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Member of EOTA

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.

## **European Organisation for Technical Approvals**

### **EUROPEAN TECHNICAL APPROVAL – ETA-09/0325 Revision 1**

**Trade name:** 3M Fire Barrier IC 15WB+ Sealant

**Holder of the approval:** 3M United Kingdom PLC  
3M Centre  
Cain Road  
Bracknell  
Berks  
RG12 8HT

**Generic type and use of construction product(s):** Penetration seal

**Validity from:** 4<sup>th</sup> March 2013  
**to:** 3<sup>rd</sup> March 2018

**Manufacturing plant:** B/037

**This European Technical Approval contains:** 19 pages in total.



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

## **I 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: Part 2: Penetration Seals.

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<sup>1</sup> Official Journal of the European Communities N° L40, 11 Feb 1989, p 12

<sup>2</sup> Official Journal of the European Communities N° L220, 30 Aug 1993, p 1

<sup>3</sup> Official Journal of the European Communities N° L284, 31 Oct 2003, p 1

<sup>4</sup> Official Journal of the European Communities N° L17, 20 Jan 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) 3M Fire Barrier IC 15WB+ Sealant is a sealant product used as a system to reinstate the fire resistance performance of floor and wall constructions where they have been provided with apertures for the penetration of single or multiple services.
- (2) 3M Fire Barrier IC 15WB+ Sealant includes an intumescent component to close any gaps or joints when heated and prevent the passage of fire.
- (3) 3M Fire Barrier IC 15WB+ Sealant is supplied in paste form and applied to both faces of mineral wool backing material packed in to the aperture in the wall and around the services.
- (4) 3M Fire Barrier IC 15WB+ Sealant is supplied in paste form and applied to the upper face of mineral wool backing material packed in to the aperture in the floor and around the services.
- (5) Installation of the System 3M Fire Barrier IC 15WB+ – See 4.2

#### 1.2 Intended Use

The intended use of System 3M Fire Barrier IC 15WB+ is to reinstate the fire resistance performance of flexible and rigid wall constructions, and rigid floor constructions, where they are penetrated by various cables and metallic pipes.

- (1) The specific elements of construction that the System 3M Fire Barrier IC 15WB+ may be used to provide a penetration seal in, are as follows:

Flexible walls : The wall must have a minimum thickness of 100 mm and min 100mm  
comprise timber or steel studs lined on both faces with minimum 2 layers of 12.5 mm thick, 'Type F' Gypsum boards.

Flexible walls min 150mm : The wall must have a minimum thickness of 150 mm and comprise timber or steel studs lined on both faces with minimum 2 layers of 15 mm thick, 'Type F' Gypsum boards.

Rigid walls : The wall must have a minimum thickness of 100 mm and comprise concrete, aerated concrete or masonry, with a minimum density of 650 kg/m<sup>3</sup>.

Rigid Floors : The wall must have a minimum thickness of 150 mm and comprise concrete or aerated concrete with a minimum density of 650 kg/m<sup>3</sup>.

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



(2) The System 3M Fire Barrier IC 15WB+ may be used to provide a penetration seal with the following specific services:

- Cables : Sheathed telecommunication/optical fibre cables, single or in bundles of up to 150 mm diameter. Diameter range 20.9 to 26.5 mm, EPR/Chloroprene sheathed to 4 x 10mm<sup>2</sup> size electrical cables, single or bundles of up to 7 cables (designation: H07RN-F from HD22.4 S3: 1995), Electrical cables up to 50mm diameter, Non sheathed electrical cables up to 24mm diameter  
Cables to be positioned a minimum of 30 mm from the edges of the seal.
- Cable trays Non perforated cable trays 230mm x 45mm x 1.5mm thick
- Pipes : 34 mm diameter by 3.5 – 14.2mm mm wall mild steel pipes, 114 mm diameter by 4.5 – 14.2mm mm wall mild steel pipes and 15 mm diameter by 0.9 – 7.5mm wall copper pipes, 40mm – 152mm diameter by 2.5mm – 14.2mm wall, mild steel pipes, 40mm – 152mm by 2.5mm – 14.2mm wall diameter insulated mild steel pipes. Single pipes only.

(3) The total amount of cross sections of the services (including insulation) should not exceed 60% of the penetration area.

(4) Services may be single pipes, single or bundled cables. The minimum separation between adjacent services shall be 10mm

(5) The System 3M Fire Barrier IC 15WB+ may be used to seal apertures in the separating element up to 410 x 170mm or 298mm diameter. The minimum permitted separation between adjacent seals/apertures is 200 mm. Cables within the System 3M Fire Barrier IC 15WB+ seal may be singular or in a bundle, single pipes only are permitted (without cables). Pipes may be located anywhere within the seal i.e. centrally or at the perimeter.

(6) Services shall be supported at maximum 170 mm and 380 mm away from both faces of the wall (150mm thick flexible or rigid wall constructions), 260 mm and 450 away from both faces of the wall (100mm flexible or rigid wall constructions) or 260 mm and 450 away from the unexposed face (150mm rigid floor constructions)

The provisions made in this European Technical Approval are based on an assumed working life of the 3M Fire Barrier IC 15WB+ Sealant 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.



## Use Category

Type Z<sub>1</sub>: Intended for use at internal conditions with high humidity, excluding temperatures below 0°C.

