

DECLARATION OF PERFORMANCE

DoP-FS-1009

for fischer FiP Intumescent Pillows (Fire stopping and fire sealing products: Penetration Seals)

EN

1. Unique identification code of the product-type: DoP-FS-1009
2. Intended use/es: Maintenance of the fire resistance of a separating element at the position where services pass through, see appendix, especially annexes, 1.
3. Manufacturer: fischerwerke GmbH & Co. KG, Klaus-Fischer-Str. 1, 72178 Waldachtal, Germany
4. Authorised representative: -
5. System/s of AVCP: 1
6. European Assessment Document: EAD 350454-00-1104
European Technical Assessment: ETA-20/1063; 2020-12-11
Technical Assessment Body: ETA-Danmark A/S
Notified body/ies: 2531 - DBI Certification A/S
7. Declared performance/s:
Safety in case of fire (BWR 2)
Reaction to fire: NPD
Resistance to fire: Annexes 2, 7-11
Hygiene, health and the environment (BWR 3)
Air permeability (material property): Annex 3
Water permeability (material property): NPD
Content, emission and/or release of dangerous substances: Annex 3
Safety and accessibility in use (BWR 4)
Mechanical resistance and stability: NPD
Resistance to impact/movement: NPD
Adhesion: NPD
Durability: Annex 3
Protection against noise (BWR 5)
Airborne sound insulation: Annex 3
Energy economy and heat retention (BWR 6)
Thermal properties: NPD
Water vapour permeability: NPD
8. Appropriate Technical Documentation and/or Specific Technical Documentation: -

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

Signed for and on behalf of the manufacturer by:



Dr.-Ing. Oliver Geibig, Managing Director Business Units & Engineering
Tumlingen, 2020-12-18



Jürgen Grün, Managing Director Chemistry & Quality

This DoP has been prepared in different languages. In case there is a dispute on the interpretation the English version shall always prevail.

The Appendix includes voluntary and complementary information in English language exceeding the (language-neutrally specified) legal requirements.

1 Technical Description of the Product

- 1) fischer FiP Intumescent Pillows are a compressible combination of reactive and non-reactive components, encased in a thin woven glass fibre casing used to reinstate the fire resistance performance of wall constructions where they have been provided with apertures for the penetration of single or multiple services.
- 2) fischer FiP Intumescent Pillows is a dry system and does not require the use of any sealant or sealing products
- 3) The fischer FiP Intumescent Pillows are supplied in three different sizes referenced Large (330mm x 200mm x 45mm), Medium (330mm x 200mm x 25mm) and Small (330mm x 50mm x 20mm), a mixture of which may be utilized to obtain a tight compression
- 4) Installation of the fischer FiP Intumescent Pillows – See 6.2

2 Specification of the intended use(s) in accordance with the applicable European Assessment Document (hereinafter EAD)

The intended use of fischer FiP Intumescent Pillows is to reinstate the fire resistance performance of rigid wall constructions where they are penetrated by various cables and metallic pipes

The specific elements of construction that the system fischer FiP Intumescent Pillows may be used to provide a penetration seal in, are as follows:

Rigid walls: The wall must have a minimum thickness of 150 mm and comprise concrete, aerated concrete or masonry, with a minimum density of 650 kg/m³.

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

- 1) The fischer FiP Intumescent Pillows may be used to provide a penetration seal with pipes and cables (for details see Annex C).
- 2) The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.
- 3) The system fischer FiP Intumescent Pillows may be used to seal apertures in the separating element up to 1100mm wide by 1100mm high dependant on the configuration. The minimum permitted separation between adjacent seals/apertures is 200mm.
- 4) Pipes must be installed singular, cables require no minimum separation.
- 5) Services in walls shall be supported at maximum 250mm from the face of the separating element.

The provisions made in this European Technical Assessment are based on an assumed working life of the fischer FiP Intumescent Pillows of 10 years, provided that the conditions laid down in sections 4.2/5.1/5.2 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

Use Category

Type Z₁: Intended for use in internal conditions with humidity equal to or higher than 85% RH excluding temperatures below 0°C, without exposure to rain or UV.

