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Authorised and notified according to Article 29 of the Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011

European Technical Assessment ETA-21/0678 of 2021/08/17

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:	fischer FFSC Fire Stop Compound
Product family to which the above construction product belongs:	Fire Stopping, Fire Sealing & Fire Protective Products. Fire Retardant Products
Manufacturer:	fischerwerke GmbH & Co. KG Klaus-Fischer-Straße 1, DE-72178 Waldachtal Telephone: +49 7443 12-0 Internet www.fischer.de
Manufacturing plant:	fischerwerke GmbH & Co. KG
This European Technical Assessment contains:	19 pages including 2 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 Firestopping and fire sealing products, Penetration Seals
This version replaces:	-

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1 Technical Description of the Product

1) fischer FFSC Fire Stop 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 Fire Stop Compound is supplied as a dry material, and is mixed with water to the required ratio prior to installation.

3) fischer FFSC Fire Stop 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 Fire Stop Compound.

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

The intended use of fischer FFSC Fire Stop 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 Fire Stop 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/m^3.
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/m^3.

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

2) The fischer FFSC Fire Stop Compound may be used to provide a penetration seal with cables, cable trays and metallic pipes with insulation (for details see Annex B).

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 Fire Stop 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 Z_1: 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**	
	Dangerous substances	See clause 2.1
4	**Safety and accessibility in use**	
	Durability and serviceability	See clause 3.1
5	**Protection against noise**	
	Airborne sound insulation	See clause 4.1
6	**Energy, Economy and Heat Retention**	

3.1 Safety in case of fire

3.1.1 Reaction to fire

No performance assessed

3.1.2 Resistance to fire

fischer FFSC Fire Stop Compound has been tested in accordance with EN 1366-3 based upon the test results and the field of direct application specified within EN 1366-3, the system fischer FFSC Fire Stop Compound has been classified in accordance with EN 13501-2, as given in Annex B:

The seals may only be penetrated by the services described in Annex B; 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 Fire Stop 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/m^3 Rockwool Duct Wrap minimum 25mm thick 500mm long to the unexposed face.

Pipes should be insulated with minimum 150kg/m^3 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

The applicant has presented a declaration that fischer FFSC Fire Stop 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 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 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 Fire Stop Compound has been tested in accordance with EOTA Technical Report - TR024, for the type Z_1 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.

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 2021-08-17 by

Thomas Bruun
Managing Director, ETA-Danmark

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

Resistance to Fire Classification of fischer FFSC Fire Stop Compound

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

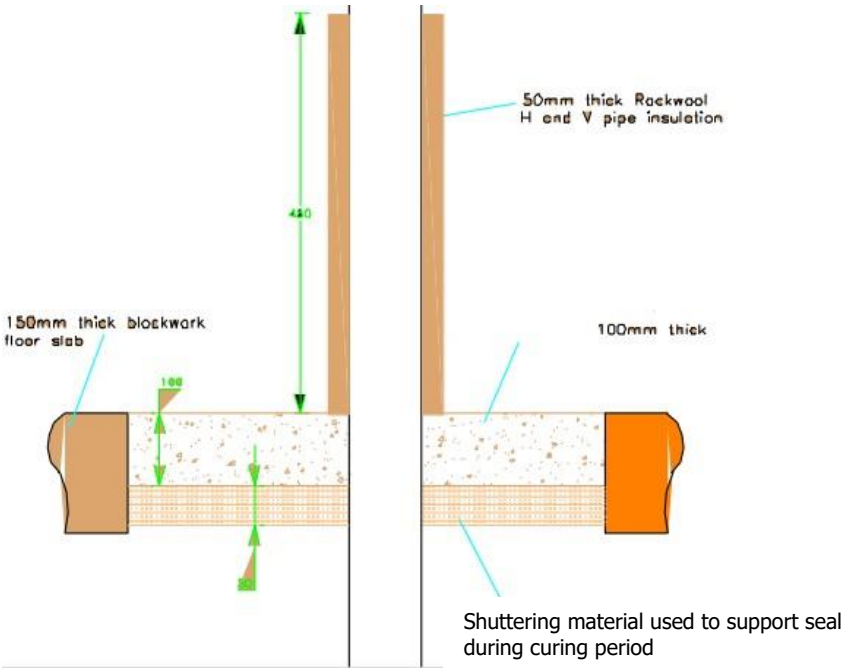
B1.1 Penetration seal with fischer FFSC Fire Stop Compound installed the 100mm depth of the floor, maximum seal size 1100mm x 1100mm