Type Z<sub>2</sub>: Intended for use at internal conditions with humidity conditions other than Z<sub>1</sub> Category, excluding temperatures below 0°C.

## 2 Characteristics of the product and methods of verification

The assessment of fitness for use has been made in accordance with EOTA ETAG No 026: Part 2: 2008-01-01

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	Reaction to fire	E
2.4.2	Resistance to fire	See Clause 2.1.2
	<b>Hygiene, Health and the Environment</b>	See clause 2.2
2.4.3	Air permeability	No performance determined
2.4.4	Water permeability	
2.4.5	Dangerous substances*	No dangerous Substances
	<b>Safety in use</b>	No performance determined
2.4.6	Mechanical resistance and stability	
2.4.7	Resistance to impact/movement	
2.4.8	Adhesion	



	<b>Protection against noise</b>	See Clause 2.3
2.4.9	Airborne sound insulation	$D_{n,e,w}(C;C_{tr}) = 61(-4;-9)$
	<b>Energy, Economy and Heat Retention</b>	No performance determined
2.4.10	Thermal properties	
2.4.11	Water vapour permeability	
	<b>General aspects relating to fitness for use</b>	See Clause 2.4
2.4.12	Durability and serviceability	Z <sub>1</sub>

\* 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.

## 2.1 Safety in case of fire

### 2.1.1 Reaction to fire

3M Fire Barrier IC 15WB+ Sealant is classified 'E' in accordance with EN 13501-1.

### 2.1.2 Resistance to fire

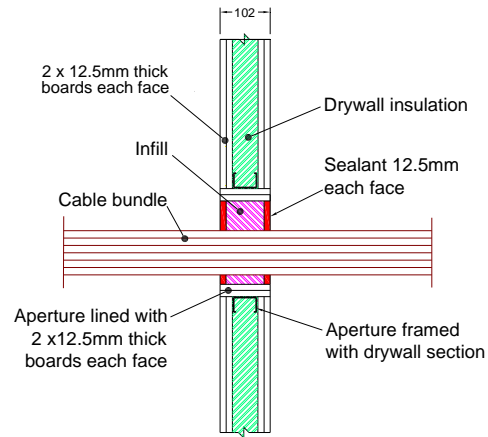
System 3M Fire Barrier IC 15WB+ has been tested in accordance with BS EN 1366-3: 2004 and 2009, installed within apertures in flexible walls with or without insulation core (drywalls), rigid walls (masonry) and rigid floors (concrete).

The seals in each case were penetrated by cable bundles and separately non-combustible (metallic) pipes insulated and un-insulated.

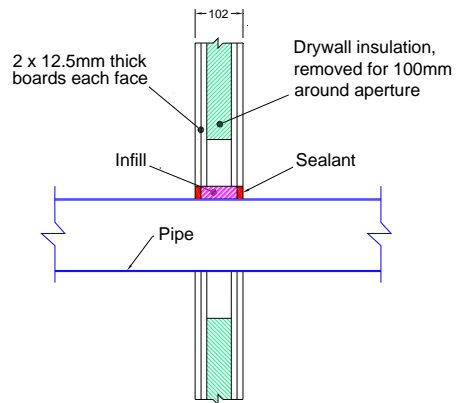
Based upon these test results and the field of direct application, the System 3M Fire Barrier IC 15WB+ has been classified in accordance with EN 13501-2, as follows:



## Classification in Flexible Walls Minimum 100mm



Typical cross-section of cable seal installation. Cable bundle detail shown.



Typical cross-section of uninsulated pipe installation. Eccentric pipe detail shown.



## 3M™ Fire Barrier Sealant IC 15 WB+ Penetration Seals in Flexible or Rigid Walls 100 mm thick (min.)

Maximum Aperture size (mm)	Seal composition	Service(s)	Position of service(s)	Classification
410 x 170 mm Or 298mm Ø	12.5 mm depth of 3M™ Fire Barrier Sealant IC 15 WB+, applied to each face of the seal, flush with the outer face of the wall with 75 mm deep infill of friction fitted stone wool of nominal density 64 kg/m <sup>3</sup>	Blank seal / no services	N/A	<b>EI 120</b>
		<sup>1</sup> Steel pipe 16-152 mm Ø and 2.5-14.2 mm wall	No restriction	<b>E 120 C/U</b>
		<sup>2</sup> Steel pipe 40-152 mm Ø and 2.5-14.2 mm wall insulated with 25 mm thick Continuous Sustained glass wool insulation EN 13501-1 Class A2 or better		<b>E 120 C/U</b> <b>EI 90 C/U</b>
		<sup>3</sup> Steel pipe 40-152 mm Ø and 2.5-14.2 mm wall insulated with 19 mm thick Continuous Sustained elastomeric insulation EN 13501-1 Class B or better		<b>E 120 C/U</b> <b>EI 60 C/U</b>
		Electrical cables up to 50 mm Ø	Min. 30 mm from seal edge	<b>E 120</b> <b>EI 30</b>
		Up to 21 mm Ø telecommunication cables in bundles of up to 100 mm Ø		<b>E 120</b> <b>EI 90</b>
		Up to 24 mm Ø non-sheathed electrical cables		<b>E 120</b> <b>EI 30</b>
		Up to 16 mm Ø plastic conduit and tubes		<b>EI 120 C/U</b>
		Up to 16 mm Ø copper or steel conduit and tubes		<b>E 120 C/U</b> <b>EI 15 C/U</b>

**E = Integrity      I = Insulation      C/U = Pipe end capped inside & uncapped outside the furnace**  
**CS – Continuous sustained**

Maximum classification for seals with installations according to table... In case of installation of the seal in walls with a lower classification (i.e. E 15) but with the same thickness, construction and/or density as required in this ETA, the classification of the seal is reduced to the classification of the wall.

