

**Warrington Certification Limited**

Holmesfield Road,  
Warrington, WA1 2DS  
Tel. +44 (0) 1925-646777  
Fax +44 (0) 1925-646667



Authorised and notified according to Article 10 of the Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of Member States relating to construction products.

**MEMBER OF  
EOTA**

**European Technical Approval ETA-13/0431**

Trade name:	<b>Firecrete EN HS Fire-Stopping Mortar</b>
Holder of the approval:	<b>Hoben International Ltd</b> Brassington Nr Matlock Derbyshire DE4 4HF
Generic type and use of construction product:	Fire Stopping and Sealing Product. Penetration Seals
Valid from:	7 <sup>th</sup> June 2013
to:	15 <sup>th</sup> May 2018
Manufacturing plant:	E/060
This European Technical Approval contains:	12 pages and 4 Annexes, 21 pages in total

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Issued by: Warrington Certification Ltd

For and on behalf of Warrington  
Certification Limited



**European Organisation for Technical Approvals**  
**Europäische Organisation für Technische Zulassungen**  
**Organisation Européenne pour l'Agrément technique**

## LEGAL BASES AND GENERAL CONDITIONS

- 1 This European Technical Approval is issued by Warrington Certification Limited in accordance with:

The Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of Member States relating to construction products<sup>1</sup> modified by Council Directive 93/68/EEC<sup>2</sup> and Regulation (EC) N° 1882/2003 of the European Parliament and of the Council<sup>3</sup>;

UK implementation of CPD Statutory Instruments 1991, No 1620 Building and Buildings The Construction Products Regulations 1991- made 15 July 1991, laid before Parliament 22 July 1991, coming into force 27 December 1991, and amended by The Construction Products (Amendment) Regulations 1994 (Statutory Instruments 1994, No 3051);

Common Procedural Rules for Requesting, Preparing and the Granting of European Technical Approvals set out in the Annex to Commission Decision 94/23/EC<sup>4</sup>;

Guideline for European Technical Approval of Fire Stopping and Fire Sealing Products: ETAG 026 Part 1: "General" and Part 2: "Penetration Seals".

- 2 Warrington Certification Limited is authorised to check whether the provisions of this European Technical Approval are met. Checking may take place in the manufacturing plant(s). Nevertheless, the responsibility for the conformity of the products to the European Technical Approval and for their fitness for their intended use remains with the holder of the European Technical Approval.
- 3 This European Technical Approval is not to be transferred to manufacturers or agents of manufacturers other than those indicated on page 1, or manufacturing plants other than those indicated on page 1.
- 4 This European Technical Approval may be withdrawn by Warrington Certification Limited, in particular pursuant to information by the Commission according to Article 5(1) of Council Directive 89/106/EEC.
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- 6 The European Technical Approval is issued by the approval body in its official language. This version should correspond fully to the version circulated within EOTA. Translations into other languages have to be designated as such.

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<sup>1</sup> Official Journal of the European Communities N° L40, 11.2.1989, p. 12

<sup>2</sup> Official Journal of the European Communities N° L 220, 30.08.1993, p. 1

<sup>3</sup> Official Journal of the European Union N° L 284, 31.10.2003, p. 1

<sup>4</sup> Official Journal of the European Communities N° L17, 20.1.1994, p. 34



## II SPECIFIC CONDITIONS OF THE EUROPEAN TECHNICAL APPROVAL

### 1 Definition of product and intended use

#### 1.1 Definition of the construction product

- 1) Firecrete EN HS Fire-Stopping Mortar is a gypsum based mortar material, used to reinstate the fire resistance performance of floor constructions where they have been provided with apertures for the penetrations of multiple services.
- 2) Firecrete EN HS Fire-Stopping Mortar is supplied as a dry material, and is mixed with water to the required ratio prior to installation.
- 3) Firecrete EN HS Fire-Stopping Mortar when mixed is self-supporting in a floor to a maximum of 1800mm x 1800mm. Temporary shuttering is required to support the wet weight of the Firecrete EN HS Fire-Stopping Mortar.
- 4) Installation of the Firecrete EN HS Fire-Stopping Mortar – See 4.2

#### 1.2 Intended Use and Use Category

##### 1.2.1 Intended Use

The intended use of Firecrete EN HS Fire-Stopping Mortar is to reinstate the fire resistance performance of rigid floor constructions where they are penetrated by various cables and metallic pipes.