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

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

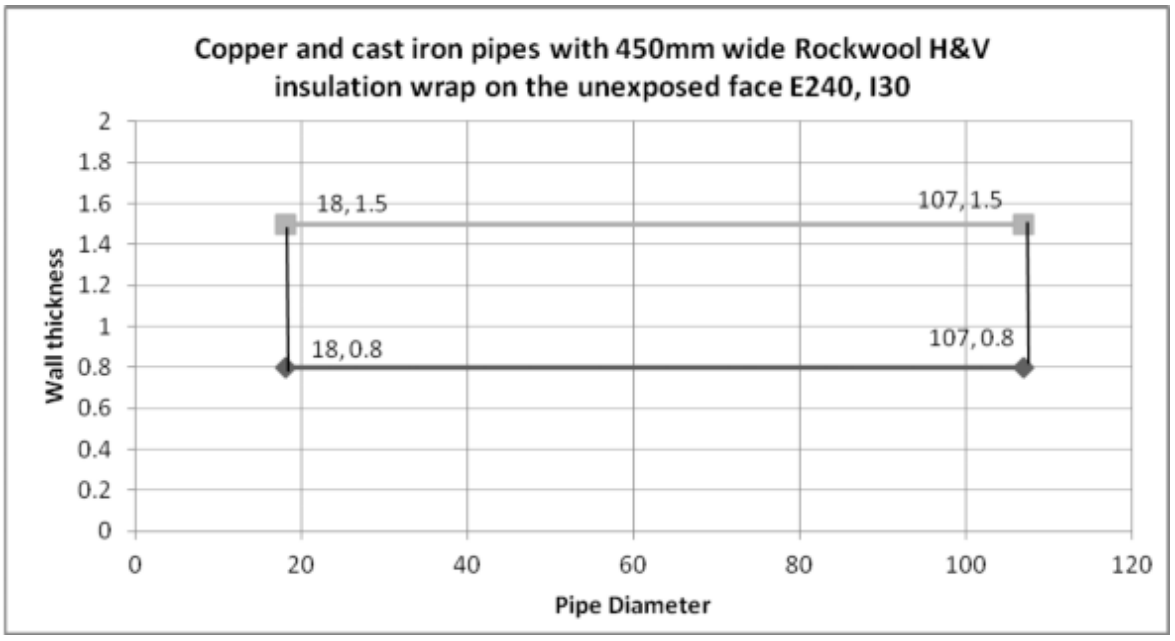
Pipes must be insulated with minimum 150kg/m^3 Rockwool H&V foil faced mineral insulation, 50mm thick and projecting 450mm from the unexposed surface of the floor

Construction details:



B 1.1.1 Separation of openings minimum 200 mm

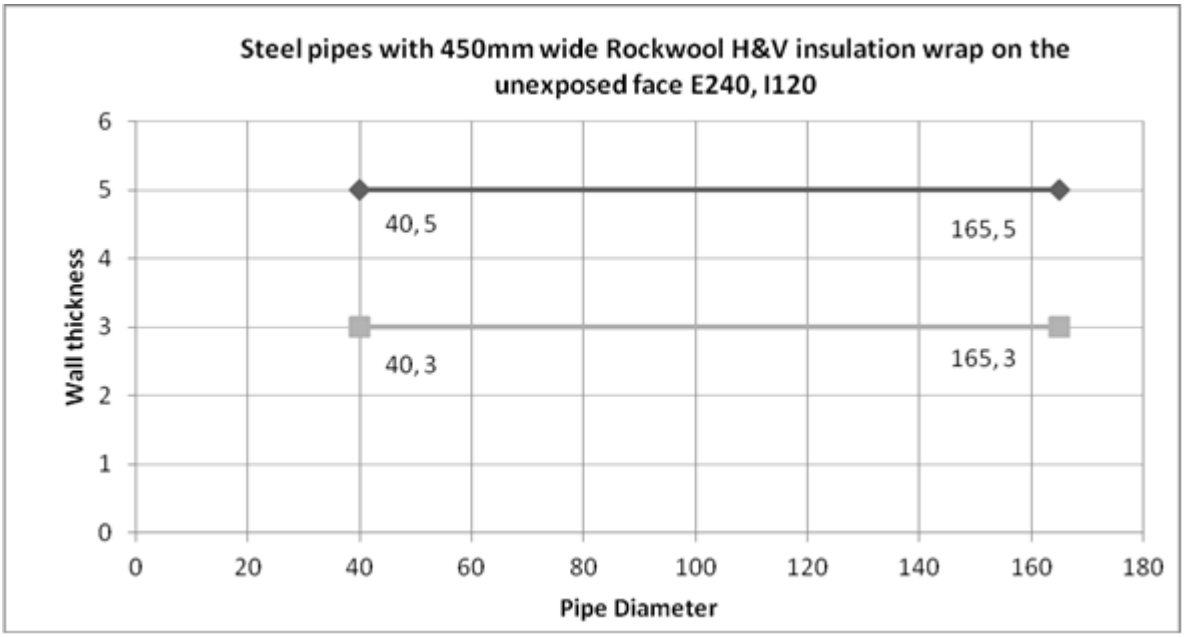
The area inside the graph below shows the coverage of the allowable "metal" pipe diameter and wall thickness for applications up to E240 and EI30: (any pipe size variation along or between the lines is covered)



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**

B 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**

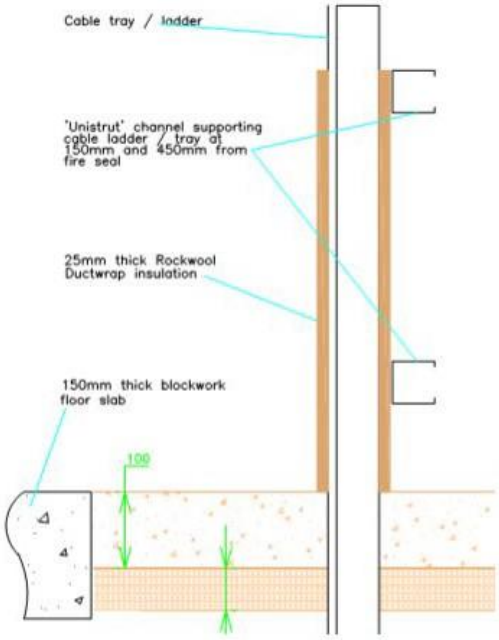
B2.1 Penetration seal with fischer FFSC Fire Stop Compound installed the 100mm depth of the floor, maximum seal size 1100mm x 1100mm

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

fischer FFSC Fire Stop 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:



Shuttering material used to support seal during curing period

B 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**

B 2.2.1 Penetration seal with fischer FFSC Fire Stop 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 Fire Stop Compound flush with the upper surface of the floor.