3 Performance of The Product And References To The Methods Used For Its Assessment

BWR	Characteristic	Assessment of characteristic
2	Safety in case of fire	
	Reaction to fire	See Clause 1.1
	Resistance to fire	See clause 1.2
3	Hygiene, Health and the Environment	
	Air permeability	See clause 2.1
	Content and Release of Dangerous substances	See clause 2.2
4	Safety and applicability in use	
	Durability	See clause 3.1
5	Protection against noise	
	Airborne sound insulation	See Clause 4.1

3.1 Safety in case of fire

3.1.1 Reaction to fire

No performance assessed

3.1.2 Resistance to fire

fischer FiP Intumescent Pillows has been tested in accordance with BS EN 1366-3: 2009 based upon the test results and the field of direct application specified within EN 1366-3: 2009, the fischer FiP Intumescent Pillows has been classified in accordance with EN 13501-2, as given in Annex C:

The seals may only be penetrated by the services described in Annex C; other parts or support constructions must not penetrate the seal.

The service support construction must be fixed to the building element containing the penetration seal or a suitable adjacent building element, in such a manner that in the case of fire, no additional load is imposed on the seal. Furthermore it is assumed that the unexposed face support is maintained for the required period of fire resistance.

Certain pipe and cable configurations should be insulated with minimum 300mm long, 6mm thick Thermal Defence Wrap, or fischer FiP Intumescent Pillows to provide additional insulation to the pipes. See Annex C

Pipes must be perpendicular to the seal surface.

It is assumed that compressed air systems are switched off by other means in the case of fire.

3.2 Hygiene, Health and the environment.

3.1.1 Air permeability

fischer FiP Intumescent Pillows has been tested in accordance with BS EN 1314-1 to provide the following results:

Product tested				
	Results under positive chamber pressure		Results under negative chamber pressure	
Pressure (Pa)	Leakage (m ³ /h)	Leakage (m ³ /m ² /h)	Leakage (m ³ /h)	Leakage (m ³ /m ² /h)
50	2.5	13.9	3.1	17.2
100	4.1	22.8	5.6	31.1
150	5.8	32.2	7.4	41.1
200	7.2	40.0	8.9	49.4
250	8.7	48.3	10.3	57.2
300	9.8	54.4	11.1	61.7
450	13.4	74.4	15.3	85.0
600	17.5	97.2	18.6	103.3

3.2.1. Content and release of Dangerous Substances

The applicant has presented a declaration that fischer FiP Intumescent Pillows does not contain any substance of high concern with regards to REACH Regulations and are compliant with the requirements reference to <http://ec.europa.eu/enterprise/construction/cpd-ds/index.cfm>

Confirmation has further been declared that all dangerous chemical substances ≥ 1.0 % w/w as well as all toxic, carcinogenic, toxic for reproduction and mutagenic chemical substances ≥ 0.1 % w/w (Status: 29. adaption – 2004/73/EG – of the EU directive 67/548/EEC - classification, packaging and labelling of dangerous substances) are stated in the fischer FiP Intumescent Pillows safety data sheets (according to 91/155/EEC including amendments) and have been considered for the classification of the products according to the directive 1999/45/EG (classification of preparations, including amendments).

All dangerous chemical substances are below the classification limits of 67/548/EEC.

In addition to the specific clauses relating to dangerous substances contained in this European technical approval, 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.

3.3 Safety and accessibility in use

3.3.1 Durability

fischer FiP Intumescent Pillows has been tested in accordance with EOTA Technical Report - TR024 – Edition November 2006, for the type Z₁ use category specified in EAD 350454-00-1104 , and the results of the tests have demonstrated suitability for penetration seals intended for use in internal conditions with humidity equal to or higher than 85% RH excluding temperatures below 0°C, without exposure to rain or UV.