- 1) The specific elements of construction that the System Firecrete EN HS Fire-Stopping Mortar 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<sup>3</sup>.

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

- 2) The Firecrete EN HS Fire-Stopping Mortar 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) The system Firecrete EN HS Fire-Stopping Mortar may be used to seal apertures in the separating element up to 1800mm wide by 1800mm long in a floor. The minimum permitted separation between adjacent seals/apertures is 200mm. Services within the system Firecrete EN HS Fire-Stopping Mortar do not require a minimum separation.
- 5) Services in floors shall be supported at maximum 150mm and 300mm from the exposed face.
- 6) The provisions made in this European Technical Approval are based on an assumed working life of the Firecrete EN HS Fire-Stopping Mortar 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.

### 1.2.2 Use Category

Type Z<sub>1</sub>: 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.

## 2 Characteristics of the product and methods of verification

The assessment of fitness for use has been made in accordance with EOTA ETAG 026 Part 2: 2011-08-08

ETAG Clause No.	ETA Clause No.	Characteristic	Assessment of characteristic
		<b>Mechanical resistance and stability</b>	Not relevant
		<b>Safety in case of fire</b>	See Clause 2.1
2.4.1	2.1	Reaction to fire	Class F according to EN 13501-1
2.4.2	2.2	Resistance to fire	See clause 2.2 & Annex C
		<b>Hygiene, Health and the Environment</b>	
2.4.3	2.3	Air permeability	No performance determined
2.4.4	2.4	Water permeability	No performance determined
2.4.5	2.5	Dangerous substances	No performance determined
		<b>Safety in use</b>	
2.4.6	2.6	Mechanical resistance and stability	No performance determined
2.4.7	2.7	Resistance to impact/movement	No performance determined
2.4.8	2.8	Adhesion	No performance determined
		<b>Protection against noise</b>	<b>R<sub>w</sub> (C;C<sub>tr</sub>) = 50(-1;-4)dB</b>
2.4.9	2.9	Airborne sound insulation	No performance determined
		<b>Energy, Economy and Heat Retention</b>	
2.4.10	2.10	Thermal properties	No performance determined
2.4.11	2.11	Water vapour permeability	No performance determined
		<b>General aspects relating to fitness for use</b>	
2.4.12	2.12	Durability and serviceability	Z <sub>1</sub>

### 2.1 Reaction to fire

System Firecrete EN HS Fire-Stopping Mortar is classified 'F' in accordance with EN 13501-1.



## 2.2 Resistance to fire

System Firecrete EN HS Fire-Stopping Mortar has been tested in accordance with BS EN 1366-3: 2009 and Pr EN 1366-3: 2002 based upon the test results and the field of direct application specified within EN 1366-3: 2009, the system Firecrete EN HS Fire-Stopping Mortar 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.

Firecrete EN HS Fire-Stopping Mortar seals in floors must be installed over a shutter that is capable of supporting the weight of the mortar, the shutter should then be removed in accordance with 4.2.

Cables should be insulated with minimum 45kg/m<sup>3</sup> Rockwool Duct Wrap minimum 25mm thick 500mm long to the unexposed face

Pipes should be insulated with minimum 150kg/m<sup>3</sup> 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 /uncapped outside the furnace) for metallic pipes, insulated. For further information refer to national regulations.