The System 3M Fire Barrier IC 15WB+ as detailed above may be used to seal apertures in flexible and rigid walls up to 410mm x 170mm or 298mm diameter. The seal will be formed from mineral wool 64 kg/m<sup>3</sup> density packed into the aperture at least 70 mm deep to leave 12.5 mm remaining to the surfaces of the wall. The remaining 12.5 mm is then filled with 3M Fire Barrier IC 15WB+ Sealant to both faces of the wall. A minimum 200 mm separation must be maintained between adjacent seals/apertures. The seals may only be penetrated by the services described above, other parts or support constructions must not penetrate the seal.

<sup>1</sup>Internal evaluation carried out to provide assessment for 16 mm – 40mm steel pipe

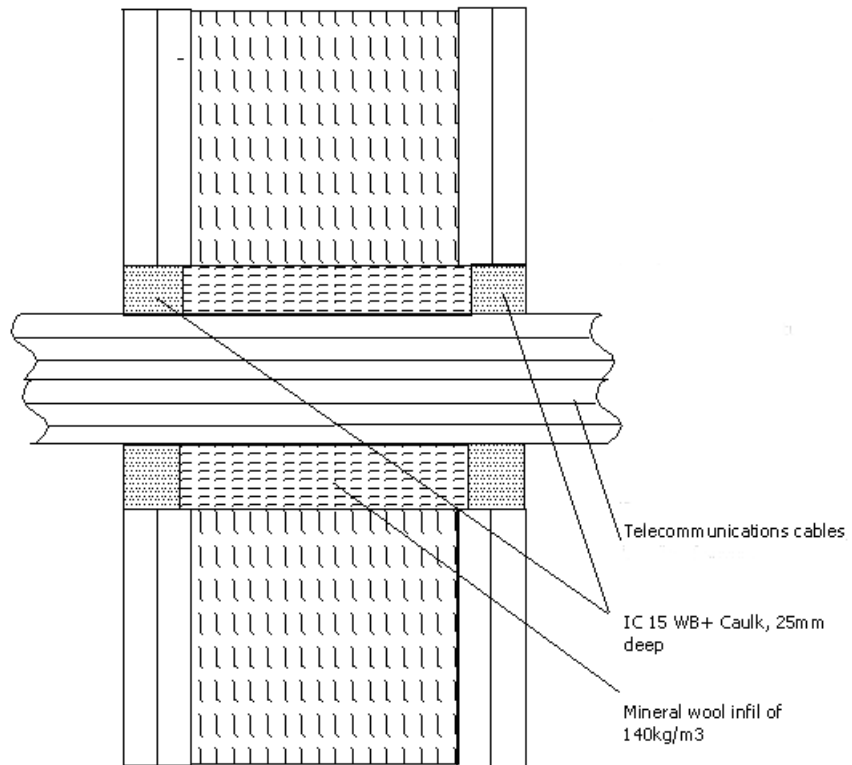
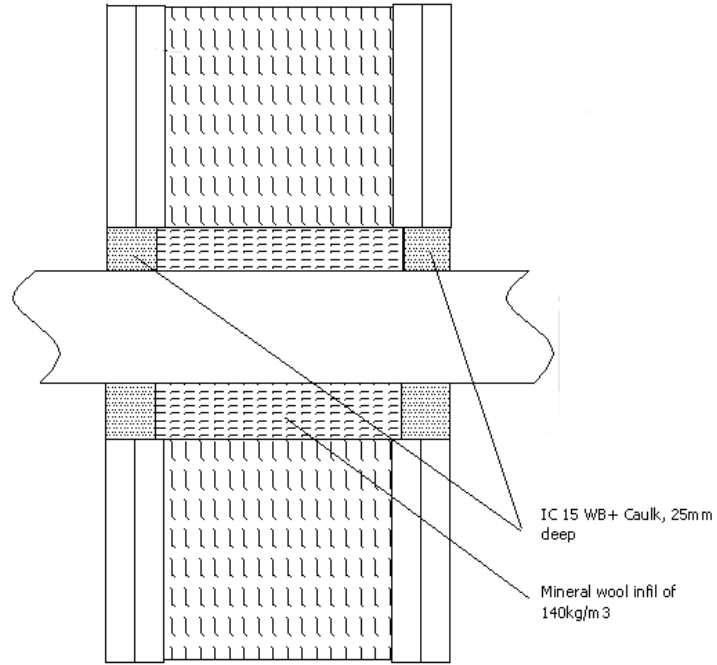
<sup>2</sup>Glass wool covers mineral wool of equal or greater density

<sup>3</sup>Elastomeric insulation material is defined as a generic insulation material manufactured to EN 14304: 2009 "Thermal insulation products for building equipment and industrial installations. Factory made flexible elastomeric foam (FEF) products. Specification.", which has a minimum Class Bs3d0 Reaction to Fire performance, when classified according to EN 13501-1.