3.4 Protection against noise

3.4.1 Airborne sound insulation

The results of the test provided the following single number rating: $R_w (C;Ctr) = 33(0;-2)$

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 of the European Commission the system of assessment and verification of constancy of performance (see Annex V to the Regulation (EU) No 305/2011) given in the following table apply:

Products	Intended use/s	AVCP System
Fire stopping and fire sealing products	For fire compartmentation and/or fire protection or fire performance	System 1

Annex A

Reference Documents


EN 13501-1	Fire classification of construction products and building elements – Part 1: Classification using test data from reaction to fire tests
EN 13501-2	Fire classification of construction products and building elements – Part 2: Classification using test data from fire resistance tests
EOTA TR 024	Characterisation, Aspects of Durability and Factory Production Control for Reactive Materials, Components and Products

Annex B

Description of Product and Product Literature

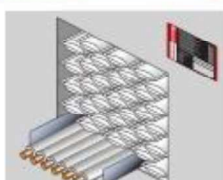
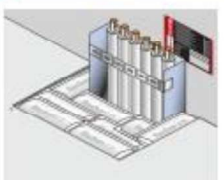
fischer FiP Intumescent Pillows

A detailed specification of the product is contained in document "Evaluation Report" relating to the European Technical Assessment ETA – 14/0380 issued on 7/10/14, of fischer FiP Intumescent Pillows which is a non-public part of this ETA.



Intumescent Pillows - FiP

Overview

Application examples:
Service penetrations like steel pipes, copper pipes, cable bundles, cable trays and electrical trunking through fire rated walls / floors.

Approved to:


British Standard

BS 476 - 20

BS EN 1366: 3

BS EN ISO 140-3:1997

The laboratory measurement of airborne sound insulation of building elements



Approved CF 5037

Application area:

- Metal Pipes
- Cables / Cable trays
- Electrical trunking

Product Description

Features / uses

- Approved as permanent fireproof barrier
- Reusable
- Dry installation
- Quick and easy installation
- No shelf life
- Moisture resistant
- Eyelet for installation

fischer intumescent pillows - FiP is an intumescent graphite and mineral fibre blend covered in a glass fibre PVC coated cloth bag. FiP is suitable for applications where temporary and permanent fire barriers are required.

Tested to BS 476: Part 20 and BS EN 1366-3, FiP can provide up to 2 hours of fire protection in both vertical and horizontal, multi or mixed service penetrations.

Technical Data

State	Solid
Colour	Black
Odour	Odourless
Relative density	0.15
Volumetric expansion	3 times
Significant expansion occurs at temperature	> 140°C
Remain flexible between	-20°C to 130°C

Estimation Quantities

Width mm	Size U	Length mm											
		100		300		500		700		900		1000	
	Seal type	Large	Medium	Large	Medium	Large	Medium	Large	Medium	Large	Medium	Large	Medium
200	Wall	3	5	7	13	12	22	17	31	21	39	24	47
	Floor	2	3	4	7	6	12	9	17	11	22	12	27
400	Wall	5	9	14	26	24	44	33	61	42	78	47	95
	Floor	3	5	7	15	12	24	17	34	22	43	24	52
600	Wall	7	13	21	39	35	65	49	91	63	117	70	143
	Floor	4	7	11	22	18	36	25	51	33	65	36	79
800	Wall	9	18	28	52	47	87	66	122	84	157	94	192
	Floor	5	10	15	29	24	48	34	67	33	87	48	107
1000	Wall	10	22	35	65	59	109	82	152	105	196	117	217
	Floor	6	12	18	36	30	60	42	84	54	108	60	120