## 2.3 Air permeability

No performance determined

## 2.4 Water permeability

No performance determined

## 2.5 Dangerous substances

Hoben International Ltd has presented a declaration that Firecrete EN HS Fire-Stopping Mortar 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.

## 2.6 Mechanical resistance and stability

No performance determined.

## 2.7 Resistance to impact/movement

No performance determined.

## 2.8 Adhesion

Not relevant.

## 2.9 Airborne sound insulation

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

$$D_{n,e,w} (C;C_{tr})= 52(-4;-8)$$

## 2.10 Water vapour permeability

No performance determined.

## 2.11 Durability and serviceability

Firecrete EN HS Fire-Stopping Mortar has been tested in accordance with EOTA Technical Report - TR024 – Edition November 2006, for the type Z<sub>1</sub> use category specified in ETAG 026-2, 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 Evaluation of Conformity and CE marking

### 3.1 Attestation of Conformity system

According to the decision 1999/454/EC of the European Commission the system 1 of attestation of conformity applies.

This system of attestation of conformity is defined as follows:

System 1: Certification of the conformity of the product by a notified certification body on the basis of:

- (a) Tasks for the manufacturer:
  - (1) factory production control;



- (2) further testing of samples taken at the factory by the manufacturer in accordance with a prescribed test plan;
- (b) Tasks for the notified body
- (1) initial type-testing of the product;
  - (2) initial inspection of factory and of factory production control;
  - (3) continued surveillance, assessment and approval of factory production control.

## 3.2 Responsibilities

### 3.2.1 Tasks for the Manufacturer

#### 3.2.1.1 Factory production control

The manufacturer shall exercise permanent internal control of production. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures, including records of results performed. This production control system shall ensure that the product is in conformity with this European technical approval.

The manufacturer may only use constituent materials stated in the technical documentation of this European technical approval.

The factory production control shall be in accordance with the Control Plan of 7.3.13 relating to the European technical approval ETA 13/0431 which is part of the technical documentation of this European technical approval. The "Control Plan" is laid down in the context of the factory production control system operated by the manufacturer and deposited at Warrington Certification Limited.

The results of factory production control shall be recorded and evaluated in accordance with the provisions of the Control Plan.

#### 3.2.1.2 Other tasks of manufacturer

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.

The manufacturer shall, on the basis of a contract, involve a body which is approved for the tasks referred to in section 3.1 in the field of penetration seals in order to undertake the actions laid down in section 3.3. For this purpose, the "control plan" referred to in sections 3.2.1.1 and 3.2.2 shall be handed over by the manufacturer to the approved body or bodies involved.

The manufacturer shall make a declaration of conformity, stating that the construction product is in conformity with the provisions of the European technical approval ETA-13/0431

### 3.2.2 Tasks of approved bodies

The approved body shall perform the

- initial type-testing of the product,
- initial inspection of factory and of factory production control,
- continuous surveillance, assessment and approval of factory production control,

In accordance with the provisions laid down in the "Control Plan of 7.3.13" relating to the European technical approval 13/0431

The approved body shall retain the essential points of its actions referred to above and state the results obtained and conclusions drawn in a written report.

The approved certification body involved by the manufacturer shall issue an EC certificate of conformity of the product stating the conformity with the provisions of this European technical approval.

In cases where the provisions of the European technical approval and its "Control Plan" are no longer fulfilled the certification body shall withdraw the certificate of conformity and inform the Warrington Certification Limited without delay.






