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European Technical
Assessment

ETA 20/0605
Of 28/02/2020

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: Warringtonfire Testing and Certification Limited.	
Trade name of the construction product	Fischer FFSC FireStop Compound
Product family to which the construction product belongs	EC PAC 35 – Fire Stopping, Fire Sealing & Fire Protective Products. Fire Retardant Products
Manufacturer	fischerwerke GmbH & Co.KG Klaus-Fischer-Strasse 172178 Waldachtal Germany
Manufacturing plant(s)	E/055
This European Technical Assessment contains	23 pages including 3 Annex(es) which form an integral part of this assessment.
	Annex(es) A - C Contain(s) confidential information and is/are not included in the European Technical Assessment when that assessment is publicly available.
This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of	EAD 350454-00-1104 – Fire Stopping and sealing products – Penetration Seals:Issue September 2017

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1 Technical Description of the Product

- 1) fischer FFSC FireStop Compound is a gypsum based mortar material, used to reinstate the fire resistance performance of floor and wall constructions where they have been provided with apertures for the penetrations of multiple services.
- 2) fischer FFSC FireStop Compound is supplied as a dry material, and is mixed with water to the required ratio prior to installation.
- 3) fischer FFSC FireStop Compound when mixed is self-supporting in a floor and wall to a maximum of 1100mm x 1100mm. Temporary shuttering is required to support the wet weight of the fischer FFSC FireStop Compound.

2 Specification of The Intended Use In Accordance With The applicable European Assessment (EAD)

The intended use of fischer FFSC FireStop Compound is to reinstate the fire resistance performance of rigid wall and floor constructions where they are penetrated by various cables and metallic pipes.

- 1) The specific elements of construction that the fischer FFSC FireStop Compound may be used to provide a penetration seal in, are as follows:

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

Rigid Walls: The floor 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.

- 2) The fischer FFSC FireStop Compound may be used to provide a penetration seal with cables, cable trays and metallic pipes with insulation (for details see Annex C).
- 3) The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.
- 4) Services in floors shall be supported at maximum 450mm from the exposed face.
- 5) Services in walls shall be supported at maximum 150mm from both faces of the wall.

- 6) The provisions made in this European Technical Approval are based on an assumed working life of the fischer FFSC FireStop Compound of 25 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, 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.

2.1 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 3.1.1
	Resistance to fire	See clause 3.1.2
3	Hygiene, Health and the Environment	
	Dangerous substances	See clause 3.2.1
4	Safety and accessibility in use	
	Durability and serviceability	See clause 3.3.1
5	Protection against noise	
	Airborne sound insulation	See clause 3.4.1
6	Energy, Economy and Heat Retention	

3.1 Safety in case of fire

3.1.1 Reaction to fire

fischer FFSC FireStop Compound is classified as 'F' in accordance with EN 13501-1

3.1.2 Resistance to fire

fischer FFSC FireStop Compound 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 system fischer FFSC FireStop Compound 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, and the unexposed side for floors, 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.

fischer FFSC FireStop Compound seals in floors must be installed over a shutter that is capable of supporting the weight of the mortar, the shutter should remain in place.

Cables should be insulated with minimum 45kg/m³ Rockwool Duct Wrap minimum 25mm thick 500mm long to the unexposed face

Pipes should be insulated with minimum 150kg/m³ Rockwool H&V Pipe Section minimum 50mm thick 500mm long to the unexposed face (CI)

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.

The function of the pipe seal in case of pneumatic dispatch systems, pressurised air systems etc. is guaranteed only when the systems are shut off in case of fire.

The assessment does not cover the avoidance of destruction of the seal or of the abutting building element(s) by forces caused by temperature changes in case of fire. This has to be considered when designing the piping system.

The approval does not address any risks associated with leakage of dangerous liquids or gases caused by failure of the pipe(s) in case of fire.

The durability assessment does not take account of the possible effect of substances permeating through the pipe on the penetration seal.

The classifications relate to C/U (capped inside /un-capped outside the furnace) for metallic pipes, insulated. For further information refer to national regulations.

3.2 Health, hygiene and the environment

3.2.1 Dangerous Substances

fischerwerke GmbH & Co.KG has presented a declaration that fischer FFSC FireStop Compound 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>

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 Directive, these requirements need also to be complied with, when and where they apply.