### Classification in Flexible Walls Minimum 150mm



### **3M™ Fire Barrier Sealant IC 15 WB+ Penetration Seals in Flexible or Rigid Walls 150 mm thick (min.)**

<b>Maximum Aperture size (mm)</b>	<b>Seal composition</b>	<b>Service(s)</b>	<b>Position of service(s)</b>	<b>Classification</b>
104 diameter	25.5 mm depth of 3M™ Fire Barrier Sealant IC 15 WB+, applied flush with the upper face of the floor with 100 mm deep infill of friction fitted stone wool of nominal density 140 kg/m <sup>3</sup>	Steel Pipe 34 mm Ø and 3.5mm – 14.2mm wall	Central	<b>EI 120 C/U</b>
152 diameter		Steel Pipe 114 mm Ø and 4.5mm – 14.2mm wall	No restriction	<b>E 120 C/U</b> <b>EI 20 C/U</b>
65 diameter		Copper Pipe 15 mm Ø and 0.9mm – 7.4mm wall		<b>E 120 C/U</b> <b>EI 90 C/U</b>
112 diameter		Bundled power cables (EPR/Chloroprene) to 4 x 10mm <sup>2</sup> size (single or multiple - bundle of up to 7)	Central	<b>E 120</b> <b>EI 90</b>

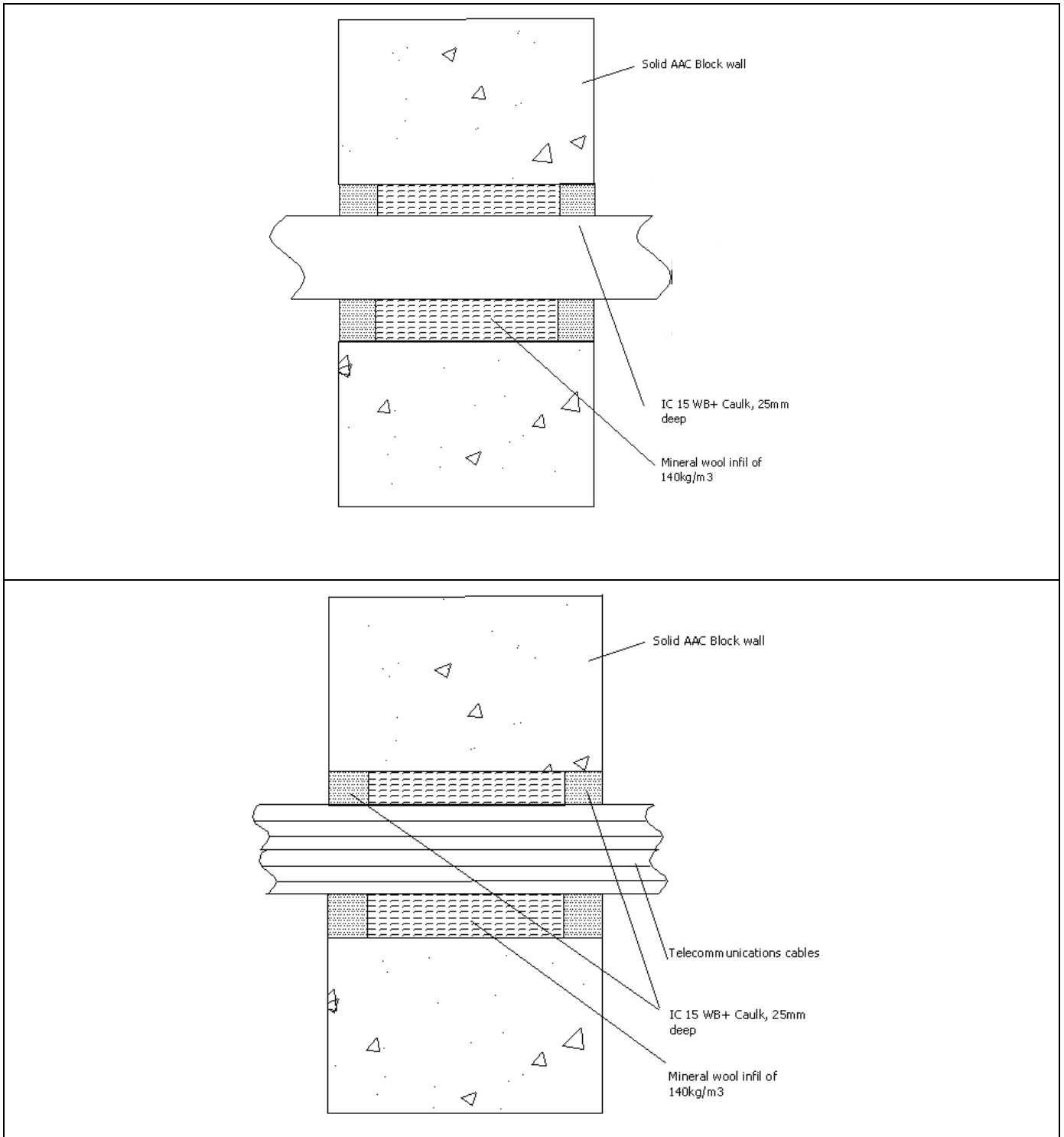
**E = Integrity      I = Insulation      C/U = Pipe end capped inside & uncapped outside the furnace**  
**CS – Continuous sustained**

Maximum classification for seals with installations according to table... In case of installation of the seal in walls with a lower classification (i.e. E 15) but with the same thickness, construction and/or density as required in this ETA, the classification of the seal is reduced to the classification of the wall.