**CE-Marking**

The CE marking shall be affixed on the Firecrete EN HS Fire-Stopping Mortar. The marking “CE” shall be followed by the identification number of the approved certification body and be accompanied by the following additional information:

- identification number of the notified body (as mentioned above)
- the name and address of the ETA holder ,
- the last two digits of the year in which the CE marking was affixed,
- the number of the EC certificate of conformity for the product,
- the number of the European Technical Approval,
- the number of the Guideline for European Technical Approval
- the use category Z<sub>1</sub>
- see ETA-13/0431 other relevant characteristics

Example of CE marking and accompanying information:

 1121	<p><b>‘CE’-Marking</b></p> <p>Identification number of approved certification body</p>
<p><b>Hoben International Ltd</b></p> <p>Brassington Nr Matlock Derbyshire DE4 4HF</p> <p>12</p> <p>XXXX-CPD-XXXX</p>	<p>Name and address of the producer (legal entity responsible for the manufacturer)</p> <p>Two last digits of year of affixing the CE marking</p> <p>Number of EC certificate of conformity</p>
<p>ETA-13/0431</p> <p>ETAG N° 026 part 2</p> <p>‘Firecrete EN HS Fire-Stopping Mortar ‘ For Penetration Seals</p> <p>Use category Z<sub>1</sub></p> <p>see ETA 13/0431 or other relevant characteristics</p>	<p>Number of European technical approval</p> <p>Number of guideline for European technical approval</p> <p>Designation of the product (trade name)</p> <p>Use category in accordance with the ETA section 1 and 2</p> <p>Other relevant characteristics see ETA-13/0431</p>



## 4 Assumptions under which the fitness of the product for the intended use was favorably assessed

### 4.1 Manufacturing

The European technical approval is issued Firecrete EN HS Fire-Stopping Mortar on the basis of agreed data/information, deposited with Warrington Certification Limited, which identifies the product that has been assessed and judged. Changes to the product or production process, which could result in this deposited data/information being incorrect, should be notified to Warrington Certification Limited before the changes are introduced. Warrington Certification Limited will decide whether or not such changes affect the ETA and consequently the validity of the CE marking on the basis of the ETA and if so whether further assessment or alterations to the ETA, shall be necessary.

### 4.2 Installation

- **RECOMMENDED MIXES.**

Mix with clean water in a clean plastic container. Slowly add the dry powder to the water stirring by hand or power mixer to ensure a smooth lump-free mix.

Mortar : Water  
(By Volume)

Floor Openings                      3-3.5 : 1

Wall Openings                        3.5-4 : 1

**For Load Bearing floor seals do not use a mix ratio of less than 3 : 1.**

**Do Not** attempt to extend the working time by remixing with more water after the mortar has started to set as this will interfere with the setting process.

Always mix in clean buckets. Using dirty buckets containing remnants from previous mixes will accelerate the setting process and may reduce the working time to as little as ten minutes

- **YIELD.**

Approximately 6 bags per m<sup>2</sup> at 100mm thick

- **FLOOR OPENINGS.**

When sealing holes in floor slabs appropriate shuttering must be installed, cut to fit tightly around any services within the opening, to support the wet mix until it sets. Non-combustible shuttering materials, such as mineral fibre slab, can be left in place, but combustible materials must be removed after the mix has set. For complex penetrations it may be preferable to initially form a thin seal around all services with a nominal 5mm layer of the mortar mix. Once this has set the remaining depth of seal should be poured in one operation.

Building up the seal in several operations with the individual layers being allowed to set will result in a weak laminated structure with severely reduced load bearing performance.

As the load bearing performance, particularly in un-reinforced situations, is dependent on compressive membrane action against the concrete slab edge or other rigid boundary, it is essential to check that this is vertical before commencing installation.

Cutting out part of the finished seal to accommodate services must not be undertaken without review by a competent person of the effect on the structural integrity of the seal.



## 5 Indications to the manufacturer

### 5.1 Packaging, transport and storage

The following measures should be adopted with regard to handling and storage of Firecrete EN HS Fire-Stopping Mortar:

- Handling
  - Information for safe handling: No special measures required.
  - Information about protection against explosions and fires: No special measures required.
  
- Storage
  - Store dry and in a cool place.
  - Don't store the product under 0 °C and not over +35 °C
  - Keep out of reach of children
  - Take care for sufficient ventilation

### 5.2 Use, maintenance, repair

The Firecrete EN HS Fire-Stopping Mortar should be installed and used as described earlier in this document.