3.3 Safety and accessibility in use

3.3.1 Durability and serviceability

fischer FFSC FireStop Compound 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 – Fire Stopping and sealing products, 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 noise Insulation

The results of the test provided the following single number rating:

$$R_w (C;C_{tr})= 47(-1;-3)dB$$

4 Assessment And Verification Of Constancy Of Performance (Hereinafter AVCP) System Applied, With References 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

5. Technical Details Necessary For The Implementation of The AVCP System, As forseen in The Applicable EAD.

5.1 Tasks for the Manufacturer

5.1.1 Factory production control

The manufacturer has a Factory Production Control System (FPC) and exercises permanent internal control of production. All the elements, requirements and provisions adopted by the manufacturer are documented in a systematic manner in the form of policies, procedures and work instructions. This FPC system ensures that the product is in conformity with this European Technical Assessment.

The manufacturer shall only use raw materials or components that are supplied with the relevant inspection documents as laid down in the Control Plan. All incoming raw materials shall be subject to inspection, verification, controls and tests (as applicable) by the manufacturer.

The Control Plan, Reference, 4.10.13, which is part of the technical documentation of this European Technical Assessment includes details of the extent, nature and frequency of testing and controls to be performed within the FPC system and has been agreed between the Assessment holder and Warringtonfire Testing and Certification Limited. Any changes to the FPC; Control Plan or the Product shall only be made following approval by Warringtonfire Testing and Certification Limited.

The results of FPC are recorded and evaluated. These records include but are not limited to:

- Product specification and designation, basic materials and components
- Type(s) of Control testing
- Date of manufacture of the product and date of testing of the product or basic material and components;
- Result of control and testing and, if appropriate, comparison with requirements;
- Signature of the person responsible for FPC

These records shall be presented to Warringtonfire Testing and Certification Limited upon request.

The manufacturer shall, on the basis of a contract, involve a body (bodies) which is (are) approved for the tasks referred to in section 5.2 of this ETA. For this purpose, the "Control Plan" referred to in sections 5.1.1 and 5.2 shall be handed over by the manufacturer to the approved body or bodies involved.

5.1.2 Other tasks of manufacturer

5.1.2.1 Additional information

The manufacturer shall provide a technical data sheet and an installation instruction with the following minimum information:

(a) Technical data sheet:

- Field of application:
- Building elements for which the penetration seal is suitable, type and properties of the building elements like minimum thickness, density, and - in case of lightweight constructions – the construction requirements.

- Services for which the penetration seal is suitable, type and properties of the services like material, diameter, thickness etc. in case of pipes including insulation materials; necessary/allowed supports/fixings (e.g. cable trays)
- Limits in size, minimum thickness etc. of the penetration seal
- Construction of the penetration seal including the necessary components and additional products (e.g. backfilling material) with clear indication whether they are generic or specific.

(b) Installation instruction:

- Steps to be followed
- Procedure in case of retrofitting.

5.2 Tasks of notified body

5.2.1 Initial Type Testing of the Product

For initial type-testing the results of the tests performed as part of the assessment for the European Technical Assessment shall be used unless there are changes in the production line or plant. In such cases the necessary type testing has to be agreed between Warringtonfire Testing and Certification Limited and the Notified Body.

5.2.2 Initial Inspection of Factory and of Factory Production Control

The Notified Body shall ascertain that, in accordance with the provisions laid down in the Control Plan, Reference 4.10.13, the factory and the factory production control are suitable to ensure continuous and orderly manufacturing of the product according to the specifications mentioned in Section 2, as well as to the Annexes to this European Technical Assessment.

5.2.3 Continuous Surveillance

The Notified Body shall visit the factory twice a year for regular inspection. It shall be verified that the system of factory production control and the specified manufacturing process is maintained in accordance with the provisions of this European Technical Assessment and the Control Plan.

Continuous surveillance and assessment of factory production control shall be performed in accordance with the provisions laid down in the agreed Control Plan.

The results of product certification and continuous surveillance shall be made available on demand by the certification or inspection body or to Warringtonfire Testing and Certification Limited. In cases where the provisions of this European Technical Assessment and the prescribed Control Plan are no longer fulfilled, the conformity certificate shall be withdrawn and the relevant authority/ies shall be informed.

Issued in Warrington, United Kingdom on **28/08/2020**

By

Kristie Sullivan

Certification

Engineer



David Thornily

Certification Engineer



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Technical Manager



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 FFSC FireStop Compound

A detailed specification of the product is contained in document "Evaluation Report" and "Control Plan" relating to the European Technical Assessment ETA 20/0605 issued on 28/02/2020 of fischer FFSC FireStop Compound which is a non-public part of this ETA.