The System 3M Fire Barrier IC 15WB+ as detailed above may be used to seal apertures in flexible walls and rigid walls up to 152 mm diameter. The seal will be formed from mineral wool 140 kg/m<sup>3</sup> density packed into the aperture at least 100 mm deep to leave 25 mm remaining to the surfaces of the wall. The remaining 25 mm is then filled with 3M Fire Barrier IC 15WB+ Sealant to both faces of the wall. A minimum 200 mm separation must be maintained between adjacent seals/apertures. The seals may only be penetrated by the services described above, other parts or support constructions must not penetrate the seal.



### Classification in Rigid Wall Minimum 150mm



<b>3M™ Fire Barrier Sealant IC 15 WB+ Penetration Seals in Rigid Walls 150 mm thick (min.)</b>				
<b>Maximum Aperture size (mm)</b>	<b>Seal composition</b>	<b>Service(s)</b>	<b>Position of service(s)</b>	<b>Classification</b>
112 diameter	25.5 mm depth of 3M™ Fire Barrier Sealant IC 15 WB+, applied flush with the upper face of the floor with 100 mm deep infill of friction fitted stone wool of nominal density 140 kg/m <sup>3</sup>	Telecommunications cables (single or multiple - bundle of up to 7)	Central	<b>E 240 EI 90</b>
		Steel Pipe 34 mm Ø and 3.5mm – 14.2mm wall		<b>EI 120 C/U</b>
152 diameter		Steel Pipe 114 mm Ø and 4.5mm – 14.2mm wall	No restriction	<b>E 240 C/U EI 30 C/U</b>
112 diameter		Copper Pipe 15 mm Ø and 0.9mm – 7.4mm wall		<b>E 240 C/U EI 60 C/U</b>
		Bundled power cables (EPR/Chloroprene) to 4 x 10mm <sup>2</sup> size (single or multiple - bundle of up to 7)	Central	<b>E 240 EI 90</b>
		Blank		<b>EI 120</b>

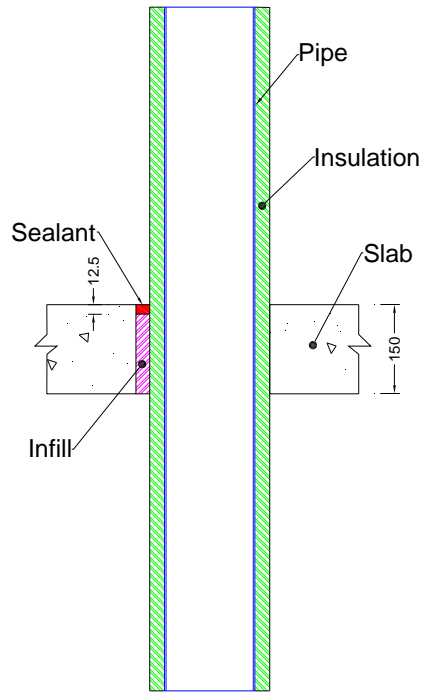
**E = Integrity      I = Insulation      C/U = Pipe end capped inside & uncapped outside the furnace  
CS – Continuous sustained**

Maximum classification for seals with installations according to table... In case of installation of the seal in walls with a lower classification (i.e. E 15) but with the same thickness, construction and/or density as required in this ETA, the classification of the seal is reduced to the classification of the wall.

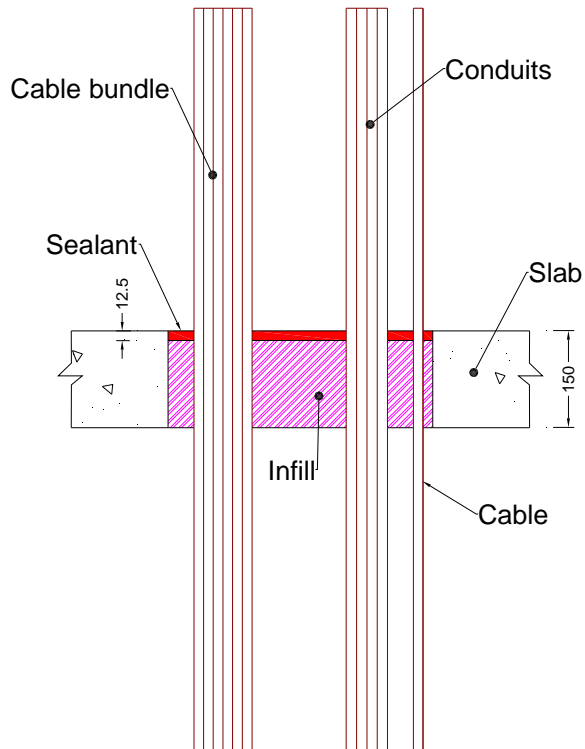
The System 3M Fire Barrier IC 15WB+ as detailed above may be used to seal apertures in rigid walls up to 152 mm diameter. The seal will be formed from mineral wool 140 kg/m<sup>3</sup> density packed into the aperture at least 100 mm deep to leave 25 mm remaining to the surfaces of the wall. The remaining 25 mm is then filled with 3M Fire Barrier IC 15WB+ Sealant to both faces of the wall. A minimum 200 mm separation must be maintained between adjacent seals/apertures. The seals may only be penetrated by the services described above, other parts or support constructions must not penetrate the seal.



