimum separation between penetration seals 200 mm (a2).



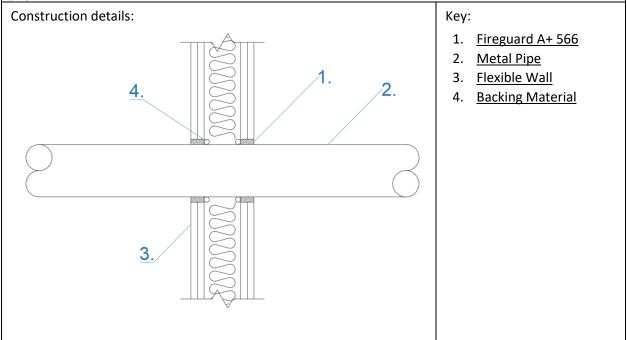
A.3.1.1

Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Steel cable tray ≤450 mm wide loaded with cables ≤21 mm Ø	25	490 x 100	Stone wool or ceramic wool (≥35 mm ≥80kg/m³)	20	E 120, El 90
C1, C2, D1 and D2 Cables*	25	200 x 100	PE backing rod, glass wool, stone wool or ceramic wool	20	E 90, El 60

* As defined in EN 1366-3: 2009, Annex A

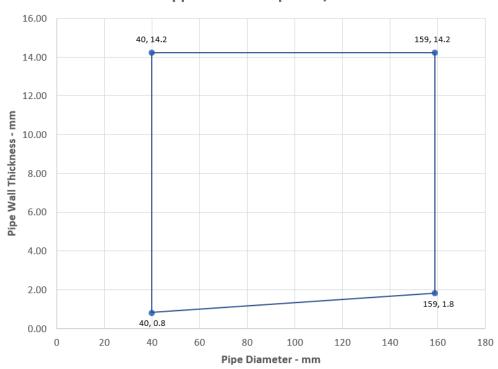
A.3.2 Double sided penetration seal with metallic pipes

Penetration Seal: Metallic pipes (single) fitted centrally within the aperture, sealed with Fireguard A+ 566 to both sides of the wall, backed with various backing materials. Minimum separation between penetration seals 200 mm (a2).



A.3.2.1

Penetration Service	Depth (mm)	Annular (mm)	Backing Material	Classification
Copper or steel pipe 15-40 mm diameter/ 0.8-14.2 mm wall thickness				E 120 C/U, C/C, El 15 C/U, C/C
Copper or steel pipe 40-159 mm diameter/ 1.8-14.2 mm wall thickness*				E 120 C/U, C/C,
Copper or steel pipe 40 mm diameter/ 0.8-14.2mm wall thickness insulated with FSi TDW to both sides of the wall at 300 mm (L/I)	25	10	PE backing rod, glass wool, stone wool or ceramic wool	E 120 C/U, C/C, El 90 C/U, C/C
Copper or steel pipe 40-159 mm diameter/ 1.8-14.2 mm wall thickness insulated with FSi TDW to both sides of the wall at 300 mm (L/I)*				E 120 C/U, C/C, El 20 C/U, C/C



Copper or Steel Pipes - C/U

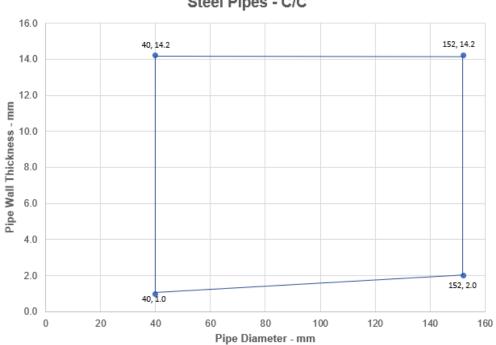
A.4 Rigid wall constructions with wall thickness of minimum 150 mm

A.4.1 Double side penetration seal with metallic pipes

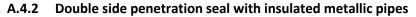
Penetration Seal: Metallic pipes (single) fitted at any position within the aperture, sealed with Fireguard A+ 566 to either side of the wall, backed with Stone wool or ceramic wool (\geq 144 mm \geq 80kg/m³). Minimum separation between penetration seals 200 mm (a2). Construction details: Key: 1. Fireguard A+ 566 2. Metal Pipe 3. <u>Rigid Wall</u> 4. Backing Material 4 1111111 \leftarrow 3 4 8 . 1 111111111 111111111 ν. 3