Annex C

Resistance to Fire Classification of fischer FFSC FireStop Compound

C.1 Rigid floor constructions according to 1.2.1 with floor thickness of minimum 150 mm

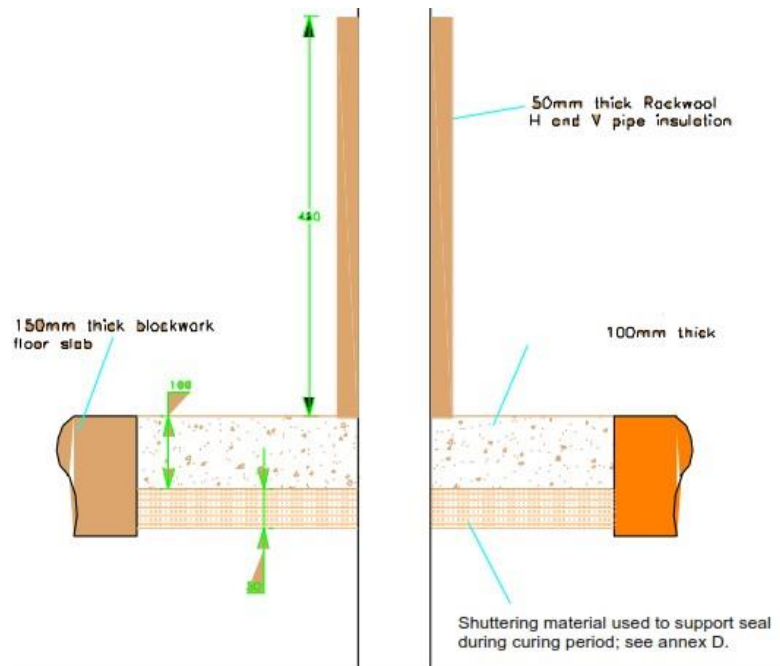
C 1.1 Penetration seal with fischer FFSC FireStop Compound installed the 100mm depth of the floor, maximum seal size 1100mm x 1100mm

Penetration Seal: Metallic pipes (insulated) penetrating through a rigid floor construction. fischer FFSC FireStop Compound flush with the upper surface of the floor.

fischer FFSC FireStop Compound is applied to seal around the services and gaps of service penetration.

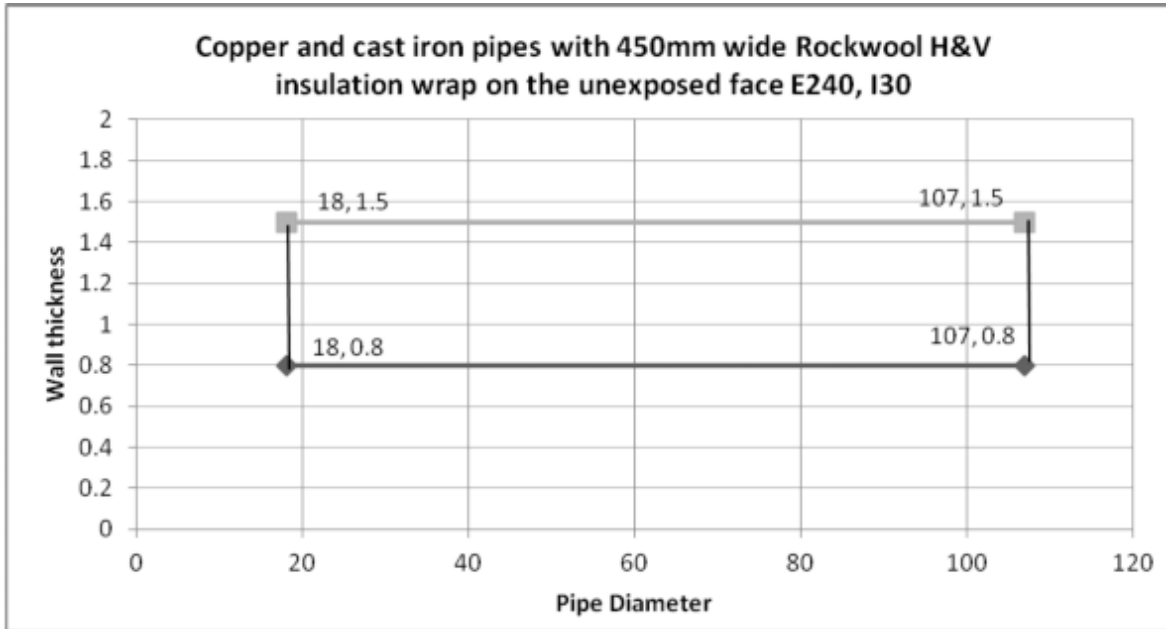
Pipes must be insulated with minimum 150kg/m^3 Rockwool H&V foil faced mineral insulation, 50mm thick and projecting 450mm from the unexposed surface of the floor.