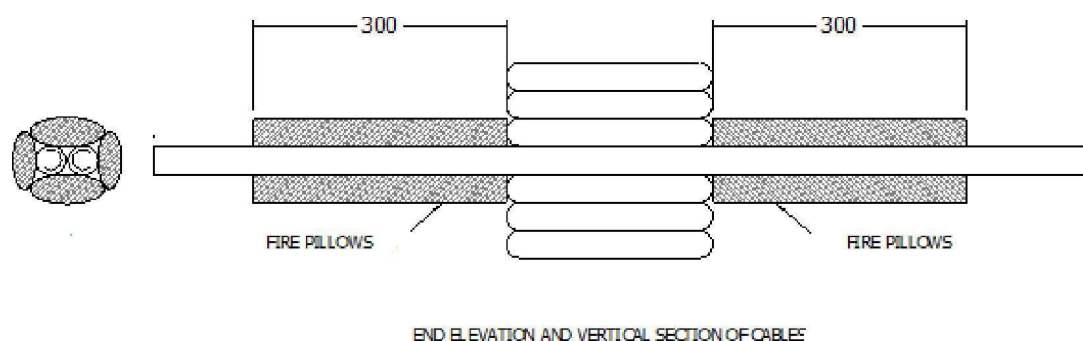
Annex C

Resistance to Fire Classification of fischer FiP Intumescent Pillows

C.1.1 Rigid wall constructions according to 1.2.1 with wall thickness of minimum 150 mm

C.1.2 Penetration seal with fischer FiP Intumescent Pillows installed 75mm projection from each face of the wall

Construction details: Electrical cables. Additional fischer FiP Intumescent Pillows to be sewn to provide additional protection to the cable to minimum distance of 300mm either face of the seal