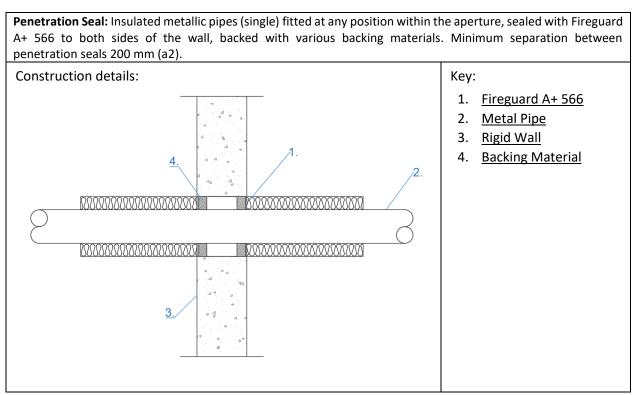
A.4.1.1

Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Steel pipe 40-152 mm diameter/ 2.5- 14.2mm wall thickness*	6	Pipe Ø + 50 mm	Stone wool or ceramic wool (≥144 mm ≥80kg/m³)	0	E 240 C/C
Steel pipe 40 mm diameter/ 1.5-14.2 mm wall thickness	6	Pipe Ø + 50 mm	Stone wool or ceramic wool (≥144 mm ≥80kg/m³)	0	E 240 C/C, El 120 C/C



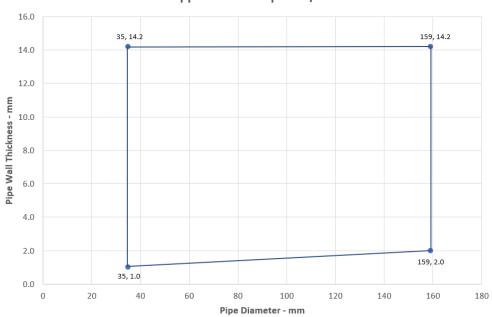
Steel Pipes - C/C





A.4.2.1

Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Copper or steel pipe 35-159mm diameter/ 2-14.2 mm wall thickness insulated with stone wool 50 mm thick 100kg/m ³ (C/I)*	5	Pipe Ø + 55 mm	PE backing rod, glass wool, stone wool or ceramic wool	0	El 240 C/U, C/C



Copper or Steel Pipes - C/U

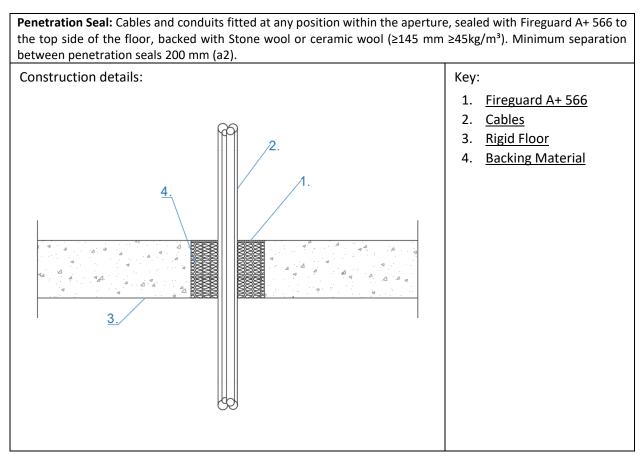
A.5 Rigid floor constructions with floor depth of minimum 150 mm

A.5.1 Penetration seal with metallic pipes

A.5.1.1

Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Copper or steel pipe 42-159 mm diameter/ 1-14.2 mm wall thickness	5	Stone wool or	20	E 180 C/U, C/C	
Copper or steel pipe 42 mm diameter/ 1- 14.2 mm wall thickness	5	200 x 200	ceramic wool (≥145 mm ≥45kg/m³)	20	E 240 C/U, C/C