Construction details:



C 1.1.1 Separation of openings minimum 200 mm

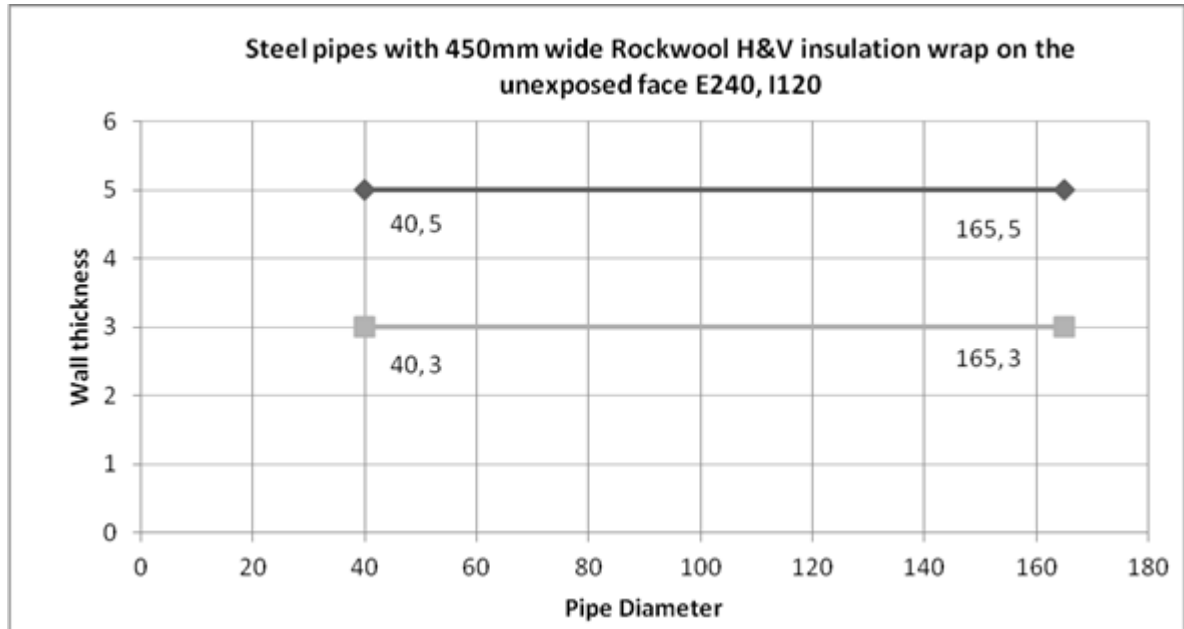
The area inside the graph below shows the coverage of the allowable “metal” pipe diameter and wall thickness for applications up to E240 and EI30: (any pipe size variation along or between the lines is covered)



Services	Classification
Copper and cast iron pipe 18 - 107mm Ø and 0.8 – 1.5mm wall thickness, insulated with Rockwool H&V wrap	E 240 C/U and C/C EI 30 C/U and C/C

C 1.1.2 Separation of openings minimum 200 mm

The area inside the graph below shows the coverage of the allowable steel pipe diameters and wall thickness for applications up to E240 and EI120: (any pipe size variation along or between the lines is covered)



Services	Classification
Steel pipe 40 - 165mm Ø and 3 - 5mm wall thickness, insulated with Rockwool H&V wrap	E 240 C/U and C/C EI 120 C/U and C/C