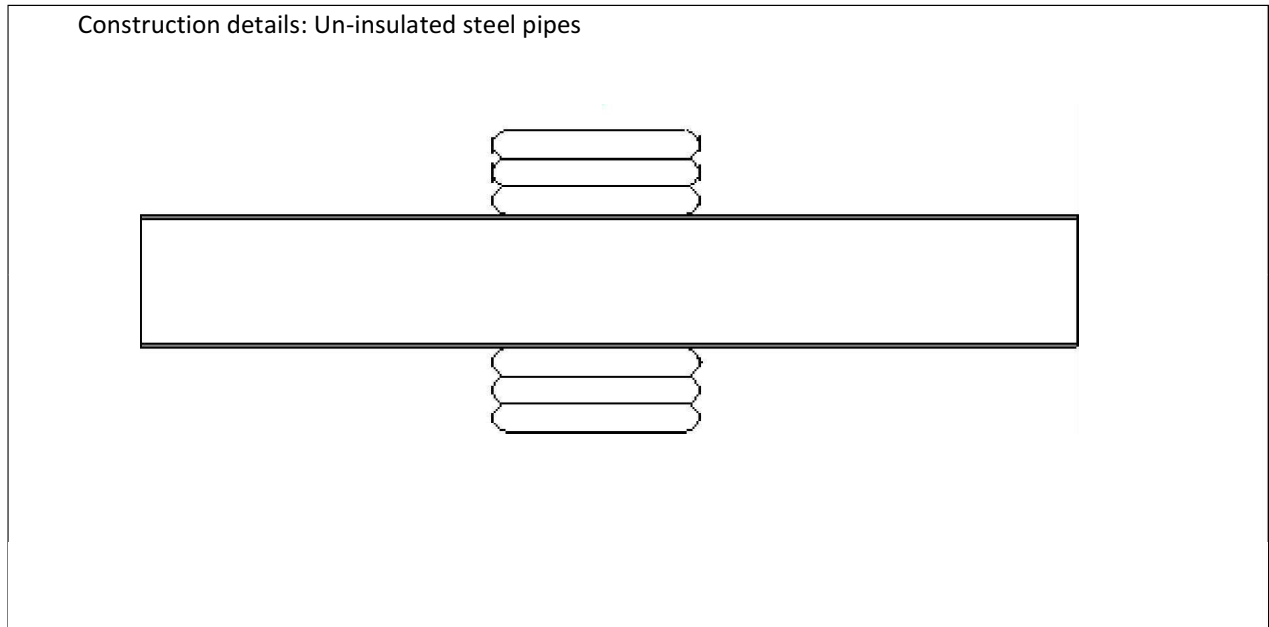


C.1.3

fischer FiP Intumescent Pillows Penetration Seals 300 mm deep, in Rigid Walls 150 mm thick (min.)	
Services	Classification
Telecom cables up to 21mm Ø (single or bundles up 100 mm Ø)	EI 120
Electrical cables up to 21 mm Ø	EI 120
Electrical cables up to 50 mm Ø	E 120, EI90
Electrical cables up to 80 mm Ø	E120, EI 90
Unsheathed wires up to 24 mm Ø	EI 120
Steel or Copper conduits and tubes up to 16 mm Ø	EI 120
Plastic (any) conduits and tubes up to 16 mm Ø	EI 120
Cable trays or ladders up to 300 mm wide	E 120, EI 60

C2 Rigid wall constructions according to 1.2.1 with wall thickness of minimum 150 mm

C.2.2 Penetration seal with fischer FiP Intumescent Pillows installed 75mm projection from each face of the wall

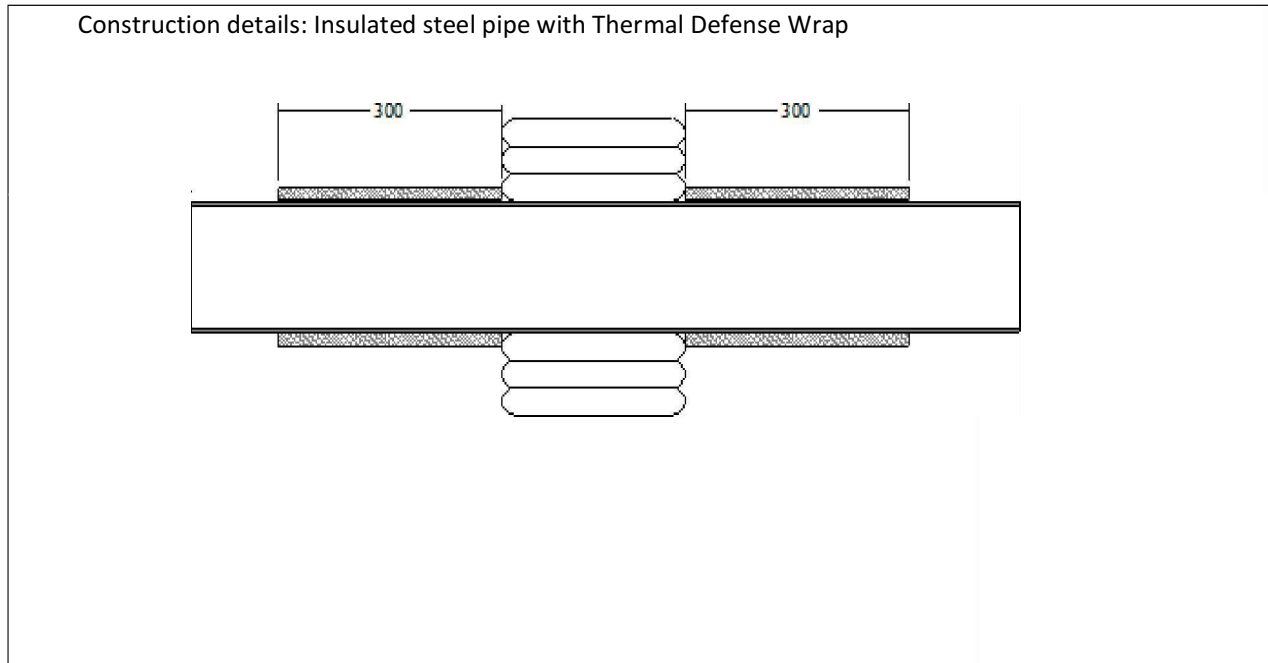


C.2.3

fischer FiP Intumescent Pillows Penetration Seals 300 mm deep, in Rigid Walls 150 mm thick (min.)	
Services	Classification
165 mm Ø x 5.6-14.2 mm thick mild steel pipe	E 120 C/U