### Classification in Rigid Floors Minimum 150mm



Typical cross section of insulated pipe



Typical cross section of cable seal.



<b>3M™ Fire Barrier Sealant IC 15 WB+ Penetration Seals in Rigid Floors 150 mm thick (min.)</b>				
<b>Maximum Aperture size (mm)</b>	<b>Seal composition</b>	<b>Service(s)</b>	<b>Position of service(s)</b>	<b>Classification</b>
410 x 170 mm Or 298mm ø	12.5 mm depth of 3M™ Fire Barrier Sealant IC 15 WB+, applied flush with the upper face of the floor with 137 mm deep infill of friction fitted stone wool of nominal density 64 kg/m <sup>3</sup>	Blank seal / no services	N/A	<b>EI 120</b>
		Steel pipe 40-152 mm Ø and 2.5-14.2 mm wall	No restriction	<b>E 240 C/U</b> <b>EI 20 C/U</b>
		<sup>1</sup> Steel pipe 16-152 mm Ø and 2.5-14.2 mm wall		<b>E 120 C/U</b> <b>EI 20 C/U</b>
		<sup>2</sup> Steel pipe 40-152 mm Ø and 2.5-14.2 mm wall insulated with 25 mm thick CS glass wool insulation EN 13501-1 Class A2 or better		<b>E 90 C/U</b> <b>EI 60 C/U</b>
		Steel pipe 40-152 mm Ø and 2.5-14.2 mm wall insulated with 19 mm thick Continuous Sustained elastomeric insulation EN 13501-1 Class B or better		<b>EI 90 C/U</b>
		Electrical cables up to 50 mm Ø	Min. 30 mm from seal edge	<b>E 240</b> <b>EI 60</b>
		Up to 21 mm Ø telecommunication cables in bundles of up to 100 mm Ø		<b>E 240</b> <b>EI 120</b>
		Up to 24 mm Ø non-sheathed electrical cables		<b>E 240</b> <b>EI 30</b>
		Up to 16 mm Ø plastic conduit and tubes		<b>E 240 C/U</b> <b>EI 180 C/U</b>
		Up to 16 mm Ø copper or steel conduit and tubes		<b>E 120 C/U</b> <b>EI 30 C/U</b>
72 mm diameter	6 mm depth of 3M™ Fire Barrier Sealant IC 15 WB+, applied flush with the upper face of the floor with 144 mm deep infill of friction fitted stone wool of nominal density 64 kg/m <sup>3</sup>	Steel pipe 40mm Ø and 2.6 mm wall	No restriction	<b>E 240 C/U</b> <b>EI 90 C/U</b>

E = Integrity      I = Insulation      C/U = Pipe end capped inside & uncapped outside the furnace  
CS – Continuous sustained



Maximum classification for seals with installations according to table... In case of installation of the seal in walls with a lower classification (i.e. E 15) but with the same thickness, construction and/or density as required in this ETA, the classification of the seal is reduced to the classification of the wall.

The System 3M Fire Barrier IC 15WB+ as detailed above may be used to seal apertures in rigid floors up to 410mm x 170mm or 298mm diameter. The seal will be formed from mineral wool 64 kg/m<sup>3</sup> density packed into the aperture at least 87.5 mm deep to leave 12.5 mm remaining to the surfaces of the wall. The remaining 12.5 mm is then filled with 3M Fire Barrier IC 15WB+ Sealant to the upper face of the floor. A minimum 200 mm separation must be maintained between adjacent seals/apertures. The seals may only be penetrated by the services described above, other parts or support constructions must not penetrate the seal.

Details of suitable wall and floor constructions are as follows:

- |                             |   |   |
|-----------------------------|---|---|
| Flexible walls<br>min 100mm | : | The wall must have a minimum thickness of 100 mm and comprise timber or steel studs lined on both faces with minimum 2 layers of 12.5 mm thick, 'Type F' Gypsum boards according to EN 520. In timber stud walls, no part of the penetration shall 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, is provided within the cavity between the penetration seal and the stud. The partition construction may comprise an insulated or un-insulated cavity. |
| Flexible walls<br>min 150mm | : | The wall must have a minimum thickness of 150 mm and comprise timber or steel studs lined on both faces with minimum 2 layers of 15 mm thick, 'Type F' Gypsum boards according to EN 520. In timber stud walls, no part of the penetration shall 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, is provided within the cavity between the penetration seal and the stud.  |
| Rigid walls                 | : | The wall must have a minimum thickness of 100 mm and comprise concrete, aerated concrete or masonry, with a minimum density of 650 kg/m <sup>3</sup> .  |
| Rigid Floors                | : | The wall must have a minimum thickness of 150 mm and comprise concrete or aerated concrete with a minimum density of 650 kg/m <sup>3</sup> .  |

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

The total amount of cross sections of the services (including insulation) should not exceed 60% of the penetration area.



## General

The following conditions apply to seals within any of the above constructions:

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

Specific considerations for cable penetration seals:

- For tied cable bundles the space between cables shall be sealed with 3M Fire Barrier IC 15WB+ Sealant.

Specific considerations for pipe penetration seals:

- 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 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 for pipes relate to C/U (capped inside the furnace/uncapped outside). For further information refer to national regulations.