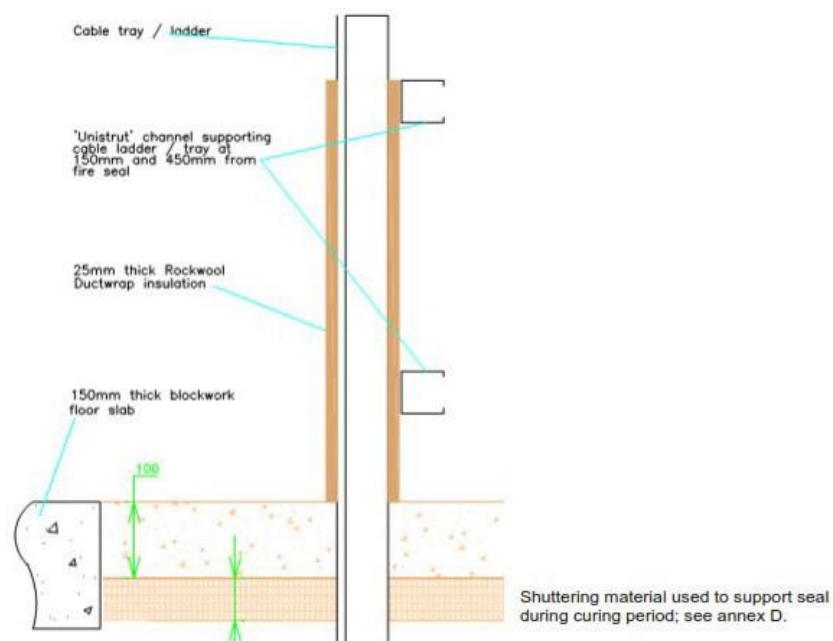
C.2.1 Penetration seal with fischer FFSC FireStop Compound installed the 100mm depth of the floor, maximum seal size 1100mm x 1100mm

Penetration Seal: Cables (insulated) penetrating through a rigid floor construction. fischer FFSC FireStop Compound flush with the upper surface of the floor.

fischer FFSC FireStop Compound is applied to seal around the services and gaps of service penetration.

Cables must be insulated with minimum 150kg/m³ Rockwool H&V foil faced mineral insulation, 50mm thick and projecting 450mm from the unexposed surface of the floor.

Construction details:



C 2.1.1 Separation of openings minimum 200 mm

Services	Classification
Electrical cables, maximum 80mm Ø, insulated with Rockwool Ductwrap	EI 120
Non-sheathed wire, maximum 24mm Ø, insulated with Rockwool Ductwrap	E 240 EI60
Telecomm cable, maximum 21mm Ø in bundles up to 100mm diameter, insulated with Rockwool Ductwrap. Seal thickness 100mm	EI60

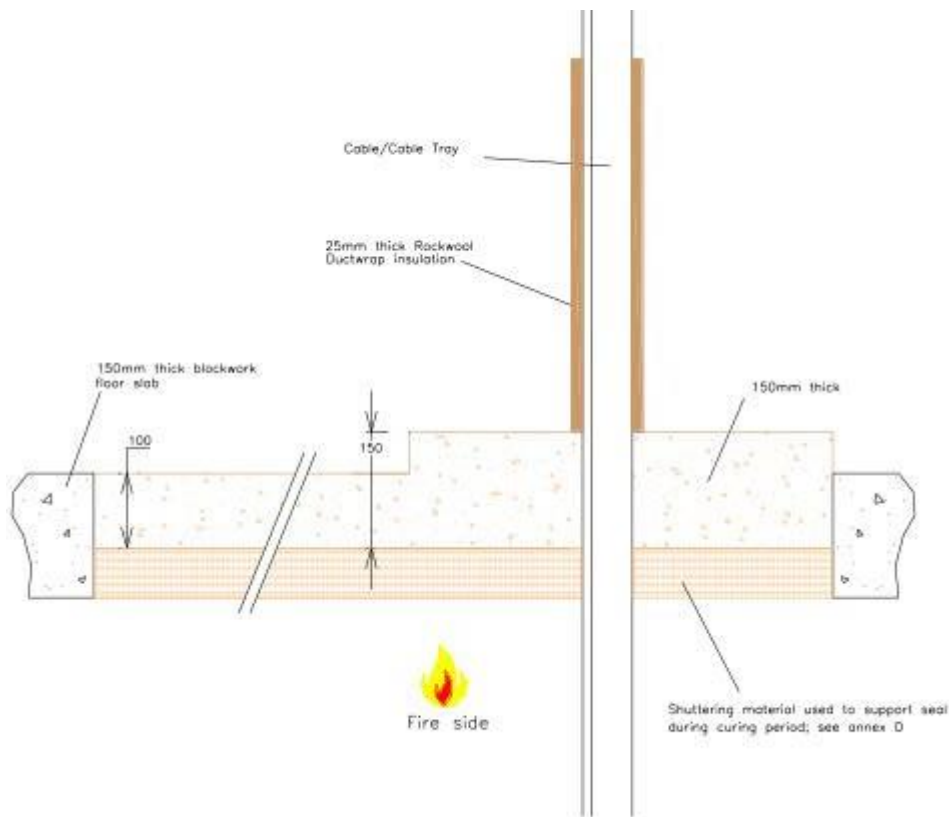
C 2.2.1 Penetration seal with fischer FFSC FireStop Compound installed the locally 150mm depth of the floor, maximum seal size 1100mm x 1100mm