fischer FFSC Fire Stop 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

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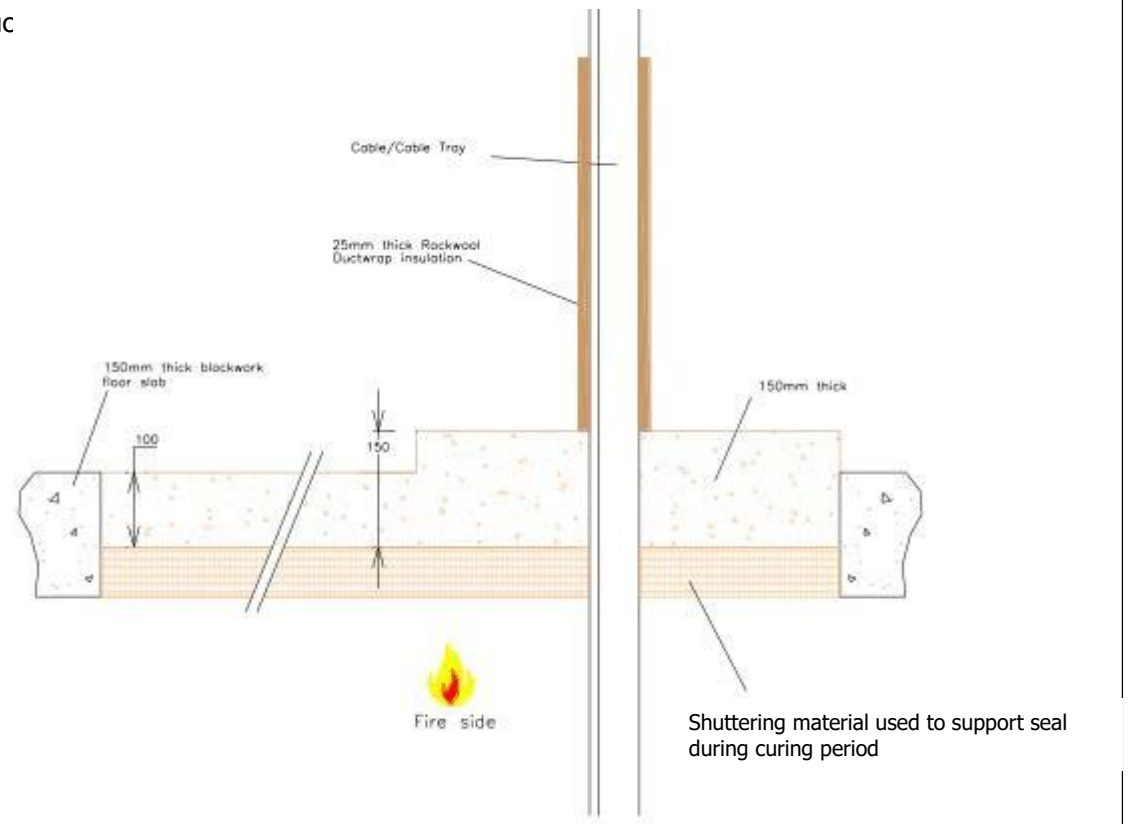


B2.2.2 Separation of openings minimum 200 mm

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

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

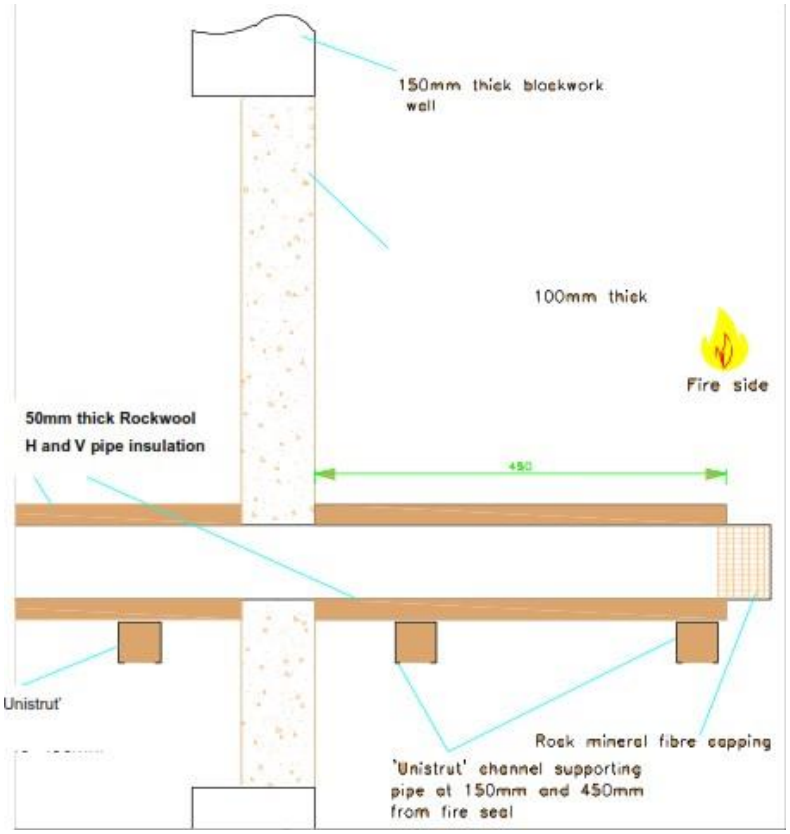
B 3.1 Penetration seal with fischer FFSC Fire Stop Compound installed the 100mm depth of the wall, maximum seal size 1100mm x 1100mm