## 2.2 Hygiene, Health and the Environment

2.2.1 3M United Kingdom PLC have presented a declaration that 3M Fire Barrier IC 15WB+ Sealant is in compliance with Council Directive 76/769/EEC of 27<sup>th</sup> July 1976 on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations (incl. All amendments and adaptations).

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

## 2.3 Protection against noise

2.3.1 A test was conducted in accordance with EN ISO 140-10: 1992-09, including classification in accordance with EN ISO 717-1: 1997-01. The test was conducted without services, as required by EOTA ETAG N° 026: Part 2.





2.3.2 The test was performed on a section of a steel stud, drywall assembly, 152mm thick, constructed to the same specification as that used for the drywall assembly within the EN 1366-3 fire resistance tests - 90mm steel stud faced on both sides with two layers of 15mm thick gypsum wallboard and with a 100mm thick core of 60kg/m<sup>3</sup> density Rockwool mineral wool.

The section of wall incorporated six apertures, each of 152mm diameter, filled with 100mm depth of 140kg/m<sup>3</sup> density Rockwool mineral wool, and faced on each side with a 25mm depth of 3M Fire Barrier IC 15WB+ Sealant.

The section of drywall incorporating the specimens closed the aperture within a solid wall construction between the chambers between the sound generating equipment and sound receiving equipment.

The test was conducted over a frequency range of 100Hz to 5000Hz in 18 steps.

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

$$D_{n,e,w} (C;C_{tr}) = 61(-4;-9)$$

## 2.4 General aspects relating to fitness for use

2.4.1 3M Fire Barrier IC 15WB+ Sealant has been tested in accordance with EOTA Technical Report - TR024 – Edition November 2006 for the Z<sub>1</sub> use category specified in EOTA ETAG No. 026: Part 2 and the results of the test have demonstrated suitability for penetration seals intended for use at internal conditions with high humidity and excluding temperatures below 0°C.

2.4.2 In accordance with EOTA ETAG No. 026: Part 2, the 3M Fire Barrier IC 15WB+ Sealant also satisfies the Z<sub>2</sub> use category and is therefore also suitable for penetration seals intended for use at internal conditions with humidity classes other than high humidity and excluding temperatures below 0°C.

## 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
  - (3) initial type-testing of the product;
  - (4) initial inspection of factory and of factory production control;
  - (5) continue 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 21<sup>st</sup> January 2010 relating to the European technical approval ETA-09/0325 issued on 21<sup>st</sup> January 2010 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" detailed below:

Requirement	Method	Frequency	Comment
Content of non-volatile components	EN ISO 3251	Once per 15 batches	Material contains no solvents. Percentage solid test conducted acc. Internal procedure TP 168.
Weight loss on heating (ash)	EN ISO 3451-1	Once per 15 batches	Test procedure designated as Internal procedure TP ETAG 001*.
Density of uncured ('liquid') material)	Based on EN ISO 2811-1 or 2811-2	Once per batch	
Viscosity of uncured ('liquid') material	EN 1426 (or EN ISO 3219 or EN 12092, as appropriate)	Once per batch	Specified viscosity tests not suitable for material. Alternative method used ; Boeing Flow acc. Internal Procedure TP 197 and Caulk rate per TP 198
Expansion ratio	As per 3.1.11 of EOTA TR 024	Once per batch	

Additionally TGA tests are conducted by UL once per year as part of the existing certification audit.

\* Temporary TP designation while 3M designation is adopted and documented.



### 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:

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.

Installation instruction:

- Steps to be followed
- Procedure in case of retrofitting – Damaged seals shall be removed and replaced.

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-09/0325 issued on 21<sup>st</sup> January 2010.

### 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 21<sup>st</sup> January 010 relating to the European technical approval ETA-09/0325 issued on .

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.




### 3.3 CE marking

The CE marking shall be affixed on the packaging of the 3M Fire Barrier IC 15WB+ Sealant. The marking "CE" shall be followed by the identification number of the approved certification body and be accompanied by the following additional information:

- the name and address of the producer (legal entity responsible for the manufacturer),
- 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 categories Z<sub>1</sub> & Z<sub>2</sub>
- see ETA-09/0325 for other relevant characteristics

Example(s) of CE marking and accompanying information for 3M Fire Barrier IC 15WB+ Sealant:

 1121	<p><b>'CE'-marking</b></p> <p>Identification number of approved certification body</p>
<b>3M United Kingdom PLC</b> 3M Centre Cain Road Bracknell Berks RG12 8HT  09  XXXX-CPD-XXXX	<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>
ETA-09/0325 ETAG N° 026 part 2  Penetration Seal '3M Fire Barrier IC 15WB+ Sealant'  Use category Z <sub>1</sub> & Z <sub>2</sub>	<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>

See ETA-09/0325 for other relevant characteristics



## **4 Assumptions under which the fitness of the product(s) for the intended use was favorably assessed**

### **4.1 Manufacturing**

The European technical approval is issued for the product 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

Installation of the system 3M Fire Barrier IC 15WB+ should be conducted as follows:

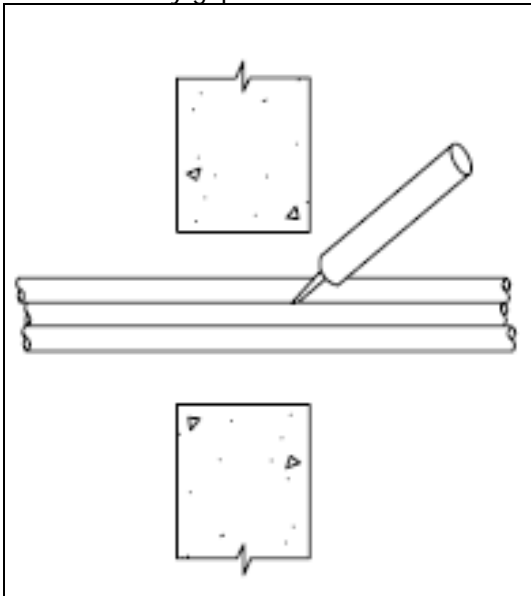
### System 3M Fire Barrier IC 15WB+ - Installation into drywall or solid wall assembly

Step one – Remove dust and debris from the opening faces, this helps ensure a good sealant bond.

Step two – Mask the wall surface around the aperture, if required, to give a clean finish after application.

Repeat for both faces of the wall

Step three – Where cable bundles are used as services slightly open the bundle and squeeze 3M Fire Barrier IC 15WB+ Sealant between the cables for the full thickness of the wall. This helps to smoke seal any gaps in the bundles.

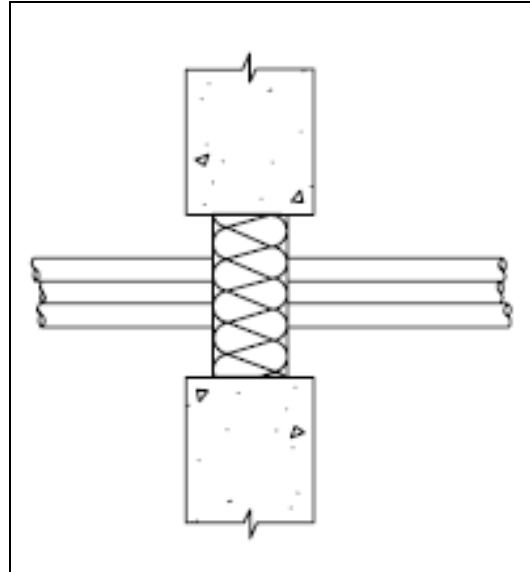


Step four – infill the aperture around the penetrating service (or the complete aperture in the case of blank openings) with firmly packed mineral wool of 140 kg/m<sup>3</sup> nominal density for a depth of 100mm. The mineral wool shall be recessed from each face by nominally 25mm. Note that a lower density mineral wool can be used provided it is compressed to give an equivalent density (e.g. 100mm of 100 kg/m<sup>3</sup> mineral wool compressed by 30% (to 70mm thickness) has an effective density of 142kg/m<sup>3</sup>).

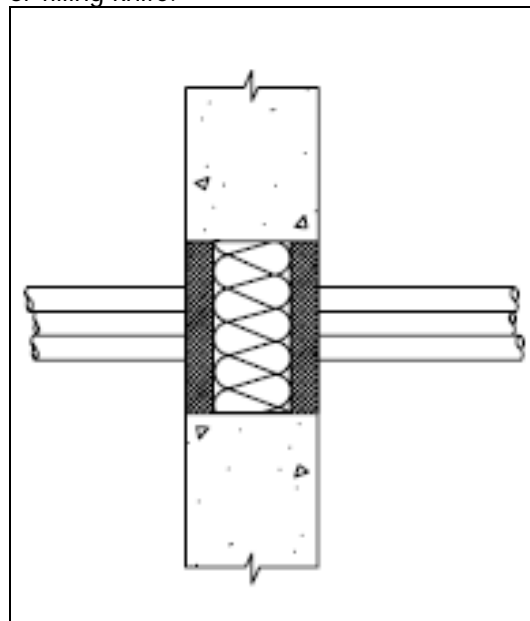
Step five – Apply a bead of 3M Fire Barrier IC 15WB+ Sealant around the inner face of the aperture and smear onto the wall to aid bonding.

Note that if the surface has not been cleaned, or is very dusty, such as cored gypsum, it may assist to mix a small amount of 3M Fire Barrier IC 15WB+ Sealant with water and rub into the gap face surface to seal it.

Repeat for both faces of the wall.



Step six – Install depth as required of 3M Fire Barrier IC 15WB+ Sealant into the aperture on each face of the wall, building up in stages to avoid air pockets. Smooth the surfaces flush using a spatula or filling knife.



Step seven – Remove masking from wall surface, if used.

Step eight – Wash tools in water.



## 5 Indications to the manufacturer

### 5.1 Packaging, transport and storage

The following measures should be adopted with regard to handling and storage of the 3M Fire Barrier IC 15WB+ Sealant:

- **Handling**
- **Information for safe handling:** No special measures required.
- **Information about protection against explosions and fires:**  
No special measures required.
- **Storage**
- **Requirements to be met by storerooms and containers:**  
No special requirements.
- **Information about storage in one common storage facility:**  
Store away from acids and oxidizing agents.
- **Further information about storage conditions:** None.

### 5.2 Use, maintenance, repair

The system 3M Fire Barrier IC 15WB+ should be installed and used as described earlier in this document.

System 3M Fire Barrier IC 15WB+ seals which are damaged after installation, should be removed and replaced with undamaged material.