Penetration Seal: Cables (insulated) penetrating through a rigid floor construction. fischer FFSC FireStop Compound flush with the upper surface of the floor.

fischer FFSC FireStop Compound is applied to seal around the services and gaps of service penetration

Cables must be insulated with minimum 150kg/m³ Rockwool H&V foil faced mineral insulation, 50mm thick and projecting 450mm from the unexposed surface of the floor

Construction details:



C 2.2.2 Separation of openings minimum 200 mm

Services	Classification
Telecom cable maximum 21mm Ø in bundles up to 100mm diameter, insulated with Rockwool Ductwrap Seal thickness 150mm	EI 180

C.3 Rigid wall constructions according to 1.2.1 with wall thickness of minimum 150 mm

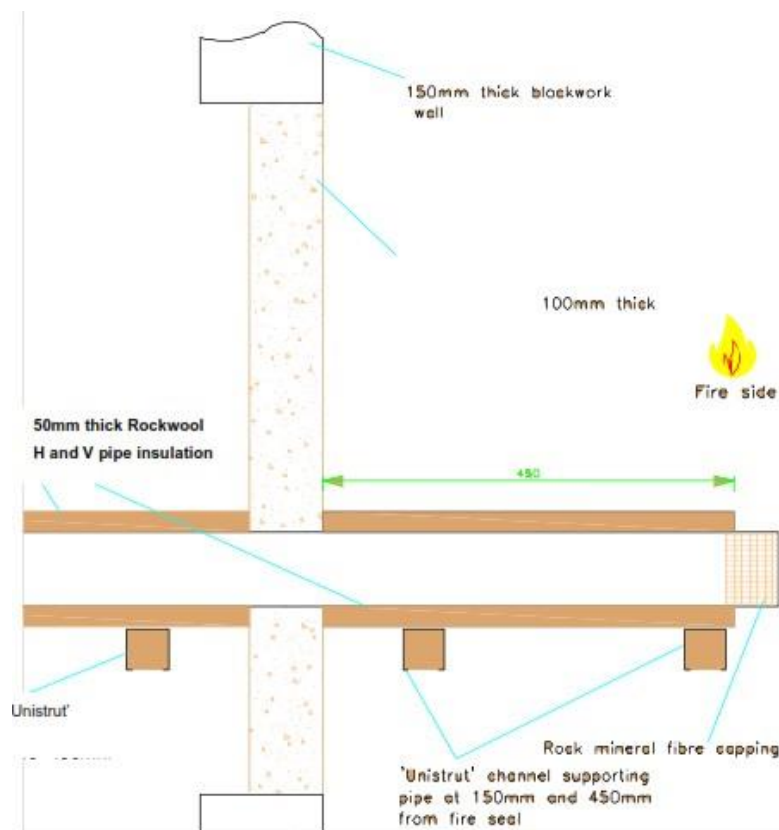
C 3.1 Penetration seal with fischer FFSC FireStop Compound installed the 100mm depth of the wall, maximum seal size 1100mm x 1100mm

Penetration Seal: Metallic pipes (insulated) penetrating through a rigid floor construction. fischer FFSC FireStop Compound flush with the upper surface of the floor.

fischer FFSC FireStop Compound is applied to seal around the services and gaps of service penetration.