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

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

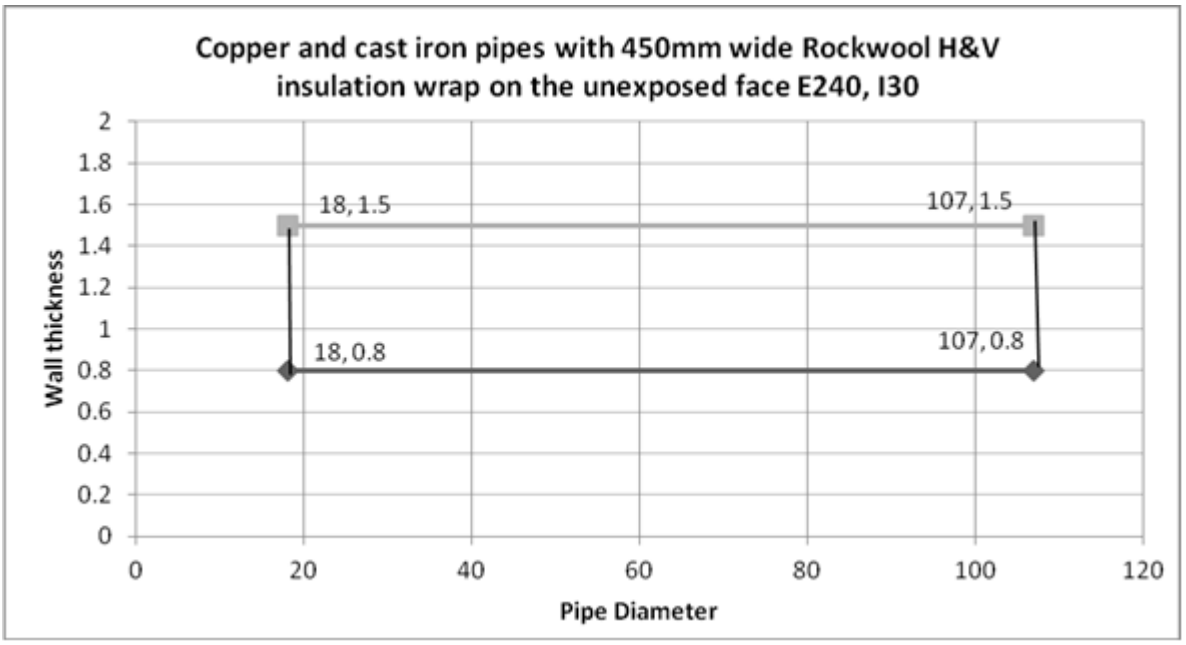
Pipes must be insulated with minimum 150kg/m^3 Rockwool H&V foil faced mineral insulation, 50mm thick and projecting 450mm from the unexposed surface of the floor

Construction details:



B 3.1.1 Separation of openings minimum 200 mm

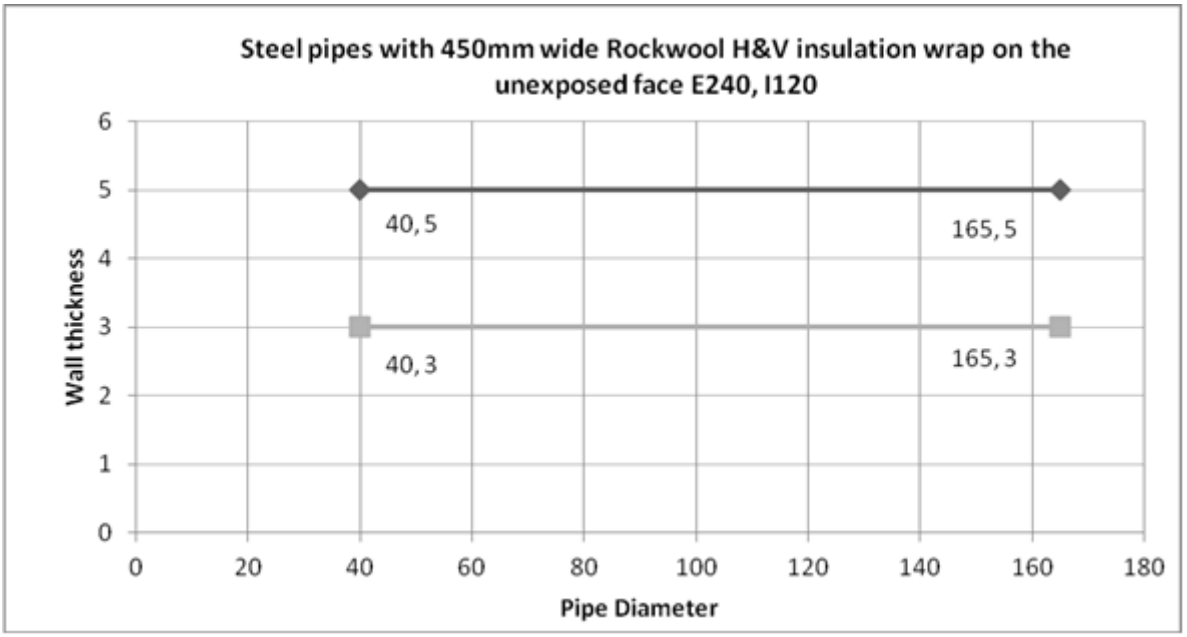
The line graph below shows the coverage of the allowable "metal" pipe diameter and wall thickness for applications up to E240 and EI30: (any pipe size variation along or between the lines is covered)



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**

B 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**

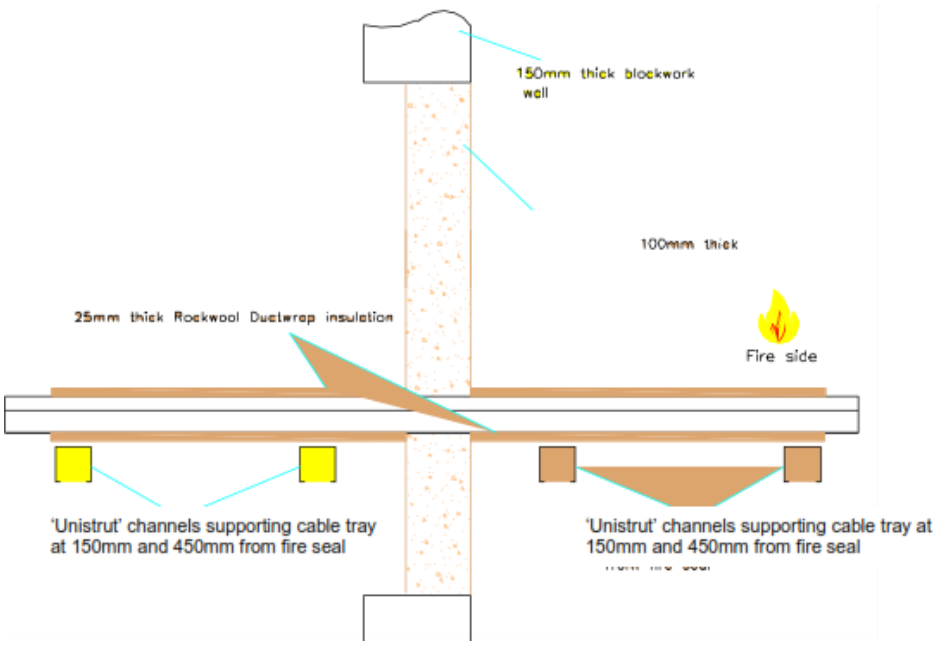
B 3.2 Penetration seal with fischer FFSC Fire Stop Compound installed the 100mm depth of the wall, maximum seal size 1100mm x 1100mm

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

fischer FFSC Fire Stop 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:



B 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**