A.5.2 Penetration seal with cables



A.5.2.1

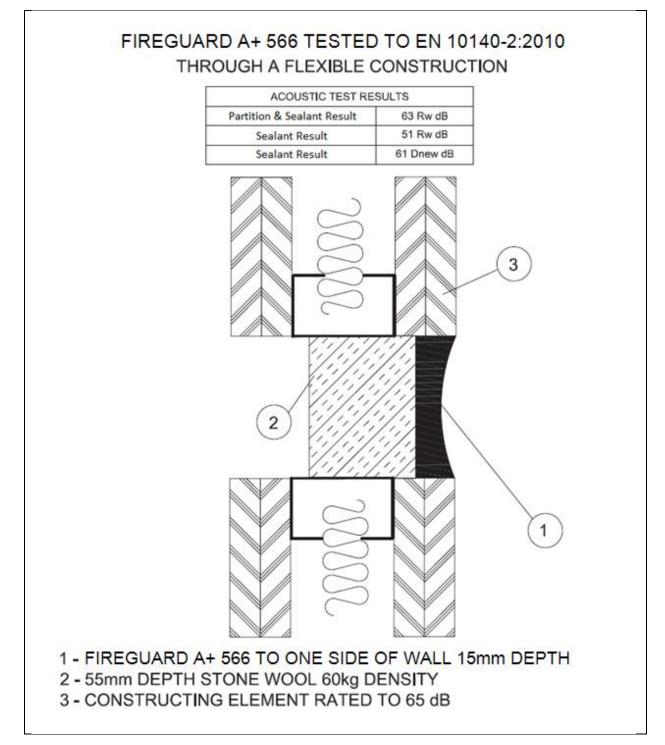
Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Telecoms cables ≤21 mm diameter in cable bunch ≤100 mm diameter					E 45, El 15
PVC conduits ≤16 mm diameter					E 45, EI 15
Steel or copper conduits ≤16 mm diameter	5	200 x 200	Stone wool or ceramic wool (≥145 mm ≥45kg/m³)	0	E 45, El 15
Cables ≤80 mm diameter					E 90, El 45
Cables ≤50 mm diameter					E 90, El 45
Cables ≤21 mm diameter					E 240, El 90

ANNEX B – Air Permeability - Fireguard A+ 566

Product tested	25 mm thick x 30 mm wide Fireguard A+ 566				
Su	mmary of testing procedu	ire	Result		
	Pressure (Pa)	Leakage (m ³ /h)	Leakage (m ³ /m ² /h)		
	50	0.0	0.0		
	100	0.0	0.0		
	150	0.1	2.8		
Results under negative	200	0.1	2.8		
chamber pressure	250	0.1	2.8		
	300	0.0	0.0		
	450	0.1	2.8		
	600	0.1	2.8		
	50	0.0	0.0		
	100	0.0	0.0		
	150	0.0	0.0		
Results under positive	200	0.0	0.0		
chamber pressure	250	0.0	0.0		
	300	0.0	0.0		
	450	0.1	2.8		
	600	0.1	2.8		

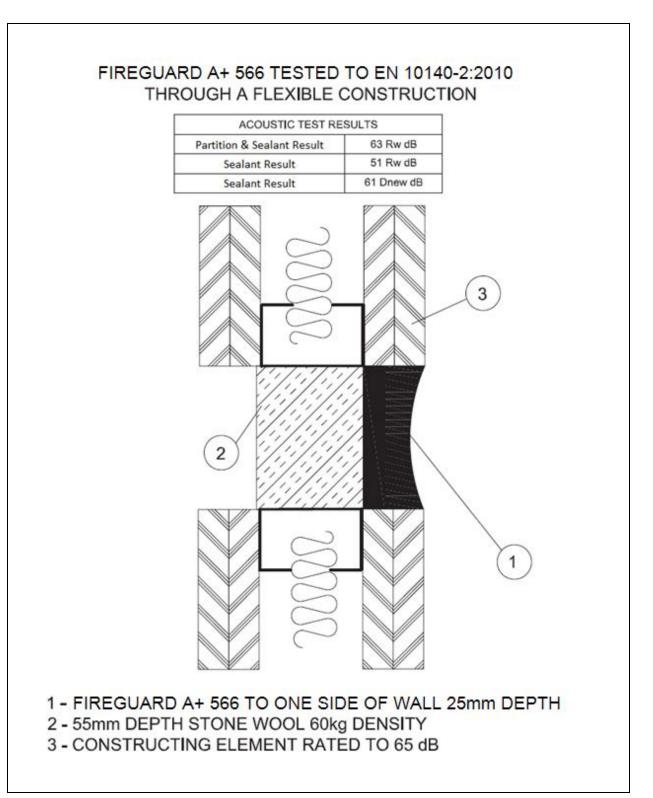
ANNEX C – Airborne Sound Insulation - Fireguard A+ 566

C.1 Fireguard A+ 566 at 15 mm deep in the following configuration



BWR 5 Protection against noise					
Assessment method	Essential characteristic	Product performance			
EN 10140-1,2,4,5/ EN ISO 717-1	Airborne sound insulation	Rw (C;Ctr)= 63(-1;-7)			

C.2 Fireguard A+ 566 at 25 mm deep in the following configuration



BWR 5 Protection against noise					
Assessment method	Essential characteristic	Product performance			
EN 10140-1,2,4,5/ EN ISO 717-1	Airborne sound insulation	Rw (C;Ctr)= 63(-1;-7)			