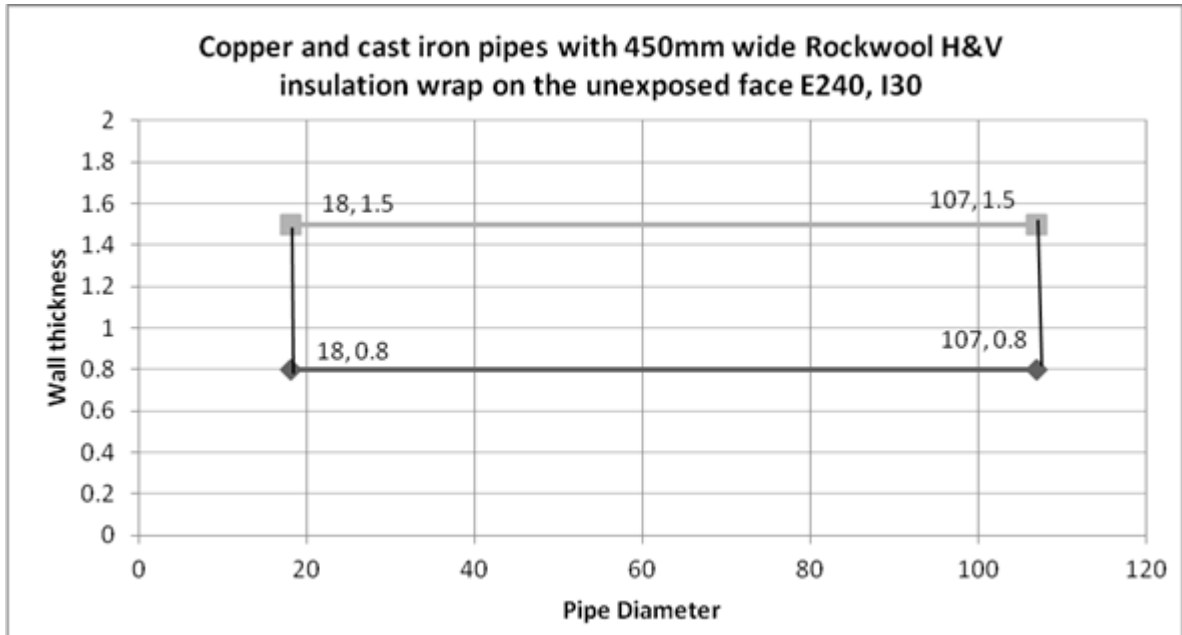
Pipes must be insulated with minimum 150kg/m^3 Rockwool H&V foil faced mineral insulation, 50mm thick and projecting 450mm from the unexposed surface of the floor.

Construction details:



C 3.1.1 Separation of openings minimum 200 mm

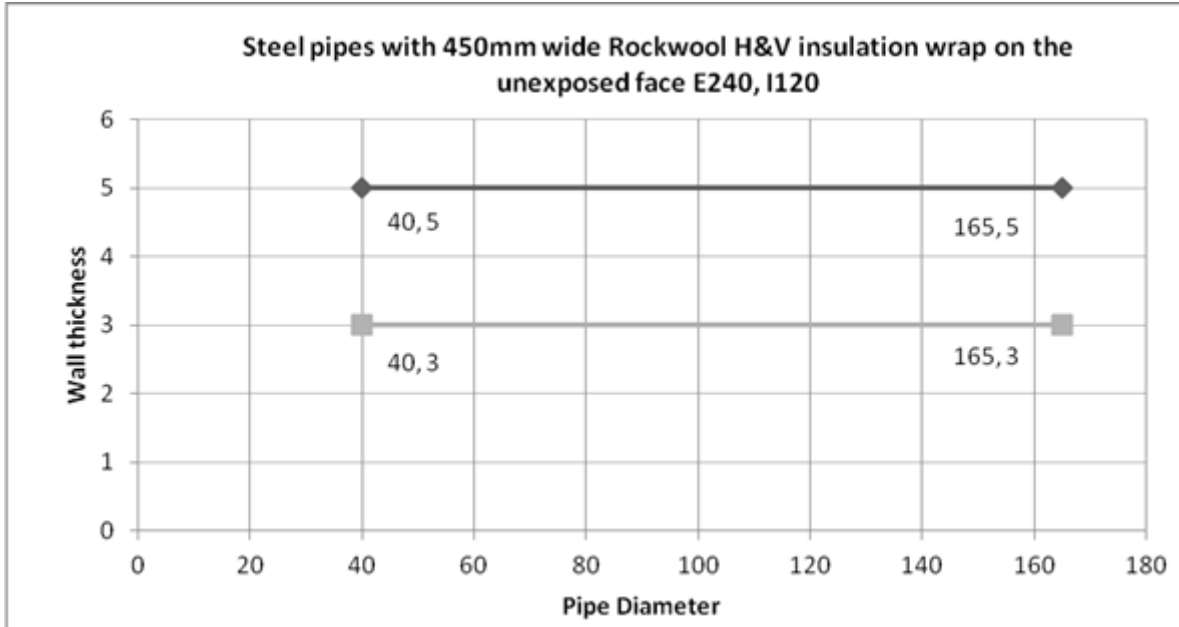
The line graph below shows the coverage of the allowable "metal" pipe diameter and wall thickness for applications up to E240 and EI30: (any pipe size variation along or between the lines is covered)