Firecrete EN HS Fire-Stopping Mortar dry compound bags which are damaged should not be used or if damaged after installation the compound should be removed and replaced with undamaged bags.

In the area covered by the ETA when the set up recommendation have been followed there is no maintenance protocol to be followed. The product does not need any maintenance in the life time indicated in the ETA.



## Annex A

### Reference Documents and LIST OF ABBREVIATIONS

References to standards mentioned in the ETA:

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

Other reference documents:

EOTA TR 024	Characterisation, Aspects of Durability and Factory Production Control for Reactive Materials, Components and Products
ETAG No. 026: Part 2	Guideline For European Technical Approval of Fire Stopping and Fire Sealing Products, Part 2: Penetration Seals



## Annex B

### Description of Product and Product Literature

#### Firecrete EN HS Fire-Stopping Mortar

A detailed specification of the product is contained in document "Evaluation Report" and "Control Plan of 7<sup>th</sup> March 2013" relating to the European Technical Approval ETA 13/0431 issued on 16/05/2013, of Firecrete EN HS Fire-Stopping Mortar which is a non-public part of this ETA.



**SANDERSFIRE**  
INTERNATIONAL

A Division of Hobas International Limited

## FIRE RATED MORTARS

FOR SEALING WALL & FLOOR PENETRATIONS



- ▶ **Non-Shrinking, gas tight seals**  
Mixed with water, Firecrete is trowelled or poured into wall or floor penetrations around services to stop the passage of flame, smoke and toxic gases.
- ▶ **Excellent workability ranging from stiff to pourable consistency**  
Fully set within 2-3 hours
- ▶ **Load bearing performance in floor seals**  
High compressive and flexural strength



**Tested & Approved to...**

- BS476 p20, 1987
- prEN1366-3 2004
- ASTM E814




**▶ Easy Preparation & Application...**

- 1 Add Firecrete powder to water
- 2 Mix until smooth
- 3 Pour Firecrete mix into penetration

[www.sandersfire.co.uk](http://www.sandersfire.co.uk)



## Annex C

### Resistance to Fire Classification of Firecrete EN HS Fire-Stopping Mortar

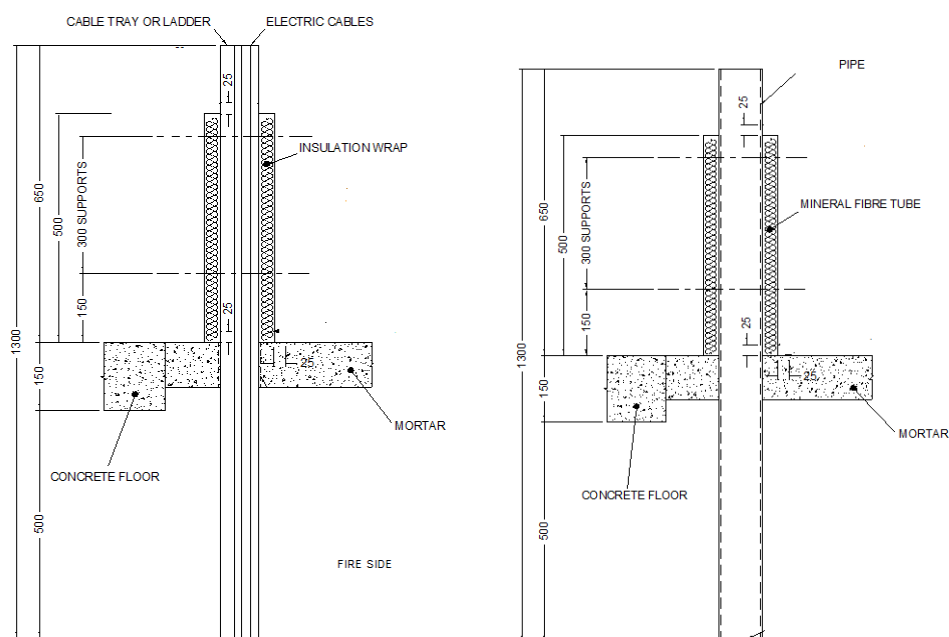
#### C.1 Rigid floor constructions according to 1.2.1 with floor thickness of minimum 150 mm