C3 Rigid wall constructions according to 1.2.1 with wall thickness of minimum 150 mm

C.3.2 Penetration seal with fischer FiP Intumescent Pillows installed 75mm projection from each face of the wall

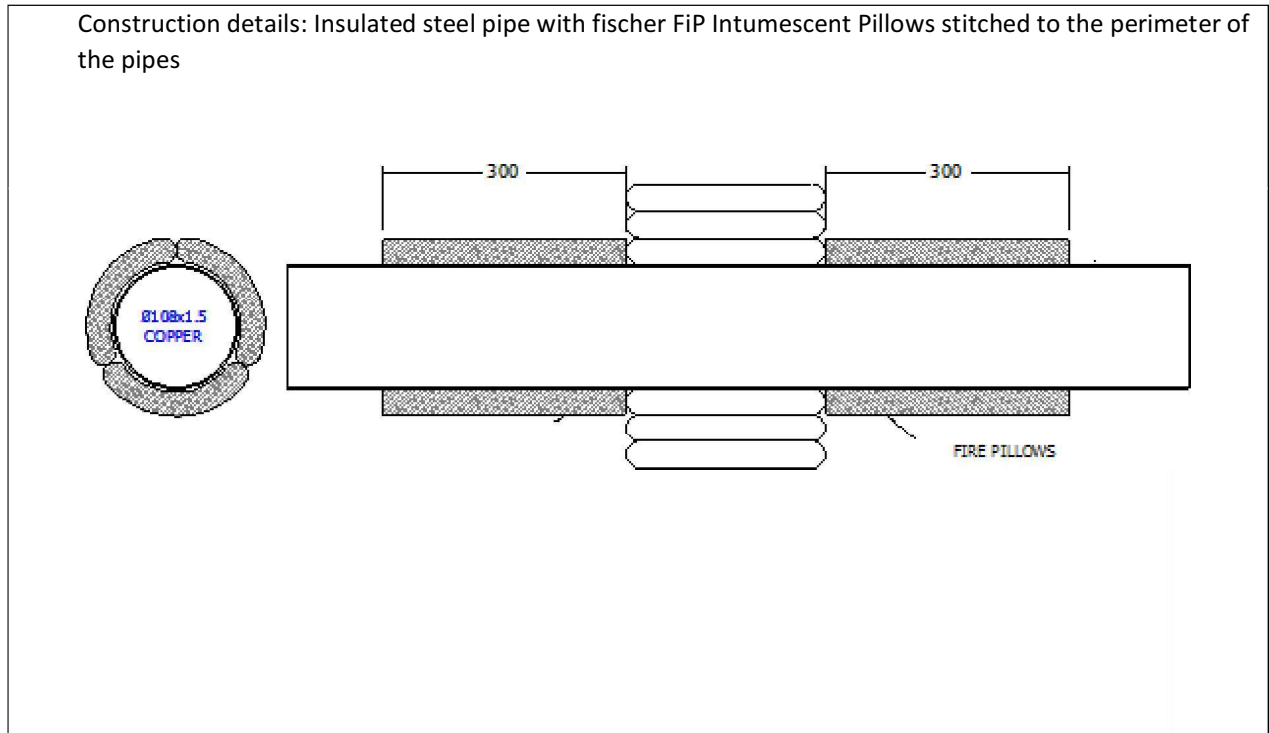


C.3.3

fischer FiP Intumescent Pillows Penetration Seals 300 mm deep, in Rigid Walls 150 mm thick (min.)	
Services	Classification
48mmØ x 3.5-14.2mm thick steel pipe with 300 mm Local Interrupted (LI) Thermal Defence Wrap 7mm thick	EI 120 C/U
113mmØ x 4.5-14.2mm thick steel pipe with 300 mm Local Interrupted (LI) Thermal Defence Wrap 10mm thick	EI 120 C/U

C4 Rigid wall constructions according to 1.2.1 with wall thickness of minimum 150 mm