Services	Classification
Copper and cast iron pipe 18-107mm Ø and 0.8 – 1.5mm wall thickness, insulated with Rockwool H&V wrap	E 240 C/U and C/C EI 30 C/U and C/C

C 3.1.2 Separation of openings minimum 200 mm

The area inside the graph below shows the coverage of the allowable steel pipe diameters and wall thickness for applications up to E240 and EI120: (any pipe size variation along or between the lines is covered)



Services	Classification
Steel pipe 40 - 165mm Ø and 3 - 5mm wall thickness, insulated with Rockwool H&V wrap	E 240 C/U and C/C EI 120 C/U and C/C

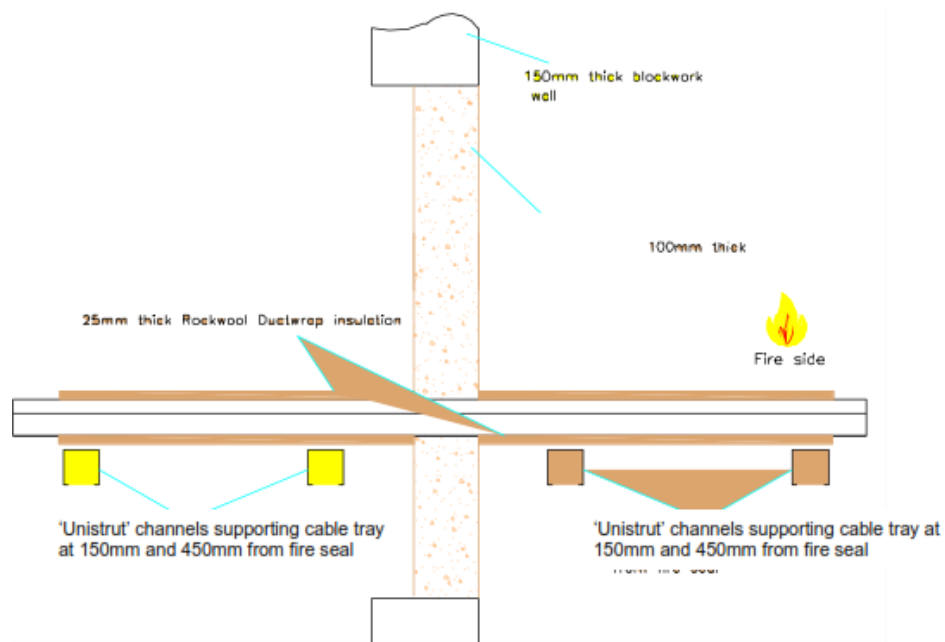
C 3.2 Penetration seal with fischer FFSC FireStop Compound installed the 100mm depth of the wall, maximum seal size 1100mm x 1100mm

Penetration Seal: Cables (insulated) penetrating through a rigid wall construction. fischer FFSC FireStop Compound flush with the upper surface of the floor.

fischer FFSC FireStop Compound is applied to seal around the services and gaps of service penetration.

Cables must be insulated with minimum 150kg/m^3 Rockwool H&V foil faced mineral insulation, 50mm thick and projecting 450mm from the unexposed surface of the floor.

Construction details:



C 3.2.1 Separation of openings minimum 200 mm

Services	Classification
Electrical cables, maximum 80mm Ø, insulated with Rockwool Ductwrap	E 180 EI120
Non-sheathed wire, maximum 24mm Ø, insulated with Rockwool Ductwrap	E 240 EI180
Telecomm cable, maximum 21mm Ø in bundles up to 100mm diameter, insulated with Rockwool Ductwrap. Seal thickness 100mm	EI180
Steel cable trays and cable ladders up to 500mm wide, insulated with Rockwool Ductwrap	EI90