##### C.1.1 Penetration seal with Firecrete EN HS Fire-Stopping Mortar installed the 100mm depth of the floor, maximum seal size 1800mm x 1800mm

**Penetration Seal:** Metallic pipes (insulated) and various cables (insulated) penetrating through a rigid floor construction. Firecrete EN HS Fire-Stopping Mortar flush with the upper surface of the floor.

Firecrete EN HS Fire-Stopping Mortar is applied to seal around the services and gaps of service penetration

Construction details:



**C.1.1.1 Separation of openings minimum 200 mm**

<b>Services</b>	<b>Classification</b>
Copper pipe 40-107 mm Ø and 1.5 – 14.2 mm wall, insulated with 'LI' (local interrupted 500mm) 50 mm thick Rockwool H&V Pipe Section min 150kg/m <sup>3</sup>	<b>E 60 C/U</b> <b>EI 15 C/U</b>
Steel pipe 40-115 mm Ø and 3.5 – 14.2 mm wall, insulated with 'LI' (local interrupted 500mm) 50 mm thick Rockwool H&V Pipe Section min 150kg/m <sup>3</sup>	<b>EI120 C/U</b>
Steel pipe 160 mm Ø and 5– 14.2 mm wall, insulated with 'LI' (local interrupted 500mm) 50 mm thick Rockwool H&V Pipe Section min 150kg/m <sup>3</sup>	<b>E 120 C/U</b> <b>EI 90 C/U</b>
Electrical cables up to 80 mm Ø, insulated with 25mm thick Rockwool Duct Wrap 500mm long min 45kg/m <sup>3</sup>	<b>E 120</b> <b>EI 60</b>
Non-sheathed wire up to 24 mm Ø insulated with 25mm thick Rockwool Duct Wrap 500mm long min 45kg/m <sup>3</sup>	<b>EI 120</b>



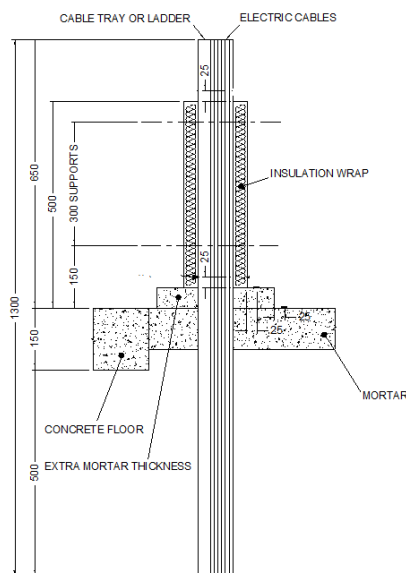
**C.2 Rigid floor constructions according to 1.2.1 with floor thickness of minimum 150 mm**

**C.2.1 Penetration seal Firecrete EN HS Fire-Stopping Mortar installed the 150mm depth of the floor, maximum seal size 1800mm x 1800mm**

**Penetration Seal:** Various cables (insulated) penetrating through a rigid floor construction. Firecrete EN HS Fire-Stopping Mortar flush with the upper surface of the floor. An additional 50mm thickness of compound is applied round the upper side of the cables.

Firecrete EN HS Fire-Stopping Mortar is applied to seal around the services and gaps of service penetration

Construction details:



**C.2.1.1 Separation of openings minimum 200 mm**

Services	Classification
Telecomm cables in bundles of up to 100 mm diameter with 25mm thick Rockwool Duct Wrap 500mm long min 45kg/m <sup>3</sup>	<b>EI120</b>