C.4.2 Penetration seal with fischer FiP Intumescent Pillows installed 75mm projection from each face of the wall

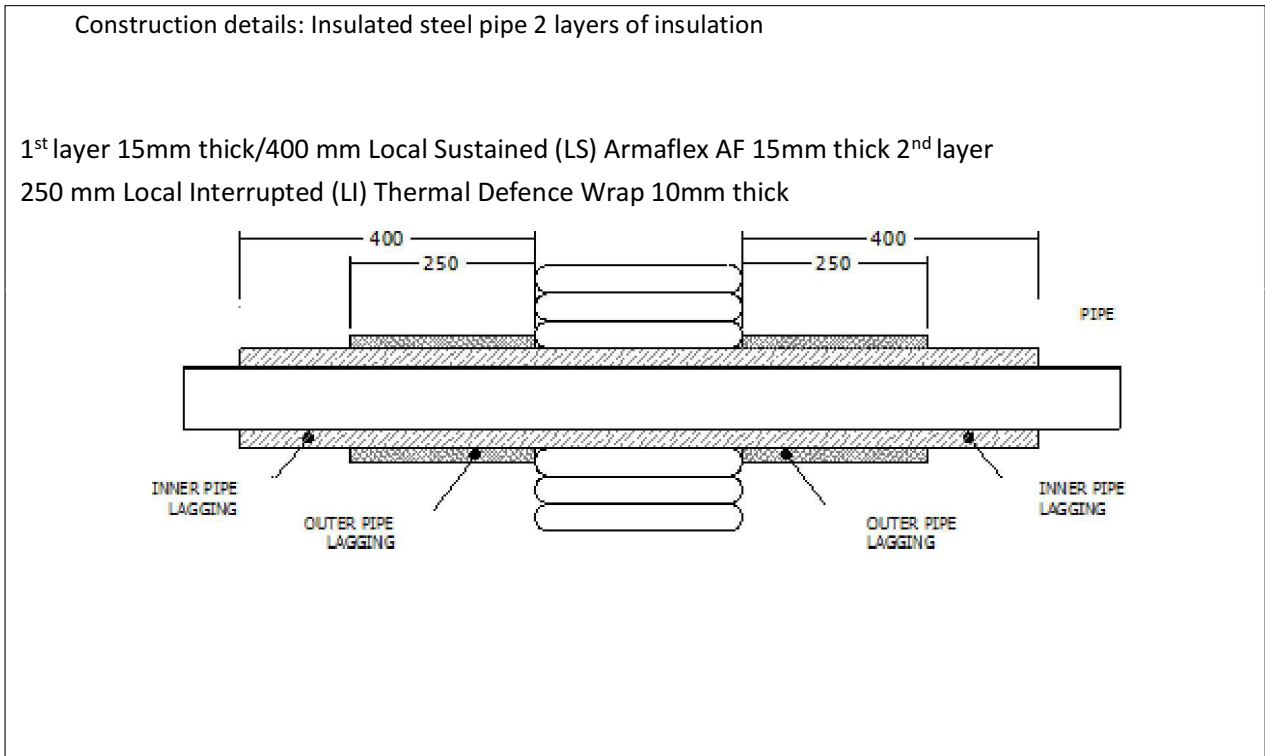


C.4.3

fischer FiP Intumescent Pillows Penetration Seals 300 mm deep, in Rigid Walls 150 mm thick (min.)	
Services	Classification
108 mm Ø x 1.5-14.2 mm thick copper pipe	E 120 C/U, EI 90 C/U

C5 Rigid wall constructions according to 1.2.1 with wall thickness of minimum 150 mm

C.5.2 Penetration seal with fischer FiP Intumescent Pillows installed 75mm projection from each face of the wall



C.5.3

fischer FiP Intumescent Pillows Penetration Seals 300 mm deep, in Rigid Walls 150 mm thick (min.)	
Services	Classification
54mmØ x 1.0-14.2mm thick copper pipe with 2 layers of insulation	EI 120